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# "Great Families": Capital accumulation and political power in Italy. (Volumes I and II)

Scassellati, Alessandro, Ph.D.

City University of New York, 1994

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# "GREAT FAMILIES:" CAPITAL ACCUMULATION AND POLITICAL POWER IN ITALY

by

ALESSANDRO SCASSELLATI

VOLUME I

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1994

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This manuscript has been read and accepted for the Graduate Faculty in Anthropology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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**ACKNOWLEDGMENTS**

Many people have contributed to the making of this dissertation; their kindness I can not thank enough. First and foremost I thank collectively the members of the north Italian "Great Families" and hope they find this work a worthy account of their history.

I am greatly indebted to my teachers and advisers Professor Edward C. Hansen and Professor Jane Schneider, who have always provided me a strong intellectual guidance and have offered with generous encouragement with this project. I would like to thank Professor Vincent Crapanzano for his suggestions and Professor Eric Hobsbawm for his critiques, which I will try to take dialectically.

A number of other people have helped me both in the field and in New York, frequently in a decisive manner. Foremost among them were my professors of the Department of Anthropology at the Graduate Center of the City University of New York -- Eric Wolf, Sydel Silverman, Peter Worsley, Mervyn Meggit, Roger Sanjek, Joan Mencher, May Ebihara, Daniel Gross, June Nash, Gregory Johnson, and Dell Jones. They fostered my intellectual development and helped see me through. I am also indebted to Peter Schneider and Elisabeth Mathias.

I have also beenfited from discussions with a number of colleagues, including Christopher Leonard, Sally Starbuck Booth, Jane Conrad, Jonatan Poor, Gustavo Ribeiro, Annalisa

di Nola, Josiah Heyman, Beatrice Duret. John Burdick, Aisha Khan, Theresa Rubin, Paola Ciardi, Gerald Creed, Maria Luisa Loeb, Kye-Young Park, Elisabeth Sheehan, Beatrice Morales, David Maynard, Carmen Ferradas, Zenilda Flores, Ligia Simonian, Sharryn Kasmir, Karen Judd, and Helio Belik. They provided me with much intellectual stimulus and with many hours of fine companionship as well.

My old friend Matteo Marzotto Caotorta, the late Professor Piero Bairati, Vittorino Chiusano, Fabio Luca Cavazza, Valerio Castronovo, Alberto Martinelli, and many others steered me to the right people in the field and shared with me their insights about Italian history and political-economy.

Professor Rocco Caporale and his wife Taina Elg provided generous and intelligent cousel, both in New York and Italy. They -- together with Giuseppe Ammendola, Marco Guglielmi, Billy Jeffrey and his late wife Miriam and their son Fabio -- gave me friendship and a family, away from my own family in New York.

My thanks are due to my dear colleague Christine Grabowski, who shared with me a year of dissertation writing. She read most of the chapters of the manuscript in fine detail and with her linguistic expertise guided me through my otherwise pitiful English writing. She always offered generous encouragement with this project, providing much needed psychological and intellectual support.

I wish to tank Mariane Ferme who at a crucial point provided me with much needed care, help and intellectual stimulus to enable me to complete the work.

I thank also Terri Vulcano for her assistance with paper work and bureaucratic tangles over the years.

This study would not have been possible without the financial support of various institutions. The Fulbright International Fellowship Program and the New York State Funded Fellowship Program provided much needed financial resources to attend CUNY and live in New York City through the years. The Wenner-Gren Foundation for Anthropological Research, Inc. and the National Science Foundation provided doctoral dissertation grants that enabled me to conduct my field-work in Italy.

Finally the greatest debt of all I owe to my parents, Alessandra Faraggiana and Ubaldo Scassellati, to my "compagna" Ida Sagnotti and to my son Giovanni. They have provided me with unlimited love, support and understanding. To them I dedicate this work.

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# CHAPTER 1

## INTRODUCTION

This study is an attempt to construct an ethno-history of a group of Italian capitalist dynastic families, the so-called "Grandi Famiglie" (Great Families). Capitalist dynastic families are descent groups that over the course of **at least three generations** have accumulated sufficient capital to become **a market factor** in one or multiple sectors of economic endeavor. Such groups are more than mere geneological constructions; they are closely linked networks of relatives with common economic interests and collective identities. They are kinship groups as well as cohesive economic interest groups. The Italian dynastic families have formed relatively small but very powerful sets of social networks and kinship groups. They have been organized into a small number of dominant patrilineages, comprising a few thousand people. Despite their limited number, these families and their connections have controlled most of the economic power in Italy since the country's industrialization in the 19th century. The power base of these dynastic families has rested on the control of strategic political-economic resources in the form of major industrial and financial activities largely located in the "industrial triangle" of the Milan-Genoa-Turin region.

The Great Families have also been pivotal in the country's political life. Thus, for example, as their

forebears actively participated in the formation of the Italian nation-state in the 1860s, so too the members of the present generation are major actors in the integration process of the Italian economy and polity into the European Economic Community (EEC).

In spite of the fact that dynastic families and their connections, in this work conceptualized together as élite formations,[1] continue to be extremely visible, dominating key sectors of economic activity, and exerting considerable influence on the executive power of the Italian state, scholars investigating Italian economic and political development have neglected such groups in favor of other units of analysis. Post-World War II social science analyses have focussed on: the developmental initiatives of the national government (Lutz 1962; Posner and Woolf 1967; Holland 1972; Prodi 1976; Wade 1980; Maraffi 1990); the constituent characteristics of the political system (Meynaud 1964; Galli 1966, 1972, 1978, 1993; Tarrow 1967, 1977; Farneti 1973; Putnam 1973; Allum 1973; Graziano 1974, 1980; Caciagli 1977; Zuckerman 1979; Gribaudi 1980; Chubb 1982; Pasquino 1985; La Palombara 1988; Scoppola 1991); interest groups and industrial working classes (La Palombara 1957, 1964; Regini and Reyneri 1971; Pizzorno 1975-1978, 1980; Pirzio Ammassari 1976; Craveri 1976; Low-Beer 1978; Lange et al. 1982, Gribaudi 1987; Mattina 1991; Accornero 1992; Turone 1992); the diffusion of small/medium size industry

over north-eastern and central regions (Bagnasco 1977, 1988; Paci 1983; Piore and Sabel 1984; Murray 1987; Blim 1990); and on the incorporation of the nation into the EEC (Barzanti 1965; Willis 1971; Alessandrini 1978; Bianchi and Giordani 1990; Guerrieri and Milana 1990).

Anthropologists, for the most part, have focussed their ethnographic research on rural peasant communities and on small towns in southern and central Italy, with the exception of a handful of urban studies of migrant and lower-class life (See Freeman 1973; Boissevain 1975; Cole 1977; Davis 1977; MacFarlane 1977; Grillo 1980; Gilmore 1982; Kertzer 1983; Saunders 1983). Anthropologists are beginning to realize that the result of such an exclusively rural focus is an inadequate and one-sided characterization of contemporary Italian society:

> Judging from the anthropological literature, one might well conclude that Italy is a nation of peasants living in remote and desolate villages... Yet today most Italians live in urban areas, with close to 30% living in cities of over 100.000 inhabitants (Kertzer 1983:53).

Boissevain notes that the rural bias is common to Mediterranean anthropology as a whole and suggests that:

> ... Future studies must deal with the lifestyle of the urban élite, who have yet to be studied by anthropologists, the world view, kinship patterns, and customs of the urban-dwelling captains of industry, professional politicians, and barons of the arts, universities, and media must also be studied. This élite controls the lives, molds the opinions, and influences the culture of the people of the Mediterranean. Yet very little is known about them (Boissevain 1983:ix).

The present study seeks to overcome precisely the lack of knowledge over the formation of Italian political-economic élites. In fact, I find it ironic that dynastic families and élite formations have been ignored in explaining political and economic processes if one considers that élite theory, specifically Pareto's (1935) and Mosca's (1939) initial theory of hegemonic struggles, originated in Italy. As an anthropologist I am particularly intrigued by the fact that such groups, organized by kin and informal connections, still exist at hegemonic levels of power in an advanced capitalist society. This study is based on the premise that dynastic families organized as élites provide a strategic unit of analysis for an ethnography of power and economic development in contemporary Italy, even though the marked evolution of bureaucratic organizational forms of power in Italian society appears to be conducive to their demise.

Furthermore, I maintain that an ethnography of the "Grandi Famiglie" can have a wider significance insofar as the history of such groups reflects and interfaces with Italy's political economy and the ideals, values, and strategies of Italian society over the course of several generations.

In broader terms, this research is intended as a contribution to the field of the anthropology of complex societies. I hope to demonstrate convincingly to

anthropologists that élite studies should be taken seriously because they represent a viable alternative to yet more community studies of the powerless. Elites, in fact, may be much more appropriate to ethnographic inquiry than the peasantries and landless laborers whose lives have been so much in flux for the past decades, if for no other reason than that élites are still able to manipulate kinship and informal social ties as a strategy for maintaining power and strategic resources over generations. An ethnographic examination of élites reveals processes of group formation strongly reminiscent of the ones that anthropologists discovered in "primitive" societies. As Hansen has observed, the role of the family and informal forms of social organization as economic, social and cultural vehicles of élite solidarity are as widespread and pervasive in advanced capitalist societies as in any classic case in the anthropological literature:

> They [the rich and powerful] appear to exemplify all of the things that anthropologists have been vainly seeking in such diffuse modern classes as proletarians or their mirror image, welfare recipients. That is, this class is forged from the stuff of strategic marriages, complex inheritances, instrumental friendship, cliques and factions -- in fine, the very stuff of standard anthropological field inquiry. Or in other words, this class of people is more primitive than anybody else. The fact that these organizational principles are being used to control the rest of humanity ought to be of singular moment to anthropologists. That is not a serious indictment against the discipline, but one that can be dealt with by old-fashioned fieldwork. It could be noted for symbolic anthropologists that these individuals are generating mythic structures faster than anyone else, mythic structures to be analyzed and to be countered

(Hansen 1976a:606-07).

It is through an examination of kinship and informal forms of social organization in multiple contexts, within the dynamics of élite formation, reproduction, success and failure in the capital accumulation process, that this work incorporates power groups into the major theoretical and methodological concerns of modern anthropology.

Elite studies are also appealing for anthropology because they require an holistic approach. Elite formations rest on the continual intermeshing of many strands of contact among people strategically located in different realms of a social structure. In this respect, to speak of neat divisions of economics, social life, politics, and culture belies the fundamental nature and strength of élites as densely interwoven social networks.

Perhaps most important, the focus on élites is one powerful analytical means of unravelling the complexity of advanced capitalist society into a form with which anthropologists are familiar -- that of small-scale processes and relationships of human subjects, who closely affect the operation of power organizations. By studying in detail those who actually wield power rather than limiting their perspective to the powerless who bear the brunt of change wrought by the powerful, anthropologists can provide an account of **why and how** major political-economic transformations happen as opposed to merely describing **what**

**happens.** Anthropologists through élite studies can discover human agency in what they usually conceptualize as highly impersonal and abstract "forces" impinging upon the social and cultural microcosms that they study. Anthropology until recently made only limited ethnographic contributions to the social scientific study of the agency of power and accumulation in complex societies. The anthropological study of patronage, clientage, coalitions and social networks arising from research largely conducted in the 1960s in Southern Europe remains the discipline's major contribution on the subject. It was through the analysis of non-corporate forms of social organization that anthropologists conceptualized the different ways in which peasant communities were integrated in market economies and nation-states (Kenny 1960; Silverman 1965, 1977; Wolf 1966; Boissevain 1968, 1971, 1974: 147-70; Weingrod 1968; Schneider et al. 1972; Blok 1975; Hansen 1976b; Schneider and Schneider 1976: 173-203; Schmidt et al. 1977).

Anthropologists through élite studies can achieve a clearer understanding of the larger frameworks and processes within which peasants, workers, migrants and tribesmen live. In this respect, élite studies should be articulated with "culture of resistance" and "peoples without history" approaches. Hence, an ethnographic inquiry into the role of élites and the nature of their power over other groups and social processes is a central component of the holistic

study of human society and culture.

At the same time, economists, sociologists and political scientists may find it refreshing to compare analytical accounts of the actual behavior of some élites engaged in political and capital accumulation processes to their disciplines' more abstract considerations of how powerholders and entrepreneurs are supposed to behave. I maintain in this study that an approach that considers élites as strategic units of analysis and uses the qualitative contributions of anthropological theory and methodology can help to illuminate one of the most debated issues in the social sciences: the question of who rules and how power is distributed among interest groups in contemporary capitalist societies. This research, in particular, aims to overcome some of the longstanding impasses characteristic of élite and capital accumulation studies revolving around the question of the dominant form of power organization at the apex.

* * *

The balance of this introduction is devoted to placing the issues arising from an ethnographic study of capitalist dynastic families into a broader context. The following section introduces some basic concepts used in this research to define dynastic families and élites in the framework of

the capitalist mode of production and the capital accumulation process.

A subsequent section delineates the analytical implications resulting from the conceptualization of capital accumulating groups as dynastic families and from the identification of the élite formation process with a process of household formation on the part of such groups over several generations. The final section introduces the overall organization of this work.

## Dynastic families and élites in the capitalist mode of production and in the accumulation process

Italian dynastic families and élite formations are neither "natural" or primordial groupings, nor are they "leftovers" of a feudal past or of a "traditional" society. They are modern social groups originating historically in the 18th and 19th century with the capitalist transformation of Italian society. They must be viewed as powerful actors in the context of the unfolding of the capitalist mode of production in Italy and of its historical interrelationships with wider world-system dynamics.

Most social scientific approaches to power and capital accumulation leave little room for personal or group action, participation, motivation and consciousness. These approaches are often based on forms of analytic reduction that tend to reify structure by viewing the history of the

capitalist mode merely as the outcome of impersonal "forces" operating in the "absence of the subject".

In these accounts agents are reduced to "supports" of an unmediated and transcending structural logic that they neither control nor comprehend, or to occupiers of structural "positions":

> ... the structure of the relations of production determines the **places** and **functions** occupied and adopted by the agents of production, who are never anything more than the occupants of these places, insofar as they are the 'supports' (**Träger**) of these functions. The true 'subjects' (in the sense of constitutive subjects of the process) are therefore not these occupants or functionaires, are not, despite all appearances, the 'obviousness' of the 'given' of naive anthropology, 'concrete individuals', 'real men' but **the definition and distribution of these places and functions. The true 'subjects' are these definers and distributors: the relations of production** (Althusser and Balibar 1970:180; emp. in orig.).

Such approaches tend to predetermine ("structural causality") the course and content of behavior, intentions, interests, and types of bonds or conflicts of the agents by assuming that their subjectivities are epiphenomenal to the objective and structural contexts and relations in which they are located. By rejecting the active-reflexive character of human conduct and agency these analyses tend to depict highly abstract images of capitalism which are unable to account for the wide range of variability and differentiation that this mode presents in its concrete historical and geographical manifestations. Furthermore, these images are mechanistic and static, strongly contrasting with the dynamic and dialectical visions of

capitalism given by classical political economists who, rather than in its structure, were interested in its "laws of motion," in discovering the secrets of its ceaseless protean becoming.

I believe that since dynastic families and élites exist and operate in and through history, they must be understood within a model that orients ethnographic inquiry towards accounting for their power and accumulation dynamically. In order to properly understand the motivation, behavior, organization and dynamics of such groups one has to analyze them in an historically oriented political-economy framework. This is because only such a framework allows for the dialectical interplay among the three basic analytic levels of **theory**, **process** and **agency**. It permits a bridging of the level of theoretical models of structural constraints with that of the historical empirical realities of actors' behavior and volitions:

> The type of social science in which we are interested is an **empirical science** of concrete **reality (Wirklichkeit-wissenschaft)**. Our aim is the understanding of the characteristic uniqueness of the reality in which we move. We wish to understand on the one hand the relationships and cultural significance of individual events in their contemporary manifestations and on the other the causes of their being historically **so** and not **otherwise** (Weber 1949:72; emp. in orig.).

In this perspective, the analytic level of **theory** allows us to discover the strategic and enduring relationships involved in the deployment of social labor to productive activity, both to their constraining and enabling

characteristics. It is possible to identify certain basic rules of a capitalist mode of production that operate as invariant shaping forces beneath the surface of historical-geographical development.[2] Thus, for example, the basic rule that governs the behavior of all capitalists is the profit-seeking motive or "accumulation for accumulation's sake, production for production's sake" (Marx, Vol. 1, 1967:595). This rule is enforced by the social mechanism of competition that "brings out the inherent laws of capitalist production, in the shape of external coercive laws having power over every individual capitalist" (Marx, Vol. 1, 1967:270). This is the analytic level of the "abstract laws of motion" of 'capital in general' and of its internal contradictions.

**Process** refers to the dynamic and historically variable nature of the actual relationships involved in the deployment of social labor to productive activity, to their actual unfolding over time and space. Process relates to the notion that the capitalist mode of production is in a state of continuous self-transformation as a function of the historical development (via the behavior of agents) of its internal contradictions.

**Agency** refers to the actors, to their subjectivities and strategies, as they can be located in the social structure and are capable (have the power) of operating intentionally in the historical process by exercising choice

among alternative options in the face of constraints but also of opportunities. This is the analytic level of the concrete historical forms of 'many capitals.'

An historically oriented political-economic approach to the ethnographic study of élites allows one to identify a set of actors and interests and to focus on the continuity of ruling groups as a basis for understanding the mechanisms and dynamics of power and capital accumulation. By dealing with élite members as human agents who are extremely visible and influential within social structures, one can unite theory and process with the human actors one encounters in the field. Such a focus on élites enables one to incorporate strategy and flexibility, and to emphasize agency in the sense of the personal localization of responsible and effective actors who operate in various social fields of power. Through this perspective one can investigate the influence of individuals or small groups on the movements of history and on the larger society.

By tracing the formation of powerful actors and their engagement in the process of capital accumulation, it is possible to discover how they actually understand and experience constraining as well as enabling circumstances that vary over time. One can view the shifting political-economic behavior and strategies through which dynastic families and élites attempt to shape, react to, and confront changing conditions in the context of their

personal affective involvements and of their culture. The focus on élite actors enables the linkage of personal understanding, motivation, and experience with the historical unfolding of the capitalist mode of production. The structures at issue can be viewed as power relationships among persons and groups, and the processes as transformations of these relationships over time and space.

An historically oriented political-economy framework enables one, at the same time, to regain distinctive and dynamic images of capitalism. The history and the geography of capitalism in this context can be understood as the outcome of dynamic and dialectical social relationships orchestrated around the differential access to power and resources on the part of actively involved and competing individuals and groups. These dynamics drive people into social alignments by structuring their life chances, and can be analyzed in Lasswell's (1950) terms of "who gets what, when, how."

Dynastic families and élite formations in this respect are social groups organized for hegemonic struggle. They are not merely groups of individuals and families who hold **wealth** and can afford conspicuous consumption and display, but rather, and more importantly, they control **wealth-as-capital** in the form of strategic productive resources; that is, as dynamic, historically, and geographically variable combinations of monetary wealth, machinery, raw

materials and labor power. They have acquired the power to organize and monitor the social allocation of these resources over time and space. The strategic power relationship between capitalist dynastic families, élites and the larger society rests on their hegemonic involvement over several generations in the process of wealth accumulation and its dynamic transformation into productive capital through the mobilization and deployment of social labor. They cooperate, compete and make decisions which constrain the life chances of others by placing limits on the range of options open to them. These decisions involve the channeling of resources to different lines of production, the commitment of the labor force to different occupations and workplaces, factors such as plant location, organization and size, the technologies to be used in production, the quantity and quality of goods and services to be produced, and innovation of new products -- in short, every major aspect of production and distribution.

The key issue relating to what do capitalists do with the surplus that they accumulate should neither be viewed as revolving around a choice of consuming or investing it, the "Faustian conflict between the passion for accumulation and desire of enjoyment" (Marx, Vol. 1, 1967:594), nor as depending on capitalists' greed or avarice. Rather, it should be viewed as involving the choice over **what**, **where**, and **how** accumulated capital has to be invested. It is in

confronting these options that cultural, political, ideological and social predispositions and volitions of particular capitalists, as agents in the historical process, play an important role.

An historically oriented political economy framework, however, also allows one to see that the power of dynastic families and élites over the larger society is not acquired once and for all, but rather, that it remains relative, relational and problematic over time. These groups act in a competitive political-economic environment that they can only partially shape and control. They compete with other actors to capture lager shares of surplus value. Their power depends on the viability of the productive arrangements that they put into operation, on the capacity of such combinations to produce surplus, profit and additional capital over time. As such, these arrangements are historically contingent. Their "rationality" and "efficiency" are relative because they are defined in the context of the dynamics of the capital accumulation process. These dynamics do not move in a smooth ascending line but, rather, cyclically in leaps.[3] Accelerations of accumulation are followed by decelerations. Phases of advance in capital accumulation give away to phases of stagnation and retreat. Each phase of advance opens up new opportunities through the expansion of commodity production carried out on new technological and organizational bases, bringing about an

increase in the productivity of labor, rate of profit and capital accumulation. Each phase of recession or depression critically challenges the existing combinations of capital and entails contracting markets and lower rates of surplus, profit and capital accumulation. These are periodic phases of overaccumulation, defined as a condition in which idle capital and idle labor exist side by side with no apparent way to bring them together to accomplish socially useful tasks. A generalized condition of overaccumulation is indicated by idle productive capacity, a glut of commodities and an excess of inventories, surplus money capital, and high unemployment.

In order to maintain and enhance their hegemonic position under the cyclical and dynamic conditions of the capital accumulation process, dynastic families and élites must be able at critical historical junctures to shed the skin of the capital they control. They must successfully reshape the productive arrangements upon which their power is based,[4] if anything moving faster than before to retain their position. They set in motion a radical restructuring of the actual capital compositions which brings about an "acceleration of history," a new round of "time-space compression" (Harvey 1989), in the form of far-reaching changes in the entire political and economic environment. This is the historically revolutionary function of the capitalist class that Marx and Engels emphasized long ago in

**The Communist Manifesto** (1955:12-13):

> The bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionizing of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life and his relations with his kind.

The struggle to maintain and enhance profitability periodically compels capitalists to explore new possibilities. It forces them into a period of rationalization, restructuring, and intensification of labor control. New product lines are created. Masses of capital and workers shift from one line of production to another. Whole sectors and regions are left devastated, while new spaces are opened up as capitalists seek new markets, new sources of raw materials, fresh labor power, and new and more profitable sites for production operations. The drive to relocate to more advantageous places periodically reshuffles the international and territorial division of labor. In short, in order to survive critical times capitalists have to resort to technological change, mechanization and automation, the search for new product lines and market niches, geographical concentration or

dispersal to zones of easier labor control, mergers, and steps to accelerate the turnover time of their capital (the time of production together with the time of circulation of exchange).

Dynastic families and élites at critical historical junctures act purposively and knowledgeably, but cannot either unirrengly foresee or control the consequences of their decisions and actions in the wider competitive political-economic arena. They may be capable of understanding rationally what their options are and of articulating their interests through strategically planning the activities they directly control (i.e., control their production process and select their technology, organization, and location). However, they are confronted with the practical impossibility of predicting, at the level of the macro-political-economic environment, what will be the effects of the complex chain of actions and reactions originating from the dynamic interplay of their responses with those of a multitude of other actors. The requirements of capital accumulation are themselves redefined in the process as a consequence of the behavior, strategies and social relationships that major actors put into operation as responses to critical junctures. It is the dialectical articulation of the behavior of multiple actors betting or 'speculating' **ex-ante** on what they imagine the new conditions of capital accumulation will be (what, where and

how production should take place in the next economic phase) that determines what these conditions are historically and, hence, what the actual combinations of capital are (intended as particular empirical mixes and configurations of monetary wealth, machinery, raw materials, and labor power).

If the new requirements for capital accumulation are **effects** defined through the competitive struggle among powerful actors, it is evident how inadequate are those approaches to the study of the capitalist mode of production that presuppose a "structural causality" and discard historical process and actors' behavior and motivations. Structural constraints, infact, as a result of actors' behavior, are themselves in a process of becoming. They are not independent of actors' wills and behavior; rather, they are historical outcomes of dialectical relationships between actors. In this respect, to say that the pursuit of profit is the decisive structural constraint and that capitalists' behavior has to conform to its imperatives is inadequate, because **ex-ante** many are the possible alternative ways to make a profit (including long and short term options): "there are more ways to make a profit than there are to skin a cat" (Harvey 1982:116). Even under the operation of the profit constraint there is ample latitude for actors' subjectivity and maneuvering in assembling the actual combinations of capital. Only **ex-post facto** it is possible to construct a model of the structure of accumulation and

ascertain what the objective requirements of capital are in an historical phase of capitalist evolution.[5]

**Ex-post facto**, as a consequence of the competitive struggle and the redefinition of accumulation requirements, there are winners and losers among those that **ex-ante** were equipotentially powerful actors. The winners increase their power in the political-economic arena by augmenting their accumulation of capital. The capital combinations assembled by the winners become the new paradigms for accumulation. They may dominate one or multiple sectors of economic endeavor for an entire phase of the accumulation process. The losers are eliminated from the race as a consequence of the devaluation or outright destruction of their capital. They lose their positions in the power structure and cease being self-determining actors in the process. They join the large and ever-increasing contingent of the **victims** of the process of capital concentration and centralization.

The actions and motivations of dynastic families, however, are not only constrained and enabled by the dynamics of incessant competition but also by the pressures and responses to these dynamics arising from the specific polities in which the activities under their control operate. The development of the capitalist mode of production although a global process, occurred in the historical context of politically sovereign and distinct capitalist states. The formation of these politico-

bureaucratic orders was intertwined with the genesis of capitalism itself,[6] and they still play an important role in its maintenance. Their existence is predicated upon their capability to maintain and promote the strategic relationships governing the capitalist commitment of social labor to productive activity.[7] Each capitalist state, however, performs this task differently depending on the pressures and responses arising from its active constituencies which include not only the indigenous capitalist class (often only some of its segments) but also variable arrays of social classes, including at times segments of the working class. The behavior of a capitalist state, in fact, is not constrained by the imperative of making a profit from the activities it carries on (it is not accountable for these activities' costs and expenditures) but rather, by its capacity to satisfy the variable demands of its active constituencies. When a state is unable to meet adequately the demands of these varied constituencies, it runs the risk of losing its legitimacy and, as a consequence, a change in the political regime may take place.

A political economy framework allows one to view the state as an arena for the political struggle between active and organized social groups (capitalists and other classes) contending over the allocation of public resources and capital ("who gets what, when, and how").[8] The outcomes of

this variable political struggle are embodied by the various policies that the state, through its apparatus, attempts to impose on the larger polity. The capitalist state engages in vast economic tasks and it has the capacity of amassing enormous quantities of capital. Public capital is raised through taxes or through public loans that are repaid out of taxes. Taxes are collected directly and indirectly by deductions on wages of the working class and on incomes of small independent producers and the petty bourgeoisie, or by transfers of surplus value from capitalists to the state. The relative degree of contribution of deductions and transfers to the total amassed public capital is a constant issue on the political agendum. A further source of unending contention is the redistribution of public capital. State policies redistribute public capital as direct support to industrial production and development, as dispensations for social welfare services, and for price-support programs of various sorts -- the particular mix resulting from political struggles (Miller 1987). While varying and competing segments of the capitalist class benefit in both cases, in the latter case the policies can also favor other classes, including segments of the working class, by subsidizing their standard of living.[9]

It is through its policies toward capital that each state affects in different and often contradictory ways the conditions and outcomes of the competition between

capitalists.[10] A capitalist state at different times may attempt to promote, moderate, or suspend this competition, to the advantage of one or another group of capitalists. The specific definitions of the actual conditions and requirements of the capital accumulation process inside a given polity therefore must be viewed as outcomes of the dynamic interplay between the competitive struggle among capitalists and state policies toward capital.

Dynastic families are hegemonic players in both market and state arenas. Through their corporate industrial and financial businesses they are key actors in the competitive economic struggle among capitalists. Through their informal organization as powerful extended families and élite formations they are key actors in the competitive political struggle to set state policies toward capital. As élite formations they compete for control over parts of the state apparatus in order to turn the management and destination of public capital in their favor. The state does not have to make a profit but can enable capitalists to make one through its expenditures.

At critical historical junctures dynastic families, through the mobilization of élite formations, are able to impose their accumulation strategies as state policies, affecting an entire polity. In this manner they increase their chances of being winners rather than losers in the capital accumulation process and hence, of retaining their

standing as viable actors through the next phase of capitalist evolution. I maintain that dynastic families and élites can successfully perform these complex tasks because they are organized differently from the orders that they compete against or those whom they want to control. State apparatuses, political parties, trade unions, corporations, and other formal interest groups are all forms of bureaucratic organization that dynastic families and élite formations through their informal flexible organization (i.e., kinship, network, coalition, instrumental friendship, clique, patronage, etc.), can infiltrate over time and either subdue or transform into instruments of hegemonic strategy.

It is by forming élites that dynastic families considerably enlarge their own constituencies and thereby increase their bargaining power in the political process. Elite formations enable dynastic families to acquire as their own constituencies not only the corporate businesses under their direct control, their small-minority shareholders (the "men of average means"), their managements and workers, but also parts of a polity's bureaucratic orders and public opinion. The capacity to cross-cut institutional arenas and social classes through élite formation is crucial for the survival of dynastic families because in capitalist states the political battles are generally fought in terms of electoral politics. Elites to

remain viable must be able to influence the citizens of a polity. Elite hegemonic domination involves an effective indoctrination that transforms citizens and other social groups into allies of élites and dynastic families so that the privileged positions of the élites come to be consensually accepted by the citizens. Citizens serve not their own interests but the volitions and interests of these élites. The attitudes, beliefs, and volitions of dynastic families and their élite formations tend to become those of all social classes in the polity. For this reason dynastic families and élites are strategic social units for an analysis of contemporary capitalist societies and in particular, for explaining crucial aspects of regional and national differentiation in capitalism.

An historically oriented political economy approach to the ethnographic study of dynastic families and élite formations allows one to identify these families as powerful social groups by specifying the strategic relationships and social arenas in which they operate over time. Such an approach is predicated on the assumption that no adequate understanding of the mechanisms and dynamics of power and capital accumulation in their historical unfolding in distinctive polities can be made without identifying how agents formulate interests and opt for strategies. An ethnographic approach to the study of dynastic families and élite formations therefore leads one to investigate these

motivations and perceptions of agents as they respond to the shifting constraints and opportunities that arise from constant competition in the accumulation process and from state policy. Ethnography provides the appropriate method because these are familistic groups and informal networks whose continuity is assured through cultural codes and dynamics of kinship and informal organization. Emotions, affective sentiments, family dynamics, and ideologies are inextricably intertwined with their political-economic strategies and behavior. These constitute the contexts within which requirements of capital accumulation are mediated and transformed into priorities and strategies of action. An ethnographic investigation can discover the complex cultural aspects and dynamics that enable these powerful groups to survive as families, to form élites, and to pursue their quest for hegemonic power and accumulation over generations.

## Kinship, family and dynastic families in capitalist societies

There are only a handful of social science studies of dynastic families in advanced capitalist societies (Marcus 1980; Chiesi 1986; McDonogh 1986; Lomnitz and Lizaur 1987; Bairati 1988; Saragoza 1988; See also Ch. 2, note 3), even though such groups continue to be powerful contenders and to extensively manipulate kinship ties and informal networks as

a strategy for maintaining capital and power over time. This lack of analysis of dynastic families follows from the paradigmatic sociological theory concerning the relationship between the rise of industrial capitalism, kinship ties and the nuclear family. This sociological theory, espoused by Parsons and his associates (Parsons 1943, 1959; Parsons and Bales 1955; Smelser 1959; Goode 1963) maintained that modern society, viewed as an "open-class" society, with its requirements of geographic and social mobility for the maintenance of its occupational system and the optimal functioning of its national labor markets, makes keeping a family together increasingly difficult.[11] At the same time, the welfare state increasingly takes over the former functions of the family. As a consequence, extended family forms have broken down and the structurally isolated single-family households, husband-wife dyads, and single-parent households have emerged as predominant forms. They are seen as primarily ordered by the state and in minimal communication with each other. The influence of extended kin, friends and neighbors on family ties is viewed as weakening and the family no longer interacting with other social groups.

In the Parsonian view, the functions of kinship diminish as industrial capitalism becomes increasingly developed. Functions formerly fulfilled by kin groups come to be filled by other institutions, leaving kinship a

reduced set of functions and the family a reduced structural unit. The organization and management of economic activities has been removed from the domestic group[12] which comes to specialize in childcare, socialization, and the fulfillment of the psychological needs of individuals. The privatized, nuclear, domestic and child-centered middle class family is equated with the "modern family" **tout court.** Its crucial base is the sentimental bond between husband and wife and between parents and children. Marriages are based on "emotional bonding" between husband and wife and are the result of personal and sexual attraction rather than alliances between sets of parents and lineages (Schneider and Smith 1973).

Historical, sociological and anthropological research conducted over the past two decades has increasingly generated skepticism about this sociological evolutionary and unilineal theory of kinship in capitalist societies. This research has criticized the Parsonian images of contemporary family structure by demonstrating to the existence of a wide variation in kinship structure among ethnic groups, social classes, and regions in capitalist societies.[13] Furthermore, research has moved from a narrow focus on the family as a structural unit at one or several points in time, to a consideration of the family as a process over the entire lives of its members.[14] There has also occurred a move from the study of discrete family

structures to the family's interaction with the wider kinship group; and from the family as a separate domestic unit to an examination of its interaction with the worlds of work, politics, education, and welfare-state institutions. By demonstrating the existence of ties and obligations that link the familial unit with other social arenas and groups the issue of the prevalence or not of a nuclear model has lost most of its relevance. At the same time, some of the critics of the Parsonian view argue that kinship continues not only to serve as a defense from the state and the "iron cage" of the institutionalization of social life but that it is also central to the reproduction of patriarchal capitalist relations (Zaretsky 1976; Rapp 1978). Even the poorest individuals continue to form extended kin-groupings as an alternative to having their lives organized by the specialized agencies of the state. It is through kinship that they establish bonds of mutual assistance and support grounded on an ethic of reciprocity and sharing of scarce resources (Young and Wilmott 1957; Lewis 1959, 1961; Bott 1971; Stack 1975; Lomnitz 1977). Finally, in recent years in the context of the crisis of the welfare state, the family has become once again an increasingly politicized issue.

The new goal of a social science study of family forms is to connect the concrete and intimate experiences of family life -- choice of spouses, sexual activity, child

care, socialization, inheritance practices and so on -- to the very large political and economic structures and processes (Tilly 1987:325). In this context, a focal point of the debate about kinship and family in advanced capitalist societies is whether the family replicates capitalist relations or is in effect an anti-market institution which defends its members from having their lives completely commoditized, or whether, finally, it exists in the condition of contradiction having to perform both functions simultaneously. It is clear, however, that much of this debate is inadequate unless it includes a comparative discussion of the family forms adopted by capital accumulating groups. That is, to compare only middle class forms with either those of the poor or the peasant and working classes, is an incomplete exercise for a capitalist society since making and managing wealth-as-capital is still largely a "family affair."

An ethnography of capital accumulation allows one to discover that the strategic agents of the process often take the form of competing familial entities that amass and defend power and capital transgenerationally through the mobilization of kinship and informal networks. Dynastic families, in fact, are closely linked webs of relatives with common political-economic interests and collective identities. They have their own organization independent of formal political and economic institutions. They are

extensive kinship groups as well as cohesive interest groups. Their acquisition, control, and maintenance of power and capital over time is predicated upon kinship principles and family organization grounded in appeals to filiation and marriage, to consanguinity and affinity. The survival and success of these capital accumulating groups originates from, and depends upon, their ability to adapt their family and kinship-based organization to changing political-economic circumstances and settings. Their basic motivation is to maintain, enhance and perpetuate themselves and the accumulation of family-based capital and status over generations. Their efforts constitute processes that require an active pursuit and management over generations in order to consolidate their positions. Their strategy is aimed at the "domestication of capital" or at the "capitalization of domesticity" so that wealth, power, prestige and family cohesion are all mutually reinforced (Marcus 1980).

In this respect, an ethnographic approach to the study of families that are organized to accumulate and maintain prior accumulation must examine marriage and inheritance practices and strategies; gender-specific roles and tasks; attitudes toward natality; socialization processes; composition of kin groups; life styles; associational life; pooling of strategic resources; and naming practices. Furthermore, it must pursue a comparative understanding of

kinship and family forms in advanced capitalist societies by finding answers to two interrelated research questions: (1) why capital accumulating groups should survive as familial entities; and (2) what are the functional and dynamic relationships between kinship, informal organizations, capital accumulation and power.

I maintain that capital accumulating groups are organized on the basis of kinship principles, family ties and informal networks because these forms of social organization ensure the necessary flexibility that enables such groups to adapt effectively to changing historical conditions in the capital accumulation process. Much critical behavior at the apex of capitalist society, relating to the strategic political-economic decision-making processes, requires a flexible informal organization. Both the accumulation process and the maintenance of capital occur over time and they require shifting strategies to meet changing conditions. Major issues arising in the context of changing circumstances of capital accumulation are not susceptible to resolution in formal bureaucratic channels. The competitive, chaotic and crisis-ridden accumulation process has no routine or predictable solutions. It selects for informal organizations and relations as permanent features of hegemonic power in capitalist societies. Informally organized power-holding groups, intertwined in networks of kin and connections, compete or cooperate for

power and capital. The deployment of family members in strategic political-economic positions is a crucial process in the long-term maintenance of capital accumulation on the part of hegemonic groups. It allows them to participate as collective entities in a variety of political-economic arenas through the actions of specific individuals.

In capital accumulating groups it is through kinship that capital is embedded in social relations between constituent members. Individuals and their actions acquire meaning in the context of the family because kinship ties and the idioms of family provide complex and powerful symbolic referents that bind actors together through an ideology of solidarity, loyalty and moral obligation. Kinship is a complex system of symbols and meanings that speaks about a range of things, including love, commitment, tradition, continuity, and duty (Schneider 1968, 1976; Yanagisako 1978; Quinn 1982). Members of an extended kindred maintain control over capital and over each other, suspending the rules of competitive capital accumulation among themselves. This enables the development of reciprocal trust and collaboration, allowing business dealings to be kept secret, providing a pool of properly socialized and trained human resources for positions, and lessening tensions and problems in business relations.

In capital accumulating groups internal social relations are structured by complex practices of marriage

and inheritance. Capital is maintained and mobilized through access to people who are symbolically defined as kinsmen and affines. These symbolic constructs of kinship enable the establishment of rights in people and thus legitimate claims to shares of capital controlled by each member or by the group as a whole. Only claimants who can legitimize their claims on symbolically defined kinship grounds can gain access to strategic resources such as capital, power, and prestige. Kinship provides stringent definitions of group membership and, at the same time, through inheritance and marriage practices and socialization processes, it enables and regulates the intergenerational transmission of rights over strategic resources. The life chances of individuals born or recruited into capital accumulating groups, in fact, are structured by the dynamics of kinship.

The idioms of filiation and marriage are used by capital accumulating groups to construct exclusive transgenerational pedigrees. These genealogical pedigrees serve to include or exclude people who can claim rights to capital on the basis of membership. They define culturally selected and certified lines of kin connection. They unevenly allocate managerial functions to members occupying particular positions, thereby creating over time an internal differentiation between elders and juniors and/or between senior and cadet lines. They organize and regulate the

exchange of persons between pedigreed groups through their definition of ties of affinity. Each extended kin-ship network organizes capital into capital pools and places controls over the transfer of shares of this capital from one pool to another. Marriage, in this respect, instead of being a relationship between bride and groom and their immediate relatives only, is a tie of political and economic alliance between distinctive power-holding groups (i.e., between capitalist dynastic families, landed aristocratic families, political dynasties, etc.).

An ethnographic approach to the study of capital accumulating groups allows one to view their particular organizational dynamics as resulting from socialization, segmentation and succession processes. These processes, while they ensure continuity from one generation to the next, are predicated upon the interplay of sets of built-in oppositions. Distinctions of gender, age, and ascribed and achieved leadership work so as to create inherent contradictions that give to the family-based and informal organizations of capital accumulating groups a dynamic of their own.

There are oppositions between men and women. Affinal relations are political relations, and women, viewed by men as instruments of alliance, have a lower status. There is also the opposition of seniors and juniors, with seniors hholding positions of managerial responsibility inside and

outside the group. Generational succession is a crucial process for the survival of these groups, however, such that some juniors may come to be seniors and take their place. Others, though, will never succeed to any position of importance. Inter-generational segmentation, as embodied by processes of fission and concentration of family-based capital, creates oppositions between senior and junior lines of descent, and between lines rising to prominence and those in a state of decline. The rise or decline of particular lines will be due to demographic ascendancy or failure and to the successful or unsuccessful management of alliances, people, or resources.

Leaders effective in contracting politically strategic marriages and other alliances, or in implementing successful capital accumulating strategies gain at the expense of less apt contenders. Such gains can be translated into genealogical claims, with pedigrees modified to exhibit change by excluding members or lines of the family that have lost their standing over time.

Organizational dynamics, furthermore, arise as a consequence of conflicts between individuals or groups, by the assertion of conflicting claims over people and resources on the part of different kinsmen, and by the nonperformance of normative kinship obligations among close or extended kin.

An ethnographic approach to the study of capital

accumulating groups allows one to view kinship as a symbolically and ideologically constructed arena for struggles over the allocation of power and capital over time. All the inherent conflicts and dynamics threaten the continuity of kinship-based organizations of capital accumulating groups. Under normal circumstances, however, their disintegration is prevented by the absence of any other organizational mechanism that can aggregate or mobilize people and capital as efficiently as family relations. Kinship organization is, in fact, capable of containing its oppositions by particularizing and segmenting tensions and conflicts between the component units of capital accumulating groups. It is through its particular symbolic and emotional constructs that the family as an arena and kinship as an organizational mode have the ability to legitimize and conceal relationships which are in reality ones of internal contradiction and differentiation over time.

The kinship-based organization of capital accumulating groups, nevertheless, may come under severe strain at critical political and economic junctures and during intergenerational transitions, with consequences for its continuity and viability. Indeed, under such circumstances, internal conflicts can reach points of stress that diminish the efficacy of the kinship organization and exceed the capacity of kin-based mechanisms to cope. Capital

accumulating kin-groups will then break up, fission or disintegrate.

It is important to note, however, that in the context of the capital accumulation process fissioning is usually the dynamic response that enables an accumulating group to confront and adapt to change. In the pursuit of the strategy of the "domestication of capital" of critical importance are not only the subjective goals and motivations of these families, but also the subjective motivations that create their internal divisions. The capital accumulation requirements are handled in the context of affective commitments and obligations originating from the fact that capital accumulating groups are not just business groups but also families. It is during critical junctures and transitions that such groups sort themselves out and regroup. It is then that loyalties, solidarities and other subjective motivations and goals are confirmed, modified, or broken and new ones come to the fore. Kinship principles and organizational dynamics define the genealogical range of mobilizable allies from among the costituent units of a capital accumulating group. The terminology of marriage and filiation is used to convey information about the differential capacities of costituent units to mobilize shares of capital and support of people. The segmentation and reaggregation process, therefore, provides the arena in which contending units of such groups struggle to set,

control and implement the political-economic strategies for the entire capital accumulating group. Winners become the "inner core" or generational "effective kinship unit" (Zeitlin 1974:1098-99). They gain the right to impose their strategies and exercise control over family-based capital. Losers lose their standing as viable component units of the capital accumulating group. They are progressively marginalized and become cadet lines.

### Elite formations as household formations

Anthropologists argue for an analytic separation of families from households. In their view the referent of the family is kinship as genealogically defined relationships, while they traditionally identify the referent of the household in terms of spatial propinquity or common residence (Bohannan 1963; Bender 1967; Gonzalez 1969). Kinship and locality are seen as two distinct, if overlapping, principles of social organization. Anthropologists point out that in numerous societies families do not form households since they do not sleep under one single roof, and that in even more instances, households are not composed of families or kin-related people.[15]

Some of the major problems with the definition of household in terms of residential propinquity are what co-residence means and how to define the boundaries of households.[16] The fact is that although anthropologists use

spatial propinquity as the primary referent of the term household, they usually intend it to refer also to a set of individuals who share not only a living space but also some set of activities. Thus the household is viewed as comprising a task-oriented residence group and as "one locus of activities and interactions" (Sanjek 1982:58). These activities are usually identified as constituting the "domestic" domain by which is meant:

> ... the system of social relations through which the reproductive nucleus [the family] is integrated with the environment and with the structure of the total society (Fortes 1958:8).

Included are: production (including housekeeping and domestic labor); distribution (consumption, pooling and sharing of resources); transmission of resources; reproduction (child-bearing, child-rearing, socialization); co-residence; defense and political action.

The group carrying out the above activities as a household unit is viewed as forming a "domestic group" and is defined as:

> ... a householding and housekeeping unit organized to provide the material and cultural resources needed to maintain and bring up its members (Fortes 1958:8).

However, these activities may be carried out by sets of people who do not live together. Anthropologists who view the household in terms of co-residence have proposed alternative terms to designate groups who perform such activities in non-household contexts.[17] Other scholars that view co-residence as only one of the many possible

attributes of a household, argue in favor of a focus on the activities:

> ... it seems more analytically strategic to begin an investigation of the **activities** that are central to the domestic relationships in each particular society, rather than with its domestic groups. If we start by identifying the important productive, ritual, political, and exchange transactions in a society and only then proceed to ask what kinds of kinship or locality-based units engage in these activities, and in what manner, we decrease the likelihood of overlooking some of these salient units, particularly those that do not fit our conventional notion of a household (Yanagisako 1979:136-187; emp. in orig.).

Finally, some social scientists prefer to conceptualize households in terms of a set of relationships. For them households should be viewed:

> ... not as a determinate set of people but as a set of relationships that impose a mutual obligation **to pool resources** from a multiplicity of labor forms whether or not one of those resources is a common residence (Friedman 1984:48; emp. in orig.).

In the case of capital accumulating groups, the strategic social relationship and activity that holds members together is the pooling of resources through networks of solidarity. Their domestic domains should be defined in terms of the political-economic maintenance and transmission of capital, rather than of co-residence. From the point of view of the maintenance and enhancement of capital over time, an élite formation constitutes a sort of "superhousehold" (Foster 1984), in which multiple formally independent co-residing units are integrated through relations of exchange, pooling of resources, and cooperation. The orchestration of these relationships

enables actors to pursue long-term hegemonic strategies in common.

If coresidence is a problematic criterion for defining households in "primitive" societies it is even more so in advanced capitalist societies and particularly for social groups that have to be highly mobile and flexible in order to monitor and manage the allocation of capital flows between a wide range of geographical areas. The actual residence patterns of capital accumulating groups reflect the dynamics of the social relationships of accumulation. In order to understand the actual residential arrangements that accumulators adopt, it is necessary to focus on the strategy of capital accumulation that they pursue over time. Spatial concentration (as embodied in co-residence) or dispersal should be viewed as the outcome of the dialectical relationship between the affective and cultural dimensions of kinship on the one hand, and capital accumulation strategies on the other. Very often concentration or dispersal of élite members is influenced by inter-generational dynastic family crises that revolve around succession and segmentation and that cyclically threaten the internal cohesion of an élite formation. Such processes may generate internal conflict and consequent dispersal of members. Dispersal or concentration can also be influenced by the need, or not, to integrate geographically dispersed political-economic arenas and domains as a capital enhancing

and maintaining strategy.

The transgenerational strategy of "domesticating capital" or of the "capitalizing domesticity" can be viewed as a process of household formation on the part of capital accumulating groups. Dynastic families, in order to maintain and enhance capital accumulation and power over time, integrate themselves into networks not only through marriage, but also on the basis of informal connections and personal ties, instrumental friendships, fictive kinship, coalitions, cliques, and patronage. It is through these non-corporate forms of social organization that dynastic families supplement and enlarge their existing kinship network. These socio-cultural forms enable such groups to recruit non-kin and to form élites over generations.

An élite formation is a coalition controlled by the "inner core" of a dominant dynastic family (and sometimes by the "inner cores" of several such families who have long been allied). Affiliated or allied cadet families (usually of the non-dynastic rich, linked through marriage), and networks of retainers strategically positioned in varied political and economic arenas, are part of the formation, too. An élite formation involves a process of intergenerational accumulation and deployment by a dominant dynastic family of kinsmen, clients, and retainers in various power and social fields. All the constituent units have powerful material and affective interests in the

viability and continuity of the coalition. They can expect to derive support, care, resources, and prestige from their participation in, and association with, it. They share common mentalities and ideologies which define the channels of entrance into the group and regulate the relationships among the members. Rituals, feasts, kinship, fictive kinship, banquets, and the celebration of friendship contribute to the creation of a climate of intimacy, exclusivity and, above all, trust among people of a class whose political-economic activities render them potential competitors and thus reciprocally untrustworthy.

Such a coalition gives the social groups that puts it together an expanded flexibility and enormous leverage over and above the leverage of dynastic families in relating to hegemonic political and economic struggles. An élite formation allows dynastic families to accomodate to changing circumstances by pulling into their orbit powerful new associates with relative ease. At the same time, an élite formation is resilient and has an organization that allows it to face adversity with a united front and to pool various kinds of resources to support dominant dynastic families. In the context of élite formation, in fact, dynastic families are at the center of networks that provide the costituent members with a constant flow of assistance and particularly of insider information over business opportunities, the availability of personnel and expertise

(including scientific and technical know-how), the outlook of the political situation, the evolution of financial markets, the existence of legal constraints and opportunities, access to economic resources and bureaucratic influence, and so on. Access to these kinds of information implies the possibility of seizing important competitive advantages in the market and political arenas.

In the context of élite formation, personal ties and relationships of exchange permeate every aspect of the lives of the members of dynastic families. They can effectively operate in the economic and political fields on the basis of personal interactions and patronage.

The constituent units of an élite formation **act in concert through time to control** the allocation of strategic resources such as **capital**. The strategy of capital accumulation devised by the "inner core" or dominant dynastic family provides the ideological pole that pulls the coalition together. It is on the basis of such strategy that its component units coordinate their actions and take responsibility for specific tasks that have to be carried out in multiple political-economic arenas. In this sense the élite formation process must be viewed as a process of householding group formation and the élite members as members of a domestic group.

Elite households are sets of relationships the boundaries of which are relatively elastic in relation to

critical conditions in the accumulation process. They are primary arenas in which macro-processes and micro-processes interact in the lives of individual members. They are arenas for the expression of age and sex roles, kinship, friendship, socialization, and economic cooperation. It is in their context that élite culture is mediated and transformed into action, and that individual motives and activities are coordinated and rendered mutually intelligible. Decisions regarding capital accumulation emerge from élite households through negotiation, mutual adjustment, disagreement, conflict, and bargaining. These decisions, however, are interrelated with decisions to marry, to live together or apart, to have children, to dispose of inheritances, to share meals, to become ritual kin, or to enjoy the company and friendship of particular individuals. It is through the process of élite formation viewed as a process of household formation over generations that capital is embedded in social relations between closely connected actors who share not only common material interests but also common sentiments, cultural codes, traditions, and ideologies.

## Organization of the thesis

The theoretical and methodological issues emerging from social scientific approaches to the study of the contemporary capitalist corporate economy and its hegemonic power organization are discussed in Chapter 2. Competing approaches are reviewed and contrasted with a proposed ethnographic approach.

Chapter 3 illustrates the definitional criteria and the sample of dynastic families under consideration. It also examines the validity of a study of the behavior and organization of dynastic families that focuses on their encounter with crises. These crises are identified as analytically constituting three main types: crises in the capital accumulation process, internal family crises, and crises in the political process.

Chapter 4 reviews different "long wave" theories and assesses the ways in which this approach to the long-term dynamics of the capital accumulation process provides an adequate theoretical framework to enligthen and contextualize the transgenerational behavior of dynastic families and élites.

Chapters 5 and 6 constitute in this dissertation the data section. They examine the shifting economic, political and familial strategies pursued by a selected group of northern Italian dynastic families as they confronted two major historical periods of crisis in the accumulation

process defined by the long wave periodization -- 1816/21-1848 and 1874-1896. This assessment is conducted with the awareness that these families were hegemonic actors in the process that led to the alteration of established local, regional, and national social structures and to the formation of new ones that sustained rapid capital accumulation during expansionary phases -- 1780-1815; 1848-1873; 1896-1913/19. Moreover, the two chapters analyze for each phase of each of the two long waves the dynamics of the overall Italian political-economy and the evolution of the relationship that each dynastic family had with the social and territorial context in which it operated. The drawing up of these two chapters has required a considerable amount of time and intellectual energy because I could not count on the enlightening contributions of either ethnographic field research, considering the great historical distance, or on Italian scholarly literature, considering the lack of studies on northern Italian dynastic families as well as on the development of capitalism in Italy in the context of the long wave periodization.

Chapters 7 and 8 -- which examine the northern Italian dynastic families in the third (1896-1939/45) and fourth (1940/46-present) long waves -- are not included in the material of this dissertation, because I could have written them only after concluding the analysis of the two previous periods. Chapters 7 and 8 and the definitive version of the

overall Conclusions will be part of a second volume intended for publication. The data for the elaboration of these two chapters has been gathered according to the ethnographic field research methods described in the Appendix A.

The Conclusions suggest hypotheses for future anthropological inquiry of dynastic families and élite formations both in Italy and in comparative research.

## Notes

1. In this work I define an **élite formation** as a coalition of the members of at least one dominant capitalist dynastic family (and sometimes several dynastic families who have long been allied) with the following: (1) affiliated or allied cadet families (usually of the non-dynastic rich, linked through marriage), and (2) networks of retainers strategically deployed in a variety of social fields of power, who act in concert through time to control and direct the allocation of strategic resources (like capital) in a distinctive social formation of capitalist evolution.

2. The **capitalist mode of production** is a mode of organizing social relations, of committing social labor to productive activity, based on the possibility for monetary wealth to purchase labor power. In such a mode, labor power is tansformed from an attribute and a capability of human beings into a commodity created to be sold and bought in a market. Producers no longer enjoy an independent access to the means of production (tools, resources, land). In order to subsist they are compelled to sell their capacity to work to the holders of wealth who have acquired control over the means of production and thus can set the terms for operating them. The producers, in return for their labor power, receive wages that allow them to buy back the commodities produced from the owners of the means of production and thus sustain themselves. Hence the capitalist mode is based on a division of classes; between those who produce by selling their labor power in exchange for wages and those who control capital in the form of the means of production.

But if wage labor is the pivotal form of labor recruitment of the capitalist mode, the holders of wealth who control the means of production hire laborers only insofar as they produce a **surplus**; if they produce more than the cost of their wages. This surplus is retained by the holder of wealth, the capitalist entrepreneur, whose means of production the laborers put into operation. The greater the surplus produced, the greater the **rate of profit** obtained by the capitalist as measured against the outlays for plant, equipment, raw materials, and labor. Hence, profit rates serve as measures of the "efficiency" and "rationality" of given capitalist combinations arranged for committing social labor to productive activity. Capital investment flows in the sectors where rates are higher and out of those in which are lowest. The search for the maximization of profit rates creates the intense competition among capitalists.

There are two ways in which capitalists can increase the surplus and thus the rate of profit at their disposal. One way is to keep wages low, or to reduce them to the lowest possible point that is biologically or socially

feasible. A second way is to raise the level of the surplus produced, above and beyond the amount that has to be paid for labor power, through raising the output of workers during any given unit of work. Such increases in **productivity** require improvements in the technology and organization of production.

The strategic relationships on which the capitalist mode is based propel an incessant **process of capital accumulation.** Capitalists compete among themselves for the appropriation of surplus produced so that they can transform it into additional capital. The pursuit of increasing accumulation of capital by the capitalists entails a constant urge to revolutionize technology, to achieve lower production costs, and to increase the organic composition of capital. The greater the capital at their command, the greater their ability to raise technological productivity; hence the greater their ability to accumulate additional surplus to further expand production, as well as to outproduce and undersell competitors who fail to invest in new technology and who attempt to meet competition through placing greater burdens on their laborers:

> Only as personified capital is the capitalist respectable. As such, he shares with the miser the passion for wealth as wealth. But that which in the miser is a mere idiosyncrasy, is, in the capitalist, the effect of a social mechanism, of which he is but one of the wheels. Moreover, the development of capitalist production makes it constantly necessary to keep increasing the amount of the capital laid out in a given industrial undertaking, and competition makes the imminent laws of capitalist production to be felt by individual capitalists as external coercive laws. It compels him to keep constantly extending his capital in order to preserve it, but extend it he can not except by means of progressive accumulation (Marx, Vol. 1, 1967:592).

It is in the context of the accumulation process that the class differantiation is continuously recreated and that, at the same time, each class is internally differentiated. In the struggle for increasing productivity and accumulation, capitalists are differentiated into victors and losers. Those who accumulate more quickly tend to drive out the others that accumulate at a slower rate. In the oscillation between high and low surplus production, the labor force is driven cyclically into conditions of full employment, underemployment, and unenployment. These processes of differentiation are intertwined. The capitalists constantly seek higher returns by submitting new pools of cheap and disciplined labor, or otherwise by replacing costly or undisciplined labor with machines.

As we shall see in subsequent parts of this work, the combination of these dynamics with specific historical circumstances produces contradictory results that render the historical unfolding of the capitalist mode very unstable and filled with critical situations (See Mandel 1968, 1975; Harvey 1982; Wolf 1982).

3. This issue is discussed in Chapter 4.

4. These of course include the bureaucratic and institutional organizations that dynastic families and élites create and control, such as corporations, factories, distribution systems, state bureaucracies, etc. In "normal times" such formal institutions present advantages for those who control them: it is possible to calculate their costs, predict (plan) their functioning as a consequence of their ability to perform route tasks (such as those involved in productive activity with a given technological input). In "critical situations" routines are radically disrupted and the emergence of new techniques and organizational forms in production that characterize changes in the capital accumulation process can rapidly outdate these organizations (put them "out of the market"). Hence, these organizations either are flexible enough so that under new environmental conditions they can be restructured ("turned around" or "unbundled") by setting new rules and goals for their functioning, or fail due to their rigidity ("malfunctioning" and "mismanagement"). In recent years the organizational form and managerial technique appropriate to high volume, standardized mass production were not always easy to convert to a more flexible system of production with its emphasis upon problem solving, rapid and often highly specialized responses, and adaptability of skills to special purposes ("entrepreneurialism").

As a consequence we have witnessed a wave of bankruptcies, plant closures, de-industrialization, and restructuring, that has put even the most powerful corporation at risk and the list of the **Fortune 500** top corporations in the USA has undergone considerable modification over the last 20 years.

5. As Harvey (1989:343) notes:

> Capital is a process and not a thing. It is a process of reproduction of social life through commodity production... Its internalized rules of operation are such as to ensure that it is a dynamic and revolutionary mode of social organization, restlessly and ceaselessly transforming the society within which it is embedded. The process masks and fetishizes, achieves growth through creative destruction, creates new wants and needs, exploits the

> capacity for human labour and desire, transforms spaces, and speeds up the pace of life. It produces problems of overaccumulation for which there are but limited number of possible solutions.
>
> Through these mechanisms capitalism creates its own distinctive historical geography. Its developmental trajectory is not in any ordinary sense predictable, precisely because it has always been based on speculation -- on new products, new technologies, new spaces and locations, new labour processes (family labour, factory systems, quality circles, worker participation), and the like. There are many ways to make a profit. **Post hoc** rationalizations of speculative activity depend on a positive answer to the question: 'Was it profitable?' Different entrepreneurs, whole spaces of the world economy, generate different solutions to that question, and new answers overtake the old as one speculative wave engulfs another.

Furthermore, one has to consider that the requirements of accumulation are themselves contradictory. For example, accumulation requires a low level of workers' consumption to keep the rate of surplus value up and a high level to realize the value created. It requires effective capitalist domination of the sources of raw materials, but the cost of achieving such domination diverts surplus value from accumulation. It requires rapid mechanization to raise the productivity of labor, thus raising the rate of profit, and low mechanization to avoid too rapid an increase in the organic composition of capital, and consequent lowering of the rate of profit. It requires long-term investments of slow turnover time (plants, machinery, infrastructure) in order to accelerate the turnover time of the mass of capitals.

It is only **ex-post facto**, in terms of an historical analysis, that is possible to ascertain which one of the potentially opposite effects on accumulation was the determinant one. In analyses of the past, it is relatively simple to choose the effect that is consistent with the path that accumulation actually took. However, one has to remember that such an effect was not necessarily so obvious when actors had to make their choices.

6. The interrelationships between the formation of the modern state and the early developmental phase of the capitalist mode of production (what economic historians usually define as "primitive" or "original accumulation") are succinctly described by Wolf (1982:265-266):

> Before capitalist relations could come to dominate industrial production, a set of related changes was

> required to guarantee the new order. The state had to be transformed from a tributary structure to a structure of support for capitalist enterprise. Tributary relationships, embodied in monopolies of all kinds, cut into the reproductive capacity of capital and had to be abrogated. The officialdom of the state apparatus had to be made responsive to the needs of capital accumulation by removing state control over productive resources and by reducing the hold of tributary overlords over the machinery of the state. At the same time, state investment had to be redirected toward the creation of an infrastructure of transportation and communication that could benefit capital without demanding excessive outlays from it. There was a need for new legal codes, protecting rights of private property and private accumulation, on the one hand, and enforcing new forms of the labor contract, on the other. State intervention had to be mobilized also to break down intrastate barriers to the movement of free capital, machines, raw materials, and labor. Finally, state assistance and subsidies were often necessary to protect nascent industries against external competition, or to open up new markets.

Inside the separate and distinctive polities, however, these interconnected changes in the economic and political orders assumed different forms depending on the different manner in which each polity was incorporated in the global process of capital accumulation. Some were able to become areas of industrial transformation while others turned into dependent suppliers of cheap raw materials, social labor, or foodstuffs. The different manner of incorporation affected the political and economic strength of developing indigenous capitalist classes vis-a'-vis the distinctive and variable combinations of other pre-existing classes grounded in older tributary arrangements (landed élites, peasantries, petty-commodity producers, etc.). Hence, the capability of indigenous capitalist classes to transform, according to their own interests and necessities, the political orders grounded in older tributary arrangements varied, as also varied their capacity to speed up and intensify the formation of an indigenous working class, or to expand abroad through colonialism and imperialism. As a consequence, capitalist classes followed different strategies in their rise to power. In some cases they engaged in a "war of position" by forming power sharing alliances with hegemonic segments of older social orders: in England with the gentry, in Germany with the Prussian Junkers, in Japan with the aristocratic overlords, and in Italy with landowners and middle-class intellectuals. In other cases they engaged with variable results in open warfare with the élites of the old orders as in the case of

the United States with the Civil War or as in that of Spain with the struggle between the Catalan and Basque bourgeiosies and the landed élites of the south. The variable and inherently conflictual nature of the relationships between social classes of old and new political-economic orders helps to explain why, in conjunction with the variable manners in which distinctive polities were incorporated in the process of capital accumulation, in some cases state apparatuses were either "strong" or "weak," "cheap" or "expensive," and "efficient" or "inefficient" (See Gerschenkron 1962; Moore 1966; Wallerstein 1972; Maier 1975; Tilly 1975; Poggi 1978; Anderson 1979; Hamilton 1982; Wolf 1982).

7. They maintain and guarantee the ownership of the means of production by the capitalist class, both at home and abroad, and they support the regimes of work and labor discipline required by the mode (Braverman 1974). In this respect it is possible to maintain that capitalist states exist to ensure the domination of one class over another. In capitalist states where liberal democracy is the ideological source for the legitimation of the varied political regimes, private enterprise is equated with political democracy and liberty so that attacks on the former are identified as attacks on the latter.

8. When it is said that in capitalist societies the power of the state is "growing," what is stressed is the increasing importance of the state apparatus as an arena for structuring the interplay of social relationships at the expense of other institutional arenas such as family, neighborhood, church, market, private association, class struggle, etc. As a consequence, the specialized state bureaucracies become more active and central in people's lives. Increasingly, not only the elected branch but also the state apparatus itself is seen as an arena of struggle to impose or resist capitalist forms of activity within state agencies and between these agencies and private capital and material life generally (Poulantzas 1978).

9. State policies of redistribution of the amassed public capital have the power of defining social stratification of a polity independently of the political-economic worth of the social groups involved. As a result, in contemporary capitalist societies, there is a dual system of social stratification: one defined by the political-economic relationship of individuals and groups to the means of production; and a second defined by state policies of redistribution as a function of the political worth that individuals and groups have in the political process as active constituencies. In advanced capitalist societies the state through its deficit spending policies subsidizes in

varying degrees almost every social strata in its polity. Capitalists are heavily subsidized through policies toward capital (see note 9). The "new middle class" is largely a creation of politics (the "vital center" of liberal democracies) through cheap credit for housing, public programs for education, and health services. The working class iis subsidized through the "political component of wages" as a strategy to avoid class struggle (See Parkin 1971; Fox Piven and Cloward 1971; Korpi 1978; Rifkin and Barber 1978).

However, there is a clear political-economic limit to the policy of mass subsidization: the fall of the average rate of profit embodied in a major crisis in the capital accumulation process. In a situation of slackening economic growth, in fact, any additional attempt on the part of the state to amass public capital for redistribution in the polity on the basis of transfers of surplus value from the capitalists is inevitably confronted with a massive fall of investment and a flight or "strike of capital." Concurrently the resulting mass unemployment inhibits the state from amassing capital through increasing deductions. In these situations it becomes evident that government spending appropriates such a large part of value that there is too little available for continued private accumulation. Hence, politics is often reduced to a confrontation with the accumulated rigidities of government policies and practices built up during an expansionary phase. The political debate, then, revolves around the choice among alternative fiscal and budget cutting policies. Austerity, fiscal retrenchment and erosion of the "social contract" between labor, capital and government become watchwords. Political regimes are threathened with loss of legitimacy and conservative forces come to the fore (See Habermas 1973; Offe 1972, 1985; O'Connor 1973; Mandel 1975).

10. "State capitalism", "political capitalism", and "mixed economy" are all terms used to describe forms of state regulation of the accumulation process. State policies toward capital usually involve the transfer of public capital to private hands through the socialization of the risks of capitalism and the privatization of its profits. These can encompass that the state: can take responsability for the unprofitable basic productive sectors with the effect of lowering the selling prices of energy, raw materials, or semifinished goods for private firms; it can refloat capitalist enterprises in difficulty through policies of "nationalization" followed by those of "privatization"; it can transfer to private hands public property or enterprises built with public funds; it can grant direct or indirect subsidies to private firms (i.e., with rebates, subsidies, contracts, low cost loans, tax exemption); it can explicitly guarantee profits by fixing

the prices for the supplies that it buys in such areas as public works or defense; it can guarantee the capitalization of private firms through the borrowing of funds by its agencies or banks on the national and international financial markets and by making them available at low cost to private firms; it can form joint-ventures with private capital; it can finance research and development; it can restrict production through compulsory cartellization or by granting a monopoly; it can regulate prices; and, finally, it can guarantee the private capital invested abroad and the export risk. Furthermore, the state operates as a stabilizing agent by making up for the chronic inadequacy of private capitalist investment in such sectors of activity as education, health, and social infrastructure.

Given the global nature of the capital accumulation process, attempts of capitalist states to reduce the anarchy of capitalism through planning have very little success even in countries such as Italy where the state apparatus controls directly an extensive number of productive activities in key sectors of the economy. Capitalist states have been much more successful as agents and promoters of "national capital," as embodied by the dynastic families at issue in this study, for aggressive or defensive action on the world market. This policy entails the transformation over decades of the "national economy" into a single, vast combined trust so that state and dynastic capital are inextricably intermeshed. This requires that at critical historical junctures the political orders attempt to suspend the operation of international competition through protectionist measures and to regulate internal competition by giving to particular capitalist groups time and resources to carry out the necessary adjustments and new combinations of capital. This policy, however, meets its limits when, as in the last two decades, increasing numbers of home-grown "national capitalists" are able to go multinational or even global. As a consequence of the internationalization of finance, states tend to become junior partners or are increasingly "irrelevant" to the major actors in the accumulation process. They lose much of their previous power to control capital flow and, hence, their own monetary and fiscal policy. New arenas of conflict between states and trans-national and global financial capital open up (See Lash and Urry 1987:196-231).

11. A similar position, held by the Chicago School of Sociology and some of its followers, maintains that in the context of industrial development migration from rural to urban centers uproot people from their traditional kinship networks, and that the pressures of industrial work and urban life cause the disintegration of the family unit (Thomas and Zaniecki 1958; Wirth 1938; Redfield and Singer 1953; Linton 1959).

It is important to note that both the Parsonian and the Chicago School of Sociology's views represent contemporary reiterations of the views held by such 19th Century evolutionists as Morgan, Bachofen, McLennan, and Engels. These unilinear evolutionary thinkers, in fact, maintained that as a result of "progress," identified as urbanization and industrialization, humanity had evolved from unstructured primordial hordes to the nuclear family of bourgeois society characterized by monogamous marriage and neolocal residence. In their view, all existing differing forms were to be considered as "survivals" of past stages. Their views were then opposed by such conservative sociologists as LePlay and To"nnies who feared the transformation of the peasant patriarchal or stem family into what they conceived as the unstable family of the working class.

12. On this point Parsons and his associates follow Weber (1978, Vol. I:380) who maintained the following conditions as necessary components of capitalist development:

> ... the separation of household and business for accounting and legal purposes, and the development of a suitable body of laws, such as the commercial register, elimination of dependence of the association and the firm upon the family, separate property of the private firm or limited partnership, and appropriate laws of bunkruptcy.

13. Social historians have added new insights and opened new areas of debate and research by identifying a variety of responses to industrialization and urbanization, not all of which have led to the erosion of kinship ties (See Rosenberg 1975; Goody et al. 1976; Kertzer 1984; Hareven and Plakans 1987; Melograni 1988).

The work of Laslett and the Cambridge Group for the History of Population and Social Structure (see below note 13) has called into question the claim that industrialization destroyed the three-generational family by maintaining that the nuclear household had been the dominant preindustrial form of family organization in a large section of Europe and that it had experienced a continuity for at least the past two centuries (Laslett 1965; Laslett and Wall 1972; Wall et al. 1982).

Social historians have also challanged the assumption that families and kin groups break down under the impact of migration to urban industrial centers and under the pressures of industrial work. They focus on the dialectical relationship between family organization and factory or workplace organization and emphasize the role of extended kin outside the household in mediating between the structure of the economy and individual workers by providing networks

of mutual assistance or by operating as a crucial social intermediary in recruiting workers from rural areas (Anderson 1971; Hareven 1978, 1982). In their view industrialization and urbanization affected family functions, family values, and timing of family transitions but did not generate a new type of family structure. Students of proto-industrialization have reached also similar conclusions (Mendels 1972; Medick 1976; Kriedte et al. 1981; Ramella 1983). As a result, some of these historical studies have called into question the idea that the family type most "fit" to interact with industrial capitalism was the nuclear family:

> Under the historical conditions examined here, the family most fit to interact with the factory system was not the isolated type but rather one of extended kinship ties (Hareven 1982: 364).

A similar claim is maintained by recent research conducted by sociologists on processes of economic transformations in contexts of diffused industrialization brought upon by small and medium size enterprises (Bagnasco 1977, 1988; Paci 1982, 1983; Barbagli 1984; Piore and Sabel 1984; De Rita 1988; Blim 1990). They have pointed out the strategic role played by the family, and especially of extended family forms, in carrying on these activities and in adapting to macro-economic and political changes. In the view of these analysts the family still operates as a labor center by adapting its labor capacity to the interstices of demand (part-time, "lavoro nero" or "moonlighting", seasonal work, etc.); as an income center by integrating flows originating from varied labor and welfare state markets; as a savings center by pooling varied resources together; and as a center for the fulfillment of social needs.

In recent years a cohort of consultants and students of family business has emerged and their work, largely published in the **Harvard Business Review** or the **Family Business Review**, provides interesting illustrations of the capability of family and kinship-based organizations of creating and managing small and medium size enterprises. Data from this research challenges the Parsonian model, which insists on the strict differentiation of the traditionally fused functions of kinship and productive activity, and adds insights on the processes through which family organization and firm organization are dialectically shaped. This is a sector of the population composed of entrepreneurial families for whom family functions are productive functions, family relations are relations of production, and business is still a family matter (Donnelly 1964; Barnes and Hershon 1976; Rosenblatt et al. 1985; Dyer 1986; Davis and Stern 1988; Hollander and Elman 1988; Lansberg 1988; Miller and Rice 1988; Ward 1988; Piantoni

1990). In this area some research has been conducted also by anthropologists intersted in uncovering how business roles are generated from family roles and how they change as the business develops (Hunt 1965; Benedict 1968; Singer 1968; Owens 1971).

Most of anthropological research on family and kinship in complex societies focuses on the forms adopted by peasant, migrant or working classes and provides either a refutation or at least a refinement of the Parsons-Redfield-Durkheim model of the evolution of the family (See Smith 1978; Yanagisako 1979; Barnes 1980; Medick and Sabean 1984; Netting et al. 1984; Smith 1984; Kertzer and Brettell 1987).

14. In this respect the criticisms funneled by the work of Laslett and the Cambridge Group exemplify the increasing dissatisfaction of many social scientists with a structural approach to the study of the family; that is, with an approach that conceives family organization as limited to the composition and size of household members. The primary criticism of the work of Laslett and his associates is that the equation of residence patterns with family structure and even kinship or the work of Laslett and his associates is that the equation of residence patterns with family structure and even kinship organization fosters a static view of what is a dynamic process. Critics maintain that a "snapshot" view of household composition at any one point in time cannot tell us what underlying processes are at work to produce such households (Berkner 1972, 1975, 1976). In order to discover these processes many anthropologists and social historians have proposed a developmental or family-cycle approach (Fortes 1958; Goody 1958; Berkner 1972). Other scholars, instead, have proposed a life-course approach. Such an approach involves following individual members rather than the larger unit and focuses on variation, timing and duration of family events. The utilization of the life-course approach, however, is operationally problematic since the data necessary is enormous: fully longitudinal data on individuals for their entire lives (Elder 1977; Hareven 1982; Kertzer 1984; Hareven and Plakans 1987).

Furthermore, critics of Laslett and his associates charge that their structural approach is inadequate because they treat the household as a bounded system by separating the residential family unit from the wider kinship group and paying little attention to an investigation of how kin organize their reciprocal relations, negotiate obligations, mutual assistance and various exchange relations over time:

> ... it is now becoming clear that it is totally inadequate to confine one's attention simply to the study of of patterns of residence. The sharing of a

> home and of obligations incurred by commensality is only a sphere of family activity, and its significance can only be assessed in the context of a much wider review of all the functions provided by the family, and of the extent to which individuals see themselves overall as being dependent on family relationships (Anderson 1972:50).

Critics maintain that an exclusive focus on coresidence obscures the full role of kinship in social organization. People's everyday experiences are strongly influenced by the nature of the relationship that they entertain with the people with whom they reside. However, people do not need to coreside with kinsmen in order to have important social ties with them:

> There are few functions which can be performed by a coresiding kinsman which cannot be performed equally well if he instead lives next door, or even up the street (Anderson 1971:56-57).

Similar exortations have been expressed by other scholars (Wheaton 1975:601, 608; Plakans 1977; Anderson 1978:4; Hareven 1978:152; Hareven and Vinovskis 1978:17-18; Yanagisako 1979:178).

Finally, the Cambridge Group is also criticized for paying too little attention to the political-economic constraints that people had to contend with in deciding where to live (Medick 1976); for failing to consider regional diversity (e. g., the Basque and Alpine stem family, the Balkan **zadruga**, the Central Italian **mezzadria** family); and for making unwarranted assumptions about common criteria for defining households used by census takers in different societies (Berkner 1975:27).

15. It is interesting to note, however, that even if anthropologists maintain that family and household organizations involve two separable principles of social organization (kinship versus locality), when it comes to classifying households into types, they usually group them on the basis of what kind of family lies at the core (Yanagisako 1979:184-85; Wilk and Netting 1984:3).

16. Yanagisako (1979:164) emphasizes the problematic nature of a definition of household based exclusively on residential propinquity or coresidence:

> While all the distinctions between family and household settle on residential propinquity as the criterion for household, there remains still the question of what we mean by residential propinquity or coresidence. Innumerable problematic cases in the

ethnographic literature can be adduced to illustrate the difficulties of defining the boundaries of households. These cases raise question about how to treat residential groupings that move through a seasonal cycle of dispersal and concentration, how to handle the movement of personnel between dwelling units, particularly in societies where there is great mobility between these units, whether to define as a single household the huts or houses that share a common yard, which may or may not be enclosed from other yards, and whether to include servants, apprentices, boarders, and lodgers as members of the household. Certainly there are discrepancies in our usage of the term household if its sole referent is residential propinquity. Why then do we regard solitaries (individuals living alone) as constituting households, while we exclude institutions like orphanages, boarding schools, men's houses, and army barracks?

17. Bulmer (1960) proposes the term "domestic group", in which people acknowledge common authority in domestic matters. Goody (1972a, 1972b) distinguishes between three kinds of domestic groups: (1) the "dwelling unit" that comprises the household unit as defined by residence; (2) the reproductive unit; and (3) the economic unit that comprises those persons jointly engaged in the process of production and consumption, or the persons who jointly carry out the day-to-day tasks of supplying and running a household in the economic sense. Seddon (1976) offers the term "budget unit" to refer to a group of individuals having a common "fund" and exchanging goods among each other without reckoning, as distinct from individuals who live together within one homestead. Bender (1967) proposes a distinction between families, coresidential groups, and domestic functions, in order to avoid making the false assumption that the coresidential units are the most important groups for the performance of domestic functions.

# CHAPTER 2

# DYNASTIC FAMILIES: THEORETICAL AND METHODOLOGICAL ISSUES

## Introduction

The nature of political-economic dynastic families is one of the most intriguing cultural and social scientific riddles of present day advanced capitalist society. On the one hand, popular business magazines such as **Fortune**, **The Economist**, and **Forbes**,[1] novelists,[2] political journalists,[3] TV programs such as **Dynasty** and **Dallas**, and popular culture[4] assume as a matter of fact the existence among us of wealthy and powerful dynastic families and their ability to affect all spheres of economy and society.

But most social scientists either ignore or negate the very existence and relevance of dynastic families in their models and analyses of social stratification, power and capital accumulation of advanced capitalism. Dynastic families seem not to fit into their theoretical models and are not an object of their empirical research (Chiesi 1986; Allen 1987; Bairati 1988). Even when social scientists admit the existence of dynastic families, they consider them to be the rearguard -- "leftovers" and "survivals" -- of the "golden age" of the early period of the industrialization process, that is, the remnants of an odd and endangered species condemned to extinction.

In this perspective, the heyday of "entrepreneurial families" was 19th century capitalism. It is not considered

controversial to view much of 19th century social and economic history as "an essentially dynastic affair," involving such family groups as the Rothschilds, the Krupps or the Forsytes (Hobsbawm 1975:240). Economic and social historians have pointed out how, in a variety of contexts and sectors of political-economic activity, large families, marriage policies, interlocking connections and clusters of families have been strategic for providing entrepreneurial groups access to capital, to useful business contacts and to technically knowledgeable and reliable managers. Through the formation, consolidation and manipulation of wide informal networks, extended family-based groups were able to operate across local, regional, and national markets and institutions, standing as distinctive social forces in a particular region, or arena, of economic activity (Landes 1969, 1975; Daumard 1970, 1973, 1987; Payne 1974; Socolow 1979; Chaline 1982; Balmori et al. 1984; Fiocca 1984; Okochi and Yasuaka 1984; McDonogh 1986; Walker 1986; Dalzell 1987; Levi 1987; Lewin 1987; Saragoza 1988; Chernow 1991).

## PART I. Political-economic dynastic families and the corporate economy: a review of the literature

### The "managerial" paradigm

According to business historians and most social scientists, in the 20th century dynastic families lost their grip on previously powerful positions and institutions. Their decline is seen as a consequence of a set of

structural changes linked to the increasing centralization and bureaucratization of decision-making processes on a world scale. Weber (1946, 1978) was the first social scientist to attempt a systematic analysis of bureaucratization in the various sectors of economy and society and, thus, it is not surprising that most contemporary business historians and social scientists adopt some of his theoretical formulations to interpret the evolution of advanced capitalism.

In the realm of economic activity, the giant and oligopolistic public (joint-stock) corporation has been seen as the agent of the process by which the autonomy of smaller political-economic units and social groups has eroded. This new institutional arrangement of modern capitalism rendered possible and, at the same time, required the concentration of capital to an enormous degree,[5] as well as the organization and management of production, distribution, and consumption on a global scale (Berle and Means 1932; Chandler 1962, 1977; Barnet and Muller 1974; Porter 1986).

With the emergence of the giant corporation, dynastic families are seen as something of an anachronism; that is, as social forms destined to decline and disappear because they are structurally no longer able to perform any vital or useful function in the political-economic arena. Dynastic families are assumed to have become the victims of Weberian "unintended consequences" resulting from a rationalization

process that they themselves have set in motion (Myers 1939; Burnham 1966; Schumpeter 1943:131-134; 1955:122; Parsons and Smelser 1957:289; Turner 1987:289-317).

In particular, two structural factors are considered responsible for undermining the viability of such dynastic families in the context of the modern giant corporation. On the one hand, the increasing complexity of business activity conducted on a planetary scale, together with state regulation, requires professionally and technically trained personnel: the "technostructure" of managers (Chandler 1962; Galbraith 1967). The new managerial hierarchy of the corporation tends to become a "visible hand" that in the activity of allocation and coordination of resources assumes most of the functions previously carried out by the "invisible hand" of the market. For this reason in the giant corporation tasks and transactions are routinized and the internal structure is highly formalized, bureaucratized and hierarchical (Chandler 1977; Chandler and Daems 1980). The dynastic family itself can no longer produce and train enough capable members willing to perform the new necessary technical tasks. Thus family members now hold fewer managerial positions and tend to disperse, while professional outsiders are recruited to fill the posts in the new expanding structure. Eventually the few members of the family who sit on the board of directors are said to exercise only a veto power over the policies devised by top

management.

The second structural factor held responsible for the assumed decline of dynastic families lies in the massive flow of financial resources needed for ensuring to the corporation its required high level investment rate, its rapid growth, and its effective diversification. Dynastic families, even with their allies and connections, can not mobilize such vast amounts of capital. As a consequence, there is a gradual dilution and dispersal of family stock ownership while banks, stock brokers and fiduciary institutions that control insurances, pension, and mutual funds become the most important sources of corporate capital. As a result, a **separation of ownership from control** takes place through the multiplication of owners and the concentration of management (Berle and Means 1932).

Although it is important to note that such separation may exist in varying degrees,[6] according to "managerialism" the dominant paradigm in the US in most academic disciplines studying business behavior -- the inherent tendency of modern capitalism is toward the complete separation of ownership and control. In this situation ownership is so widely dispersed that no individual or small group has even a minority interest large enough to affect the affairs of the company.

> The flowing tide of evolution has downgraded the traditional possessor-owners of individualist enterprise to the legal position of passive claim-holders and the economic position of rentiers

(Berle 1959:77).

Thus the conclusion of the "managerialists" is that the corporation's top managers, without substantial ownership or even with none at all, come to exercise effective control over its policies free of any restraining external influence and authority, appointing themselves and their successors as an autonomous and self-perpetuating oligarchy (Berle 1959; Galbraith 1967:88, 409; Mace 1971; Chandler 1977).

According to the "managerialists," this state of "managerial control" is a desirable outcome not only for technical and economic reasons, but also on moral and political grounds. Only this "technostructure" is able to serve the needs and welfare of society as a whole. For the new managers, making profits is supposed to be only one of a number of important goals:

> It is conceivable -- indeed it seems almost essential if the corporate system is to survive -- that the "control" of the great corporations should develop into a purely neutral technocracy balancing a variety of claims by various groups in the community and assigning to each a portion of the income stream on the basis of public policy rather than private cupidity (Berle and Means 1932:312-313).

Thus "managerialists" contend that, as a consequence of the "managerial revolution," profit-maximization is no longer the driving force of capitalism.[7] The managers use their power to settle for average rather than excess return on investment, most of which is kept as retained earnings that they control.[8] They do not pursue reckless

profit-maximization policies by squeezing both worker and customer, as the stockholder exercising control would do, because this might lead to a crisis sufficient to trigger stockholder reaction -- i.e., bankruptcy, overextension, cutthroat competition, or charges of speculation and manipulation of markets. This strategy increases management control over capital resources by limiting dispersals to share-owners and relieves it of the necessity of seeking outside funding. Thus stock dispersion frees the corporation from two important sources of outside influence: dominant owners and interventionist lenders. Unfettered by outside control, executives independently define the corporation's strategies.

### The "decomposition of capital" paradigm

The "managerial" paradigm has strongly influenced some widely accepted theories of social stratification and power in advanced capitalism (Giddens 1973, 1974). Many sociologists have come to accept almost as a matter of fact the "managerial" assertion that stock-ownership has become so widely dispersed[9] that the rule is "management control" of major corporations. Taking the separation of ownership from control as a **fait accompli**, these social scientists have advanced a number of theories centered around the "decomposition of capital" (Riesman 1950; Parsons and Smelser 1957; Dahrendorf 1959; Bell 1961, 1973; Aron 1966;

Touraine 1971).

For these theorists, the political-economic definition of class in terms of relations to the means of production is no longer an analytical device for analyzing "post-capitalist" or "post-industrial" societies.[10] Instead, they define class in terms of relations to authority, which they see as inherently rational, legal and institutional (Dahrendorf 1959; 1968). Accordingly, they maintain that the political-economic class structure has been replaced by a system of social differentiation originating in the occupational order based on "merit," which reflects the capacity of individuals to internalize and conform to institutionalized norms (Riesman 1950; Mills 1951; Whyte 1959). Class struggle has been replaced by individual achievement and competition, and the "rewards" are distributed by "society" on the basis of personal ability, the scarcity of the skills involved, or the "functional importance" of the task performed.

If capital has "decomposed," so have the contradiction between capital and labor, and the capitalist class itself and thus the families that constituted it. Accordingly, the former capitalists and their families are transformed into an abstract category -- "the rich" -- (Galbraith 1958: 75-94), consisting of people of wealth (not capital) but with no real power, whose major concern seems to live lavishly and give their money away to "promote the well

being of mankind" -- to use John D. Rockefeller Sr.'s phrase -- through charities and cultural foundations.

In "post-capitalist" societies power is seen as residing only in the big political and economic institutions -- i.e., the state and its agencies, the corporation and its branches or divisions, etc. -- and hence in the hands of those individuals who occupy the formally defined apical positions of authority: top managers, bureaucrats and administrators. As a consequence there has been a proliferation of studies focused on institutional organizations, on fluctuations of personnel, and on institutional formats of which one of the best available is that of Chandler (1977).

The main discovery of these studies is that the managers and bureaucrats originate from and are part of the middle class and that they make their careers according to their "merits". Since bureaucratic institutions are supposed to hold power in "post-capitalist" society, and since these institutions are filled with middle class individuals, social scientists have concluded that ultimately power rests in the hands of the middle class. The small, "old capitalist" ruling class has been replaced by an enormous and ever expanding "new middle class" that is not autonomous and does not rule but only manages society, thus fulfilling Riesman's prophecy that:

> ...perhaps people will soon wake up to the fact that there is no longer a "we" who run things and a "they"

> who don't or a "we" who don't run things and a "they" who do, but rather that all "we's" are "they's" and all "they's" are "we's" (Riesman 1950:260; emp. in orig.).

Unfortunately for the promoters of the "managerial" and "decomposition" theories, people have not yet wakened to a reality that seems only to exist in the dreams of optimistic intellectuals -- i.e., one has only to compare Riesman's middle class society with Harrington's "other America" (1962) -- and, more important, in the last decades their assumptions, theories, models, and conclusions have increasingly come under attack as new developments and data have been analyzed.

**The recent trend of "managerial" self-criticism**

In recent years an internal critique to the "managerial" paradigm has developed. Professors at business schools and management consultants charge the present "technostructure" with lack of leadership, excessive bureaucratization and inefficiency.[11] They point out that many American corporations have become inflexible, unable to innovate and react to the changes in the economic environment and to new challenges from Japanese and West European competition. These observers, echoing Schumacher (1974), maintain that most corporations are now too big and excessively formalized for effective delegation of responsibility. At the same time, the present style of management based on the "rational model" is seen as

promoting the wrong "corporate culture" and values, and as being unable to reward and motivate employees, control resources, and ensure results (Pascale and Athos 1981; Peters and Waterman 1982). One could, of course, link the current crisis of many American corporations with the recent erosion of the political-economic and military hegemony of the United States (Wolfe 1981; Barnet 1983: Dicken 1986). It is interesting that these observers ignore this possible link.

### The "resource dependence" approach

A second internal critique of the "managerial" paradigm comes from organizational theorists who have proposed a "resource dependence" approach to the study of the corporate system (Pfeffer and Salancik 1978; Pfeffer 1987). These theorists also view corporations as the primary actors in the economic realm and corporate leaders as agents of the organizations with which they are affiliated. They too maintain that organizational interests are more significant in determining organizational behavior than are individual, family, or class interests embodied in the ownership of the corporation's capital. But, instead of focusing on the internal workings of corporations and on the analysis of internal factors -- i.e., leadership, managerial style, values, norms, and "corporate cultures" as determinants of organizational behavior, they consider environmental

constraints -- i.e., the structures of the various markets and social ambits in which the corporation operates: government and worker organizations, stockholders, customers, suppliers, providers of financial capital, etc. -- as variables affecting organizational structure and narrowing top management's options and strategies (Aldrich and Pfeffer 1976).

Thus corporations are not seen as autonomous entities, but rather as constrained by a network of interdependencies with other organizations. Large corporations rely on each other for essential resources. Their health is dependent upon predictable and profitable transactions with customers and suppliers. As a consequence corporations constantly attempt to manage and limit environmental uncertainty and to avert threats to their stability or existence by forming intercorporate structures through various types of inter-organizational relations: mergers and joint-ventures (Pfeffer and Nowak 1976), market transactions (Williamson 1975; Burt 1983) and interlocking directorates (Pfeffer and Salancik 1978). These arrangements, however, inevitably are never completely successful in achieving a stable state of intercorporate unity as they tend to produce new patterns of dependence and interdependence. Eventually, if mutually interdependent corporations can not arrange a structural linkage to stabilize their relationships and conflict does arise, the government may act as arbiter and urge

coordinated action.

### The "social class" approach

A more radical critique of the "managerial" and "decomposition" paradigms -- but also of the "resource dependence" approach -- comes from a group of social scientists who still consider a "social class" approach as heuristically viable for the analysis of social structure and power relations in advanced capitalist society. For "social class" theorists the mistake of those who argue the thesis of the "bureaucratization" of corporations or the dominance of the "technostructure" lies in the fact that they confuse the technical articulation of the exercise of power with its economic foundation -- the actual sources of this power. They charge "managerialists" and "decompositionists" with having presented scant empirical data to support their assertions of the wide dispersal of stock-ownership and of the "decomposition of capital."[12] "Social class" theorists, drawing upon newly collected data on stock ownership in the largest industrial and financial corporations, argue that stock dispersion is undocumented and certainly overestimated (Villarejo 1961; Chevalier 1970; Burch 1972; Zeitlin 1974, 1976; Kotz 1978; Scott 1979).

They propose that, even under the new conditions of corporate capitalism, there is still a dominant capitalist class -- or class fractions of it -- held together by kin,

networks and alliances (Miliband 1969; Zeitlin 1974, 1976, 1980; Zeitlin, Ewen, and Ratcliff 1974; Domhoff 1967, 1970, 1974, 1978, 1983). For them the large corporation is a new bureaucratized form of class-property. It is still grounded in exploitative relations and its conduct, whether under management or ownership control, is determined by the market structure and the nature of the capital accumulation process (Baran and Sweezy 1966; Larner 1970). The decentralized structure of the modern corporation is so organized that each division -- whether it be a product line or a territory -- can be held financially accountable. The managerial performance of each division can be measured in terms of a rate of return on capital from each division. The function of central management is to monitor performances and to allocate resources -- labor power, managerial skills and financial means -- in relation to the present or estimated future profitability of each division. Internal divisions compete with each other for central resources, while central management knows where profits are coming from (Harvey 1982:148-149).

Capital has not "decomposed," rather, it has been transformed from private into "social capital" (Marx 1967, Vol. 3:436-40), less securely tied to a particular sphere of production than is private capital. "Social capital" is more mobile. When the rate of profit in a particular firm or industry drops below the average rate of profit, outside

investors can easily move their money to higher paying corporations or sectors. An owner-entrepreneur can not do this.

Hence, for "social class" theorists the critical issue is how within the large corporation dissociation of the ownership of capital from the control of production has altered **the inner structure** of the capitalist class.[13] To investigate this issue they conduct a structural analysis of the ways in which corporations are consistently constrained and remain under the coordinating domination of powerful wealthy families and, especially, their leading members and retainers.

In their structural analysis they have adopted two closely interrelated concepts. The first is that of the **effective kinship unit** or **kinecon group**, and it refers to "a complex kinship unit in which economic interests and kinship bonds are inextricably intertwined" (Zeitlin, Ewen, and Ratcliff 1974:109). This concept is meant to direct the research toward locating the set of interrelated kin who control the corporation through their combined owner-ship interests and strategic representation in management (Knowles 1973; Dunn 1980):

> This... means investigating the intricate network not only of general social interaction and shared concrete interests, but also the actual kinship relations between officers, directors, and principal shareholders, within the same and different corporations. ...If we are to locate the actual centers of corporate control, we must discover "the most effective kinship unit." Without research into

> the web of kinship relations binding apparently unrelated individuals into a cohesive owning unit for purpose of control, analysis of the locus of control of the large corporation is hobbled at the outset. Furthermore, by proceding from such an analysis it will become possible to answer, on the most unambiguous empirical grounds, whether or not a capitalist "class" exists in the United States or similar countries and to what extent and in what ways this class has really been "decomposed" as the managerial theorists have assumed (Zeitlin 1974:1108-09).

The second concept is that of **intercorporate control** (Zeitlin 1974; Zeitlin, Ewen, and Ratcliff 1974:99-108). "Social class" theorists conceptualize "control" as the power of determining the "broad policies and objectives" guiding a corporation and not as the actual influence on the day to day affairs of the business -- the latter might be sufficient but not necessary. Control is not business management, and it is a social relationship, not an attribute -- such as an **a priori** minimum percentage of stock held by a single minority bloc. Control, as power, is essentially relative and relational. Thus they maintain that confining attention to the single corporation may limit the ability to see the pattern of power relationships of which this corporation is merely one element. Furthermore, it may restrict the understanding of the potential for control represented by a specific bloc of shares in a particular corporation. Only by a case study of the concrete control structure of the corporation and of the constellation of intercorporate relationships in which it is involved is it possible to specify the actual "locus of

control":

> In particular, it is necessary to look at the congeries of intercorporate relationships in which the corporation may be (and usually is) involved. It is generally recognized that many legally distinct personal holdings, together with those held through personal and family holding companies, trusts, and estates (and/or such intermediaries as nominees and brokers), may form a single family bloc for purposes of control. Aggregating such holdings (and penetrating anonymity) is a primary task in any study of corporate control. Most important, it is necessary to break out of the framework of the single corporation in an effort to identify interconnections between it and other corporations, and through them to specific individuals, families, or other cohesive groups that might exert control. Otherwise, the search for the locus of control is severely hampered at the outset (Zeitlin, Ewen, and Ratcliff 1974:102).

In this respect, "social class" theorists note that banks and other financial institutions have a central role in the functioning of the corporate system. "Managerialists" have either discounted or ignored the major banks as a decisive locus of economic power. This lack of analysis is a consequence of their assumption of corporate and managerial autonomy. They preferred to believe that industrial corporations were no longer dependent on borrowed capital because they could count on massive internally generated resources -- and this is also the contention of "monopoly capital" theorists (Baran and Sweezy 1966). "Social class" theorists, however, have demonstrated that this view has no empirical foundation. Industrial corporations still depend on banks and financial institutions for capital infusions in case of major corporate crises or to finance major investment and

diversification policies (Lintner 1959; Stearns 1982; Mintz and Schwartz 1985).

Furthermore, they also maintain that the ascendancy of the large corporation has rendered possible the unification in it of the essential functions of capital embodied by industrial production and bank lending. Thus under the domain of large corporations and major banks, and the consequent interpenetrations of industrial, commercial, and loan capital, has emerged a new historical form of capital and, with it, a new coalesced class type: "finance capital" and the "finance capitalist" (Zeitlin 1974:1099-1104).[14]

The big banks and top industrial corporations have both proprietary and organizational interconnections. The big banks are not only major creditors of the top corporations, but also own or administer some of their principal shareholdings.[15] And the top corporations that have assumed the form of conglomerates spanning all economic sectors tend, in turn, to own or control substantial blocs of stock in leading banks.

But -- as "social class" theorists note -- the connections between the big banks and top non-financial corporations go much further and deeper:

> ...[they] also tend to have the very same individuals and families among their principal owners. In the United States, for example, such prominent wealthy families as the Mellons, Rockefellers, Stillmans, Duponts, Fishers, Weyerhaeusers, Rosenwalds, Motts, Fords, and Hannas have identifiable principal ownership interests in some of the largest industrial corporations and leading commercial banks... But, in

> all likelihood, these wealthy families are merely well-documented instances of the general tendency of the principal capital-owning families to have interests overlapping finance, industry, and commerce (Sobert and Zeitlin 1987:60, emp. in orig.).

Thus the various corporate entities to which these major dynastic families are attached, rather than autonomous organizations as the "managerialists" view them, tend to be "interconnected points of decision-making within larger networks of class interests" (Radcliff 1980b:557). The big banks, other financial institutions, and top non-financial corporations tend to be:

> ...units in, and instruments of, the whole system of propertied interests controlled by these major capitalist families (Zeitlin 1974:1102).

In support of these propositions, "social class" theorists have centered their attention on the empirical network analyses of **interlocking directorates**, the sharing of directors by two or more corporations.[16] They view the existence of "interlocking directorates" as a crucial indicator of a consolidated process of intraclass integration of the simultaneous and potentially contradictory financial, industrial, and commercial interests of the wealthiest families, whose various investments span these ostensibly separate sectors. This was a point made by C. Wright Mills, who stated that:.ls1

> 'Interlocking Directorate' is no mere phrase: it points to a solid feature of the facts of business life, and to a sociological anchor of the community of interest, the unification of outlook and policy, that prevails among the propertied class (1956:123; emp. in orig.).

These studies seem to support the view that this interlocking of the leading banks and other financial institutions with top industrial corporations is one of the most important organizational manifestations of the inner transformation of the capitalist class itself:

> ...neither 'financiers' extracting interest at the expense of industrial profits nor 'bankers' controlling corporations, but finance capitalists on the boards of the largest banks and corporations preside over the banks' investments as creditors and shareholders, organizing production, sales, and financing, and appropriating the profits of their integrated activities (Zeitlin 1976:900; emp. in orig.).

Thus "social class" theorists assume that, to the extent that propertied individuals and dynastic families have major investment and principal shareholdings both in financial institutions and industrial corporations, they have a heavy and special stake in trying to harmonize their "broad policies and objectives" and to reconcile the contending interests involved. Finance capitalists are largely drawn from the leading political-economic dynastic families and they are part of the **inner group** of the capitalist class, that is, of that informal group of members of this class which in each historical phase plays a strategic role in ensuring the continuity of power and domination over society at large.[17] They have a disproportionate responsibility for managing the common affairs of the entire "business community" and a special role in coordinating and integrating the class-wide interests embodied in industry and finance in order to maximize the profits from the entire

system.

Furthermore, "social class" theorists maintain that the capitalist class has the capacity to reach this "community of interest" and become a "social class" -- i.e., develop a "class consciousness" -- because its component units, wealthy families and their members, are part of **interlocking social circles** which perceive each other as equals, go to the same schools, resorts and watering places, belong to the same clubs, interact frequently, and freely intermarry. In particular, clubs and associations are viewed as informal milieux outside the public view in which people representing different segments of the capitalist class, come together to develop and consolidate reciprocal bonds of trust, personal intimacy, and psychological affinity. It is assumed that these institutions, together with others more explicitly political in nature -- i.e., the Council on Foreign Relations, the Trilateral Commission, the Business Council, and so on -- render possible the translation of common values and perspectives in non-contradictory policy and economic decisions (Mills 1956; Balzell 1966, 1969; Domhoff 1967, 1970, 1974, 1975, 1978, 1983; Alba and Moore 1978; Sklar 1980; Cookson and Hodges 1985).

## PART II. Methodologies for the study of dynastic families: "Positional analysis" versus ethnography

### The methodological limits of the "social class" approach: positional analysis

I maintain that, while "social class" theorists effe-ctively question the "managerialist" model, methodologically their approach is inadequate to advance the empirical study of élite dynastic families because it is linked to structural and **positional analysis** alone -- i.e., who holds what positions, who is married to whom, who belongs to what club, and so on.

As we have seen, these theorists posit the existence of dynastic families in advanced capitalist society, and they are also able to establish that members of these families and their retainers occupy critical positions in corporations and financial institutions. But once they have located these individuals in key institutional positions, these scholars generally conclude their research because they believe that such evidence -- i.e., the high probability that these individuals are in a position to exercise "control" -- can effectively demonstrate their interrelated claims that the capitalist class has not "decomposed" and that its continued viability places severe limits on managerial autonomy. In many instances they attempt to go even further by inferring the nature of the behavior and goals -- i.e., the "broad policies and objectives" or the "community of interest" -- of these

families and their members on the sole basis of their positional and structural data. Thus critics of the "social class" theories dismiss their conclusions as undocumented intellectual speculations (Allen 1976), a criticism that is increasingly shared by some "social class" scholars themselves.

> The single most important theorem of network analysis, unstated in most work, is that we can discover the content of the relations among social actors by analyzing the shape of their structural relationships. In our case, when we discovered a structure we thought was the trace of hegemonic content, we suffered a significant failure of nerve. We felt it would be presumptuous for us to assert the existence of a whole set of intercorporate relationships based only upon the patterns of corporate interlocks, however elegant and convincing these patterns were to the small fraternity of interlock analysts (Mintz and Schwartz 1985:xiii).

The reliance of "social class" scholars on "positional analysis" is the consequence of their acceptance, at least implicitly, of a key premise of the "managerial" paradigm that they reject, the assumption that power rests exclusively in organizational hierarchies and is thus controlled by those individuals who occupy those offices, be they corporate managers as for "managerialists," or finance capitalists and "inner core" members as for "social class" theorists. Paradoxically, "social class" scholars end up paying much more attention to bureaucratic instruments of political-economic domination, rather than to the social groups that, they insist are able to direct and set the strategies of powerful institutions.

Such analysis is an exaggeration of structure and

"decomposes" the concept of the power-holding group. It recognizes the existence of the complex kinship structures of dynastic families -- i.e., "effective kinship unit" or "kinecon group" -- only insofar as they permit the establishment of connections with bureaucratic institutions. This approach ends up assuming that dynastic families do not really exist as powerful autonomous social groups and do not possess their own independent organization apart from the bureaucratic organizations to which they are attached. The two are seen as isomorphically rather than dialectically related forms, in which the families coincide with the institutions they control, because the latter are the bases of power, wealth, and prestige and constitute the means of exercising power, of acquiring and retaining wealth, and of cashing in higher claims for prestige. The result is a tendency to predetermine the content and course of actions, roles, bonds, interests, types of conflicts, contradictions, and perspectives of actors, assuming that their subjectivities are essentially epiphenomena of the objective and structural contexts and relationships in which they can be located. Consequently, "social class" studies, much as "managerial" and "resource dependence" studies, end up being examinations of institutional arrangements rather than of the peculiar internal organization of dynastic families, and provide an inherently static external description of these families and their power in the economy and society.

This result is not consistent with the "social class" theorists' contention that political-economic power (i.e., "control") is essentially relative, relational, and situational. By excluding the past and the future of the families involved, the complex processes through which these groups exert power are reduced to fluctuations in personnel, or in institutional format, and miss the primary mechanisms of power-in-action, succession, and continuity. Thus, they fail to ask: (1) why controlling groups in advanced capitalism should survive as familial entities, and (2) what are the functional and dynamic relationships between kinship, informal organizations, capital accumulation and power.

If powerful political-economic groups are familial entities that defend accumulated capital over time through the mobilization of kinship and friendship networks, then the limitations of analysis based solely on positional data are obvious. Given that both the accumulation and the maintenance of capital occur over time and require shifting strategies to meet changing conditions, any form of analysis that only locates and maps out individuals at one point in time is fatally limited; it cannot possibly tell us empirically, in a behavioral sense, why such individuals are found in these positions at that time. "Positional analysis" has static and ahistorical constraints that render it inappropriate to the analysis of dynastic families.

While data gathered through this method are useful in establishing interrelationships between families and the institutional order, they can tell us very little either about the quality of such interrelationships or about how and why they came to exist. Finally, "positional analysis" cannot be used to analyze the internal dynamics of dynastic families, much less the dynamics of interfamily relationships, or the dynamics of relationships between dynastic families and institutional settings and wider society. At best, it only suggests what is to be investigated and analyzed with a different methodology.

## Ethnography as the methodological approach for the study of political-economic dynastic families

One appropriate methodological approach to the study of dynastic families is that of **ethnographic inquiry**, particularly **the detailed recording of genealogies** and **family histories** (Schumpeter 1955:126-29; Hansen 1976, 1977; Hansen and Parrish 1983; Marcus 1983a; McDonogh 1986; Lomnitz and Lizaur 1987), especially where a prerequisite for the control and maintenance of power is family organization, structured by complex but ascertainable practices and rules of marriage and inheritance. Capital is amassed and defended by families and kinship ties delimit which family members have a legitimate claim to part of family capital. While detailed family histories can provide

the temporal dimension that is missing in positional analysis, the advantages of this method go much further. Such accounts can uncover a history of alliances forged, and strategies and decisions adopted over generations that are critical to the survival of the groups. At the same time, only through a diachronic analysis is it possible to uncover the impact of "family events", such as marriage, birth, death, leadership succession, property transmission, feuding and fissioning, upon family organization and the dynamics of their quest for capital accumulation. Such data cannot be obtained from public records, which are the principal sources of evidence for "positional analysis."

Participant observation and network analysis can help to uncover some of the dynamics of the behavior of members of dynastic families, which depend so heavily upon the dynamics of interpersonal relationships forged in an atmosphere of tacit mutual mistrust (Schneider et al. 1972; Hansen 1977; McDonogh 1986). In order to handle capital accumulation over generations these families are also integrated into external networks on the basis of informal connections and personal ties, through friendship, coalitions, cliques, patronage and clientage: these are all non-corporate and non-institutional forms of social organization, the study of which is facilitated by the methodological contributions social anthropology has made to the understanding of complex societies (Wolf 1966; Mitchell

1969; Barnes 1972; Sanjek 1974, 1982). In this respect it is possible to study the dynamics, goals, and meanings of major social networks and coalition formations among dynastic families and between them and the parties who represent institutional interests -- i.e., political leaders, managers of corporations, officials of the state bureaucracy, and so on. The formation of these networks and coalitions appears to be a necessity for their survival as powerful contenders in the accumulation process.

Finally, ethnographic inquiry can also illuminate the subjective goals and motivations of dynastic families in their quest for power and capital accumulation by analyzing the dynamics and processes of their extensive symbolic production and manipulation of established cultural codes. Through ethnography it is possible to investigate the ways in which members of such groups conceptualize their actions and the impact of these actions on the wider society. The elaboration of a viable family "mission" or ideology is a crucial process for the survival of a dynastic family as it relates to the long-term maintenance of its internal bonds of solidarity and loyalty. This process implies the creation and intergenerational transmission of more or less explicitly defined and shared views about the family role in society and history, involving definitions of family membership and relations -- i.e., decision-making mechanisms and procedures, gender roles, socialization, "black sheep"

identifications, marriage and succession practices of appropriate ways of life, of public images, or of religious and political ideals and, more important, of the capital accumulation strategies to be followed and implemented in the future. Since each dynastic family engages in this process of "culture building" and since there is competition between dynastic families, we may expect to find cultural variation, as well as there is variation in the accumulation strategies and socio-political contexts in which the families operate and cope -- i.e., political arenas, cities, regions, nations, workers, stockholders, sectors of economic activity, and bureaucracies of various kind.

Focussing ethnographically on dynastic families is equivalent to investigating the internal anatomy and dynamics of the capitalist class. As Schumpeter (1955:113,129) remarked:

> The family, not the physical person, is the true unit of class and class theory... The content of every "upper" class is not merely **modified** but actually **formed** by the rise and decline of individual families...

Thus to study the formation and consolidation of power in dynastic families also means to create an ethnography and an ethnohistory of the formation and consolidation of a capitalist class. In this respect I maintain that the cultures of dynastic families are embedded in enduring practices that involve the translation of economic capital, power and domination into cultural and political power

hegemony (Bourdieu 1980, 1984).

These efforts involve processes of **élite formation** in the political arena (Hansen and Parrish 1983) and, on a more cultural and ideological level, of **power over time and space.**[18] The latter involve attempts to transform social stratification structures into symbolic structures embodied, for example, in the construction of urban space and in synthesis with a pre-existing aristocratic establishment, in display and life style, and in the manipulation of "high culture" and public service through philanthropic activities and public images of social responsibility (Maier 1975; McDonogh 1986; Harvey 1989:226-239).[19] This accumulation of symbolic and socio-political capital involves the entire complex cultural system of clubs, associations, salons, rituals, socialization, education, arts, fashion, etiquettes, speech, residences, and resorts. Processually it defines both the internal and the external boundaries of such groups and their networks while, at the same time, contributes to conceal, through the realms of culture and taste, the real basis of economic distinctions.

## Notes

1. See, for example, the special issues of **Forbes** entitled **The Forbes 400** (1983-1993) listing the 400 richest people and families in the USA; or issues of **Fortune** on **The Billionaires** (Oct. 12, 1987:115-189; Sept. 12, 1988:46-105; Sept. 11, 1989:44-133).

2. Over the years an extensive literary "dynastic family genre" has developed. Its progenitors were such writers as Thomas Mann (1952), Honorè de Balzac (1956a, 1956b) and Lampedusa (1963). A few themes are common in the novels of this genre. Emphasis is placed on describing the distinctive lifestyles, the subjective motivations and the "irrational" values of entrepreneurial behavior. Most of the novels revolve around what can be defined as the "Buddenbrook syndrome", that is, the rise and fall of political-economic dynastic families in the course of three generations. This appears to be a widely held assumption in many societies underlined by popular sayings such as "the grandfather makes the fortune, his son conserves it, and his grandchildren squander it," "three generations from shirt-sleeves to shirtsleeves" or "from rags to riches and from riches to rags." In northern England, "from clogs to clogs," while an 18th century Chinese haiku states:

> House for sale
> He writes in fine Chinese style
> The third generation (cited in Burke 1974:110).

3. Most of the family histories that are available have been written by political journalists and non-professional scholars. They are usually written with a popular audience in mind and thus lack theoretical and methodological sophistication. These works are numerous but their quality is uneven and unsystematic. Two genres are clearly distinguishable: one is hagiographic, often the result of the desire of a family to have its own official history written, another is "muckraking," taking seriously Balzac's assertion that behind every great fortune there lies a crime. Thus, these works identify the leaders of the families analyzed either as "industrial statesmen and innovators" (See, for example, Cappi Bentivegna 1955; Grodinsky 1957), or as "robber barons" (See, for example, Giretti 1913; Josephson 1934; Myers 1936).

Some of the best works available on American families are: Lundberg 1946, 1968; Tebbel 1947; Lea 1957; Hoyt 1962, 1976; Hidy et al. 1963; Waldrop 1966; Harris 1967; Rogers 1969; Conot 1975; Durden 1975; Collier and Horowitz 1976, 1984; Brough 1977; Moscow 1977; Davis 1978, 1984; Hersh 1978; Koskoff 1978; Gates 1979; Morgan 1979; Newman 1979; Bray 1980; Mosley 1980; Chaney and Cieply 1981; Hurt 1981;

Cooney 1982; Fay 1983; Sinclair 1983; Colby 1984; Allen 1987; Goodwin 1987; Brenner 1988; McCartney 1988; Wall 1990; Chernow 1991; Broehl 1992.

Only a few of the best works on Italian families have been written by professional historians. Some of the best works are: Caizzi 1962; Ori 1969; Coceani 1975; Deichman and Origgi 1976; Morin and Held 1980; Romano 1980, 1985; Abriani and Testa 1981; Testa 1983; Levi 1984; Mazzucca 1985, 1991; Ochetto 1985; Pennacchia 1985; Pietra 1985; Bairati 1986; Barberis 1986; Candela 1986; Giuffrida and Lentini 1986; Roverato 1986; Peruzzi 1987; Friedman 1988; Pochna 1989; Lonardi 1990; Turani and Rattazzi 1990, 1991; Bechs and Rizzo 1992; Borsa 1992; Mazzanti and Mazzucca 1992.

There are also published memoirs, diaries, auto-biographies, and political or ideological statements written by members of dynastic families or by their close retainers. Some of the best for Italy and the US are: Gualino 1931; Pesenti 1931; Perrone and Perrone 1932; Crespi 1940; Pirelli 1940, 1946, 1961, 1984; Conti 1946; Marzotto 1947, 1961, 1962; Olivetti 1952, 1960; Guarneri 1953; Mondadori 1959; Olivetti 1968; Buitoni 1972; Agnelli 1975, 1985; Costa 1979; Guggenheim 1979; Costa 1980-84; Cosulich 1980, 1983; Quazza and Quazza 1980, 1984; Agnelli 1983; Agnelli 1984; Colombo 1985; Mondadori 1985; Bingham 1988; Aldrich 1988; Romiti 1988; Reynolds and Schachtman 1989; Watson and Petre 1990; Buitoni and Gallo 1992.

4. Note, for example, that in Italy almost every year two popular political magazines, **L'Espresso** and **Panorama** conduct a poll to find out who are the people that Italians consider to be most powerful in the country. Consistently in the last few years Gianni Agnelli, the present leader of the Agnelli family, has figured in one of the three top positions, often ahead of the prime minister, the leader of the governing party, and the Pope.

5. As Schwartz notes (1987:3):

> Ninety-eight percent of all companies in the United States account for only about 25 percent of the business in this country; the remaining 2 percent account for nearly 75 percent. The top 500 industrial corporations, which represent only one-tenth of one percent of this élite 2 percent, control over two-thirds of the business resources, employ two-thirds of the industrial workers, account for 60 percent of the sales, and collect 70 percent of the profits.

6. Adolf Berle and Gardiner Means in **The modern corporation and private property** of 1932 defined control as "the actual power to select the members of the board of directors (or

its majority)," although control may also be "exercised not through the selection of directors but through the dictation to the management, as where a bank determines the policy of corporation seriously indebted to it" (66).

In relation to ownership they distinguished five major types of control that in their view represented successive steps in an inherent evolutionary process of separation of ownership and control:

I) **Control through almost complete ownership** as in the case of the private corporation in which a single individual or a small group of associates own all or pratically all the outstanding stock. In this case ownership and control are combined in the same hands;

II) **Majority control** involves the ownership of a majority of the outstanding stock which provides the legal powers of control and of selection of the board of directors. There are two possibilities: (a) that exists a compact minority that might limit the power of the majority; (b) that the minority stock is widely scattered so that the majority has complete control and the minority has lost most of the powers of control. In this case the separation of ownership and control is present only for the minority, while the two functions are combined in the majority;

III) **Control through a legal device without majority ownership** involves the possible utilization of a variety of legal devices:

(a) **pyramiding:**

> ...involves the owning of a majority of the stock of one corporation which in turn holds a majority stock of another -- a process which can be repeated a number of times. An interest equal to slightly more than a quarter or an eight or a sixteenth or an even smaller proportion of the ultimate property to be controlled is by this method legally entrenched. By issuing bonds and non-voting preferred stock of the intermediate companies the process can be accelerated. By the introduction of two or three intermediate companies each which is legally controlled through ownership of a majority of its stock by the company higher in series, complete legal control of a large operating company can be maintained by an ownership interest equal to a fraction of one per cent of the property controlled. The owner of a majority of the stock of the company at the apex of a pyramid can have almost as complete control of the entire property as a sole owner even though his ownership interest is less than one per cent of the whole... By its use legal control can be maintained with an extremely small investment. Through it, legal control can be effectively divorced from legal ownership and factual power can be exercised over great aggregates of welth with almost no ownership

interest therein (69-71).

Usually the **family holding company** fulfills the above functions thus enabling dynastyc families to control very large corporations by concentrating the dispersed stockholdings of individual family members into a single entity. The main problem of this solution is the double or multiple taxation on the dividends -- first, there is the taxation on dividends at the level of the controlled operating company and, then, the taxation on the dividends that the holding company receives from the operating company; finally, there is the taxation on the income of individual family members.
(b) the **non-voting stock** is another legal device for retaining control with a small investment:

> It consists in so arranging the rights attached to different classes of stock that most of the stock is disenfranchised (at least so far as the voting for directors is concerned) and only a very small class, or a class representing a very small ivestment is permitted to vote. Ownership of just over half of this privileged class is sufficient to give legal control and virtually all the powers of majority ownership (71).

(c) the issue to the controlling group of a very large number of shares of **a class of stock having excessive voting power**, a voting power out of proportions to the capital invested;
(d) the **organization of a voting trust**

> ...involves the creation of a group of trustees, often part of the management, with the complete power to vote all stock placed in trust with it. When a majority of the stock is held in trust, as is usually the case, the trustees have almost complete control over the affairs of the corporation yet without any necessary ownership on their part (72-73).

Usually the trust is set up for a limited period of time.
IV) **Minority control:**

> ...may be said to exist when an individual or small group hold a sufficient stock interest to be in a position to dominate a corporation **through their stock interest.** Such a group is often said to have "working control" of the company. In general, their control rests upon their ability to attract from the scattered owners proxies sufficient when combined with their substantial minority interest to control a majority of the votes at the annual elections (75; emp. in orig.).

In the case of the giant corporation whose stock-ownership is widely diffused it is relatively easy for the strong minority group to maintain control over time. The danger is the formation of a new strong minority group that can afford the cost of a proxy fight.

V) **Managerial control:**

> ...is that in which ownership is so widely distributed that no individual or small group has even a minority interest large enough to dominate the affairs of the company (78).

In this situation at the election of the board the stockholder has three options: (a) he can refrain from voting; (b) he can attend the annual meeting and personally vote his stock; (c) he can sign a proxy transferring his voting power to certain individuals selected by the management of the corporation, the proxy committee, in effect handing over his vote to individuals over whom he has no control and in whose selection he did not participate. Since the proxy committee is appointed by the existing management, the latter can virtually dictate their own successors, becoming a self-perpetuating body. Managerial control is only comparatively secure where the stock is widely dispersed. Even in this situation, if mismanagement becomes an issue, a challenge to its position is always possible if the stockholders are able to organize themselves in committees. One possibility for stability is the alliance of minority control and management, thus creating what is called "joint control".

7. Burnham in **The managerial revolution** of 1941 expressed a similar contention but only if a set of specific political conditions were also present -- i.e., "the state ownership of the major instruments of production:"

> With the help of centralized state direction, managed currency, state foreign-trade monopoly, compulsory labor, and prices and wages controlled independently of any free market competition, branches of the economy can be directed toward aims other than profit. The managerial economy is no longer "the profit system"(1966:130; emp. in orig.).

8. It is important to note that **growth-maximization**, as opposed to **profit-maximization**, remains essentially a function of profit since growth can result only from surplus-value production and realization. The shift from short-term to long-term profit-maximization, or growth-maximization, parallels the structural transformation from competitive to monopoly or oligopoly capitalism.

The restriction of distributed profits that enables the

pursuit of a growth-maximization strategy represents more of a problem for small shareholders since it lowers their income, while it may be perfectly consistent with the long-term interest in capital accumulation of controlling dynastic families. In fact, as a consequence of the long-term growth of a corporation dynastic families can accumulate increasing quantities of capital without necessarily diluting their initial equity position. Hence, such a strategy may, in effect, enable them to remain major stockholders and control company strategies for long periods of time. Finally, one has to consider that members of dynastic families may derive their income not only from a corporation's dividends but also from a variety of other sources including attendance and expenses payments, commissions, directors' fees, and diversified investment portfolios holding other stocks, bonds, and real estate interests. Under these conditions, large dividends would be irrational because their private disposition would be curtailed by progressive income taxes.

9. Note that, contrary to this assumption, a Wharton School study of stock-holding patterns indicated that 0.2% of Americans owned about 30% of corporate stock and 1% owned over half in 1971 (**New York Times**, December 8, 1972:57).

10. Some analysts dissent radically with the "post-industrial" and "post-capitalist" characterization of present day complex society. Instead, in their view there has been an increasing penetration of capital outside the traditional sectors of industrial production -- i.e., agriculture, distribution, recreation, fast-food, organization of work, health, etc.:

> Far from representing a 'post-industrial society', late capitalism constitutes **generalized universal industrialization** for the first time in history. Mechanization, standardization, over-specialization and parcellization of labour, which in the past determined only the realm of commodity production in actual industry, now penetrate into all sectors of social life (Mandel 1975:387; emp. in orig.).

11. Managerialists drawing on the typologies of Weber have assumed as a matter of fact that the giant bureaucratic corporation is the most efficient form of organization. They never explain why this should be the case since a high degree of specialization of tasks may involve the risk that it makes for narrow-minded functionaries who lose sight of the organization's purpose. Surely, everyone reacted with astonishment when in the early 1980s became of public knowledge that General Motors and Ford, which were losing money and market shares, had 17 layers of management, while

Toyota and the Catholic Church had only 5 layers each.

12. In fact, "managerialists" have produced very few statistical studies (Berle and Means 1932, 1968; Gordon 1966; Larner 1970). In the introduction to the 1968 edition of **The modern corporation and private property**, Means stated:

> The corporate revolution [i.e., the transformation to "management control"] is now so widely accepted that statistical evidence is no longer necessary (1968:xiii).

13. Hilferding long ago observed (1910:155-56):

> With the dispersion of shares capitalist property has been converted increasingly into a limited form of property which merely gives its owners simple title to surplus value without in itself permitting them to intervene decisively in the productive process... The effective control of production is in the hands of persons who provide only a part of the capital involved. The owners of the means of production no longer exist in isolation, but rather constitute an economic association in which the individual has right only to an aliquot share [i.e., proportional to the shareholding] of the profits.

Lenin (1939:59), following Hilferding's analysis, noted:

> It is characteristic of capitalism in general that the ownership of capital is separated from the application of capital to production, that money capital is separated from industrial and productive capital, and that the rentier, who lives entirely on income obtained from money capital, is separated from the entrepreneur and from all who are directly concerned in the management of capital. Imperialism, or the domination of finance capital, is the highest stage of capitalism in which this separation reaches vast proportions. The supremacy of finance capital over all other forms of capital means the predominance of the rentier and of the financial oligarchy; it means the crystallisation of a small number of financially "powerful" states from among all the rest.

14. This new form embodies in itself the contradictory interests that Marx (1952:86) viewed as embedded in rival fractions of the capitalist class -- i.e., the "money capitalist," the "industrial capitalist," or the "merchant capitalist." Marx considered them as opposed and separate class segments occupying -- despite their common ownership

of the means of production -- relatively distinct locations in the processes of capital accumulation and appropriation, and, consequently, possessing inherently contradictory interests.

15. Some scholars have proposed a theory of **bank control** that posits an asymmetrical interdependence between banks and nonfinancial corporations that is translated into strategic control of major industrials by financial institutions (Hilferding 1910; Perlo 1957; Fitch and Oppenheimer 1970a-c; Kotz 1978).

Others have preferred to talk of **financial hegemony** (Mintz and Schwartz 1985) which posits a loosely coordinated system broadly organized around the interests of financial institutions.

16. On interlocking directorates and their meanings there is a voluminous literature: Allen 1974, 1978, 1982; Bearden 1982; Berkowitz et al. 1979; Bunting 1976, 1977; Bunting and Barbour 1971; Burt 1979; 1980a-b; Burt et al. 1980; Fennema 1982; Galaskiewicz and Wasserman 1981; Gogel 1977; Gogel and Koenig 1981; Koenig 1979; Koenig and Gogel 1981; Koenig, Gogel, and Sonquist 1979; Kotz 1978; Levine 1972; Mariolis 1975, 1978; Mintz 1978; Mintz and Schwartz 1981a-b, 1983, 1985; Mizruchi 1982, 1983; Mokken and Stokman 1979; Moore 1979; Norich 1980; Ornstein 1980,1982; Palmer 1983a-b; Palmer et al. 1986; Pennings 1980; Sonquist and Koenig 1975; Soref 1976, 1980; Soref and Zeitlin 1987; Stokman, Zeigler, and Scott 1984; United States Senate 1978; Useem 1979, 1980, 1984.

Mintz and Schwartz (1985) and their associates have also developed a model for the mathematical analysis of corporate networks (MACNET).

17. "Social class" theorists see the capitalist class as internally differentiated into complementary and competing segments. The most important segment is called "inner group" and consists of those business individuals who belong to the capitalist class' most influential social and political institutions and are those with the higher "density" and "centrality" of interlocking relationships. Its boundaries are seen as well-defined even though the "inner group" is a network within which an individual can be more or less central (US Congress 1965; Zeitlin, Ewen, and Ratcliff 1974a, 1974b; Zeitlin, Neuman, Ratcliff, and Ewen 1977; Zeitlin 1976:900-1; Useem 1978, 1979, 1980, 1984; Domhoff 1983:70-2).

Some theorists view the "inner group" as constituted essentially of "financial capitalists" (Zeitlin 1974, 1976; Mintz and Schwartz 1983, 1985; Ratcliff 1980a, 1980b; Soref 1980; Soref and Zeitlin 1987).

18. As George Orwell noted:

> Who controls the past controls the future [and] who controls the present controls the past (1949:32).

Bourdieu (1984:70-72) notes that "precocity" in the acquisition of legitimate culture -- table manners, art of conversation, power management, sense of property, musical culture, pronunciation, playing tennis, and so on -- is an effect of seniority and aristocracy:

> The embodies of cultural capital of the previous generations function as a sort of advance (both a head-start and a credit) which, by providing from the outset the example of culture incarnated in familiar models, enables the newcomer to start acquiring the basic elements of the legitimate culture, from the beginning, that is, in the most uncoscious and impalpable way -- and to dispense with the labour of deculturation, correction and retraining that is needed to undo the effects of inappropriate learning. Legitimate manners owe their value to the fact that they manifest the rarest conditions of acquisition, that is, a social power over time which is tacitly recognized as the supreme excellence: to possess things from the past, i.e. accumulated, crystallized history, aristocratic names and titles, châteaux or 'stately homes,' paintings and collections, vintage wines and antique furniture, is to master time, through all those things whose common feature is that they can only be acquired in the course of time, by means of time, that is, by inheritance or through dispositions which, like the taste for old things, are likewise only acquired with time and applied by those who can take their time.

19. **Family image** should be intended as a **commodity** that has an exchange value in dealing with the outside world; this can be seen, for example, in obtaining marriage partners and credit, in recruiting docile and loyal middle-class stockholders or in adding luster to non family enterprises and institutions in which members may participate.

# CHAPTER 3

# DYNASTIC FAMILY APPROACH, CRISIS ANALYSIS, AND ELITE FORMATION

## The "dynastic family" approach and hegemonic power organization

Much critical behavior at the apex of capitalist society, especially relating to the strategic political-economic decision-making processes, requires informal organization for reasons of insuring flexibility in adapting to changing conditions. This informal organization, coexisting with bureaucratic forms of power, contradicts the notion of a political-economic system coordinated by purely bureaucratic institutions. This is because major issues generated by the changing circumstances of capital accumulation are not very susceptible to bureaucratic resolution in formal channels. Institutional power that is rational bureaucratic in character has a tendency to become rigid since it has to obey established procedures, rules and regulations. Thus it can only deal effectively with problems that are sufficiently well understood to have routine solutions. Such is not the case with issues involving the changing circumstances and requirements of capital accumulation, which are often confusing to major capitalists themselves:

> For any large, heavily capitalized, technologically sophisticated enterprise facing an only partly predictable future, there is no one obvious production and sales strategy that will avoid loss and maximize profits, sales, or whatever other desideratum the corporate leadership pursues. Even simple profit

> maximization would be complicated. Should the enterprise take all the profits it can in the immediate future? Should it moderate its ambitions now in order to build a clientele that in a longer future might make higher profits possible? (Lindblom 1977:153-54).

I propose that the frequently chaotic, competitive, and crisis-ridden nature of the accumulation process selects for **informal organizations and relations** as permanent features of the hegemonic power structure in capitalist societies. Informally organized power-holding groups, intertwined in webs or networks of connections and relations, continuously struggle and/or concert their actions in order to exercise the right of imposing **their** new solutions and rules on institutional-bureaucratic settings.

As a result, dynastic families not only exist and still continue to exert considerable political-economic power in advanced capitalist society, but also exploit extensive and intense kinship and network relations. As Zeitlin suggests, the deployment of family members in strategic political-economic positions is so crucial to the long-term maintenance of capital accumulation because it provides a flexible organizational system for adjusting to and benefitting from changing historical circumstances and opportunities for capital accumulation (1974:1098-99). "Social capital," as defined in the marxist tradition, is a mobile form of capital, enabling capitalists to shift their investments quickly from one sector of activity or corporation to another. Its organizational assets are the

networks of kinship and informal connections which enable controlling groups to monitor their capital flows:

> While it [the dynastic family] acts collectively, specific individuals do the acting; family members are not like the nameless and interchangeable members of a class or a group. Nevertheless, when the family is the central reference point for individuals, their influence upon the public realm is seldom the result of individuality; rather it is a consequence of their participation in the family. These individuals act in the public realm because they are private individuals related to one another. They act in concert as relatives, not as members of a group or institution. The family not only nurtures them privately to participate in the public realm, it provides a framework through which and for which family members function in the public realm (Balmori, Voss, and Wortman 1984:4).

Individuals and their actions acquire meaning in the context of the family because kinship ties and idioms provide complex and powerful symbolic referents that bind actors together through **an ideology of moral obligation.** Members of an extended kindred maintain control over capital and over each other, suspending the rules of capital accumulation among themselves. This enables the development of **reciprocal trust and collaboration**, allowing business dealings to be kept secret, providing a pool of properly socialized and trained human resources for positions, and lessening tensions and problems in business relations.

### Definitional criteria and choice of sample

For this ethnographic research I have selected a sample of Italian dynastic families according to the **two definitional criteria** suggested by Hansen and Parrish

(1983:268-69) for defining élite standing in contemporary capitalism. The first criterion is that the family has accumulated capital sufficient to be a market factor in at least one sector of economic activity. Being a market factor means that accumulated capital is substantial enough to influence decisively the outcome of sectorial competition in the market-place and to control strategic resources in society. This condition indicates economic power sufficient to allow individuals or families to compete for political-economic hegemony. Hence, using levels of capital accumulation as a definitional criterion enables us to identify some of the major actors in the political-economic arena. In earlier phases of capitalist development, influence of this kind was confined primarily to a single sector in the local or national economy. At present, leading corporations dominate many sectors of the international economy simultaneously; thus contemporary political-economic dynastic families are found as major shareholders and/or on the boards of directors of such entities.[1]

A second definitional criterion is that the dynastic families to be studied should have been involved in the accumulation process for at least three generations. This condition refers to the historical dimension of the capital accumulation process in which the members of the capitalist class are involved and, more precisely, to the fact that it

is a transgenerational phenomenon, on the assumption that the basic motivation for such groups is to maintain, enhance and perpetuate themselves and the accumulation of family-based capital and social status over generations. While initial fortunes may be generated within one lifetime, dynastic families' economic goals entail the maintenance and enhancement of original accumulations in perpetuity. Their strategy is aimed at the "domestication of capital" or at the "capitalization of domesticity" so that wealth, power, prestige and family cohesion are all mutually reinforced (Marcus 1980). Their efforts constitute processes that require an active pursuit and management over generations in order to consolidate their positions.

I have conducted ethnohistorical and ethnographic research on over 50 Italian dynastic families that have conformed to these criteria over a period of 200 years. Most of these families are located in the Milan-Turin-Genoa area, which historically has been the key region of Italian industrial and financial development. They continue to operate in and dominate a variety of sectors of economic activity and range in depth from 3 to 13 generations. Furthermore, in order to test not only the viability but also the structural limits of the dynastic family organization as it relates to power and capital accumulation processes, I have included a number of cases of failure.

Although these family-based groups have not been the

**Table 1.** *The sample of north Italian dynastic families*

| Dynastic families | City or province of origin | Original sector of capital accumulation |
|---|---|---|
| Agnelli | Turin | Silk/Automobile |
| Bassetti | Milan | Cotton/Linen |
| Beretta | Brescia | Firearms |
| Bombrini | Genoa | Banking/Heavy-engineering |
| Bonomi | Milan | Constr./Real estate |
| Borletti | Milan | Hemp/Linen |
| Borsalino | Alessandria | Hat-making |
| Botto-Poala | Biella | Wool |
| Bozzalla-Lombardi | Biella | Wool |
| Branca | Milan | Alcoholic beverages |
| Breda | Milan | Heavy-engineering |
| Buitoni | Arezzo/Perugia | Pasta/Chocolate |
| Cantoni | Milan | Cotton |
| Cerruti | Biella | Wool |
| Cini-Volpi-Gaggia | Venice | Electricity/Finance |
| Cinzano Marone | Turin | Wine |
| Cosulich | Trieste | Shipping |
| Costa | Genoa | Olive oil/Shipping |
| Crespi | Milan | Cotton |
| De Angeli-Frua | Milan | Cotton |
| Dufour | Genoa | Sugar-refining/Trade |
| Falck | Mulhouse/Como/Milan | Iron-and-steel |
| Feltrinelli | Brescia | Timber trade |
| Gancia | Turin | Wine |
| Gavazzi | Como/Milan | Silk |
| Legler | Diesbach/Bergamo | Cotton |
| Leumann | Vigevano/Turin | Cotton |
| Loro Piana | Biella | Wool |
| Marelli-Quintavalle | Milan | Electro-mechanics |
| Marzotto | Vicenza | Wool |
| Mazzonis | Turin | Cotton |
| Mondadori | Mantova/Milan | Printing/Publishing |
| Olivetti | Ivrea | Typewriters |
| Orlando | Palermo/Genoa/Leghorn | Ship-building |
| Parodi-Delfino | Milan/Genoa | Alcohol-distilling |
| Perrone | Genoa | Heavy-engineering |
| Pesenti | Bergamo | Paper/Cement |
| Piaggio | Genoa | Shipping/Trade |
| Piaggio | Genoa | Wood-working |
| Pirelli | Milan | Rubber |
| Ponti | Milan | Cotton |
| Ravano | Genoa | Shipping/Cereal-milling |
| Rivetti | Biella | Wool |
| Rocca | Milan/Buenos Aires | Iron-and-steel |
| Rossi di Montelera | Turin | Alcoholic beverages |
| Rossi di Schio | Vicenza | Wool |
| Sella | Biella | Wool |
| Tedeschi/Bruni | Turin | Rubber |
| Tosi | Milan | Cotton/Mechanics |
| Trabaldo Togna | Biella | Wool |
| Visconti di Modrone | Milan | Cotton |
| Zegna | Biella | Wool |

only powerful contenders for political-economic hegemony in contemporary Italy, it is evident that they have been and continue to be important forces and actors in the struggle, especially as it relates to the control of state policies

toward industry and capital. Just what their role has been in the political-economic arena remains unclear. This study seeks also to redress our lack of knowledge.

**The "dynastic family" approach and "crisis analysis"**

In order to explore the validity of my proposition that for reasons of flexibility much critical behavior at the apex of capitalist society requires informal rather than institutional organization, I focus attention on the performance of dynastic families at critical historical junctures in capitalist evolution. 'Crisis' comes from the Greek word meaning "to separate or divide" and "to sift, to decide", signifying the idea of "discrimination or decision" (Starn 1971:3). A 'crisis' is a moment of truth when the significance of men and events are brought to light. As O'Connor (1987:3) has noted, a 'crisis' should be viewed at the same time as an 'objective' and a 'subjective' historical process:

> [It is]... a time when it is not possible to take for granted "normal" economic, social, and other relationships; a time for decision; and a time when what individuals actually do counts for something. This is congruent with the Greek meaning of crisis as the moment for deciding between uncertain or arguable evaluations of a disease or illness.

Crises are turning-points in unfolding convergent sequences of events and actions that result in new set of circumstances. They threaten established goals and objectives, and they reduce control over events and their

effects. Crises are situations that produce uncertainities in assessing conditions and in formulating alternatives for dealing with them, considering also that the information available to participants is usually inadequate. They highten urgency and raise tensions. As such they require action and decision on the part of participants who are experiencing considerable stress and anxiety. Finally, crises are followed by important outcomes whose consequences shape the future of the participants and may even change relations among them.

Dynastic families exist and operate in and through history. They must be understood dynamically as social groups creating and imposing their cultural patterns and political-economic policies for dealing with the problems and crises that historically affect them and the enterprises under their control. I maintain that an ethnographic and ethnohistorical focus on the performance of dynastic families during periods of crisis can uncover the dynamics of the accumulation process and the processes involved in their quest for hegemony.

Analytically these crises are of three main types: **crises in the capital accumulation process, internal family crises**, and **crises in the political process.** As we shall see, all three types of crises are interrelated and have a built-in generational component; this renders a "crisis analysis" approach particularly appealing for the task at

hand insofar as it relates to the inter-generational dynamics of the families.

During periods of crisis dynastic families and their external networks and alliances are decisively tested and shaped; they sort themselves out and regroup. It is then that loyalties, solidarities, "family missions," and other subjective motivations and goals are confirmed, modified, or broken and new ones come into existence. A "crisis analysis" approach allows me to focus attention on the **segmentation/reaggregation process**, whose outcome is crucial in setting the type of accumulation strategy that the dynastic family will follow and implement in the future. Hence, "crisis analysis" facilitates insight into the post-crisis accumulation strategy, perhaps involving a period of 20-25 years -- into the succeeding generation. This process remains virtually invisible if we use "positional analysis" alone. Even if the inquiry is conducted at the time of crisis an exclusive focus on positions will be misleading. "Positional analysis" makes it appear that no matter what, there are always the family and its retainers in corporate positions. It can not unravel **why** and **how those** particular family members and retainers, as opposed to others, occupy these positions.

Instead, a critical issue for the "domestication of capital" is the subjective goals and motivations of these families (i.e., the "family mission"), as well as the

subjective motivations that create internal divisions. As Pareto (1935) noted, there is a built-in "non-logical" component in their behavior from the standpoint of economics; politics, ideologies, emotional issues and family dynamics are inextricably intertwined with the strategies and operations required by the economic activities. It is not enough to say that whatever these families do concerns the **profit motive**. The profit motive is a means to an end and a given in this equation. Furthermore, there is no automatic agreement as to how to best make a profit (Schumpeter 1955:119), or how to defend non-profit ends. Thus "profit" is a gloss which explains away the problem (or a series of them) by obscuring what may be a fundamental **irrationality** in capitalism that accounts for some of its anarchy.

### Crises in the capital accumulation process

Capitalism is a competitive dynamic process in a state of continuous flux. It is a perpetually revolutionary mode of production, constantly striving under the social necessity to transform itself from the inside, while it just as constantly presses up against the capacities of the physical and social world to sustain it. It is a contradictory process, filled with shifts and crises. Periods of expansion and prosperity are followed by periods of contraction and depression. Economists and economic

historians usually define crises in the accumulation process in terms of **business cycles** and **long waves** (See Chapter 4). These cycles and waves have different lengths and characteristics. Thus, inventory cycles have a length of 2-3 years, industrial or investment cycles one of 7-10 years, building or Kutznets cycles one of 15-25 years, and Kondratieff waves or "long waves" one of 45-60 years (Kondratieff 1926, 1928; Schumpeter 1939; Burns and Mitchell 1946; Mandel 1975, 1980; Gordon 1978, 1980; Goldstein 1988). The length of both Kutznets cycles and Kondratieff waves has generational connotations. All four cycles and waves operate simultaneously but, while the two shortest cycles are relatively easy to overcome,[2] I maintain that ultimately dynastic families owe their success or failure to the way they "ride" the "up-swing" and "down-swing" phases of the "long waves." Kondratieff waves can redefine the nature of the capital accumulation process for periods ranging from one to three human generations and thus give rise to distinctive historical phases and social formations of capitalist evolution.

As we shall see, several theories have been proposed to explain this cyclical motion of capitalism. But whatever theory of "long waves" and shorter business cycles is taken into consideration it is evident that the internal crises of dynastic families will have to be played out and resolved in the wider context of continual crises caused by changes in

the nature of the accumulation process. Hence, each generation is confronted with accumulation crises that require the exercise of subjective decision-making:

> ... the captured surplus value **does not invest itself** but **must be invested**. This means, on the one hand, that it must not be consumed by the capitalist and, on the other hand, that the important point is **how** it is invested ... the crucial factor is that the social logic or objective situation does not unequivocally determine **how much** profit shall be invested, and **how** it shall be invested, unless **individual disposition is taken into account** (Schumpeter 1955:119; emp. in orig.).

Dynastic families cannot unerringly find one correct solution to their complex investment and accumulation problems. Their aim is to accumulate capital in a competitive commodity market. In order to gain as large a share of the market as possible it is necessary to reduce prices without threatening profits. This means to reduce the cost of production, the value of commodities, the labor time socially necessary for producing them, and to increase productivity so that more commodities are produced in the same length of time. To increase production it is necessary to improve the equipment, to rationalize the process of production, to carry out at a higher level the division of labor inside the enterprise. All of these demand an increase in capital investment which can come only from an increase in capitalization but, above all, they require a step by step assessment of possibly conflicting strategic decisions, courses of action and available opportunities -- especially in relationship to the introduction in the

productive process of radical technological innovations. This is because even in principle there is no one least-cost solution to the complex problem of capital investment. A least cost location for a new plant, for example, depends on the range of products that might be produced, the flexibility built into the plant, and the period over which costs and revenues are estimated. In order to confront competitive conditions, individual capitalists can resort to a wide variety of possible responses:

> They can (1) lower the wage rate, (2) increase the intensity of use of an existing production system, (3) invest in a new production system, (4) economize on constant capital inputs (run old machinery longer, use energy and raw materials inputs more efficiently, seek cheaper raw materials in the market, etc.), (5) seek out more efficient 'factor combinations' and substitutions, (6) change the social organization of production (job structures, chains of command) in the search for a more efficient management, (7) appeal to the workers to co-operate and work harder in order to save their jobs, (8) come up with new strategies for marketing (product differentiation, advertising, etc.), (9) change location. Through one, or any combination, of these responses, individual capitalists can hope to preserve or improve their competitive position. The strategy that is chosen will depend upon circumstances and possibilities as well as upon managerial predilections (Harvey 1982:120).

Family standing will be maintained **only** if viable capital accumulation strategies are elaborated and implemented. In this sense dynastic families are less captors than captives of the wealth they control. Unless they continuously transform it into capital, it tends to evaporate. Given the competitive nature of capitalism, to stand still is to perish; to fail to reinvest profit, or to

do so at a rate of interest less than the average is likewise to court disaster. Success is an even greater stimulus to renewed effort than failure, since it demands greater efforts to invest the greater capital profitably. In contrast to feudal aristocracies and other tributary élites, the powerful position of capitalist dynastic families is much more unstable:

> ... the overlords in order to administer and maintain their position, did not always have to repeat those actions that had led to the conquest of that position, while the position of the industrialists is rapidly dissipated unless it is constantly marked by the same kind of success that created it (Schumpeter 1955:153).

## Internal family crises

Internal family crises revolve around the interrelated processes of **intergenerational succession**, particularly to leadership responsibilities, and **intergenerational segmentation**. These dynamics embody both family continuity from one generation to the next and the inherent contradictions and weaknesses of family organization. Paradoxically, while the viability of such organization rests upon the continuing adherence of kinsmen to shared values and bonds of moral obligation, necessary to the development of trust and collaboration, at the core of these dynamics and processes there are inter- and intra-generational power struggles over the right to set, control and implement the capital accumulation strategy and, on an

ideological plane, over the right to define the "family mission."[3]

This internecine competition among kinsmen can seriously undermine family solidarity and loyalty, giving way, especially during transitions, to the formation of warring factions, to the disintegration of group unity, and to the consequent loss of the family's standing in power and capital accumulation processes. No wonder that during these periods dynastic families and their enterprises are often attacked (with take-over or merger bids) by outsiders or competitors who try to benefit from the exacerbation of internal divisions and tensions.

**Succession** is a crucial process for the survival of these families; hence, analytically it represents a convenient place to cut effectively into the interrelated aspects of the family cultures. Each dynastic family has to undergo generational succession as a consequence of the domestic life cycle. But the way each such crisis will be resolved and managed is situationally specific depending, for example, on whether it occurs in periods of prosperity and political stability or simultaneously with contextual disruptions in capital accumulation and/or political instability. Furthermore, particular family cultural patterns and processes also play major roles. Every succession corresponds to a disorganization of an internal equilibrium and to the reorganization of a new one. Every

succession brings to the fore situations of conflict and tension which various practices and strategies attempt to regulate beforehand, but not always with success. Thus while Italian dynastic families have a cultural ideal of patrilineal succession, which is implemented in practice largely through male primogeniture, there are no explicit and formal rules to regulate the procedures and rights of succession. In fact, the succession process of dynastic families has to remain highly flexible to achieve necessary solutions and outcomes. In their histories these families have followed a variety of succession strategies, such that leadership may pass through male and female members and branches, primogenitors, cadets, sons-in-law, brothers-in-law, adopted children, or non-family members.

To trace the actual resolutions of succession crises we must consider two major internal processes. First there is the **socialization process**, characterized by profound gender differences in tasks and procedures, and by intense and often conflictual stress in father-older son, uncle-older nephew, or grandfather-older grandson relationships. These relationships represent on a genealogical level the absolute primacy conferred in dynastic families upon the continued intergenerational integrity of accumulated capital. The price for the eldest male of his leadership privileges entails the subordination of his own interest to those of his lineage and dynastic family. Hence, socialization not

only involves long periods of managerial training both in schools and under the direct supervision of senior members and retainers of the family; it also entails inter-generational transmission of the **sense of family** and of the **family style of command**, that is, of a set of distinctive moral and cultural qualities that relate to **the culture of power** the family has elaborated and practiced over several generations. While the "sense of family" is manifested in its ability to foster internal family solidarity and loyalty, the "family style of command" is most apparent in the way in which a potential family leader **judges situations** and, above all, **people**. In a world filled with risks and powerful competitors, leaders are expected **to develop strategies** and learn **whom to trust**. Likely heirs to leadership responsibilities are tested in the economic enterprises under family control, where they are expected to implement the "family style of command." This is achieved essentially through **the choice of the close and trusted retainers** ("i collaboratori stretti e di fiducia").

Second, succession outcomes are also fundamentally influenced by the dynamics of internal **segmentation.** Segmentation refers to **the fission and concentration of family capital** through which separation of ownership from control takes place among members or branches of the family. Segmentation is constantly operating in dynastic families whose offspring are generally numerous and whose inheritance

practices discriminate against females -- until not so long ago conceived as heiresses only in the last resort. Given their usual pronatalist attitude, dynastic families become extensive, complex and internally stratified social groups beyond the second generation. Formal legal arrangements -- e.g., trusts, family holding companies, foundations -- designed to avoid gift and estate taxes and limit the dispersion of family-based capital, reinforce informal kinship ties and also become arenas in which internal segmentation is played out:

> ... a legally devised plan to transfer and conserve patrimonial capital in one generation becomes in the next generation an organizational framework for extended family relations (Marcus 1980:859).

Family fission is a process by which some members or branches of the family lose their standing in the group as viable actors in the accumulation process because they have little or no ownership of capital, especially in the enterprises under family control. The process can reach a point in which these members or branches become uninfluential or marginal in affecting "control" decisions inside the family and its business. These **cadets** usually develop new interests and ideals and come to constitute and protect the external boundaries of the dynastic family; they may remain attached to more powerful and prosperous **senior members and/or branches** through patron-client relations.

The concentration of family-based capital is the process by which some members or branches come to constitute

an **inner core group**, that is, **the most effective kinship unit** of a dynastic family (Zeitlin 1974:1108-09). This group of kinsmen for the next generation exercises effective control over the capital accumulation strategy, defines the "family mission," and usually provides the generational leader(s) for the whole family. The "mission" of the faction that constitutes the "inner core" group is to establish itself as a dynasty inside the dynasty. Success entails acquiring and maintaining ownership of strategic blocs of family capital and thus "controlling" it. This process is facilitated by the fact that it is usually very difficult, if not impossible, for family members to exit at their will from a family holding company since there is no public market for its shares -- unless a majority interest is sold -- and, furthermore, it would be very difficult to assess their market value. Hence, if a family member wants to sell his shares, he has to do so to his relatives or to the company itself; this further allows family capital concentration to take place.

If the "inner core" group is not formed during the transition period, there will be only unstable and complex coalitions with component units eengaged in the pursuit of diverse and uncoordinated interests and ideals. Hence, it will not be easy for them to agree on a viable accumulation strategy and to choose an authoritative and credible leader(s) to implement it. When the "long wave" phase

changes its course, profits will start to erode, existing external alliances break down, and bitter internal feuds erupt, especially between the members or branches which are directly involved in the core of the business activity and those marginal people who lack the same commitment and tend to view accumulation requirements in less "logical" terms. In this situation either fission and concentration occur quickly through the buying-out of "rentier" relatives by the aspiring "inner core," or the entire group risks losing its position.

A major cause of internal family struggle is the challenge of **diversification** in capital accumulation, that is, whether and how to get out of the original sector of economic activity and into others. This process may prompt deciding whether to keep corporate enterprises under private family control -- or return them to private control, as many families have done in the US in the 1980s -- or whether to let them go public. Dynastic families prefer not to allow their enterprises to go public. Going public to raise large amounts of capital for growth, diversification, or debt reduction means a potential loss of family autonomy and control -- manifested in a higher risk of take-over, elimination of "nepotism" and "paternalism" through the "professionalization" of family members and management, a shift from "loyalty" to "performance" in the choice of retainers, and so on. Public status also brings with it

supervision by a number of regulatory agencies -- including the evaluation of assets at "market value" by tax collectors in case of inheritance transfers -- payment of higher dividends, and scrutiny by media and other stockholders -- often from other dynastic families, but also banks and corporate entities. Moreover, going public may also dilute the ideology of a "family mission" that equates the family's best interest with long-term growth and stability of the enterprise, and with the localities that host their organizations -- such as "company towns" and regions. Once in the public sphere dynastic families may also have to abandon a distinctive political position that might frighten stockholders -- a real problem for right-wing families becoming middle of the road political centrists -- i.e., espousing corporate liberalism or moderate conservatism. In any event, going public means **to lose flexibility** in relationship to a number of family goals and family-controlled corporation(s), even though it also **enhances flexibility** in terms of the further disposition of capital, transformed into "social" or **financial capital** by the act of selling stock in the original corporation and reinvesting the proceeds in other stocks, bonds, and real estate.

**Political crises**

Major crises in the political process -- i.e., wars, class struggles, social movements, and changes in geo-political boundaries and in political regimes -- also have a cyclical and generational connotation insofar as they occur largely as a result of a polity's participation in and reaction to the redefinitions of the capital accumulation process, embodied in "long wave" dynamics (See Chapter 4). Historically, political reactions to crisis in the accumulation process have taken a wide variety of forms depending on the class structure, political systems, and so on, in particular nation-states. However, in periods of depression it is more difficult to govern than in periods of rapidly mounting prosperity. Capitalist political systems are costly to operate and maintain. Their principal activities are essentially economic: taxation, national defense, social security, education, transportation and communication, energy conservation and administration, economic stabilization, and promotion of growth. However, they depend indirectly -- through the mechanisms of taxation and dependence on capital markets -- on the volume of private accumulation. That is, capitalist political systems are funded by taxation derived from economic processes which they do not directly control. They owe their stability to periods of economic prosperity that allow them to carry on their activities and policies without serious contention.

On the contrary, in periods of economic depression such political systems come under strain as unemployment increases while their revenues shrink. Hence, they have to demand greater sacrifices of their constituents while having fewer benefits to redistribute, and they must come to grips with budget deficits that accumulated during prosperity on the faulty optimistic assumption that future revenues would continue to increase.

In this respect, the position of dynastic families is inherently contradictory and dialectical. On the one hand, they depend upon political institutions for stability, mediation of the class struggle through the creation of a "social contract," stimulation of their economic performance, and protection from market forces as embodied by stronger foreign competitors and smaller national producers e.g., custom tariffs, overseas trade promotion, patent protection, underwriting the cost of research and development, favorable legislation and contracts, subsidies, low-cost loans, tax abatements, allowances for amortization, regulation of prices, restriction of production, promotion of national monopolies, and bailouts. On the other hand, they have the discretion to decide a polity's industrial technology, pattern of work organization, location of industry, market structure and resource allocation to different lines of production. Hence, they act as powerful social forces that not only participate in, but impose upon

and redefine for the polity the rules of the capital accumulation process which produce and reproduce socio-political imbalances that eventually foster major crises in the political process:

> When we say that at the present time our speculators are laying the foundations for a war by continually increasing public expenditures, we in no sense mean that they are doing that deliberately -- quite to the contrary! They are continually increasing public expenditures and fanning economic conflicts not in order to bring on a war, but in order to make a direct profit in each little case... Furthermore, the speculators in the various countries are in competition with each other and are using armaments to exact concessions from rivals. Other similar causes are operating, and they are all leading to increase armaments without that's being in any sense a consequence of preconceived design (Pareto 1935: #2254).

Because of this inherent, contradictory, and dialectical role of dynastic families, the relationship between them and the political orders is necessarily inconsistent and conflictual. Conflict involves the terms and purposes of the relationship and the control over the political orders themselves. There is no solution that will ultimately satisfy the demands and the needs of various dynastic families and of the polities in which they operate.

Conflict is particularly evident in issues involving the **regulation of investment decisions** (Lindblom 1977) such as **sectorial and territorial diversification.** How and where dynastic families and their corporate enterprises invest their capital is a political issue since the entrance into, or the exit from, a market or a polity with massive

quantities of capital is enough to destabilize a whole sector or region, with possible ramifying effects for the rest of economy and society. Hence, in recent decades the efforts of nation-states in the form of "welfare" and Keynesian policies to keep market forces at bay and to assure stability to their polities have become increasingly ineffective as a consequence of the advent of transnational corporations and the related revolution in global financing. In the case of Western Europe the present crisis in the political process and the ongoing redefinition of all the "social contracts" created in the post-World War II period are largely the result of the operation of the market forces unleashed by the formation of the EEC. Under these new conditions a variety of political responses attempt to confront the accumulated rigidities of past policies and practices -- e.g., moderation of wage demands coupled with investment plans to increase productivity and/or worker participation in management; rationalization of national capitalism to compete more effectively on the world market; reform of social institutions designed to take the political bite out of mass youth unemployment; and above all neo-liberalism and neo-conservatism.

As long as the definitive part of their assets and corporate enterprises remain within national boundaries and count on capitalization from a national government, dynastic families must participate directly or indirectly in national

politics. They must support some of the state policies, as the price of peace in the class struggle and as a necessity for the continuation of capitalism, but ultimately they are inclined to act subversively. Policies that represent a threat to their capital accumulation strategy or attempt to redistribute wealth at the expense of their interests, must be opposed, abandoned, or reversed, while at the same time policies that foster capital accumulation, particularly in the "down-swings" and transition phases of the "long waves," must be promoted. The families perform these critical tasks through **processes of élite formation**. However, it is important to note that their success (or defeat) depends not only on their ability to politically manipulate the situation in their favor and to crosscut the institutional political orders, but also on the inherent limits of autonomy of capitalist political systems (Hamilton 1982). In fact, since such systems depend on a process of capital accumulation which is beyond their power to organize and control, they are interested basically in promoting those conditions -- the so called "favorable business climate" -- most conducive to accumulation and successful businessmen performance:

> The strength of the position of business and the weakness of the position of government is that government needs a strong economy just as much as business does, and the people need it and demand it even more (a Du Pont executive, cited in Lindblom 1977:175).

## Dynastic families, capital accumulation, and processes of élite formation

When we shift the focus of our analysis from the capital accumulation and internal organization of dynastic families to the process of élite formation, I encounter similar theoretical and methodological problems in the literature. Several theorists maintain that the concept of an "élite" is a heuristically useful tool in analyzing who rules and how power is distributed among interest groups in advanced capitalist society. But these social scientists are primarily concerned with the growth of institutional forms of power and thus they identify élites only on the basis of "positional analysis" (Mills 1956; Keller 1963; Meynaud 1964; Lipset and Solari 1967; Rose 1967; Boyd 1973; Stanworth and Giddens 1974; Putnam 1976; Suleiman 1978; Higley et al. 1979; Moore 1979; Marger 1981; Ornstein and Stevenson 1981; Birnbaum 1982; Zartman 1982; Dye 1983; Kurtz 1984; Moyser and Wagstaffe 1987):

> Elites are persons who occupy strategic positions in public and private bureaucratic organizations (e. g., governments, militaries, productive enterprises, trade union and other occupational organizations, as well as media, religious and educational organizations, various organized protest groups, and so on). Where the interest is in national élites these organizations are those that are large or otherwise powerful enough to enable the persons who command them to influence the outcomes of national policies individually, regularly and seriously (Field and Higley 1980:20).

Such a theoretical and methodological approach tends to equate élite with bureaucratic hierarchy[4] and institutional and governmental positions. With few exceptions (most

notably, Mills 1956; Meynaud 1964; Stanworth and Giddens 1974), these studies consider as élites a wide range of individuals who at best occupy what Mills defined as "the middle levels of power" and thus have neither autonomy nor exclusivity. As a consequence, we have a proliferation of structural studies of transient personnel holding positions and of institutional formats and organizations disconnected from specific historical and political contexts and processes. Taken as a whole these studies dilute the idea of élite.

According to Pareto (1935, 1968) and Mosca (1939), the original élite theorists, élites should be found at the hegemonic level of society -- i.e., in "control" of the state apparatus -- and should have an autonomous, informal organization through family, clientage, network, and alliance in opposition to formal institutions of power such as state and corporate (i.e. private) bureaucracies. The core of élite internal organization was, for them, the family or some form of hereditary class.

Pareto talks of family and uses the term "aristocracy" to identify certain component units of the élite:

> The upper stratum of society, the **élite**, nominally contains certain groups of peoples, not always very sharply defined, that are called aristocracies. There are cases in which the majority of individuals belonging to such aristocracies actually possess the qualities requisite for remaining there; and then again there are cases where considerable numbers of the individuals making up the class do not possess those requisites. Such people may occupy more or less important places in the governing **élite**... (Pareto

1935:#2051; emp. in orig.).

In his references to family, Mosca considers processes of hereditary and the intergenerational sedimentation of intellectual and moral qualities. (Note that for Mosca as well as for Pareto the quintessential function of a ruling class is to provide the moral legitimation of a political order.):

> Qualification for important office ... is much more readily acquired when one has had a certain familiarity with it from childhood... There is no eliminating that ... which the French call the advantage of positions **dejà prises**... It is not so certain ... that it would be altogether beneficial to the collectivity to have every advantage of birth eliminated in the social hierarchy. If all individuals could participate in the scramble on an equal footing, struggle would be intensified to the point of frenzy... It may very well be that certain intellectual and moral qualities ... require, if they are to develop and exert their influence, that the same families should hold fairly high social positions for a number of generations (Mosca 1939:47-8).

With reference to the political process, both Pareto and Mosca refer to networks and alliances -- "combines," "gangs," "mafias," "consorterie" or cliques -- and to the recruitment of members from other classes in order to expand the pool of support and talented human resources -- e.g., in the discussion of the "closed" versus "open élite" and of the circulation of élites, especially in reference to the cleavages between "speculators" or "foxes" and "rentiers" or "lions." In the view of these original élite theorists, it is precisely because élites are informally organized that they are able to infiltrate and dominate bureaucratic forms

of power.

In this research I follow Hansen and Parrish (1983), who argue convincingly that Pareto's and Mosca's conception of élites should be removed from the realm of psychology and morality and linked to the political-economic frameworks of Marx and Weber. They identify élites as grounded in capital accumulation and thus in the historical dynamics and processes of capitalist evolution. The study of élite formations is a powerful analytical device when confronting the complexity of modern capitalist societies. It enables anthropologists and other social scientists to focus on the continuity of ruling groups and on the complex of relationships between actors in face-to-face groups as they participate in large-scale institutions. One can conceive of power in capitalist society as attributable to the agency of persons and groups rather than solely to impersonal institutional and structural "forces." Identifying actors who cooperate or struggle one can locate the source of decisions that ultimately affect the larger society in important ways (Bottomore 1964; Marcus 1983a). By the same token one can get beyond imagining these decisions to stem, simply, from a predisposition of capitalists toward **greed.**

In the present study I define an élite formation as a coalition of the members of at least one dominant capitalist dynastic family -- and sometimes of several dynastic families who have long been allied -- and more particularly

of its "inner core" group or generational "effective kinship unit," with the following: (1) affiliated or allied cadet families -- usually of the non-dynastic rich, linked through marriage -- and (2) networks of retainers who act in concert through time to control and direct the allocation of strategic resources, such as capital, in a distinctive social formation of capitalist evolution. Hence, an élite formation involves the intergenerational accumulation of socio-cultural capital by a dominant dynastic family. It grows out of a complex accumulation and deployment of kinsmen, clients, retainers, etc., in various power and social fields -- in economic activities, cultural institutions, military, Church, state bureaucracies, political parties, media, Free-Masonry, and so on. It is also developed through the marriage of daughters.

Such a coalition gives to the social group that puts it together an expanded flexibility and enormous leverage over and above the leverage of dynastic families in relating to hegemonic political and economic struggles. An élite formation is resilient and has an organization that allows it to face adversity with a united front and to pool various kinds of resources to support dominant dynastic families.

Elites elaborate betting strategies to deal politically with the long-term dynamics of the accumulation process. The betting strategies constitute the ideological poles that pull together such groups. In this perspectice, what

marxist social scientists identify as class fractions or factions (Miliband 1969; Poulantzas 1973, 1975, 1978; Zeitlin 1980; Hamilton 1982), are élite formations that differentiate themselves on the basis of numbers and types of political strategies which they pursue to maintain and promote their accumulation in the next generation. In fact, class factions and fractions may reflect the limits of élite organization itself, limits that must be finite considering that kin and network have to generate trust among people of a class whose political-economic activities render them potential competitors and thus reciprocally untrustworthy. For one has to remember that over time the internal cohesion of an élite formation is cyclically threatened by inter-generational dynastic family crises revolving around processes of succession and segmentation.

There is not a politically unified and coherent ruling class (Marx 1952), or a politically "mature" bourgeoisie (Weber 1980) at the apex of capitalist society but rather a polyarchy (Lindblom 1977) resulting from competition among élite formations. At any time, there are more potential rulers than there can be actual rulers. Elites achieve and maintain power and hegemony over society at large through a combination of informal politics -- through cooptation, lobbying, corruption, networking, kin alliances, or patronage -- use of force (domination), and elaboration of visions and ideologies -- for Sorel "myths," for Pareto

"derivations," for Mosca "political formulas." Mosca's "second stratum" of professional politicians and Gramsci's "organic intellectuals"[5] -- especially those located in corporate enterprises, political parties, voluntary associations, mass-media, advertising agencies, law and accounting firms, universities, foundations, and "think-tanks" facilitate hegemony by defining the political agenda -- i.e., preventing issues contrary to élite economic interests from gaining any degree of public legitimacy -- and by transcending narrow class positions and points of view, establishing cross-class alliances and constituencies to foster consensus, especially for electoral politics (Gramsci 1975; Mannheim 1936). In capitalist society, both visions and political coalitions are built around pervasive and compelling strategies for dealing with the present and future nature of the capital accumulation process. Existing hegemonic dynastic families and élites are involved in multinational and global corporations -- the ascendent evolutionary form of capital organization of the current Kondratieff wave (Barnet and Muller 1974). Given that accumulation and concentration now operate at the level of the world economy as a whole, they face new difficulties of maintenance and growth (Porter 1986, 1990). This situation has greatly reduced, and will even further reduce, the number of economic enterprises that can guarantee dynastic and élite standing -- a family should be a market factor in

a strategic sector of the next "long wave," but operate in the global economy.

It is very difficult for a dynastic family to emerge and it is even harder to form an élite. There is evidence that, if a dynastic family fails to constitute itself as part of an élite formation, it will be unable to exist over time. Such failure renders it impossible for rich families to become true dynastic families. At present, surviving dynastic families are those who, within the first half of this century, were able to generate **corporate élite formations.** From this perspective, a giant corporation, economically an organizational form for centralizing capital, labor, and technology, can be viewed politically as an alternative to a state or empire (Barnet and Muller 1974; Hansen 1976a). Concepts such as "managerial revolution," "control" (especially "minority control"), "resource dependence," "kinecon group," "social capital," "financial capital," "intercorporate control," "interlocking directorate," "inner group," and "interlocking social circles," which I have reviewed in Chapter 2, acquire meaning precisely in relation to élite formation processes. They specify some of the structural features of dynastic families that are relevant to élite formation.

Elite formations are assembled by dynastic families to protect and maintain past accumulation and to promote future accumulation through political means, including formal or

informal influence over executive branches of governments, that is, over the hegemonic political power centers that with their policies set the rules, directions, and solutions for the functioning of states bureaucracies:

> ... the big capitalistic interests of the present day, like those of the past, are apt, in political life -- in parties and in all other connections that are important to them -- to prefer monocracy. For monocracy is, from their point of view, more "discreet." The monocratic chief is more open to personal influence and is more easily swayed, thus making it more readily possible to influence the administration of justice and other governmental activity in favor of such powerful interests (Weber 1978:283-84).

I maintain that hegemonic struggles in advanced capitalist societies are fought between contending élites and between élites and parts of the institutional orders that they do not effectively control. It is conflict over the control of the institutional orders themselves, over the terms and purposes of their existence and operation. However, élites, states and the nature of hegemonic struggles are continually redefined by the transformations and crises in the capitalist economy.

The capital accumulation process tends to be **unpredictable for major capitalists**, who need it to be predictable. One must remember that dynastic families and their corporate entities can only guess what the new rules will be. Over time there are more losers than winners as a consequence of the logic of capital concentration, and most failures of dynastic families -- and of most capitalists in

general -- occur during the transition periods between "down-swing" and "up-swing" phases of "long waves." They are due to faulty investment strategies i.e., the failure to initiate a diversification strategy, or to the implementation of an investment in the right sector but too early in the phase of the new "long wave."

By engaging in élite formation and élite politics, dynastic families attempt to impose predictability on unpredictability by competing for control and influence over state policies toward industry and capital. In fact, even though capital accumulating entities have transcended national boundaries and the executive branches of governments are becoming weaker vis-à-vis market forces, nation states are still important integral parts of the accumulation process because they continue to amass great amounts of capital through taxation and revenues derived from publicly owned resources. This capital is redistributed by states in order to stabilize their polities and particularly to satisfy their active constituencies. In performing these functions they do not always act in the best interests of particular élites and, in fact, may even impose hardship upon them by impinging upon their autonomy.[6] Nonetheless, a part of state capital is also recycled to corporate enterprises controlled by dynastic families through such investments as infrastructural development and maintenance, which now includes also the clean up of

environmental pollution, and in "contracting out growth" which includes everything from national defense to the privatization of general welfare -- health, education, mass-transportation and communication, housing, energy, and urban renewal (O'Connor 1973; Lindblom 1977; Tabb 1980; Miller 1987):

> The decisions of the state, while they transcend the conflicting competitive interests of specific capitalists, are neither 'value free' nor neutral in their effect on them. Every decision of the state concerning tariffs, taxes, railways or budgetary allocations affects competition and influences the overall social redistribution of surplus-value, to the advantage of one or other group of capitalists. All groups of capital are therefore obliged to become politically active, not just to articulate their own views on collective class interests but also to defend their particular interests (Mandel 1975:480).

In other words, élite formations are assembled by dynastic families largely for the purpose of competing for control over policies of redistribution of capital accumulated by nation-states. They attempt to influence the setting of state priorities among its range of possible functions. The competition among élites is more intense during transition periods between "down-swing" and "up-swing" phases of "long waves." The classic pattern seems to have involved getting government to subsidize the obsolete and non-competitive industries which are then looted for capital by those receiving the subsidies. Also classic is intense competition for state capital to start new industries through government contracts or simple giveaways i.e., the politics of the "privatization of

profits and the socialization of losses."

Whether élite formations succeed or fail in remaining viable and powerful contenders in the struggle for hegemony and capital accumulation depends on their ability to manage their positions by effectively performing a set of critical political and economic tasks. As Pareto (1935:#2053) noted long ago, these are not easy tasks:

> Aristocracies do not last. Whatever the causes, it is an incontestable fact that after certain length of time they pass away. History is the graveyard of aristocracies ...

Indeed, as we shall see in the following chapters, given the internal limits and dynamics of élite organization, the inter-élite competition, the inherently contradictory élite-state relationship, and the unpredictability of the accumulation process, in the history of Italian capitalist evolution there have been more failures than successes of élite formations and strategies.

## Notes

1. In selecting the sample of political-economic dynastic families I have taken into account the historical relativity of the market factor criterion, since over the last 200 years sectors of industrial and financial activity and market boundaries have been radically redifined several times. Italy was not a nationally defined market economy until 1860 when the Italian nation-state was created. Protectionist barriers from the 1880s until the post-WW II establishment of the EEC have effectively sealed off the Italian market from international competition in many industrial sectors. While exports and business deals in foreign countries have always been conducted, Italian dynastic families, with very few exceptions, have concentrated their major efforts for capital accumulation in acquiring and consolidating monopolistic or oligopolistic positions in the internal Italian market. Only in recent years they have come to consider Western Europe as their domestic market.

2. Economists consider "inventory cycles" as the shortest and mildest existing econmic cycles. Business moves up and down over a cycle of 2-3 years as corporations produce too quickly, pile up inventories and then begin again. The timing of these cycles is related to the scale of inventory investment. Since it does not take very much capital to expand production at the margin, it does not take corporations very long to finance inventory accumulation. The ripple effects of inventory adjustment -- providing additional jobs and income for other corporations and workers do not last very long as a result.

Economists have also traditionally analyzed a longer cycle of business activity lasting 7-10 years, called an "investment cycle." This cycle revolves around the scale and timing of major product and equipment innovations. When corporations make a breakthrough, many companies simoultaneously invest in new materials and equipment. Investment is strongly stimulated. That burst of investment activity ripples throughout the economy. The ripples begin to abate when basic re-tooling and product development has been completed and when the new equipment has been amortized. The timing of these investment cycles is apparently related to the scale of the equipment innovations. The cycles last longer than inventory cycles because they require more substantial investment and financing. They begin to tail off after 5-6 years or so because the new investment demands begin to subside and the amortization of the investments -- the repayment of the initial investment funds -- has largely been completed (See Schumpeter 1939; Burns and Mitchell 1946; Gordon 1961).

3. In the U.S.A. these struggles are fought also over the control of trusts and foundations insofar as family members are the principal beneficiaries of the capital held by these legal surrogates, and as the public image of the family in society is largely defined by the philanthropic and cultural activities pursued by these institutions (Nielsen 1972; Marcus 1980).

4. The confusion of élite with hierarchy comes largely as a consequence of the fact that many social scientist follow Michels' (1959) "iron law of oligarchy" and adopt Pareto's definition that makes élite theory as a universal theory i.e., there is always a ruled and a ruler:

> Let us assume that in every branch of human activity each individual is given an index which stands as a sign of his capacity, very much the way grades are given in the various subjects in examinations at school. The highest type of lawyer, for instance, will be given 10. The man who does not get a client will be given 1 -- reserving zero for the man who is an out-and-out idiot... So let us make a class of people who have the highest indices in their branch of activity, and to that class give the name of élite (Pareto 1935:#2027, #2031).

However, a few pages after having made this statement, Pareto distinguishes between "governing élite," comprising individuals who directly or indirectly play some considerable part in government by controlling the state apparatus, and "non-governing élite," comprising the rest (#2032, #2034). The entire focus of Pareto's (as well of Mosca's) analysis is the "governing élite," that is, who rules and how is organized to do so, but many social scientists seem not to have noticed it!

5. Mosca underlined the importance of the "second stratum" in providing the ruling class with intellectual qualities suited for the consolidation of its power:

> There is a close connection between the intellectual and moral worth of the second and larger stratum of the ruling class and the intellectual and moral worth of the man who is actually at the head of the political organization and the small group of persons who directly assist him. The men who occupy higher posts are more or less imbued with the ideas, sentiments, passions and, therefore, policies of the social strata which come just below them, the strata with which they are in continuous and immediate contact and without which they could not govern (1939:430).

Gramsci's "organic intellectuals" are those who work consciously on behalf of a given social class and interpret its material, cultural, and political exigencies and interests in its struggle for hegemony over society at large. They articulate the predicaments of a specific social class, share its dilemmas, and give systematic cohesion to the principles and problems raised by it in its political activity. Hence, they provide a social class with political and cultural organization and leadership. "Organic intellectuals" raise this class's consciousness of its own historical function, in the economic field and on the social and political levels. Hence, the capitalist class brings forth as new "organizers of culture" the engineer, the industrial manager, the administrator and bureaucrat, the political scientist and sociologist, and so on.

By hegemony of a class Gramsci means that a class has succeeded in persuading the other classes of society to accept its own moral, political, and cultural values. If the ruling class is successful, this will involve the minimum use of force to manage class conflict, as is the case with the most successful liberal-democratic regimes:

> The 'normal' exercise of hegemony in the area which has become classical, that of the parliamentary regime, is characterized by the combination of force and consensus which vary in their balance with each other, without force exceeding consensus too much. Thus it tries to achieve that force should appear to be supported by the agreement of the majority, expressed by the so-called organs of public opinion -- newspapers and associations... Midway between consensus and force stands corruption or fraud (which is characteristic of certain situations in which the exercise of the function of hegemony is difficult, making the use of force too dangerous) (1975:1638).

In periods of crisis, such as after the First World War, the apparatus of hegemony tends to break down: parties tend to fragment; no one group is able to obtain the consensus that would enable it to govern. The situation is ripe for a shift of power, for the creation of a new apparatus of hegemony, a new basis of consensus, or else, for a government by force.

6. Nation-states, apart from establishing state monopolies by nationalizing some unprofitable enterprises and some risky, but overall strategic industries, can impose certain direct controls over private enterprises in the form of authoritative prohibitions, permissions or commands: e.g., import prohibitions or licensing, requirements that enterprises hire quotas of disabled workers, specification of procedures for floating new securities issues,

prohibitions on discharging union activists, specification of forms of financial accounting and reporting, prohibition of mergers, environmental controls, or specification of standards of occupational health and safety conditions, etc. Moreover, nation states exercise indirect controls over enterprises through setting minimum or maximum prices, e.g., minimum wage laws, or through state buying and selling. All these forms of state regulatory intervention may affect in many conflicting ways the profitability of a firm's activity.

# CHAPTER 4
# THEORIES OF LONG WAVES AND PHASES OF CAPITALIST DEVELOPMENT

## Introduction

Scholarly interest in economic fluctuations and cycles is amongst the clearest instances of cyclical phenomena. There have been, in fact, periods in which this topic has generated intensive studies and heated controversies among economists, social scientists, and politicians -- as during the 1920s or the 1970s and 1980s -- and periods in which it has been regarded as an obsolete issue, as during the 1950s and 1960s. This is particularly true for the long-term economic waves or Kondratieff cycles, that is, for fluctuations characterized by alternating phases of rapid expansion (up-swing) and stagnation (down-swing) in the world economy with a length between the two peaks (or troughs) of about 50 years.

Interest in long waves corresponds with periods of deep and prolonged economic crisis. In fact, in these crises, economists and social scientists have repeatedly advanced an apparently simple and plausible explanation for them: capitalist economic systems are subject to long-term cyclical fluctuations and, hence, the present adversities are the manifestations of a recessive phase into which economies have entered and in which they will remain for some years. Analysts point out that the history of capitalism is not a smooth ascending line but rather a contradictory history. Periods of accelerated economic

growth and socio-political stability alternate with periods of persistent slowdown and instability. The impact of the capitalist mode is not the same in all periods. The mode varies in its requirements at different times, and also in the demands it places on different social actors and regions of the world.

As might be expected, in conjunction with the crisis initiated in the late 1960s, economists have resurrected the long waves of Kondratieff. This occurred only after some delay as a consequence of the slow change from prevailing optimistic expectations to pessimism. The adoption of Keynesian economic theories, arguing that recessions and depressions could be prevented by government policies and through the stimulation of consumer demand, had spread the illusion that capitalism had entered into an era of endless prosperity. The post-war decades had registered high and continuous but relatively stable rates of economic growth in the advanced capitalist countries. Living standards had risen, crisis tendencies were contained, mass democracy was preserved and the threat of inter-capitalist wars kept remote. Therefore, the abrupt slow-down and stagnation of the early 1970s was initially perceived as a conjunctural phenomenon of short length: a difficult adjustment, but not of long duration, due to higher oil prices. Only with the passing of years, the multiplication of the signals of a deep economic crisis, and the prevalence of a pessimistic

mood, was the name of Kondratieff mentioned with increasing insistence and in an explicit manner.

The proposition that the crisis is the manifestation of recessive and depressive phases of a long cycle, however, is only the initial task of an analysis. It is also necessary to explain the causes of the crisis and, moreover, offer a theory of the long cycles (Kuznets 1940:267). The latter element is, of course, the most controversial point because the theories of fluctuations and crisis are themselves representations produced by scholars (often very influential ones) of academic, political and ideological camps competing for hegemony.

Many analysts maintain that it is possible to talk only of phases or periods through which economic systems, or the productive sectors of an economy, move with patterns that can be described with S curves or more specifically logistical curves -- an initial phase of rapid and sustained expansion followed by a period of maturity or even stagnation with reduced if not negative or zero rates of growth -- without the possibility of perceiving any cyclical pattern.[1] This is because there is no adequate endogenous explanation of the "trough." Other analysts maintain an even more sceptical position and they attribute long-term fluctuations almost exclusively to exogenous factors -- wars,[2] gold discoveries, or other extra-ordinary causes.

A variety of positions also exist among the supporters

of the long cycles. They are clustered around several key issues. Does the cyclical pattern involve all the economic variables (monetary and real) or only monetary ones in particular? Do different cycles exist for single economies (at least for the major ones) or must the phenomenon be analyzed in reference to the world capitalist economy as a whole? How does the length of the fluctuations vary and consequently, what are the peaks and troughs to be periodized? Furthermore, what are the causes that can adequately explain the cyclical dynamics?

Controversies also arise because the data relevant to this phenomenon are highly unsatisfactory (Maddison 1977; Rostow 1978; Goldstein 1988). The best data presented are limited to a few historical series covering four Kondratieff cycles -- and usually these are monetary variables such as prices of a limited number of basic raw materials and industrial commodities. The historical series relative to real variables are relatively inaccurate until the middle of the last century and as a result reliable data of this sort cover only about two cycles.

Given the existence of these uncertainities, some analysts prefer other terms such as "long waves," which is the term used in this work, to the term "cycle." The term "long waves" has the advantage of suggesting an idea of repetivity of the phenomenon of long term economic fluctuations without constraining such complex dynamics into

the determinism entailed by the term "cycle." The latter implies the existence of movements characterized by a periodicity which operates exclusively by their own internal and independent logic. Theories of long-term economic fluctuations that are strictly cyclical assume that there is, in the economy itself, a built-in mechanism through which an expansive long cycle of perhaps 25 years leads to a stagnation cycle of the same length, which then leads automatically to another expansive cycle, and so on.

The use of the term "cycle" is imprecise and misleading for describing the evolution of a dynamic mode of production such as capitalism which is characterized by a secular trend of growth and is predicated on a process of increasing accumulation. In capitalism, it is impossible to return "cyclically" to starting positions, however they are defined. The term "cycle" entails fluctuations within a framework of a fundamentally unchanged system, whereas in the case of capitalism, each new wave of technical change, for example, results in the shifting of the economic system to a new, qualitatively different, configuration of organization and technique, with a resulting number of important socio-economic changes. The waves of technical progress must be interpreted, not as cycles, but as phases of the historical process of the development of productive forces which proceeds by jolts and is accompanied by crisis.

Cyclical theories are often grounded in abstract causal

monism. Any theory which purports to provide a general or pan-historical account of cyclical fluctuations in capitalist development can do no more than point to a few very basic and abstract characteristics of capitalism that offer the potential for generating instability. Such a general theory of capitalist instability is a crucial tool of analysis, but it cannot in itself meet the needs of historical analysis. A theory of long waves, which by its nature is concerned with concrete manifestations of capitalist instability whose appearance varies in time and space, is required. Such a theory must provide the basis for an analytical framework which can systematically account for different historical-geographical conditions within a general theoretical perspective of the capitalist mode and of its dynamics.

The term "long waves" allows one to incorporate into the analysis the novelty that is always emerging in the historical process. It enables one to pay sufficient attention to a wider variety of factors and to the qualitative changes arising not only in the economic sphere, but also in the social, political and institutional domains. The latter are, in fact, necessarily integral parts of the long-term historical dynamics of capitalism. Their incorporation into the analysis provides a more cogent account of the variable and contingent forms that capitalism, as a mode of committing social labor to

productive activity, assumes in its process of becoming. This is because the process of capital accumulation -- with its interdependent connections among the spheres of production and circulation even if it is regulated by intrinsic laws, does not happen in a "pure state" or in a vacuum. Rather, it develops in an interactive relationship with the entire social structure, assuming specific connotations and features in diverse historical situations.

Long waves must be viewed as the outcome of the interaction between the capital accumulation process and the broad set of social relationships which underpin accumulation. The radical advances of capitalism's technical forces that mark each expansionary long wave also entail equally radical upheavals in the social relationships underlying the accumulation process. As the requirements of the mode change so do the resulting social arrangements and configurations that serve them. These social relationships form the basis of different sets of structural constraints or crisis tendencies acting upon accumulation as well as providing different possibilities for their resolution.

An approach to long waves cannot be merely confined to an analysis of quantitative fluctuations in economic trend indicators. Long waves can be conceived as qualitatively distinct historical periods in the historical process of the capitalist mode. They have definitely distinguishable economic, socio-political, and cultural constituent

characteristics. The analysis of the so called exogenous factors and of their systemic interrelations with endogenous dynamics, can shed light on the actual and specific ways in which long-term fluctuations come about, and above all, on how critical phases are variably resolved in capitalism. Such an approach to long waves enables us to provide an holistic account of the process through which the capitalist mode changes and passes from one phase to another.

The goal of this chapter is to investigate which of the available long wave theories is capable of providing us with the most adequate theoretical framework for formulating an historical analytic account of the redefinitions of the requirements of the capital accumulation process. A coherent understanding of the qualitative transformations that mark the development of the capitalist mode is necessary for placing into a meaningful context the transgenerational behavior and strategies of dynastic families and élite formations. The history of these political-economic élites can only be interpreted and contextualized in the long-run history of the accumulation process. We can investigate what options were viable or even conceivable for these actors as a consequence of the constraints imposed by the shifting and often contradictory requirements of accumulation.

At the same time, since these élites are powerful actors in political-economic arenas, we expect an adequate

theory of long waves to view their behavior as relevant for providing an explanation of how and why the requirements of capital accumulation change over time and space. Such a theory should enable us to view the new requirements as emerging at critical times out of the struggle among actors who attempt to restore the rate of accumulation by combining new infusions of capital with new technological, organizational, and institutional configurations.

This review will examine only those theories of long cycles and long waves which try to explain the long-term fluctuations in the real variables. It will not consider those analysts who maintain that this phenomenon involves primarily prices with a limited influence on the other aspects of the economy.

## The three main theories of long waves

There have been two major rounds of the long wave debate. The first round (1920s-1940s) was dominated by three theories: the **capital investment theory** of Nikolai Kondratieff; the **innovation theory** of Joseph Schumpeter; and the **capitalist crisis theory** of Leon Trotsky.

Each of these three main theories originated a research tradition over the subsequent decades. The research schools growing out of the theories of Kondratieff, Schumpeter, and Trotsky respectively, shape the lines of the second round of the debate on long waves[3] (1970s-present) and reflect three

definite world views: conservative, liberal, and revolutionary.[4]

It is remarkable the variety of theoretical explanations notwithstanding, that there is a relatively widespread consensus concerning the historical dating of the long waves in the most varied studies. The following table displays the long wave chronologies offered by the most representative scholars of the phenomenon (for an analysis of the empirical arguments of long wave theorists See Goldstein 1987:64-98):

**Table 2. Long wave chronologies according to various authors**

| | 1st wave | | 2nd wave | | 3rd wave | | 4th wave | |
|---|---|---|---|---|---|---|---|---|
| | trough | peak | trough | peak | trough | peak | trough | peak |
| Van Gelderen (1913) | -- | -- | 1850 | 1873 | 1895 | 1913 | -- | -- |
| Kondratieff (1926) | 1787/93 | 1810/17 | 1844/51 | 1870/75 | 1890/96 | 1914/20 | -- | -- |
| De Wolff (1929) | -- | 1825 | 1849/50 | 1873/74 | 1896 | 1913 | -- | -- |
| Akerman (1932) | -- | 1817 | 1848 | 1873 | 1896 | 1920 | -- | -- |
| Simiand (1932) | late 18th c. | 1815/20 | 1850 | 1875 | 1896/97 | 1928/29 | -- | -- |
| Ciriacy-Wantrup von (1936) | 1792 | 1815 | 1842 | 1875 | 1895 | 1913 | -- | -- |
| Schumpeter/ Kuznets (1940) | 1787 | 1814 | 1843 | 1870 | 1898 | 1925/26 | -- | -- |
| Hansen (1941) | 1787 | 1815 | 1843 | 1873 | 1897 | 1920/21 | -- | -- |
| Clark (1944) | -- | -- | 1850 | 1875 | 1900 | 1929 | -- | -- |
| Dupriez (1947;1978) | 1789/92 | 1808/14 | 1846/51 | 1872/73 | 1895/96 | 1920 | 1939/46 | 1974 |
| Rostow (1978) | 1790 | 1815 | 1848 | 1873 | 1896 | 1920 | 1935 | 1951 |
| Mandel (1975;1980) | 1793 | 1826/27 | 1846/47 | 1873/74 | 1893/94 | 1913/14 | 1939/48 | 1966/67 |
| Van Duijn (1983) | -- | -- | 1845 | 1872 | 1892 | 1929 | 1948 | 1973 |

On the basis of these dating schemes the 200 years of capitalist history can be differentiated in eigth different periods according to the rate of economic growth displayed by each:

| | | |
|---|---|---|
| 1780/90-1823 | accelerated growth | Industrial Revolution |
| 1824/27-1847 | decelerated growth | Restoration |
| 1848/50-1873 | accelerated growth | Age of Capital |
| 1874/76-1893 | decelerated growth | 1st Great Depression |
| 1894/96-1913 | accelerated growth | Belle E'poque |
| 1914/20-1939 | decelerated growth | 2nd Great Depression |
| 1940/48-1966/72 | accelerated growth | Golden Age of Capital |
| 1967/73-present | decelerated growth | |

It is important to note that, as Hobsbawm (1981:14) has argued:

> The periodization of the 19th and 20th century history which historians of Europe find most useful does, in fact, coincide largely with Kondratiev waves (1981:14).

Particularly, the periods of decelerated growth are also consistent with Hobsbawm's (1976:79) definition of "crises of capitalism" as the "rather lengthy periods of trouble, between 1815 and 1848, between 1873 and 1896, and between 1917 and 1948," a periodization which parallels Amin's (1975:10) "periods of structural crisis: 1840-1850, 1870-1890, 1914-1948, and the period after 1967."

## The capital investment theory

### Nikolai Kondratieff

Kondratieff, a Russian marxist economist, ran the Business Research Institute in Moscow in the 1920s concerned with the study of all types of business cycles in capitalist economies. Kondratieff was not the first to entertain the idea of long-term cycles of about fifty years' duration[5] -- in his view a full cycle has a length of 48 to 60 years. But he was the first to marshall significant empirical evidence[6] for the idea and spark an intense debate on the

topic.

Kondratieff's principal interest in long cycles was empirical, not theoretical. In his 1926 article (1935:111) he attempted to demonstrate their existence empirically by formulating the following patterns:

1) During the rise of the long cycles, **years of prosperity** are more numerous, whereas during the downswing **years of depression** predominate;

2) During the downswing, **agriculture** usually suffers an especially pronounced and long depression;

3) During the downswing, many important **inventions** in the techniques of production and communication are made; however, these are usually applied on a large scale (that is, they are introduced as **innovations**) only at the beginning of the next long upswing;

4) At the beginning of a long upswing, **gold production** usually increases, and the **world market** is enlarged by the assimilation of new countries, especially the former colonies;

5) It is during the period of the rise of the long cycle that the most disastrous and extensive **revolutions** and **wars** mostly occur as consequences of the increase in the tempo and tension of economic life, and intensification of the economic struggle for markets and raw materials.

However, in the face of the theoretical attacks from his critics in the Soviet Union,[7] he elaborated in 1928 a theory of long cycles that identified the fundamental cause of the fluctuations in the "organically inherent" dynamics of the capitalist accumulation process. Kondratieff's theoretical explanation, in fact, centered on capital investment -- the wearing out of capital equipment and its replacement concentrated in waves of massive investment using savings accumulated during an economic downswing:

> Marx affirmed that the material basis for [seven-to-eleven- year business cycles] was the material wear and tear, replacement, and increase in the mass of instruments of production in the form of machines with a service life lasting ten years, one may assume that the material basis for the long cycles is the wear and tear, replacenment, and increase in those basic capital goods requiring a long period of time and tremendous investments for their production. **The replacement and expansion of the fund of these goods does not take place smoothly but in spurts, and the long waves in economic conditions are another expression of that** (Kondratieff [1928] 1984: 93; emp. in orig.).

Thus, increased construction of basic capital goods -- i.e. the massive investment in such long-lived capital goods as railroads, canals, and factories -- is for Kondratieff the central feature of the upswing phase. These long-lived capital goods correspond -- as Schumpeter subsequently maintained -- to the introduction on the part of entrepreneurs of "epochal innovations" -- steam engines, railroads, electricity, etc.

In order to explain why the capital goods are built in clusters rather than continuously, Kondratieff advanced a monetary over-investment theory, borrowing from von Tugan Baranowsky's (1901:239) theory of free loanable funds. In order for an expansion to take place it is necessary for entrepreneurs to dispose of massive funds at a relatively low cost. At the beginning of an expansion phase a large supply of loanable capital is available at low interest rates. In addition, the propensity to save will be high and the price level low. But "the investment of capital in big and expensive projects increases the demand for capital,"

which eventually raises the price of capital ([1928] 1984:96). The high price of capital progressively dampens investment and -- notwithstanding long time lags -- leads to the end of the upswing and the beginning of a downswing. In the downswing phase investment decreases, propensity to save increases (especially of those whose real income rises due to the sinking price level), capital becomes cheaper, and hence "conditions favorable to an upswing are again created" (ibid:97).[8]

Kondratieff maintained that the capitalist world had experienced two and a half long cycles since the end of the eighteenth century: the first lasted from fifty to sixty years, the second from forty to fifty years. The third was in progress when Kondratieff wrote. Kondratieff's first cycle ran approximately from the end of the 1780s to 1844-1851, with a peak between 1810 and 1817. The second ran from 1844-1851 to 1890-1896, with a peak in 1870-1875. The third began in 1890-1896, peaking in 1914-1920, when the decline "probably begins."

In recent years several scholars have updated and re-elaborated Kondratieff's capital investment theory.[9] However, even recent research has not marshalled sufficient evidence to demonstrate convincingly the existence of the periodicity of investments. Critics consider as unrealistic the hypothesis of an "echo" effect, brought about by

**Table 3. Periodicity and duration of Kondratieff's long cycles**

| Long wave | Direction of cycle | Period | Duration of cycle | Duration of wave |
|---|---|---|---|---|
| I | Upswing | 1789-1814 | 25 years | 60 years |
| | Downswing | 1814-1849 | 35 years | |
| II | Upswing | 1849-1873 | 24 years | 47 years |
| | Downswing | 1873-1896 | 23 years | |
| III | Upswing | 1896-1920 | 24 years | ----- |
| | Downswing | 1920- | -- | |

replacement and by large projects beginning more or less simultaneously.[10] Furthermore, they charge that the model of endogenously generated investment cycles is mechanical, lacking any social content. The analyses of scholars adopting an investment theory provide no indication either of how infrastructural investment relates to the general structural characteristics of respective phases of capitalist development or of how socio-political contradictions would (or would not) affect the trajectory of the long cycle dynamic (Mandel 1980; Gordon 1980).

## The innovation theory

### Joseph Schumpeter

As the debate on long waves was suppressed in marxist circles after 1930 (See note 7), it began to catch on among some liberal economists. Joseph Schumpeter was foremost in resurrecting Kondratieff and naming the long cycle after him. Schumpeter ([1934] 1951) argued that the depression of

the 1930s resembled previous depressions around 1825 and 1873.

Schumpeter (1939) attempted to build a unified, although tentative, theory of business cycles (both short and long), based primary on the concepts of innovation and of "leading sectors" of the economy. For Schumpeter the term "development" in the economic sense implied a qualitative shift in the nature of production, not mere quantitative changes in the level, rate of increase or distribution of wealth. Innovation, in Schumpeter's view, consists not just of inventions but of any "new combination" involving a "change in the method of supplying commodities":

> We include the introduction of new commodities which may even serve as the standard case. Technological change in the production of commodities already in use, the opening up of new markets or of new sources of supply, Taylorization of work, improved handling of material, the setting up of new business organizations such as department stores -- in short, any 'doing things differently' in the realm of economic life -- all these are instances of what we shall refer to by the term Innovation (Schumpeter 1939:84; emp. in orig.).

Schumpeter considered innovation "the outstanding fact in the economic history of capitalist society" (ibid:86). Innovations result from the rise to leadership of particular individuals (those entrepreneurs who develop and/or capitalize the innovations) and the emergence of new firms (ibid:94-96). Schumpeter did not attribute his cycles of innovation to objective economic mechanisms of supply of and demand for capital funds, in the manner of Kondratieff, but

to subjective factors inherent in the entrepreneurial psyche.

Schumpeter saw clusters of innovations as driving the irregular rhythms of business cycles of various lengths.[11] He argued that the rate of technological change is not constant over time. In Schumpeter's view, growth and cycle are fused, growth coming in spurts and appearing as cyclical upswings. "The recurring periods of prosperity of the cyclical movement are the form progress takes in capitalist society" (Schumpeter 1927:295). Progress is due to the emergence of new innovations, incorporating technological change, and introduced by entrepreneurs.[12] The clustering of innovations come about as a consequence of an "imitative process:"

> Exclusively because the appearance of one or a few entrepreneurs facilitates the appearance of others, and these the appearance of more, in ever-increasing numbers (Schumpeter 1961:228).

A necessary condition for the expansion is for Schumpeter the availability of credit for the entrepreneur -- in contrast with Kondratieff, Schumpeter underlines the importance of bank credit. The new demand for productive factors is the initial cause of a general increase in prices. Profits and the rhythm of the expansion diminish as the innovations get more widely diffused in the economy. Its length is also determined by the average time which elapses before the new products appear on the market -- this time depends on technical and productive considerations and

on the rapidity of the diffusion of the innovation.

The upswing phase of the cycle, however, calls forth forces which are necessarily conducive to a downswing phase: there is a contraction of credit, a decrease in investments and in the innovative activity, an increasing number of business failures which narrows demand of productive factors and which together bring about a fall in prices.

Schumpeter characterized the cyclical course of capitalist development as a "process of creative destruction" whereby the destructive disruption of capitalist development was a functionally necessary prerequisite for the creative renewal of development in a new long cycle of expansion. For him, economic development could not proceed along a linear course. It was necessary for some industries, sectors or markets to disappear in order to stimulate new innovations, reconstructing the economy on a new, higher plane of development.

Major innovations bring to the fore a new "leading sector" of the economy, supplanting the previously dominant constellation of industries. The new leading sector drives a powerful expansion of the economy until it runs into diminishing returns and is eventually supplanted by a new leading sector. Each long cycle upswings is associated with historically specific technological bases. Schumpeter identified these as: (1) the industrial revolution (1780s-1842); (2) the age of steam and steel (1842-1897);

and (3) electricity, chemistry, and motors (1898-).[13] Kuznets (1940:261) elaborated these (with Schumpeter's advice) as the Industrial Revolution Kondratieff (cotton textiles, iron, steam power), the Bourgeois Kondratieff (railroads), and the Neo-Mercantilist Kondratieff (electricity, automobiles). Each of these periods began with an upswing and ended with a long downswing.[14]

**Table 4. Schumpeter's long wave chronology**

| | prosperity | recession | depression | recovery |
|---|---|---|---|---|
| 1st (cotton, iron, steam) | 1787-1800 | 1801-1813 | 1814-1827 | 1828-1842 |
| 2nd (railroad) | 1843-1857 | 1858-1869 | 1870-1884/5 | 1886-1897 |
| 3rd (auto, electricity) | 1898-1911 | 1912-1924/5 | 1925/6-1939 | --- |

In recent years several scholars have re-elaborated Schumpeter's innovation theory and attempted to put it under empirical scrutiny.[15] However, even this new research has not dissolved the doubts of many critics about the role of innovations as the driving force of long cycles (Mansfield 1983; Rosenberg and Frischtak 1983). Critics argue that there is not sufficient evidence to maintain: (1) that innovations cluster around particular moments; (2) that the downswing phase favors the shift from inventions to innovations; (3) that innovations cause variations in investments and other economic variables; and (4) that long cycles exhibit a recursive character.

It is difficult to identify and measure with precision the variables that are utilized in the Schumpeterian model.

It is very problematic to assert the clustering of innovations when it is impossible to date unequivocally an innovation -- or even agree on the innovative character of a given phenomenon. Scholars that have attempted to demonstrate empirically the clustering of innovations by presenting long lists of "birth certificates," have been criticized on the basis of imprecision or lack of completeness.[16]

Problems also arise in connection with the theoretical motivations underlying the idea of the clustering of innovations. While there is widespread agreement with Schumpeter's assumption that there is a very strong "imitative effect," critics point out that this cannot explain the coeval introduction of many radical innovations: for instance the use of the computer is independent from that of the laser. Furthermore, they maintain that specific innovations are usually subject to continuous processes of improvement, at times very radical, that are interrelated with their diffusion.[17]

Marxist opponents of the Schumpeterian theory charge .ls2 that by proposing direct causal chains between entrepreneurial activity and economic development, Schumpeter reduced the dynamics of capitalism solely to the psychological make-up of individual capitalist entrepreneurs and their pioneering spirit of innovation. Thus, Mattick (1981:26, 27) argues that Schumpeter "developed a kind of

heroic theory of business fluctuations, seeing in them the dynamic of the capitalist system." The mechanism of capitalist development is "embodied in a type of person who, tormented or blessed by creative unrest, breaks by self-willed activity through the cycle of static equilibrium." Schumpeter also neglected to set the innovation process within its wider material context. In his account, individual capitalists seem to innovate purely for the novelty rather than because of their individual needs, to establish technical superiority over competitors and their requirement, as a social class, to extend their ownership and control over the labor process. Schumpeter does not relate the acceleration of innovative activity to the upturn in actual or expected rates of profit which, as capitalist crisis theorists point out, form the material incentive for investment in new productive technology.

## The capitalist crisis theory

### Leon Trotsky

Trotsky characterized long waves as historical periods of accelerated and retarded growth in the development of capitalism. Trotsky iidentified five "different and distinct periods" from 1781 to 1921 -- two periods of stagnation alternating with two of rapid growth, the fifth period, since 1914, being "the period of the destruction of capitalist economy" (speech of Trotsky of 1921 quoted in Day

1976:69). These historical phases arose from a "process of adaptation" as capitalism reacted to events in the "superstructure:"

> It will depend upon great historical events -- crises, revolutions, etc., whether the period will become one of accelerated growth, stability, or decline. This is a cardinal trait of the process of capitalistic development (speech of Trotsky of 1921 quoted in Kuznets 1930:262).

Trotsky maintained that long waves, defined by recurring major crises in capitalism, arise from the tendency of the rate of profit to decline. However, the recovery from such crises is not endogenous to, or organically inherent in, capitalism but results from the effects of exogenous factors such as wars, imperial expansion, the discovery of new natural resources, or the suppression of labor movements, that intervene to restore favorable long-term conditions of accumulation. The rate of profit increases, allowing a new upswing -- but the next crisis inevitably follows.

In 1923, responding specifically to Kondratieff, Trotsky elaborated his view of long waves as "epochs of capitalist development" (1923:275). He stressed that long-wave periods are neither cyclical nor internal to the laws of capitalism:

> As regards the large segments of the capitalist curve of development (fifty years) which professor Kondratieff incautiously proposes to designate also as cycles, their character and duration are determined not by the internal interplay of capitalist forces but by those external conditions through whose channel capitalist development flows. The acquisition by

> capitalism of new countries and continents, the discovery of new natural resources, and, in the wake of these, such major facts of "superstructural" order as wars and revolutions, determine the character and the replacement of ascending, stagnating, or declining epochs of capitalist development (Trotsky 1923:277).

Trotsky agreed that marxism "looks for the causes of changes in social superstructure in the changes of the economic foundation" but argued that "economics is decisive **only** in the **last analysis**" (Trotsky 1923:277;emp. in orig.). Thus he ascribes a relative autonomy to the "superstructure" of society.

Kondratieff's response to Trotsky's argument was that Trotsky "takes an idealist point of view" (quoted in Day 1976:78). Kondratieff maintained that "superstructural" factors such as wars, revolutions, and innovations are products or effects, not causes, of the long wave. In asserting that long waves are self-generating and inherent in capitalism, Kondratieff conceded to Trotsky only that:

> ... each new cycle takes place under new concrete-historical conditions, at a new level in the development of productive forces, and hence is by no means a simple repetition of the preceding cycle (Kondratieff [1928] 1984:99).

### Ernest Mandel

Since the mid-1970s, Ernest Mandel (1975; 1980), following Trotsky's approach, has reformulated a marxist long wave theory. He maintains that such a theory should measure production, profits, and exports -- since production serves world markets. His analysis takes off:

> ... from the assumption... that the basic laws of motion of the capitalist system are those of capital accumulation and that capital accumulation originates in the production of commodities (1980:8).

In Mandel's theory, the tendency of the economy to grow at a faster or slower pace as measured by the growth of commodity production, depends on the average rate of profit. Higher profits mean faster growth and capital accumulation. A theory of long waves must be able to explain long-term movements of the rate of profit.

Marx's law of the tendency of the average rate of profit to fall would indicate a general slowing down of growth and hence explain the downswing of the long wave -- the onset of thecapitalist crisis. Accordingly, Mandel explains peaks with the end of "technological rents," over-investment or capital over-accumulation, scarcity of liquid funds and, last but not least, the increased contractual strength of the workers. In this sense for Mandel long waves are an inevitable product of competitive relationships between capitalists -- rather than between capitalists and workers -- who perennially sow the seeds of their own destruction by over-accumulating fixed capital.

The problematic issue for Mandel is how to explain in accordance with a marxist framework the upswing, the resolution of crisis that entails a long-term upsurge of the rate of profit:

> It is a challange to a theory in which the tendency of the average rate of profit to decline plays such an important role to explain how it is possible that

> following at least three historical turning points in capitalist economic history (after 1848, after 1893, and after 1940 in North America and 1948 in Western Europe and Japan) there were sudden long-term upsurges in the average rate of economic growth (Mandel 1980:11-12).

Mandel points out that in a marxist theoretical framework there are three main determinants -- they are considered as partially autonomous variables -- of the rate of profit: (1) the fluctuations in the organic composition of capital; (2) the fluctuations in the rate of surplus value; and, (3) the fluctuations in the turnover rate of capital. A sudden upturn in the average rate of profit can be explained as resulting from a sharp increase in the rate of surplus value, a sharp slowdown in the rate of increase of the organic composition of capital, a sudden quickening in the turnover of capital, or a combination of several or all of these factors. In addition, there are forces able to counteract the tendency of the average rate of profit to decline. These include an increase in the mass of surplus value and a flow of capital into countries (and sectors) where the average organic composition of capital is significantly lower than in the basic industrial branches of the industrialized capitalist countries. A sudden long-term upsurge in the profit rate results from several or all such factors operating in simultaneously:

> Thus, expansive long waves are periods in which the forces counteracting the tendency of the average rate of profit to decline operate in a strong synchronized way. Depressive long waves are periods in which the forces... are fewer, weaker, and decisively less

> synchronized. Why this occurs at certain turning points can be explained only in the light of concrete historical analysis of a given period of capitalist development leading up to such turning point (1980:15-16).

Mandel points out a number of endogenous factors that can help to explain the shift from a depression into an expansion. First of all, during the recessive phase there is an accumulation of money capital sufficient to finance the high level of investments that will occur in the first part of the recovery -- Mandel does not adequately consider bank credit as capable of creating new purchasing power and thus of financing new investment in the expansionary phase (See Rowthorn 1976:64). At the same time, the weakness of the workers allows the introduction of a new labor organization more favorable to the capitalists. This organization is closely related to, and depends on, the new productive methods that were introduced at the beginning of the expansion and that become diffused gradually in the various sectors of the economy.

At this point, according to Mandel, noneconomic factors play key roles in generating a sudden and significant increase in the rate of profit.[18] Mandel, like Trotsky, argues that the recovery is not inherent in the capitalist system -- as it was maintained by Kondratieff's theory of long cycles -- but results from unpredictable[19] exogenous forces acting to increase the average rate of profit:[20]

> In the explanation of the sudden upsurges in the average rate of profit after the great turning points

> of 1848, 1893, and 1940(48), **extraeconomic factors play key roles** ... although the internal logic of capitalist laws of motion can explain the **cumulative nature of each long wave, once is initiated**, and although it can also explain the transition from an expansionist long wave to a stagnating long wave, it cannot explain the turn from the latter to the former. ... This upturn... cannot be deduced from the operation of "capital in general." It can be understood only if all the concrete forms of capitalist development in a given environment (all the concrete forms and contradictions of "many capitals") are brought into play. And these imply a whole series of noneconomic factors like wars of conquest, extensions and contractions of the area of the capitalist operation, intercapitalist competiton, class struggle, revolutions and counterrevolutions, etc. These radical changes in the overall social and geographic environment in which the capitalist mode of production operates in turn detonate, so to speak, radical upheavals in the basic variables of capitalist growth (i.e., they can lead to upheavals in the average rate of profit) (Mandel 1980:20-21; emp. in orig.).

Mandel views technological change as an effect rather than a cause in the long wave -- as the Schumpeterian "innovation" school mantains. He argues (1980:39-41) that investment in new technologies is held back during periods of slow growth when profit expectations are mediocre; then, as the expansionary phase begins as a consequence of the sudden upturn in the average rate of profit, massive investment takes place in new technologies -- using the backlog of unapplied inventions from the downswing period.

The wave of investments consists only in part of long-term projects in infrastructure or housing: new productive plants and machinery, expressions of a new technological revolution, constitute the bulk of it. The rate of profit rises toward maximum levels. Its upward movement is favored by massive migrations of workers to the

countries undergoing the strong expansion. These migration waves can prolong over time the existence of an industrial reserve labor army and, thus, slow down the growth of real wages.

Class struggle -- "working class militancy and radicalization" -- according to Mandel, intensifies late in the expansionary phase, when the working class has been strengthened and expanded. During the depressive phase and early in the expansion -- when workers still carry the scars of years of unemployment -- by contrast, the interests of capitalists tend to prevail over those of workers, taking the form of a generalized introduction of new organizational and technological bases of the labor process that can increase the rate of surplus value.[21]

Mandel (1980:47,50,52;emp. in orig.) argues that class struggle -- and in particular "the capacity of the working class to mount resistance and counterattack" -- plays a central role in determining the length and the outcome of the restructuring process necessary to decisively redress the rate of profit.[22] Long waves are produced through a "relatively autonomous long-term cycle of class struggle." Thus, echoing Trotsky, Mandel mantains that "**the outcome of the depressive long wave is not predetermined** (it depends on the outcome of class struggle between living social forces):"

> ... the emergence of a new expansionist long wave cannot be considered an endogenous (i.e. more or less

> spontaneous, mechanical, autonomous) result of the preceding depressive long wave, whatever the latter's duration and gravity. Not the laws of motion of capitalism but the results of the class struggle of a whole historical period are deciding this turning point. What we assume here is a **dialectic of the objective and subjective factors of historical development**, in which the subjective factors are characterized by **relative autonomy**; that is, they are not predetermined directly and unavoidably by what occurred previously in regard to the basic trends of capital accumulation, the trends in transformation of technology, or the impact of these trends on the process of labor organization itself (Mandel 1980:49; emp. in orig.).

**David Gordon**

Following Mandel, a number of marxist scholars began to conduct research on long waves.[23] Among these scholars the work of David Gordon (1978; 1980; Gordon, Edwards, and Reich 1982; Bowles, Gordon, and Weisskopf 1983, 1986; Weisskopf, Bowles, and Gordon 1985) has provided a viable alternative to Mandel's theory. He seeks to explain long waves in capital accumulation by analyzing the relation between the capital accumulation process and a set of social institutions which affect that process.[24] More precisely, his aim is to show that long waves are a consequence of the successive creation and collapse of a supporting institutional structure of capital accumulation, the latter referred to as a **social structure of accumulation (SSA)**.

Gordon develops a marxist theory of long waves as endogenous to capitalist development -- explicitily in contrast to Trotsky and Mandel. His approach incorporates a

large array of social factors into the explanation of both phases of the long wave. The wide range of causal elements includes noneconomic as well as economic factors and they are not viewed as accidental or external. Rather, Gordon's approach is based on the premise that the interaction between the accumulation process and a large array of social factors, including some in the political and ideological spheres, follows a significantly regular and predictable course. This approach contrasts sharply with other marxist and non-marxist long wave theories which hypothesize that only a small set of narrowly economic factors can produce regular, law-governed behavior. To both Kondratieff and Schumpeter, both phases of the long wave are caused by a narrow set of economic factors and both phases are regular and predictable. To Mandel, the depressive phase of the long wave is caused by a constriction of economic factors, while the expansionary phase is not; the former phase is law-governed while the latter is related to the unpredictable struggles of social actors.

Gordon maintains that a period of vigorous capital accumulation requires the existence of a broad set of social institutions which support or facilitate the accumulation process. The pursuit of profits is what drives the accumulation process. But profits come only at the end of that process, so capitalists must be able "to make reasonably determinate calculations of their expected rate

of return" (Gordon 1980:12) if they are to undertake accumulation. He argues that "a full set of integrated institutions is necessary for individual capitalist-accumulation to continue" (1978:27). "The interdependencies among the individual institutions create a combined social structure with a unified internal structure of its own." This set of institutions, which include political and ideological structures as well as economic ones, he calls the "social structure of accumulation" (SSA) (1980:17,12). The SSA not only encourages accumulation, but also somehow creates the social stability required to permit the formation of the "reasonably determinate calculations." Without such stability, capitalists put their surplus value, or a large share of it, into financial or speculative investments rather than real accumulation.

To explain how a SSA achieves such stability, Gordon produces a laundry list of requirements of the accumulation process. This list is organized around the three major steps in the circulation of capital: the purchase of the means of production and labor power, which includes markets of raw materials, labor, etc.; the production process, which involves the organization and control of the labor process; and the realization process, which entails a given structure of final demand. The SSA, then, includes all the social institutions which significantly contribute to fulfilling the requirements of the accumulation process and to

decreasing the uncertainty of the outcome of each step of capital circulation.[25]

An SSA creates sufficient stability and predictability to permit rapid accumulation because its role is to contain and regulate the two essential forms of sharp conflicts generated by capitalist relations of production and exchange: class conflict and competition among capitalists (Kotz 1987). Disruptive class conflict reduces the pool of surplus value that is created, and excessive competition reduces the portion of surplus value that is realized. The institutions making up an SSA cannot eliminate class conflict and the process of competition among capitalists but they can stabilize and channel them in directions that are not unduly disruptive of accumulation.[26]

The creation of a viable SSA ushers in a long wave expansion. However, the long wave expansion contains the seeds of its own destruction, and ultimately both the SSA and accumulation collapse, ushering in a long wave contraction. The general tendency toward crisis in the accumulation process -- declining rate of profit, over-accumulation, underconsumption, rising organic composition, etc. -- combines with a "relatively independent dynamic at the level of the social structure of accumulation:"

> When either the economy begins to stagnate or institutional contradictions within the social structure of accumulation begin to 'erupt,' accumulation in general **and** the social structure of accumulation are **both** likely to begin to dissolve (Gordon 1980:20; emp. in orig.).

The common root in all cases of breakdown is the presence of contradictions within the totality, accumulation process-SSA. Eventually, key institutions in the SSA weaken and can no longer function effectively. Since the SSA is viewed not simply as a collection of institutions which all happen to support accumulation, but as an integrated whole, the collapse of a few key institutions ends the supportive role of the SSA and accumulation slows or stops.[27] This creates a "universal crisis." While short-term downswings can be resolved "within the context of prevailing social relationships," universal crisis require restructuring of social relationships (Gordon 1980:20). They require major institutional change resulting in the creation of a new SSA able to provide viable support to a new wave of rapid accumulation.[28]

Gordon's theory incorporates capital investment but (unlike Kondratieff) not as a central cause. Each new SSA requires a physical foundation based on new systems of natural and intermediate supply, transportation, and communication -- causing a bunching of infrastructural investments at the beginning of an expansionary long wave. These long-term investments create the infrastructural underpinnings of the new SSA and may help to stabilize the timing of long waves. They may provide "a kind of center of gravity to their specific amplitude and period," but do not cause the upturn (Gordon 1980:40). The length of the long

wave expansion is also explained by the durability of the social institutions comprising an SSA. The length of a depressive long wave, instead, is viewed as due to the protracted process of struggle and compromise required to create a new SSA (Gordon et al. 1982).

Gordon's SSA approach is a step forward in the effort to explain alternating periods of accelerated growth in capitalist history. Theories based on the innovation process and capital investment cycles seem not very plausible. His approach offers a more coherent, believable explanation of long waves. Within the marxist tradition, it offers an alternative to Trotsky's and Mandel's theories which view stagnation as the normal state of capitalism. The latter type of theory may be compared with the view of mainstream liberal economists that the normal state of capitalism is healthy growth. Capitalism has been around for a long time, and both conditions keep recurring for significant time periods. There is no good reason to suppose that either pole of capitalist performances is more "normal" than the other. Gordon's approach recognizes this and treats both types of performance as normal.

Gordon's theory resembles Trotsky-Mandel in locating the cause of long waves in the social "superstructure" and in seeing long waves as qualitative stages of development rather than endogenously generated cycles. And, like Trotsky and Mandel, Gordon sees capitalism as fundamentally

unstable: "Capitalist economies are incapable of permanent prosperity and stability" (1978:28,32). He agrees that the stagnation phase results from the tendency of profits to decline under capitalism. But Gordon differs in seeing capitalism as able to endogenously move from downswing to upswing as well:

> Major crises not only disrupt capitalist accumulation but are also necessary for its restoration... Crises can conceivably eliminate the problems which might originally have pprovoked the crisis. Has demand for workers become so tight that wages have squeezed profits? As the crisis throws more and more workers out of their jobs, their bargaining power will probably dissolve and the pressure on profits relax. Have profits fallen because demand is too slack or because the basis for profits has skrunk? Crises will force capitalists to junk some of their more unprofitable enterprises and equipment, concentrating their resources (when and if prosperity returns) in production facilities with higher-than-average profitability... [T]he process of crisis will force the system into a new set of institutional relationships. If the old institutions no longer sustain profitable accumulation, and if their institutional interdependencies are as tightly woven as we have suggested, then changes in some institutions -- necessitated by the need to restore profitability -- will probably force changes in nearly all of them. Once the fabric begins to unravel, a wholly new institutional cloth will need to be re-woven (Gordon 1978:28).

Gordon sees the long wave as a "succession of qualitatively differentiable social structures of accumulation" (1980:22;emp. in orig.). When the internal contradictions of capitalism give rise to crisis, "individual accumulation cannot resume until the social basis for accumulation is reconstituted" (1980:25). The crisis under one SSA creates, through class struggle, the

institutional changes that allow the next upswing. Thus, "long cycles of class struggle 'cause' the burst of new activity at the beginning of long waves" (1978:31). As a consequence, in Gordon's view, there is no automatic mechanism which causes the long depressive wave, or crisis, to pass over into another long expansionary wave. The resolution of the long wave crisis requires the construction of a new SSA, which can only emerge from a complex economic, political, and ideological process that has no inevitability about it. Gordon argues, however, that there are powerful forces that push in that direction. The long wave crisis sets off sharp struggles between capitalists and workers, between sections of various classes, and among a variety of class and nonclass groups in society. Initially, each tries to protect its narrow interests and its real income in the face of economic decline. As the crisis continues, it puts pressure on every group to come up with institutional reform proposals that would get the economy growing again. The pressure will intensify until a workable SSA emerges from the fray.

If we view the role of an SSA as the stabilization of class conflicts and competition among capitalists (Kotz 1987), then it is possible to understand Gordon's assertion that the SSA underlying each new expansion period is unique; a previous SSA cannot be resurrected to do the job. Each long wave expansion represents a new stage of capitalism,

not merely a repetition of a past cycle of expansion and decline because classes, class relations, and forms of competition among capitalists change over time. This fact implies that a set of institutions which had effectively stabilized class and competitive relations in the past would no longer do so at a later date. A new set of institutions is required to handle each new stage in the evolution of class and competitive relations. However, this does not preclude the continuation of some institutions from one SSA to another, perhaps with some modifications.

Gordon's SSA approach to long waves bears close resemblance to the theory of the long-run course of capital accumulation developed by a number of scholars, constituting what is generally called the "regulation school" (Aglietta 1979, 1982; Boyer 1986, 1987, 1988; Lipietz 1982, 1984, 1985, 1986a-b, 1987, 1989). These analysts view the course of capitalist development as passing through successive **regimes of accumulation** (ROA), each associated with a particular **mode of regulation** (MOR) that governs the accumulation process.[29] These concepts are similar to those used by Gordon, with a ROA analogous to the accumulation process and a MOR analogous to the SSA (Kotz 1987, 1990).

A ROA constitutes the totality of the processes that enable capital to be effectively valorized and is defined as a mode of production and distribution of surplus value which secures changes in the conditions of production, consumption

and the development of the labor process in such a way as to provide a set of structural economic and social relationships appropriate to the needs of expansionary accumulation. A particular regime of accumulation can exist because "its schema of reproduction is coherent" (Lipietz 1986a:19;emp. in orig.):

> The **regime of accumulation** describes the stabilization over a long period of the allocation of the net product between consumption and accumulation; it implies some correspondence between the transformation of both the conditions of production and the conditions of reproduction of wage earners.

The existence of a MOR, on the other hand, implies that a particular form of the accumulation process is governed by a particular set of social norms so that the behavior of all actors -- capitalists, workers, state employees, financiers, and other political-economic agents is contained into some kind of configuration that will keep the regime of accumulation functioning in a condition of relative stability:

> ... the mere **possibility** of a regime is inadequate for its existence since there is no necessity for the whole set of individual capitals and agents to behave according to its structure. There must exist a materialization of the regime of accumulation taking the form of norms, habits, laws, regulating networks and so on that ensure the unity of the process, i.e. the approximate consistency of individual behaviors with the schema of reproduction. This body of interiorized rules and social processes is called the **mode of regulation** (Lipietz 1986a:19; emp. in orig.).

A MOR entails the existence of conditions of relative long-term stability, coherence and integration not only in the domain of the labor process -- "sphere of production"

and class relations -- but also in that of the price-fixing market -- "sphere of circulation" and inter-capitalist competition. It implies a condition of relative moderation of the conflictual and anarchic qualities of both spheres over long-term periods through some degree of collective action and state involvement:[30]

> The development of capitalism in each country is principally the result of internal class struggles, producing outlines of regimes of accumulation that are consolidated by forms of regulation sustained by the local state... The state is indeed the archetypal form of any regulation: it is at this level that the struggle of classes is regulated; it is the institutional form which embodies the compromise without which the different groups that compose the national community would be consumed by endless struggle (Lipietz 1986a:21).

As Harvey (1989:122-23) notes, the concepts of ROA and MOR are useful heuristic devices, as they enable us to focus:

> ... our attention upon the complex interrelations, habits, political practices, and cultural forms that allow a highly dynamic, and consequently unstable, capitalist system to acquire sufficient semblance of order to function coherently at least for a certain period of time... The virtue of 'regulation school' thinking is that it insists we look at the total pakage of relations and arrangements that contribute to the stabilization of output growth and aggregate distribution of income and consumption in a particular historical period and place.

There are differences between the SSA and regulation approaches (Kotz 1990). The regulation approach does not view the collapse of institutions as the basis of economic crisis. Similar to the SSA approach, it holds that the intensifying contradictions in the accumulation/institution

relation set off the crisis, but the crisis is entirely due to the effects on accumulation of the accumulation/ institution contradictions, not a result of institutions collapsing. This contention is suggestive of more traditional marxist conceptions that view contradictions between the mode of production and the political and ideological superstructure as producing social crisis: the emergence of a new mode of production is being held back by an outdated superstructure, or the potential of the old mode of production has been exhausted.[31]

According to regulation theorists, the historical development of capitalism can only be achieved by a periodic rupture of the prevailing social relationships of production and consumption that restrict the range of possible forms of accumulation. When the requirements of accumulation conflict with the constraints -- i.e. when the social structures and relationships begin to function as obstacles to the further advance and development of accumulation, than accumulation runs into structural contradictions of crisis. At this point, capital accumulation can only resume its development if the social structural obstacles to its advance are broken down and a new range of possibilities are opened up. This process gives rise to new regimes and modes of regulation -- which will include inexorably a new determinate set of internal contradictions and obstacles.[32]

For the regulation approach, the resolution of the

crisis does not simply require a set of institutions that will be favorable to accumulation. It requires the establishment of a new ROA/MOR pair. The ROA develops as the capitalists find new ways of organizing the labor process in such ways as to render it capable of radically transforming the conditions of production and the means of collective consumption. Class struggle influences this evolution but the creation of a new MOR is presented, to some extent, as an outcome of the evolution of the ROA, inherently able of accomplishing a lasting and massive rise in the rate of surplus-value.[33]

As a consequence of this structuralist orientation, the regulation approach seems more exposed than the SSA approach to the risk of portraying capitalist development as more neatly structured and less contradictory than it actually is. The positive insight in the regulation approach seems to be that as the labor process evolves under capitalism, there is a tendency for other institutions to evolve so as to fit in with the new form of the labor process. However, such evolution can take a long time to unfold. It is the outcome of a contradictory and dialectical process involving struggles between social actors -- capitalists, working classes, states and other political-economic institutions. Regulation theorists fail to focus on the transition/crisis period and hence are unable to specify how such regulating social structures develop historically, how the

transformation of the accumulation/institution relation is carried out and, more importantly for this work, what is the role of agents in determining how the crisis is resolved and in creating the social structures that sustain long-run expansionary accumulation.

## Critical considerations

The previous sections of this chapter reviewed different long wave theories as a prelude to examining ways in which the approach can provide a context to enlighten our understanding of the transgenerational behavior of dynastic families and élite formations. But before we can apply the theory of long waves to an analysis of these powerful actors we are faced with a thorny problem: which theory? This section tries to provide an adequate answer to this question by taking a more critical look at some of the strengths and weaknesses of these approaches in their analysis of the accumulation/technology and accumulation/institution relations.

In the first part of this section I focus upon the role of technological change in capitalist economic development. All three main theoretical approaches view the accumulation/technology relation as strategic for explaining the long wave dynamics. However, they analyze it at different levels. I argue that the capitalist crisis approach offers a deeper understanding of this relation than either the

capitalist investment and innovation approaches. The capitalist crisis approach conceptualizes capitalism as a mode of organizing social relations, of committing social labor to productive activity, based on the possibility for monetary wealth to purchase labor power. As such it recognizes technological change as a force that, in interaction with a range of other economic and social factors, co-determines the long wave dynamics of accumulation. It views the development of capitalism's technical forces as part of a process of social change and conflict involving power relationships.

The capitalist crisis approach focuses on the historical transformations of the labor process viewing it as the locus where technical advance is indissolubly linked with social relationships. It identifies the conflict between labor and capital over the technical organization and social relationships of production as a basic feature of the capitalist mode, but it goes on to analyze how the labor process has taken different forms in different places and at different times. As a consequence, distinctive long waves are not viewed as merely characterized by the introduction of new technologies but rather, and more importantly, by distinctive labor processes developing as competing capitalists find new ways of organizing commodity production, with the class struggle affecting the outcome.

In the second part of this section I argue that

Gordon's SSA approach is the most promising for conducting an analysis of the evolution of the accumulation/institution relation. It seeks to explain long wave patterns of capital accumulation by analyzing the relation between the capital accumulation process and a set of social institutions which affect that process. The central idea is that crucial features of the historical trajectory of the capital accumulation process are the product of the supporting role played by a set of social institutions. In my view, Gordon's SSA approach is the most useful precisely because it provides a cohesive framework within which to combine many of the factors which other authors have concentrated on, such as internal economic mechanisms and technological change as well as social and political forces, rather than focusing on one factor to the exclusion of others. We can contextualize the long-run accumulation and élite formation strategies of dynastic families in the history of the accumulation/labor process and accumulation/SSA relations. Such an approach allows us to view the existence and operation of political-economic élites in the history of capitalism as predicated upon their ability to periodically weave together the economic, political, and ideological institutions that come to constitute the integrated SSAs sustaining the rapid capital accumulation that characterizes expansionary long waves.

### a) The accumulation/technology relation: the historical transformations of the capitalist labor process

To me the long waves theories advanced by Kondratieff (capital investment), by Schumpeter (innovation), and their followers adopt an over-deterministic interpretation of the role of technological change in capitalist economic development. They equate the development of capitalism with the growth and advance of the technical forces or physical means of production at its disposal. They tend to fetishize technology by implicitly seeing it as independent of the wider social context within which it develops.

The physical process of expansion and adaptation of capitalism's technical forces, however, is simultaneously a process of reproduction and transformation of the social relationships within which the technical process takes place and, indeed, make production possible at all. Production is always the production of social relations as well as of material objects. The process of technical change has important effects on class relations and structures, employment levels, competitive relationships between firms and regions of the world-economy, industrial structures and other factors which influence the historical nature and form of the capitalist mode.

The capitalist crisis approach in this regard offers much deeper insights into the accumulation process than its competitors. It calls for a systematic investigation of the relationships between the physical processes of

technological and organizational change and the social structures within which these processes occur. It analyzes technology as but one factor within the capitalist **labor process**. The labor process represents the conjunction, not only of the technical means of production, but also of the social relationships of capitalist production which rest on the exercise of power by the owners of wealth-as-capital over the workforce. Technology is not "neutral" but is an instrument whereby that power is exercised for the purpose of mobilizing social labor for commodity production and accumulation of capital. The latter must be understood as the reproduction of capitalist relations on an ever-expanding scale through the conversion of surplus value into new fixed and variable (labor) capital.

Furthermore, technology is not limited simply to scientific possibilities. It is also constrained by established working practices, even by whole cultures. During the Industrial Revolution for example, the transition from dispersed, workshop production to concentrated, mechanized factory systems did not arise spontaneously from the possibilities raised by the radical scientific advances of the period. On the contrary, new norms of working life had to be actively constructed by the factory owners and often met with active resistance from the workforce.

Historical transformations of the labor process, rather than simple changes in technology, form the core of the

process of capitalist development, since it is only through the achievement of new forms of social subordination of labor to capital in production that the introduction and diffusion of new technical products and processes is accomplished. In all periods of the development of the capitalist mode, technology has been shaped by the need to construct and reconstruct new forms of organization, supervision and discipline in the labor process (Braverman 1974; Burawoy 1979; Montgomery 1979; Littler 1982). The habituation of wage laborers to the capitalist labor process is an historical process that has to be renewed with the addition of each new generation of workers into the labor force.

The capitalist crisis approach points out that the production requirements that underpin the accumulation/ technology relation are periodically redefined in the context of the long wave dynamics as a consequence of the evolution of the two basic conflictual social relationships upon which the capitalist mode is predicated: class conflict and competition among capitalists.

The technological development of industrial capitalism is not some self-contained process of logical advance but a terrain of social struggle, of class conflict and negotiation. It is built around processes of systematic relations of domination involving the extraction of surplus-value from labor power through the mediation of the

wage relation. Technological change exists as the prime lever for furthering the accumulation of capital through increases in the value productivity of labor power. In order to continue to accumulate and thereby reproduce the capitalist mode of production, capitalists attempt to overcome working class resistance by introducing changes in the labor process. These changes give rise to new forms of accumulation and class structure, which in turn reconstitute class conflict, leading once again to changes in the labor process to overcome it. Therefore, the development of the labor process under capitalism is a dialectical contradictory development, in which capitalists revolutionize production methods in order to overcome the barriers to continued capital accumulation embodied by the struggle of workers generated by the contradictory class structure.[34]

At the same time, these dynamics are necessarily intertwined with the evolution of competition among capitalists for the appropriation of a larger share of surplus value. Capitalism entails the existence of a perpetual drive for individual capitalists to lower unit costs so as to gain an edge over their competitors in the marketplace and accumulate more quickly. Periodical crises of overaccumulation -- defined as a condition of intensifying competition with generalized excess capacity in plant, equipment, commodities, labor power, etc. -- exist in capitalism because competition between individual

capitalists striving to maximize their profits through the increasing exploitation of labor power, tends to push the expansion of productive capacity beyond the limit of demand for consumer commodities. The falling rate of profit, the contraction of markets, and the intensification of competition that characterize depressionary long waves, increase the incentive for capitalists to explore new possibilities of product innovation and to revolutionize the labor process by introducing new technological and organizational bases so as to shorten the turnover time of their capital.

To survive long-term crises, individual capitalists have to overcome the internal and external barriers to their capital by engaging in the process of "creative destruction" embodied by a period of devalorization involving rationalization, restructuring and intensification of labor control, technological change, automation, the search for new product lines and market niches, geographical dispersal or concentration to zones of easier labor control, mergers, and steps to accelerate turnover time of capital. Those who can best intensify or speed up production by setting in motion a labor process which is exceptionally productive and efficient in relation to one that is socially dominant, have the best chance to survive. These owners of wealth-as-capital undersell competitors and receive a rate of profit higher than the average rate even if the transformation may

involve also changes in the wage-labor relation entailing a raise in real wages -- although lower than the increase in productivity. The remaining capitalists will then face the "choice" of making some profits at a lower rate than before or making no profits at all because their commodities cost too much. There are always capitalists unable to follow the transformation. They are threatened with disappearance as autonomous centers of appropriation of social labor.

In the history of capitalism different industrial and technological systems have relied on very different forms of social relationships to accomplish commodity production. Recent contributions to the study of the historical transformations of the capitalist labor process, offered especially by the regulation approach, have pointed out that the historical development of the technological and organizational bases of capitalism has involved changing forms of labor's subordination to capital achieved through the dynamic and variable combination of certain essential methods for increasing the yield on labor power (Gorz 1976, 1992; Palloix 1976a, 1976b; Aglietta 1979; Coriat 1979, 1992; Coombs 1984).[35]

Scholars, following Schumpeter, refer to the long wave of steam power, the railway wave, the motor-vehicle wave and, lately, the micro-electronics wave. In contrast to this perspective, it is possible to characterize the long waves in terms of the distinctive and dominant -- although

not exclusive[36] -- social relationships of production. Following this approach one can refer to the long waves of **manufacture, machinofacture, scientific management, Fordism**, and the most recently developing wave of **post-Fordism** and **flexible accumulation** (Marshall 1987).[37]

Furthermore, as we have seen in the preceding review, both Gordon's SSA and regulation approaches have taken the labor process interpretation a step further. The accumulation process encompasses processes of consumption, distribution and exchange, as well as, production. It operates through a complex, interdependent social network, whose reproduction requires a precise and stable pattern of complementarity among different activities. They have argued that an expansionary long wave emerges only when the institutions of the much broader accumulation process as a whole are able to adapt to the transformations in the labor process at the point of production. Accelerating turnover time in production requires parallel accelerations in exchange and consumption -- e.g. improved systems of communication, information flow, distribution, and transportation.

Finally, the resolution of a long wave crisis entails qualitative changes also in wider institutional configurations that can actively encourage and support accumulation. In fact, one has to consider, for example, that new modes of labor regulation, discipline, cooperation

and practice involved in each of the successive configurations of social relationships of production necessarily require the active and close support of wider social and political institutions:

> The disciplining of labour power to the purposes of capital accumulation -- a process I shall generally refer to as 'labour control' -- is a very intricate affair. It entails, in the first instance, some mix of repression, habituation, co-optation and co-operation, all of which have to be organized not only within the workplace but throughout society at large. The socialization of the worker to conditions of capitalist production entails the social control of physical and mental powers on a very broad basis. Education, training, persuasion, the mobilization of certain social sentiments (the work ethic, company loyalty, national or local pride) and psychological propensities (the search for identity through work, individual initiative, or social solidarity) all play a role and are plainly mixed in with the formation of dominant ideologies cultivated by the mass media, religious and educational institutions, the various arms of the state apparatus, and asserted by simple articulation of their experience on the part of those who do the work (Harvey 1989:123-24).

### b) The accumulation/institution relation: social structures ofa accumulation and élite formations

Long wave theories maintain that the historical process of capital accumulation consists not only of the expansion of capitalist wealth, but also of the development of a capitalist labor process, concentration and centralization of capital, industrial relocation, uneven development, and so on. These kinds of qualitative changes do not and cannot occur smoothly but require periodic ruptures in the circuit of capital.

Capitalism is not only crisis-ridden but is also

crisis-dependent. Crises are the crucibles in which capital is qualitatively refitted for economic, social and political renewal and further accumulation. Crises force the introduction of new production methods, takeovers and mergers between capital units, reorganization of labor markets, industrial relocation, and so on. Crises compel individual capitalists and industries to restructure themselves to prepare for a new wave of capital accumulation. In this sense, qualitative changes in the forms of capital and social reproduction as a whole during longterm crises transform themselves into quantitative changes in the rate of accumulation during recoveries and expansions.

Gordon's contention that accumulation is conditioned by a set of social institutions is an important contribution to the construction of a theoretical framework for analyzing the long-term history of the capitalist mode of production. His analysis takes off from the traditional marxist conception that the process of capital accumulation rests upon the basic institutional arrangements of the capitalist mode: the wage-labor relation, commodity production for exchange, and the ownership or control of the means of production by a distinct class of capitalists.

In sum, Gordon's contribution is to translate the accumulation/institution relation into a lower level of abstraction. Capital accumulation can take various specific

forms, within the capitalist mode; the specific form is connected to the particular characteristics of the institutions present within a given capitalist social formation. The basic institutions of capitalism remain, while their specific form and configuration changes. The SSA approach views the long-run historical development of the accumulation/institution relation as passing through a series of stages, each qualitatively different from the preceding one. Each successive stage is characterized by a specific form of the accumulation process embedded in a particular configuration of institutions that, at least temporarily, can accomodate the chronic incapacities of capitalism to regulate the essential conditions of its own reproduction. This idea broadens the range of social phenomena that are considered to work in systematic ways. It breaks with the view that only narrowly economic phenomena can influence the accumulation process in a significant and systematic way. In so doing, a wide body of historical developments can be linked together and analyzed.

By focusing on the accumulation/institution relation, the SSA approach offers a new way to understand the accumulation crisis, its resolution, and institutional change under capitalism. The long wave crisis, expressed by a significant long-term reduction in the rate of accumulation, is viewed as the outcome of problems in the accumulation/institution relation. The resolution of a

long-term crisis requires a transformation of this relation. This idea helps to explain why in certain periods all institutions of capitalist society seem to be susceptible to major transformations -- short of transforming the mode of production -- whereas in other periods institutions seem relatively immune to assault.

The SSA approach underscores the fact that it is in the nature of the capitalist mode to be constantly exposed to a variety of internally and externally generated disturbances and dislocations but only at certain times do these "shocks" set off general transformations and crises. Accordingly, a long wave crisis is inevitably a period of change of both productive and institutional arrangements. It constitutes the historical transition from one accumulation/SSA relation to another involving radical re-organizations and restructurings of both the productive forces and social relations. The precise nature of the changes that will emerge is not foreordained; rather, it will arise out of the complex processes of class conflict and competition among capitalists of the period.

But exactly how a new SSA emerges is unclear. Once the crisis ensues, is it possible to say anything specific about the manner in which a new SSA is created from the cauldron of class conflict and competition? Does it result from a coherent political-economic coalition of classes and groups creating a program of institutional reform which then puts

it into effect? Or does an SSA emerge out of parts of various non-allied groups' programs? The former route would explain how a cohesive, integrated SSA could be created, but one wonders how close to the reality of history that is. The latter route seems to correspond more closely to the actual history of institutional reform, but one wonders how a unified and integrated SSA could emerge out of such a process.

Kotz (1987:32-34) argues convincingly in favor of a modified SSA approach. He points out that there are three major interconnected problems with the existing SSA approach: (1) the timing of the creation of an SSA in relation to the associated expansionary long wave;[38] (2) the stability and durability of the institutions which make up the SSA;[39] (3) the conception of the SSA as a unified and integrated whole.[40] In his view, the initiation of the long wave expansion may require, not the presence of a complete SSA, but rather a relatively small set of supporting institutions, or a **core** of a SSA. The emergence of such a core of institutions both initiates the vigorous accumulation and provides the basis for creating, over time, further institutions that will both support accumulation and be consistent with the original core institutions. That is, a small set of new institutions may be sufficient to significantly stabilize class conflicts and competition, and to ensure long-term expanding markets.[41]

The possibility of creating the core of an SSA out of the chaotic class and competitive conflicts of a crisis period is more believable than the simultaneous creation of a whole range of new institutions. One can imagine such a core emerging out of a coherent political program devised by a coalition of political, business and even labor leaders aiming at institutionalizing some macro-economic system regulation that can provide for the elimination of over-accumulation other than through drastic and brutal devaluation, and that can stabilize competition and the conflict over labor control -- e.g. finding ways in which workers can be disciplined to new and more efficient labor processes. Such a program may contemplate, for example, modifications in the modes and mechanisms of state economic intervention and in the life conditions of the working class through transformations of the wage-labor relation. It may also entail strategies of temporal and spatial displacements of excess capital, current consumption, and labor through long-term investments -- e.g. plant, physical and social infrastructures, etc. -- and geographical expansion, the "spatial fix" of capitalism (Harvey 1982, 1989).

As the accumulation process gathers momentum and the core institutions gain strength and acceptance, the remaining institutions of the SSA are gradually created. Through this process, the remaining institutions are constrained to fit in with the core. Seen in this light,

the development of a relatively unified and integrated SSA appears plausible.

Historically, at the level of a national economy, it is the integration of these institutions and regulations that have had the power to bring order to the anarchy of the circulation of capital. This integration has emerged through the combined agency of state regulation and intervention -- e.g. administered and regulated prices; forms of wage-labor regulation; tariff barriers; central bank regulation of financial circulation and monetary system; promotion or breakdown of concentration; acquisition and provision of collective goods such as defence, education, social and physical infrastructures, etc. -- and other institutions -- religious, political, trade union, business community, and cultural organizations -- together with the exercise of dominant market power by large corporations operating in monopolistic or oligopolistic market conditions -- e.g. the capability to fix prices through concerted practices, agreements, cartels, production quotas, division of market shares, price leadership, patents, and barriers of entry. The pressures of these institutions can be direct -- such as mandated wage and price controls -- or indirect -- such as subliminal advertising that shape new modes of consumption and life-styles -- but the net effect is to shape the trajectory and form of capitalist development in ways that cannot be

understood simply by analysis of market transactions.

At the level of the world-economy, integrated institutions and regulations have emerged through the consolidation of interstate relations involving the successive emergence of hegemonic powers -- Great Britain, USA, and maybe the EEC and Japan -- becoming the guarantors of international monetary and "division of labor" systems and the "policemen of the world;" but also, by multinational corporations, financial institutions, trade agreements, and international organizations.

However, neither core nor peripheral institutions of the SSA are entirely stable, and both undergo evolution under the impact of continuing class conflict and competition. Contradictions within the SSA may appear early in its life, as may contradictions between the SSA and accumulation and within the accumulation process. But the expansion rolls on, stimulated by the continuing extension of the SSA through the creation of new institutions and through the stimulating effect of long-run investments made at the early stage of the long wave expansion -- the Kondratieff-Gordon effect of time and spatial displacement of excess capital.

The long wave crisis ensues when the contradictions within the totality, SSA-accumulation, grow sharp enough that the core institutions begin to break down. This is because these institutions tend to internalize the

contradictions of capitalism without being able to abolish them. They tend to become increasingly unable to provide an overall unity to the accumulation process. With the ensuing of the long wave crisis, capitalists increasingly come to view the existing institutional arrangements as too costly and wasteful, as too rigid and ineffective and, above all, as circumscribing the flexibility of their capital vis-_-vis labor and competitors. As a result they tend to adopt political-economic strategies -- e.g. **flight** or **strike of capital**, lobbying for deregulation, financial speculation, relocation, diversification, acceleration of the pace of technological and organizational innovation and of turnover time -- which further undermine the resources and legitimacy on which exisiting institutions are based. These dynamics lead the SSA as a whole to collapse. Without a viable core of institutions, the process of institution creation and development that had proceeded relatively smoothly is now stymied and rudderless.

Only a lengthy period of debate, experimentation, and coalition-building can create a new viable core of institutions and usher in another long wave expansion. Here history plays an important role, in that the particular contradictions that were most important in causing the breakdown may influence the kind of core that is ultimately created at the end of the crisis. Groups and classes will try to understand the reasons for the crisis, and this

understanding will affect the reform programs that emerge. For example, the importance of underconsumption, resulting from highly unequal income distribution, as a cause of the Great Depression of the 1930s, had an impact on the kind of core institutions that were created in the following period.

The core model of the SSA-accumulation relation has three advantages over the previously accepted view. It seems to fit the historical evidence better. It offers a more plausible scenario for the creation of an SSA. Finally, it is highly compatible with the model of the intergenerational élite formation process that I have proposed in previous chapters.

## Notes

1. In particular, liberal economists have, on the whole, been critical of Kondratieff cycles. Paul Samuelson is quoted as calling them "science fiction" (**Business Week** 1982:126), and the **Citibank Monthly Economic Letter** in 1978 defined them as:

> A myth perpetuated by people who -- sharing the apocalyptic visions of Plato, Marx, Toynbee and others believe that there is a mystical pattern of history that permits true believers to divine the future (cited in Gordon 1980:9).

It is important to remember that before the revival of the 1970s, even the business cycle was considered obsolete (See Bronfen-brenner 1969):

> The old notion of a fairly regular self-sustaining "business cycle" is not very interesting any more. Today's graduate students have never heard of Schumpeter's apparatus of Kondratieffs, Juglars, and Kitchins, and they would find it quaint if they had (Solow 1970:410).

2. A **war theory** school argues that recurrent major wars rather than capital investment, capitalist crises, or innovation are central to Kondratieff cycles. The effects of recurring major wars -- primarily inflationary effects act as periodic shocks to the world economy and create long-term economic fluctuations. The proponents of the war theory consider prices and war incidence and size as key variables for explaining the Kondratieff cycles. Key proponents of the war theory have been: Akerman (1932; 1944); Ciriacy von Wantrup (1936); Bernstein (1940); Dickinson (1940); Rose (1941); Silberling (1943). After the 1950s, the war theory no longer played a role in the economic debate, reflecting the strong disciplinary border separating politics from economics in the 1950s and 1960s. In political science and sociology it became a debate of its own (See Goldstein 1988).

3. Some scholars have presented, however, hybrid theories that combine, often in interesting ways, elements of the three main theories. Imbert (1956) combines innovation and war explanations. Rostow (1948; 1978); Rostow and Kennedy (1979); Van Duijn (1979; 1981; 1983) integrate the innovation and capital investment theories. Kleinknecht (1981; 1987; 1989) incorporates the idea of innovation as driving the long wave within a "capitalist crisis" framework. Goldstein (1988) has proposed a synthetic theory that integrates elements from all the others.

4. The conservative world view underlies Kondratieff's "capital investment theory," stressing quantitative change and repetiton within a stable system structure. The liberal world view is represented in the "innovation theory" of Schumpeter and stresses evolutionary progress through human inventiveness. The revolutionary world view is expressed in the "capitalist crisis theory" of Trotsky, which stresses qualitative change, stages of development, and indeterminacy of outcome depending on class struggle and concrete historical conditions.

5. The idea that economic systems are subjected to long-term fluctuations is old. As early as 1847, Hyde Clarke observed that economic activity was subjected to cycles of exactly 54 years. Clarke assembled together real and monetary variables analyzing periods of good harvest and famine since 1004. He found regular cycles since the 13th century. He then subdivided each long cycle in five shorter cycles. The explanations that he offered, however, were vague: he referred also to an analogous movement of the magnetic pole.

At the turn of the century, as a consequence of the Great Depression of the 1880s-1890s, the idea of long-term economic fluctuations was developed by various authors, who can be distinguished in two groups: the first (and most numerous) maintained that these long-term movements were limited to prices and/or interest rates without having an influence on real variables. The causes of the long waves were identified in gold production or in accidental factors such as wars (Jevons 1884; Lescure 1907; Aftalion 1913; Lenoir 1913; Bresciani-Turroni 1917; Cassel 1932). This view that the economic long wave was mainly a monetary phenomenon was carried on in later years by monetarist economists (Kitchin 1930; Simiand 1932a-b; Dupriez 1935, 1947, 1978; Warren and Pearson 1935; Rist 1938; Marjolin 1941).

Wicksell (1898) attempted to connect fluctuations in prices to real causes and he hypothesized analogous movements in production. He represented the bridge with the second group of authors who identified long waves above all in real variables. In 1901 Alexander Helphand (writing under the pseudonym Parvus) presented what probably can be considered the first theory of long waves, even though he provided no statistical evidence. Expansionary periods are generated by factors that involve every aspect of the economic structure of a capitalist system, such as technological progress, large scale investments, enlargement of the market (particularly due to the conquest of colonies); these are followed by periods of recession: "Sturm und Drang" as he calls them. After Parvus another author also using a pseudonym, Fedder (Van Gelderen 1913) presented a much more refined theory sustained by some data. The analysis of Van Gelderen was later updated by another

Dutch socialist, De Wolff (1924; 1929). In their view the expansion was generated by the development of new industries and the enlargement of the market; while the recession comes as a result of the saturation of demand and the formation of bottlenecks in the production of raw materials, unable to keep pace with the production of consumer goods. This research tradition is continued in recent years by Rostow (1978) who poses at the center of his analysis raw materials and agricultural products.

Pareto (1913; 1917) noted the existence of long waves in the foreign trade of many countries, which he defined as long-term variations. His analysis was, however, descriptive and he gave no explanations for this phenomenon.

6. Kondratieff based his arguments on an unspecified number of historical series -- only of 40 of them he gave precise indications -- concerning England, France, Germany, United States, and in two cases the entire world. These series went back also to 1790, even though the majority of them dated only from the middle of 1800. The series registered both monetary and real variables, however, they are no longer considered acceptable and significant in order to demonstrate the existence of long waves.

7. Kondratieff begun his career as an economist by working with Chayanov. He served as a Deputy Minister of Food in Kerensky's Provisional Government and was allegedly considered to be one of the leaders of the Peasant's Labour Party.

Notwithstanding the fact that he developed his theory within a traditional marxist framework, he came under attack from marxists around him (See Garvy 1943; Day 1976; 1981). His most prominent critic was Leon Trotsky, who saw Kondratieff's theories as far too conservative. It is important to remember that the "cycle or historical phase" debate between Kondratieff and Trotsky was not purely academic but had major political implications revolving around the question of the stability of capitalism: for Trotsky "universal crises" threaten the survival of capitalism, while for Kondratieff they are only a phase of a more stable capitalist cyclical dynamic. The official line in the Soviet Union in the 1920s contemplated that the final crisis of capitalist economies was to occur in a short period of time and the difficulties of those years, culminating with the crash of 1929, seemed to lend credit to this thesis. Kondratieff's theory of long waves, instead, implied that the Great Depression might not be the final crisis of capitalism and that capitalism had an intrinsic capacity to recover and begin growing again of its own internal dynamic.

In 1928 Kondratieff was removed from his position as head of the Moscow Business Research Institute. He died in

1931 in a Siberian labor camp where he had been deported as a result of his opposition to Stalin's agricultural policies -- particularly of those against the kulaki. The 1929 edition of the official soviet Russian Encyclopedia referred to his work on the long waves with the single sentence: "This theory is wrong and reactionary" (cited in Garvey 1943:207). He was rehabilitated by the Soviet Supreme Court in the August of 1987 -- one full Kondratieff cycle after his death!

Kondratieff's death, along with the exile and subsequent assassination of Trotsky, ended the marxist discussion on long waves for the time being.

8. The existence of free loanable funds as a necessary condition implies, however, the acceptance of not very acceptable consequences: the substantially passive role of a banking system viewed as unable to create credit money and fictitious capital and the sterility of the funds during the period of their accumulation, maybe for many years.

9. Recent relevant research that elaborates a capital investment theory much like that of Kondratieff includes: Forrester (1978; 1981; 1982); Van der Zwan (1980); Glinsmann, Rodemer, and Wolter (1983).

10. Critics point out that every project is composed of a long series of specific capital goods whose duration is very different. Extraordinary maintenance often confuses itself with radical substitution, hence, part of the amortization is **de facto** constituted by new capital goods. As a consequence, the process of substitution should be viewed as substantially continuous and not necessarily clustered around relative short periods.

11. Schumpeter's theory is not strictly periodic for any inherent reason. However, long cycles gain some regularity through their connection to shorter business cycles. "There is a theoretically indefinite number of fluctuations present ... at any time" (1939:168), but for simplicity Schumpeter limited his analysis to three types of cycles: the Kitchin or inventory cycle (40 months), the Juglar or investment cycle (10 years), and the Kondratieff cycle (60 years). The different lengths of the cycles are determined by: (1) the different impact that innovations have; (2) the differences in durability of the various capital goods; (3) and the lags between final demand impulses and the completion of new capital goods. The three cycles tend to group in integral numbers -- three short cycles in a middle cycle and six middle cycles in a long one -- since the upswing or downswing of a longer cycle is initiated in the short term by a peaking or throughing of a shorter cycle. The deepest depressions in Schumpeter's study (1825-30, 1873-78, and

1929-34) were marked by synchronous depression phases among all three types of cycles (1939:173).

12. Schumpeter offered the following arguments to support his idea that entrepreneurial activity is clustered (1961: 228-230):

1) the carrying out of "new combinations" is a difficult task, only accessible to people with certain qualities. During periods of stagnation only a few people can succeed in this effort. However, if one or a few have advanced with success, many of the difficulties disappear. Success makes it easier for more people to follow suit, until finally the innovation becomes familiar and its acceptance a matter of free choice;
2) In the process the number of entrepreneurs appearing will increase greatly even if they will have lower qualifications; 3) Every boom starts in one or a few branches of industry railway building, electrical and chemical industries, etc. -- and it derives its character from innovations in the industry where it begins. But pioneers remove obstacles for others, not only in the branch of production in which they first appear but, owing to the nature of these obstacles, **ipso facto** also in other branches;
4) The more the process of development becomes familiar and a mere matter of calculation to all concerned, and the weaker the obstacles become in the course of time, the less the 'leadership' that will be needed to call forth innovations. Hence, the less pronounced will become the swarm-like appearance of entrepreneurs and the milder the cyclical movement;
5) The swarm-like appearance of "new combinations" explains the fundamental features of periods of boom. It explains why increasing capital investment is the very first symptom of the coming boom, why industries producing means of production are the first to show super-normal stimulation.

13. No ending date was clear as of 1939.

14. A fourth cycle, from the 1940s on, is associated with the automobile, plastics, and electronics sectors.

15. Relevant "neo-Schumpeterian" research includes: Mensch (1979); Hartman and Wheeler (1979); Ehrensaft (1980); Ray (1980; 1983); Mensch, Coutinho, and Kaasch (1981); Freeman, Clark, and Soete (1982); Marchetti (1983); Perez (1983).

16. For example, Mensch (1979) omits the computer but includes the zip-fastener (See Freeman et al. 1982).
Critics question the criteria of selection of innovations. They point out the arbitrariness of some exclusions and inclusions. They often object to dates

offered for identifying the moment in which an innovation came into existence. They notice a lack of criteria for ponderability. The distinction proposed by Mensch between basic innovations, improving innovations, and pseudo-innovations is considered useful, but not sufficiently defined to allow unproblematic discrimination between them.

It is difficult, on the basis of the available empirical evidence, to conclude that the clustering of innovations exists. To be sure, innovations appear irregularly in time. They are more frequent in some periods than in others. A cyclical pattern of fifty years in length, however, cannot yet be found.

17. Cost differentials with the old processes but, above all, expectations on the evolution of these differentials, generate completely distinct rates of diffusion. Furthermore, the old technology cannot be considered as static. Radical innovations can lead to improving innovations in the existing processes. This phenomenon complicates additionally their trends.

18. Mandel rejects Kondratieff's use of the term "long-term cycle" in analogy with the normal industrial cycle. The latter involves conjunctural ups and downs in the average rate of profit and can be explained with the traditional marxist theory of crisis or business cycle theory.

Mandel argues, however, that the articulation of the industrial or business cycle with the long wave makes the long waves theory a useful tool for explaining particularities of each specific industrial cycle and, more concretely, variations in their amplitudes:

> There is an articulation between the long waves of capitalist development and the normal business cycle. During an expansionist long wave, the periods of upturn, prosperity, and boom last longer and are more pronounced, and the recessions are shorter and less severe. Conversely, during a long wave of stagnating tendency, the periods of upturn and prosperity are shorter, more hesitant, and more uneven, and the recessions last longer and are more pronounced. But during an expansionist long wave there are indeed recessions (i.e., temporary declines in the average rate profit). Likewise, during a long wave with stagnating tendency, there are periods of upturn and prosperity (i.e., conjunctural upsurges in the average rate of profit) (Mandel 1980:27).

19. Mandel (1980:127,128) maintains that since the turning point from a stagnating long wave to an expansive long wave is determined by exogenous or accidental events, it is not

predictable. On the contrary, the turning point from an expansive long wave to a stagnating one is predictable on the basis of the laws of motion of capitalism:

> ... sudden long-term upsurges in the average rate of profit can be explained, in the last analysis, only through changes in the social environment in which capitalism operates and ... once these upsurges have occurred, the inner contradictions of the capitalist mode of production come into their own and inexorably lead to new declines in the rate of profit, both on a conjunctural basis (the industrial cycle) and on long-term basis (Mandel 1980:30).

20. Mandel (1980: 22-24) delineates the historical factors behind each long wave upswing as follows:
1) the revolution of 1848 and the discovery of gold in California, which broadened the capitalist world market, stimulated industrialization and technological innovation the passage from the steam machine to the steam motor, and from handicrafts to industrial production of fixed capital -- and, in turn, an increase in the productivity of labor -- i.e., of relative surplus value, of the rate of surplus value. At the same time, changes in transportation and telecommunications -- the steamship, the telegraph, and extensive railroad construction -- and changes in credit and trade -- the joint-stock company, the great department stores, etc. -- caused an increase in the rate of turnover capital;
2) the growth and main features of imperialism after 1893 involving the qualitative growth of capital exports to the underdeveloped countries and the decline in the relative prices of raw materials. A slowdown in the rate of growth of the organic composition of capital, coupled with an increase in the rate of surplus value, again as a result of a technological revolution (electricity), played a key role in increasing in a lasting manner the average rate of profit;
3) the turning point of 1940(48) is explained with the historical defeat suffered by the international working class in the 1930s and 1940s -- Fascism, World War II, Cold War, McCarthyism -- which enabled the capitalist class to significantly increase the rate of surplus value extracted from labor. Furthermore, cheap Middle East oil and other raw materials -- slowing down the rate of increase of the organic composition of capital; advances in telecommunications and credit -- quickening the pace of capital turnover; state-guaranteed profits in the armament sector also increased profit rate.

21. On this issue Mandel (1980:44-45) notes that:

> During most of the duration of an expansionary long wave, when the average rate of profit is increasing or staying on a high plateau, the incentive to radically change labor organization (which is tendentiously permanent under capitalism) is less urgent for the bourgeoisie. Huge capital outlays have occurred, and they need to be depreciated and valorized. To replace them too quickly would provoke strong working-class resistance, frequent interruptions of production, and increased class struggle across the board...Conversely, toward the end of an expansionist long wave and during large part of the subsequent depressive long wave, the decline in the rate of profit is pronounced... There is then a growing and powerful incentive for capital to radically increase the rate of surplus value, which cannot be achieved simply through increases in the work load, speedups, intensi-fication of the existing labor process, etc., but demands a profound change in that process. Likewise, toward the end of the expansionist long wave, the class struggle generally intensifies for reasons linked to the very long term acceleration of capital accumulation itself (numerical strengthening of the working class, relative decline in unemployment, growing unionization, etc.). Precisely because intensification of the class struggle has already become an objective trend, the hesitation of the capitalist class to further increase social tensions by changing the labor organization will decrease...

22. Mandel (1980:46-47) notes that each of the revolutions in labor organization, made possible through successive technological revolutions:

> ...grew out of conscious attempts by employers to break down the resistance of the working class to further increases in the rate of exploitation. The first technological revolution [machinist-operated and industrially produced machines driven by steam motors] was clearly an answer to the struggle of the British workers to shorten the normal workday... The second ...[assembly line combined machines tended by semiskilled machine operators and driven by electric motors] was closely related to the increasing resistance of the strong crafts unions, both in the United States and in Western Europe, to more direct control by management over the work process; in fact, Taylorism arose directly out of the attempts to impose such direct control. Likewise, the third... [continuous-flow production machines integrated into semiautomatic systems made possible by electronics] had a direct link to the growth of unionization among semiskilled mass-production workers to the need to

> whittle away the power of control over conveyor-belt production made possible by union strength of that type.

23. This body of research includes: Kuczynski (1978); Barr (1980); Cronin (1980); Sau (1982); Coombs (1984); Screpanti (1984; 1987); Marshall (1987).

24. Gordon (1980:37,note 15) defines an istitution as:

> ...a set of social relationships whose relative stability and reproducibility permit the repeated fulfillment of an important socio-economic function.

25. For Gordon, stable accumulation of capital requires stability in a composite set of institutional economic, socio-political, and ideological structures: in internal corporate structure, competition, class struggle, labor management, the monetary system, and the state -- limiting the claims of personal political rights on capitalists' rights of property; as well as stable access to raw materials, to intermediate products, and to reliable supplies of labor; a supportive structure of the family, schools, and other institutions; a structured social foundation for final consumer demand; a financial structure assuring access to external funding for investment; and a structure of administrative management to manage the circulation of commodities -- record keeping, market research, advertising.

Kotz (1987:34-35) lists the institutions of the three social structures of accumulation which are presumed to have existed in the USA as described in Gordon et al. (1982), Bowles et al. (1983), Edwards (1979), and Weisskopf (1981):

**A. Mid 19th century social structure of accumulation, 1840-1870s:** (1) competitive industrial structure; (2) labor process based on craft skill; (3) simple control of labor (one-person management; See Edwards 1979); (4) open immigration; (5) free land at frontier; (6) state aid for creation of transportation system; (7) philosophy of individualism; (8) work ethic. Breakdown of mid 19th century social structure of accumulation: 1870s-1890s.

**B. Early 20th century social structure of accumulation, 1890s-1910s:** (1) concentrated industrial structure; (2) finance capital (close financial-industrial links, with coordinating role for major banks); (3) homogeneous, semi-skilled labor; (4) technical control of labor (machine pacing; See Edwards 1979); (5) corporate welfare plans; (6) state repression of trade unions; (7) imperialist expansionism beyond continental USA; (8) new state regulation of business; (9) corporate liberal philosophy. Breakdown of early 20th century social structure of

accumulation: 1920s-1940s.

**C. Mid 20th century social structure of accumulation, 1940s-1960s:** (1) Bretton Woods monetary system; (2) U.S. military, political, and economic dominance of the world; (3) multinational corporation; (4) cheap raw materials policy; (5) Cold War ideology; (6) militarization of the economy; (7) peaceful collective bargaining; (8) segmentation of labor; (9) bureaucratic control of labor (See Edwards 1979); (10) racism and sexism; (11) Keynesian demand management; (12) limited welfare state; (13) microstabilization programs for key sectors (agriculture, oil); (14) state promotion of growth (education, highways, R&D); (15) state regulation of financial sector; (16) New Deal Democratic coalition. Breakdown of mid 20th century social structure of accumulation: 1960s-present.

26. Class conflict can be stabilized in two ways that represent polar opposites: one class can be crushed, so that its ability to fight for its interests is severely limited; or a compromise can be struck so that the contending groups share, to some degree, the fruits of the accumulation process. Actual SSA have reflected a combination of these two modes of operation. For example, the post World War II SSA in the US included a "capital-labor accord" which had two sides: the militance and radicalism of organized labor were crushed through red purges and repressive labor laws, collective bargaining and big capital's willingness to grant regular pay increases to labor. The capital-labor accord helped meet three of Gordon et al.'s (1982) requirements for accumulation: it stabilized the labor market, it assured effective capitalist control of the labor process, and it helped to create a growing demand for final products.

The process of competition among capitalists can be stabilized by creating structures and rules of behavior that prevent intra-industry rivalry from undermining the realization of surplus value. For example, several of the institutions of the early 20th century SSA in the US dealt with this problem: the monopolization of the industrial sector, the rise of financial capital, direct government regulation of certain industries, and the emergence of a more cooperative "corporate liberal" ideology to replace Laissez Faire individualism.

27. Gordon offers a variety of possible mechanisms to explain the weakening and collapse of an SSA. Each mechanism is an example of a contradiction that emerges in the accumulation/
SSA relation. The relevant contradictions fall into three categories and are found in the accumulation process, in the SSA, and in the relationship between the two:

First, a sharp slowdown in accumulation can undermine the SSA because the latter requires resources for its maintenance, which dry up as the economy stagnates. This

may create social pressures and conflicts which undermine the SSA. The accumulation slowdown turns into a genuine long term crisis (Gordon 1980:19).

Second, like the accumulation process, the SSA is presumed to contain contradictions which may lead to its collapse (Gordon 1980:19-20). The SSA can stabilize, yet not eliminate, class conflict and competition. Both can cause institutions in the SSA to collapse. For example, in the late 1960s the capital-labor accord brokedown, causing a productivity growth slowdown, ultimately contributed to the accumulation crisis of the 1970s (Bowles et al. 1983).

A third cause of breakdown is found in the relationship between accumulation and its supporting SSA. Here there are two subcases. First, the accumulation process undermines the SSA (Gordon et al. 1982:29,34). For example, the rapid world accumulation in the post Worl War II period led to the recovery and rapid progress in war-ravaged Europe and Japan, which ended the total US economic domination of world markets and hence undermined a key institution of the postwar SSA, the Bretton Woods monetary system, which had been based on US economic dominance. In the second subcase, the very same SSA shifts from being a support of accumulation to being an obstacle. An example involves the institution of "technical control," which refers to the adoption of technical production systems such as, for example, the assembly line, which have, built into them, effective modes of control over the labor process (Edwards 1979:Chap. 7). Growing use of technical control is viewed as one of the institutions of the early 20th century SSA. While this institution initially was effective, in that it forced individual workers to perform at the desired intensity of labor, eventually workers learned to use that institution to their advantage: a strike by a part of a plant's workers could quickly shut down an entire plant complex. Thus, technical control was transformed from an aid to accumulation into a hindrance.

28. Gordon (1978:23;emp. in orig.) notes that:

> They have been **universal** in two senses. First, they have ignored national boundaries, spreading throughout the capitalist world economy. Second, their effects have never been confined to narrow "economic" dimensions; they have affected nearly every sphere of peoples' daily experiences.

Gordon's "universal crisis" is consistent with Amin's (1975:10) idea of the "structural crisis" of an "accumulation model:"

> Every phase of expansion is characterized by a particular accumulation model: a type of propelling

> industry, specific forms of competition, and a definite kind of firm. Each phase corresponds to a certain stage of geographic expansion of the capitalist system, to a particular organization of international specialization, more specifically to a functional division between the center and the periphery, and finally, to a certain balance (or imbalance) among the nation-states at the center. These conditions determine the type of class alliances by which the capitalist class rules, and establish a context for class struggle and political life. Every structural crisis constitutes a phase of 'maladjustments and readjustments' (an apt expression used by Andre' Gundar Frank), in the transition from one accumulation model to another. Crisis means that growth is slowed, and that the class struggle intensifies.

It is also consistent with Castell's (1980:8) idea of structural crisis:

> What defines a situation of structural crisis is that it becomes impossible to expand or reproduce the system without a transformation or reorganization of the basic characteristics of production, distribution and management, and their expression in terms of social organization.

and with Altvater's (1984:9-10;emp. in orig.) distinction between small and great crises:

> Small crises may be called those crises which only require adaptive processes **within** the given form of social reproduction. Great crises... are **breaks** of more or less important parts of **of the formal structure** of social reproduction.

29. Aglietta (1979) distinguishes between two essential regimes of accumulation. He calls the primary phase of industrial capitalist development the "predominantly extensive regime of accumulation." This regime involves the extensive extraction of "absolute surplus value" by extending the workweek and expanding the absolute size of the industrial working class. Accumulation occurs without any major change in the labor process. The chief social structural adaptation of this regime is the spread of the wage/labor norm by which an increasing proportion of the population come to depend for their existence upon selling their labor to capitalist owners than upon self-employment or semi-subsistence agriculture.

The second phase of development corresponds to what Aglietta calls the "predominantly intensive regime of accumulation," based on an expanding role for the production

of "relative surplus value" in the economy. In this regime the emphasis of accumulation is placed not so much upon increasing the absolute level of surplus value that can be produced, but upon raising the relative level which can be extracted from each unit of labor. This involves an intensification and transformation of the labor process through the techniques of scientific management and Fordism. Labor productivity can continually rise. The major social structural characteristic of this regime is the growth of the mass consumption norm to match the enormously expanded productive capacity of the economy.

Aglietta views the development of industrial capitalism as structurally constrained by the development of these two social norms. The regime of extensive accumulation can only develop through the spread of the wage-labor norm. This regime can only evolve into a regime of intensive accumulation through the consolidation of a mass consumption norm.

Aglietta argues that there is an inherent tendency towards disproportionality in the economy through the over-accumulation of capital in one or more industrial sectors whose productive capacity is not matched by an equal capacity for consumption in other sectors. In his view the basic crisis tendency of capitalist economies is the tendency towards the uneven development of production and consumption. He maintains that the "tendency towards uneven development is a macro-economic feature of the law of accumulation" which "can only be neutralized by social transformations that depend on the evolution of the class struggle" (Aglietta 1979:356). The term "macro-economic" is important here since by "class struggle" he means much more than the isolated gains of capitalists over workers in individual conflicts. Rather, for capital accumulation to proceed smoothly there must be a harmonization of production and consumption -- and particularly of the producer-goods and the consumer-goods departments. This balance depends upon the long-term development of whole new conditions of life which he views as centering upon the wage-labor and social consumption norms emerging as a result of the progressive separation of workers, not only from the means of production, but also from the means of consumption with the latter's transformation into affordable, mass-produced commodities -- e.g. Fordism, the regime of intensive accumulation based on assembly line production methods and mass consumption by the working class.

Boyer (1987) sees three successive stages in the institutions governing accumulation in France with different ROAs associated with different MORs: an extensive ROA associated with the Old Regulation of the 18th century; an intensive ROA without mass consumption associated with the Competitive Regulation, lasting until World War II; and an intensive ROA with mass consumption associated with the

postwar Monopolisitic Regulation.

30. The regulation approach views the Fordist ROA as the centerpiece of the postwar expansion in the US. Fordist organization of the labor process brought rapid increases in productivity, while collective bargaining and New Deal social programs generated mass consumption which helped realize the growing value of output. Keynesian policies also helped prevent realization problems, and the military content of state expansion generated new technologies that fed back into the rise in labor productivity. The oligopolistic pattern of price setting contributed to the stability of the regime, while imparting an inflationary tendency to it. The transformed system of money and credit of the postwar period both created the expanding credit and means of exchange necessary for rapid accumulation and also contributed to the inflationary bias of the regime. US hegemony created a stable geo-political background for accumulation.

The regulation approach emphasizes the effect of institutions on the crisis tendencies inherent in capital accumulation. Lipietz (1986b; 1987) argues that the above institutional configuration counteracted the rising composition of capital, as fixed capital per person rose at the same rate as productivity in the producer-goods department of the economy; while it also counteracted any tendency for the rate of surplus value to fall, as workers' consumption rose at the same rate as labor productivity in the consumer-goods department of the economy. The constant composition of capital and rate of surplus value kept the profit rate from falling, while rising workers' consumption helped solve the realization problem.

31. Thus, for example, Lipietz (1987:34) argues that a crisis indicates that "the mode of regulation is not adequate to the regime of accumulation," because either "the emergence of a new regime is being held back by outdated forms of regulation" or because "the potential of the regime of accumulation has been exhausted given the prevailing mode of regulation."

An example of the former is the crisis of the 1930s, set off by an outdated competitive mode of regulation of the wage-labor relation preventing the emergence of an intensive ROA with mass consumption.

The present crisis is viewed as an example of the latter: the exhaustion of the potential of Fordism. Regulation theorists maintain that by the mid-1960s the labor process of Fordism reached the limit of its ability to advance the forces of production, causing a slowdown in productivity growth. Aglietta (1979:163) refers to "the exhaustion of the possibilities for increased productivity in assembly line work":

> The further the fragmentation of individual tasks and integration of jobs by the machine system have already been taken, the more costly in means of productionis subsequent intensification of the output norm. The reason is the great technical rigidity of the machine system. This way of raising labour productivity consequently makes investment propel investment on an ever more colossal scale, while markets must be expanded at wathever cost, with increasing risks of devalorization of the fixed capital thus immobilized (1979:119).

Similarly, Lipietz (1986b:26) suggests that the Fordist organization of production "at first generates more gains in productivity than increases in fixed capital, but then ends up becoming much too 'costly'." Boyer (1987:30-31) argues that:

> Fordism is fairly efficient as regards labour and capital productivity when it replaces older systems, but it becomes harder and harder to get the same results when the issue is to deepen -- and no more to extend -- the same organizational methods.

The crisis of the Fordist mode of labor organization was expressed above all in the intensification of class struggle at the point of production. By challanging conditions of work bound up with the Fordist mode of labor organization -- e.g. the conditions of labor, the intensification of effort, the fragmentation of tasks, the classification of jobs and rules of work organization -- the social struggles of the mid-1960s/mid-1970s showed the limits to the increase in the rate of surplus-value that were inherent in the relations of productions organized in the Fordist mode of labor process. This was the root of the crisis.

But the crisis extended to the totality of relations of production and exchange upsetting the Fordist ROA. The latter, in fact, was not simply a form of organization of the labor process, but also a norm of working-class consumption, involving mass consumption of commodities. This aspect of Fordism also went into crisis. A ROA based on mass consumption by workers requires social programs, providing collective consumption that maintains and stabilizes total consumption by the working class. The Fordist mode of organization of the labor process, however, was not adapted to producing collective consumption goods, which were mainly state provided. As a result, the costs of providing such goods -- health care, retirement pensions, and other social services -- tended to grow rapidly "until they eventually [were able to] cancel the general tendency toward a rise in the rate of surplus-value" (Aglietta

1979:166).

32. Following a similar approach, Wright (1977, 1978) suggests that the development of industrial capitalism can be differentiated into a series of historical phases: **Primitive accumulation** -- during the 18th century; **Manufacture** -- from the late 18th century to the 1830s; **Machinofacture** -- from the 1840s to the 1890s; **Monopoly capitalism and imperialism** -- from the 1890s to the 1930s; **Advanced monopoly capitalism** -- post-1945 to late 1960s. Each phase is characterized by certain structural constraints and impediments on accumulation generating pressures for structural solution to these problems:

> The systematic solutions to the dominant impediments at a given stage of capitalist development generate the new impediments that constrain the accumulation process in the subsequent stage. It is in this sense that the impediments to accumulation can be considered **contradictions** in accumulation rather than merely obstacles to accumulation. They are contradictions because the "solutions" to a particular impediment become themselves impediments to accumulation (Wright 1977:196; emp. in orig.).

He argues that in order for accumulation to continue, these constraints must be overcome. Capitalists do not have the choice of passively accepting them:

> As individuals, capitalists must attempt to overcome these impediments in order to survive in a competitive world; as a class, capitalists must strive to remove the impediments to accumulation in order to contain the class struggle (Wright 1977:195).

33. For example, Aglietta (1979:158-59) presents an elaborate structural argument concerning the creation of the postwar MOR in the US. The Fordist ROA has a labor process that increases the intensity of labor. The workers must recuperate, and the most effective way to recuperate is to engage in consumption of individual commodities in one place, the home. This leads to the standardized home and the automobile to move the worker between job and home; the purchase of such commodities by workers requires mass consumption. But for workers to buy such expensive commodities requires a new structure of finance to provide the necessary long-term credit. Finally, to ensure that the workers can maintain their consumption, and keep paying back their loans, it was necessary to transform the wage formation process and provide social insurance for workers.

34. The existence of a correlation between long economic

waves and recurring explosions of social strife has been recognized by historians (Hobsbawm 1964; 1976) and by long wave theorists of the capitalist crisis school (Mandel 1975, 1980; Salvati 1983; Screpanti 1984, 1987). These scholars have identified four major waves of what can be characterized as general (and international), radical, autonomous and proletarian mobilizations: 1808-1820 (in Great Britain); 1866-1877; 1911-1922; 1967-73. These working class mobilization periods lasted from 5 to 10 years and were centered around the peaks of expansionary waves. They had the effect of disarticulating the prevailing labor process mode and of sweeping away or qualitatively transforming the traditional institutions of the labor movement. Other waves of labor movement mobilization have centered around troughs: 1815-1848; 1880-1900; 1925-1936. They ended in serious defeats for the working classes unable to oppose the introduction of new labor processes by capitalists. As long wave theorists point out (See Coombs 1984:695), new labor processes are experimented during an expansionary long wave, but become generalized only during the subsequent decelerating long wave and, finally, characterize the next expansionary long wave -- overlapping wwith the experimentation phase of further changes in the labor process.

35. The basic structure of the labor process in capitalist production has been described by Palloix (1976) and Aglietta (1979). They distinguish three labor time components in a working day: the total duration of the working day (T); the time devoted to value-creating commodity production (Tv), i.e. the total working day less the unproductive time spent in breaks, machine change-overs, breakdown, workers' washing-up time, etc.; and the time socially necessary to reconstitute labor power (Tn), the product of which is received by workers in the form of wages. The difference between Tv and Tn is 'surplus labor' time over and above that which is socially necessary, the product of which is appropriated by the capitalist owners in the form of social surplus product. The rate of return on capital deployed in production is a reflection of the yield on labor power represented by the ratio of surplus labor to necessary labor expended: e=(Tv-Tn)/Tn.

The internal components of the capitalist labor process provide a set of structural limits within which the possibility and potential for capitalist profits is constrained. The rate of return on capital can be increased by altering the relationships between these labor time components. This can be done through three methods:

(a) **Method I** involves reducing the difference between T and Tv. This can be done by eliminating breaks; by exercising greater work discipline to reduce time spent

'idling' on the job; or by fragmenting the production process into discrete tasks, reducing the time spent in changing between jobs. This is the phenomenon of the **intensification** of labor (the increase in the productivity of labor), a powerful method for raising the rate of return;

(b) **Method II** involves increasing T and with it the value-creating labor time component Tv, while leaving Tn unchanged. This can be pursued by simply increasing the hours of the working day. This set of procedures constitute the production of **absolute** surplus-value;

(c) **Method III** involves reducing Tn. This can be achieved by raising productivity in the consumer-goods sectors, thereby reducing the price of goods required for the reproduction of labor power and which are paid for out of wages; or by fragmenting the production process into routine tasks, reducing the skill requirements of labor and depressing the value commanded by labor power. This set of procedures constitute the production of **relative** surplus value.

Over time the growing strength of the working class has sharply restricted attempts to lengthen the working day and/or lower the real wage. Thus increasing productivity of labor -- by subjecting it to machines -- has come to be the principal means of raising the rate of exploitation. Paradoxically, as capitalist crisis theorists point out, the very means by which the rate of exploitation is raised tends to lower the rate of profit: the raising productivity of labor manifests itself in a falling profitability of capital.

36. Not only can different methods of capitalist labor deployment coexist -- with the effect of creating local, national, regional and international segmented labor markets -- but the capitalist mode has entered in the course of its history in a variety of combinations with kin-ordered and tributary modes of production (See Wolf 1982; Mandel 1975:48-49).

37. **Manufacture**: The rise of industrial capitalism in the period from the mid-16th to the 18th centuries was associated with the development of a manufacturing system of production. Workers were brought together from fragmented domestic units into workshops where they were subjected to the increasing exercise of direct capitalist control and discipline over the labor process (Method I) together with an increase in the length of the working day (Method II). The fragmentation of production into rhythmical stages (Method I) also reduced the skill requirements of labor (Method III).

**Machinofacture**: The period of machinofacture in the nineteenth century involved the wholesale reconstitution of the labor process in factory locations. The instigation of

routinized machine production led to greater efficiency and control over production (Method I). The employment of large numbers of women and children working long hours for low wages led to a massive upsurge in the opportunities for increasing the yield on labor power through Methods II and III.

**Scientific Management/Taylorism:** The term "Taylorism" refers to the work of Frederick W. Taylor ([1911] 1947) in the late 19th century who pioneered the introduction of "time and motion" studies in American factories. It involved the systematization of the body movements of the old craft-worker through the methods of 'scientific work organization.' It entailed a radical increase in labor productivity by breaking down each labor process into component motions and organizing fragmented work tasks according to rigorous standards of time and motion study (Method I and Method III).

**Fordism:** The term "Fordism" was first coined by Gramsci (1971:277-320) to denote the spread of assembly-line processes in the 1920s, pioneered by Henry Ford at the Ford Motor Company. The instigation of Taylorism and Fordism has involved the subordination of labor to flow-line assembly processes of production (Method I). The moving conveyor allowed management to directly and mechanically control the methods and intensity of labor. The methods of production were in large part determined by the rigid physical layout and the intensity of work was determined by the speed of the line. Deskilling, job fragmentation and the growth of cheap, mass-produced consumer goods have greatly extended the scope of Method III. Fordism combined strong productivity gains with rising real wages. It was based upon radical and constant technical change, such that workers' 'know how' was incorporated in the form of machinery. It was a'system of intensive accumulation' combining a rise in apparent labor productivity with an increase in the **per capita** volume of fixed capital. Fordism involved a disjuncture between conception and unskilled execution, although skilled productive operations continued to play a minor role.

**Post-Fordism and flexible accumulation:** The contemporary trend toward post-Fordism represents, on the one hand, a continuation of the 19th century trends with the prospect of an unprecedented degree of intensification of the labor process through scientific and technological changes since the late-1960s -- e.g. increasing degree of automation and computer process control. It involves the rapid distruction and reconstruction of skills -- job enrichment, job rotation and recomposition of tasks. On the other hand, it is characterized by the elimination of job security for unskilled workers, part-time, outsourcing, subcontracting, an emphasis on flexible specialization -- customized production, market-

nicheing, life-stylism -- as opposed to mass production, decentralization of phases of the labor process -- i.e. the science park, "Third Italy model," export platforms, **maquiladora** programs and semiautonomous units of production -- involving a plethora of coexisting and competing systems in the world-economy: neo-Fordism, "bloody Taylorism," "peripheral Fordism."

Analysts -- particularly those of the regulation approach -- maintain that each of these systems has its own specific internal technical limits and constraints. Each involves a set of contradictions and impediments that progressively, in conjuncture with working class struggle, become rigidities (See Aglietta 1979; Sabel 1982; Lipietz 1984, 1986; Massey 1984; Piore and Sabel 1984; Lash and Urry 1987; Boyer 1988; Harvey 1989; Nash 1989; Amin and Robins 1990; Benton 1990; Clarke 1990, 1991; Jessop 1990; Brenner 1991; Fujita 1991; Graham 1991; Hirst and Zeitlin 1991; Lyberaki 1991; Webber 1991; Coriat 1992; Gorz 1992; Morris and Lowder 1992; Rothstein and Blim 1992).

38. The SSA literature asserts that the construction of a new SSA is the necessary prerequisite for the initiation of an expansionary long wave. Yet historical investigation shows that some constitutent institutions of the past SSA's did not develop until long after the associated expansionary long wave had begun. Kotz (1987:29-30) cites as examples the new state regulation of business -- food and drug regulation, antitrust, etc. -- identified as a key institution of the early 20th century SSA in the US, and the Bretton Woods monetary system viewed as a central institution of the postwar SSA. He points out that the historical evidence strongly suggests that the former institution did not fully develop until around 1920, and the latter not until the second half of the 1950s. This means that each institution only developed one or two decades after the beginning of the period of vigorous accumulation with which the institution is supposed to be associated. These cases suggest that we must reject the assumption that the entire SSA must be present for the expansionary long wave to begin. Such a rejection leads to a modified view of the relation between accumulation and the SSA (Kotz 1987:30-31).

39. The conception of the stability and durability of the institutions which make up a SSA is offered in the SSA literature to explain the SSA's apparent capacity of stabilizing conflicts, allowing predictability and length to expansion. Yet a careful examination of the institutions that make up SSAs suggests that some, rather than being stable and durable over the course of the expansionary long wave, have instead undergone significant change and development over that phase -- e.g. government regulation of

business; Keynesian demand management. If the institutions of the SSA are not stable and durable, how do they support accumulation? And why is the expansion long?

40. The conception of the SSA as a unified and integrated whole is proposed in the SSA literature as a way to explain the breakdown and the length of the crisis. However, if some institutions in the SSA arise late, and if others change and develop over the course of the expansion, than the SSA no longer appears as a unified, integrated whole. It seems to be able to function dispite the temporary absence of some instituional components and the continual change of others.

41. Kotz (1987:32) suggests that for the early 20th century expansion in the U.S.A., the following instituitions might have made up the core: monopoly/financial capital, repression of trade unions, and an aggressively imperialist policy. The core institutions of the post World War II expansion in the U.S.A. might have been peaceful collective bargaining, militarization of the economy, and US ascent to a dominant position in the world. Kotz argues that:

> In each case, the institutions cited were in place right at the beginning of the expansion. Each institution cited displayed significant stability and durability over the expansion period. And each institution was an important force in stabilizing class conflicts and/or competition and/or markets (1987:32).

The demise in the 1960s of two of the core institutions of the post World War II SSA, U.S.A. dominance and peaceful collective bargaining, coincided with the onset of the crisis.

# CHAPTER 5
# NORTH ITALIAN DYNASTIC FAMILIES IN THE FIRST LONG WAVE (1780-1848)

## Introduction

Long waves constitute historical periods of accelerated and retarded growth in the global development of capitalism that are explainable only through changes in the social environment in which capitalist élites operate. Localities, regions and nation-states are variably affected by these long-term historical dynamics, depending on ttheir specific socio-political and productive structurations, and on the particular ways through which they are incorporated in world markets. They can become parts of the core of the world economy, if their social structures conduce their political-economic élites to accumulate rapidly and to acquire hegemonic positions within world markets during phases of accelerated growth. As I have argued in Chapter 4, these conditions depend in large measure on the success or failure encountered by these élites in the restructuration processes that lead to the formation of new social structures of accumulation during phases of retarded growth.

This chapter, as the following one, examines the shifting economic, political and familial strategies pursued by a selected group of northern Italian dynastic families as they confronted the major historical periods of crisis in the accumulation process defined by the long wave periodization -- 1816/21-1848 and 1874-1896. This

assessment is conducted with the awareness that these families were hegemonic actors in the processes that led to the alteration of established local, regional, and national social structures and to the formation of the social arrangements that sustained accumulation during expansionary phases -- 1780-1815/20; 1848-1873; 1897-1913/19.

For this reason, the present chapter begins with a synthetic description of northern Italian society on the eve of the first long wave -- before 1780. It focuses on four constituent elements of this society -- the cities, the countryside, proto-industry, and the city-based landed nobility -- with the aim of evaluating the opportunities and limitations that this society offered for capital accumulation in the phase of expansion of the first long wave (1780-1815/20). In northern Italy, the latter was hampered at first by the political and economic fragmentation of the region and, subsequently, by the "colonial" policies of the Napoleonic empire.

The evaluation of the kinship organizations, political initiatives, and accumulation strategies of three major dynastic families -- the Gavazzis, silk entrepreneurs of Valmadrera (Brianza); the Pontis, cotton entrepreneurs of Busto Arsizio (upper Milanese); and the Sellas, woolen entrepreneurs of the Mosso Valley (upper Biellese) -- is conducted in the context of the unfolding of significant changes in the prevailing socio-political and productive

configurations of northern Italian society during the contraction phase (1816/21-1848). The analysis illustrates the particular political-economic solutions devised by these families during the depressive phase, which contributed to shape the core of the northern Italian social structure sustaining accumulation in the phase of expansion of the second long wave (1848-1873/76).

**Northern Italy on the eve of the first long wave**

From the 11th to the 16th centuries, northern Italy was an integral part of the core of a pre-capitalist world economic system. The city-states and skilled merchants of this region played a dominant role as they fully exploited the central location of the Italian peninsula within the Mediterranean to exercise a virtual trade monopoly between East and West. Foreign trade provided the region with raw materials and commodities for re-export and, at the same time, it increased the demand for manufactures -- above all, high quality textiles -- thus stimulating craft skills, proto-industrial production, shipping, and banking activities based in the big cities -- Genoa, Venice, Milan, Brescia, Verona, Como -- and in scores of lesser ones.

After the 1620s, however, the northern Italian economy underwent a structural crisis that lasted for most of the 17th century.[1] Dutch, English, and French manufactures and services were more competitive, and thus drove northern

Italian merchants and products out of international markets, as well as taking over most of the Italian ones. The guilds proved unable to guarantee employment even to their own members. However, while these rising economic competitors focused on goods that had broader markets, Italian production concentrated on luxury goods -- crystal glass, leather, papermaking, printing, quality soaps, sweets, and silk. In particular, during the 17th and 18th centuries silk production developed into the principal northern Italian manufacturing sector. But increasingly, the region shifted from the production of finished manufactures (cloth) for foreign markets to the export of agricultural produce (cheese, oil, wine, rice) and semi-finished goods (raw and spun silk). By the beginning of the 18th century northern Italy had accomplished the transition from the status of core to that of semi-periphery. This transition was mirrored by a shift of both capital and labor from manu-facturing, shipping, and banking towards agriculture. Northern Italy had become an overwhelmingly agrarian society -- to a far greater degree than two centuries earlier. Discussing the four constituent elements of this increa-singly agrarian 18th century society -- the cities, the countryside, proto-industry, and the city-based landed nobility this section will assess its potentialities and limitations on the eve of the first long wave (1780/90-1848).[2]

During the 18th century the cities proved unable to

regain their previous economic vitality. With few exceptions they remained stagnant administrative and commercial centers, the urban residences of noble landowners who retained the monopoly of local office. Large artisan populations produced mostly luxury products. Some cities, for instance Venice, depended on tourism and on the sale of art to wealthy northern Europeans on their "Grand Tour" of Italy. Their population increased only marginally and begging and unemployment were widespread. Employment options included service in the growing number of noble palaces (there were 13,000 servants in Venice in 1760, equal to 10% of the population), retail trade, public works and construction of noble palaces. These were the only alternatives to apprenticeship in the guilds. By the end of the 17th century, the latter had already outlived their usefulness (Dal Pane 1940). Governments increasingly intervened to reform or circumvent the guilds. The former began to sponsor their own industries, gave special privileges such as exemptions from guild restrictions to new manufactures,[3] and looked to proto-industrial activities in small rural towns. If the cities still officially retained amonopoly of manufactured products in all the regional States, these privileges were de facto eroded as production expanded outside of their walls.[4] However, the demise of cities did not undermine their hegemonic role with respect to the surrounding countryside. Urban centers continued to

exercise political and economic control over the countryside, which provided them with food, raw materials, land rents, and fiscal income.[5]

After the 1740s the countryside was progressively affected not only by rising demographic and fiscal pressures, but also by a steady increase in the price of wheat, as well as by the expanding international demand for crude and spun silk and other agricultural products such as wine, oil, rice, and cheese. This commercialization was accompanied by the imposition of harsher contractual terms on the peasantry on the part of landowners and of a rising class of stewards and large leaseholders. The effect of these pressures was to worsen the living conditions of the vast agricultural population.[6] However, each of the three main ecological zones of northern Italy -- the Alpine zone, the pre-alpine hills and highlands, and the lowlands -- responded differently. Both the Alpine and pre-alpine zones experienced a chronic grain deficit and came to depend on easy access to a food producing area. In turn, the lowlands nearby became the bread-basket for these regions and also served as a vital outlet for the seasonal unemployment of migrant workers from them, and for simple goods manufactured there. Differences between these three zones made for a measure of complementarity by reinforcing and encouraging specialization, trade, and labor exchanges.

In spite of its sparse population, the Alpine zone

(more than 700 meters of altitude) continued to be "a reservoir of men for other people's use" (Braudel 1972, Vol. 1:51), as the pastoral economy constantly faced the problem of securing a minimal supply of cereals from the plain. This deficit was covered with cash earned by seasonal migrant workers in the plain or in the cities.[7] Communal lands and peasant ownership of small plots remained the prevalent forms of land tenure.

The hills (with an altitude of between 700 and 300 meters) and the highlands had a more diversified economy.[8] This was the natural habitat of the deciduous forest and the man-made habitat of some important crops, such as the chestnut, the grape vine, the olive grove (in Liguria), and the mulberry tree. These were intercropped with cereals -- rye, millet, wheat, and maize. In this zone, low cereal yields and periodic fallowing persisted, due to dry soil conditions, and to the lack of adequate pastures and irrigation. These factors inhibited the support of livestock, which in turn restricted the availability of manure for fertilization. The hoe was the characteristic instrument of cultivation and any rise in production and productivity, particularly of specialized tree crops, was directly dependent on the intensification of peasant labor, and on the expansion of cultivation at the expense of the deciduous forest. After the 1750s, rapid population growth, deterioration in peasants' living conditions and progressive

deforestation proceeded together.

The most widespread form of land tenure throughout this zone was peasant ownership of small plots, but other forms of land tenure existed as well. Where land ownership by the direct producer was dominant -- as in most of Piedmont and in areas of Venetia -- peasants were able to maintain a margin of autonomy and bridge their grain deficit through the sale of wine, oil, and cocoons, and by carefully balancing size of family, age at marriage, and purchase and sale of land.

By contrast, where relatively large estates were dominant, as in Lombardy (Varese, Como, upper Milanese, Bergamo), the condition of the peasantry was more precarious. Beginning with the mid-18th century, the previously prevalent sharecropping arrangements (**mezzadria** with **massari**) were modified. Absentee landowners now leased their estates to middlemen (**fittabili**), who began to reduce the size of farm units entrusted to peasant families, and to impose a new type of contract based on fixed rents payable in grain and a share of all the tree crop yields. Previously, sharecropping contracts had protected the **massari** (sharecroppers) from excessive losses by linking rents to crop yields in any given year; the new **contratto misto** (mixed contract) introduced fixed rent rates, regardless of a farm's success or failure. Since rent was paid in grain, under the new provisions when the latter's

price fell the amount due could be increased by the landowners and **fittabili**. This created an increasingly exploitative situation for the rent-paying peasants (**pigionanti** or **coloni**), who in addition saw their landowners' interests expanding to cover a share of tree crop yields -- until then their own exclusive economic domain.

The condition of these **pigionanti** rapidly worsened, and they became acutely vulnerable to demands on their labor. Because these peasants generally lacked movable property (such as seed, implements, and livestock), they often fell into debt for these items to landowners and **fittabili**. As a result, the latter could not only obtain a larger share of peasant production (wheat, cocoons, and wine), but also sought to improve the value of the land through the intensification of peasant labor. **Pigionanti** could be obliged to terrace hill-slopes, plant mulberry trees or vines, and raise silkworms under the threat of dismissal.[9] Since wheat went to pay the rent, **polenta** -- a maize-flour porridge lacking niacin -- became the basis of the peasant diet, causing malnutrition and **pellagra** to spread.

The only real outlet for some of these small-holders and **pigionanti** was the engagement in proto-industrial activities. These offered supplementary or substitute employment to large numbers of peasants, and allowed them to keep their families together. Indigenous merchant-

entrepreneurs residing in small rural market towns organized domestic spinning and weaving of wool, cotton, flax, and hemp on the basis of putting-out arrangements.[10] Although these localities could claim a long-standing tradition in this sort of production, the outcome was generally of low quality. Petty itinerant peddlers sold these products at weekly markets to peasants and urban poor. The raw materials, with the exception of cotton, were either locally produced or came from the mountains (wool) or from the low plain (flax and hemp). Other proto-industries dispersed in small rural towns covered the production of felt hats (Monza), iron goods (around Lecco and Brescia), and paper-making (Salo' district on lake Garda).

Silk production, however, was the main proto-industrial activity and it was geared towards international demand. Its productive cycle consisted of an agricultural phase carried out by independent smallholders and by **pigionanti** under the "mixed contract" arrangement, and a manufacturing one that entailed a successive sets of activities[11] and was largely controlled by landowners, **fittabili** and merchants -- both Italian and foreign. The agricultural phase involved maintenance of mulberries whose leaves formed the silkworm's diet, silkworm husbandry in the peasant house, and the collection of cocoons.

Most of the preliminary stage of silk production -- unwinding the filament from the cocoon and winding it on a

reel -- was carried on in peasant houses. However, the expansion of the mulberry tree-silkworm-cocoon complex since the 17th century was mirrored by the diffusion in the countryside of reeling-mills (**filande**) and twisting or spinning-mills (**filatoi**). The **filande** were highly scattered throughout the cocoon producing areas and were often owned by large landowners and **fittabili**. In these small or middle-sized workshops, equipped with wood-fired boilers and with simple machinery for turning reels, peasant women and children worked 12 to 14 hours a day during the summer.[12]

By contrast, the **filatoi** were less numerous, more capital intensive and their working season was longer. In some instances they were water-driven factories (**molino alla bolognese, alla piemontese**, or **alla bergamasca**) employing up to 300 women and children.[13] These **filatoi** produced mainly two different types of silk yarns, the **organzini** and the **trame**.[14] They were often owned by foreign merchant-entrepreneurs, a legacy of the fact that northern Italy maintained only the preliminary phases of spinning, while weaving was monopolized by Lyons and England. The bulk of the raw and spun silk production was exported, sustaining the balance of trade of all the regional states.[15] English, French, and Swiss merchants controlled most of the export trade, and smuggling was endemic.

Where proto-industry had not taken root, the absence of any cash reserves upon which to fall back in times of bad

harvests resulted in a crisis of the family economy. Small owners and tenants, in fact, were forced to migrate and join the growing ranks of **braccianti** or day-laborers in the lowlands.

In contrast with the chronic shortfalls in agricultural production characteristic of alpine and prealpine zones, low-lying plains were among the most advanced agricultural regions of Europe, the pride and jewel of northern Italian agriculture (Young 1794). The lowlands comprised on the one hand low-lying wet plains in the area defined by the Dora Baltea, the Mincio, and Po rivers, and on the other hand the dry territory in Venetia (Venice, Verona, Padua, Rovigo) and Emilia (Ravenna and Ferrara).

In the wetlands (called **la bassa** south of Milan), the existence of meandering, slow-running rivers and natural springs had provided the conditions for creating a network of irrigation canals. The abundance of water also stimulated the development of a system of convertible husbandry, in which farming and stock raising were closely integrated ensuring high yields per unit of land.[16] This agriculture produced to fulfill the demand for foodstuffs -- both cereals and milk products -- among dwellers in urban and other rural areas. It was fully commercialized and monetized as early as the 16th century, with most of the workforce consisting of day-laborers. There was also a prevalence of large estates owned by the Milanese

patriciate, and leased for long periods to **fittabili** or tenants who paid their rents with money as well as providing their own livestock. The **fittabili** of the wet lowlands formed the nucleus of an economically solid agrarian middle class engaged in considerable investment in more modern methods of cultivation. These were aimed at raising productivity and production. The **fittabili** organized the large estates that they rented into complex productive units (**cascine**) with a hierarchy of peasant specialists -- herdsmen, field-masters, stable-men, cheese-makers, rice-threshers, and cooks. Each of these specialists supervised a number of tenured wage-earning peasant families of **coloni** who performed the manual labor of the stables, diaries, and fields. Occasional day-laborers (**braccianti giornalieri**) were also hired at peak season.

Conditions were less dynamic in the Venetian portion of the dry lowlands. Since the 15th century this area of the **Terraferma** had been a locus of intense land acquisition on the part of all the major mercantile dynasties of Venice. These landowners built their Palladian villas close to, or on, their estates, and invested heavily in land improvements. By the 18th century an impressive network of drainage and irrigation canals was in place. These areas exported wheat, rice, and silk for the international market. However, here the absentee landowners leased their large estates for money to a class of leaseholders (**fittanzieri**)

who invested little to raise land productivity, and imposed harsher contractual terms on a class of already destitute sharecroppers and **braccianti**.

In this agrarian society, hegemonic power was in the hands of small city-based oligarchies. These descended from feudal masters and from wealthy merchants who, since the 14th and 15th centuries, had been acquiring massive tracts of land and titles. This process of land acquisition articulated with the transformation of the city-states (**comuni**) into regional states (**signorie**) and the subsequent decline of trade and manufacturing. Close-knit noble families, together with the Church, owned most of the best land in the hills and in the high and low plain.[17] They were absentee rentiers who, however, did not disdain to speculate on the harvests, using their influence in the capital to obtain export licenses for their surplus, and often collaborating with foreign merchants in silk smuggling operations. They maintained the family patrimony through legal entails of estates (**fidecommessi**),[18] self-imposed marriage restrictions, the sexual abstinence of younger sons and daughters (**maritar o monacar** -- "marriage or the convent"), and the careful accumulation of funds for the provision of dowries (Davis 1962, 1975; Zanoli 1971-73). Heredity and status conditioned the structure of these noble families. Their military prowess, duelling, and private feuds reinforced the values of honor and contempt for

inferiors. Their power was strengthened by the eagerness of successful merchants, lawyers, bankers, tenants, and tax-farmers to enter their ranks. As these "new men" bought land and titles, they were slowly co-opted by the aristocracy through marriage.

Land ownership, however, was only one of the pillars of the aristocracy's power. The other one was the domination of the administration of cities, states (as in the oligarchic republics of Genoa and Venice), and local religious institutions. This power was used to resist change, fight for the conservation of privileges, and retain fiscal systems that allowed nobles to pay little or no taxes on their land and income. Alienated revenues (**regalie**), tax-farming, and the endemic budget deficits of small rural communes, cities and states offered this class considerable opportunities for maintaining and enhancing its wealth. Its members exacted innumerable excises, provided loans at interest, and bought shares of **monti** or government bonds. They did this both individually, and through the powerful and well-run banks that they staffed and controlled with family members. These banks included the San Giorgio of Genoa and the Sant'Ambrogio of Milan (Pugliese 1924a; Felloni 1971; Cova 1972).

Legal, fiscal and administrative reforms were implemented only by the Houses of Savoy in Piedmont (between 1717 and 1731) and of Hapsburg in Lombardy (after 1748)

under the combined pressure of the rising cost of constant warfare (1700-1748) and the need to consolidate control over newly acquired territories. These reforms created more efficient state structures and challanged some of the pillars of the aristocacy's economic power. Both governments adopted the **catasto** or land cadastral register (in 1731 for Piedmont and in 1757 for Lombardy) that provided an accurate census and valuation of all the land in the state, and reduced the margin of abuse and land-tax evasion of the landed nobility and the Church. In Lombardy the "enlightened despotism" of the Hapsburgs imposed a complete overhaul of the fiscal and financial system. Between 1750 and 1770 all indirect taxes leased to tax-farmers were first consolidated, then redeemed, and finally exacted directly by the state administration. Between 1766 and 1786 all the **regalie** were also redeemed. At the same time, public debts and the interest paid on them were reduced, and customs duties were reformed and unified. State finances rapidly improved while individuals and banks received an enormous cash repayment from the state for the buy-back of all revenues previously alienated under various headings.

On the eve of the first long wave, the physiognomy of northern Italy was that of an agrarian semi-periphery of the world economy. The cities stagnated, performing little or no productive function. The countryside produced a surplus

of agricultural produce (cheese, oil, wine, rice) and semi-finished goods (raw and spun silk) for an increasing international demand. However, outside the lowlands this dynamic response of the countryside to the world market was achieved through the mere intensification of peasant labor, rather than through investment to raise productivity. The consequent low standard of living of the peasantry inhibited rapid accumulation in the proto-industries serving the internal market. The élite had the bulk of its wealth invested in land, state bonds, international trade and finance, palaces, and conspicuous consumption. Its main proto-industrial and industrial investment was in silk manufacturing for the export market and was concentrated on the production of crude silk (in the **filande**) and wrought silk (in the **filatoi**) rather than weaving.

## The first long wave (1780/90-1848)

### a) The expansionary phase (1780/90-1815/20)

The response of northern Italian society to the expansion of the world economy between 1780 and 1820 entailed primarily an increase in the specialization and commercialization of the agricultural sector. This trend was consistent with 18th century developments in the three main ecological zones of the region, which were discussed in the preceding section. It also coincided with Napoleon's deliberate attempt -- during the two turbulent decades of

his domination (1796-1814) -- to transform northern Italy into a supplier of financial resources, raw materials, and semi-finished goods for France, as well as becoming an export market for French manufactures.

At the same time, a series of institutional changes facilitated the transformation of land into a commodity, and the formation of a new wealthy landed bourgeoisie alongside the old noble families. Some of the policies of the new regimes were aimed explicitly at curbing the powers of landed aristocracy and Church, and at encouraging a rapid redistribution of land. Feudal privileges, tithes, and legal entails of estates (**fidecommessi**) were abolished, and eventually the Napoleonic Civil Code of 1804 was adopted.[19] The properties of Church (mortmain), charities, and educational institutions were confiscated and sold together with the public demesne. The **biens nationaux** or "national properties," were sold without regard to smallholders and peasants, but rather with the explicit intention of gaining political support, and reducing the public debt by sales to the wealthy. In France, land sales created a solid class of peasant owners, while in northern Italy, with few exceptions, it benefited the existing owners. It also facilitated the entrance in the landowning strata of a number of "new men" capable of closely integrating agriculture with commerce. These were wealthy merchants (**negozianti**), bankers, provincial notables, army

provisioners, public administrators, magistrates, **fittabili** and stewards of the suppressed institutions.[20]

Other factors played a positive economic role. A French-style bureaucratic administration was created and the number of civil servants dramatically increased. Taxation systems were progressively reordered, simplified, and carefully controlled. Military expenditures provided a market not only for agricultural produce but also for existing proto-industries (e.g., Biella and Schio for woolens and Brescia for arms). Internal custom barriers were abolished and systems of weights, measures, moneys and frontier customs unified. Great emphasis was placed on the construction of roads (especially those to the alpine passes of Monginevro, Moncenisio, and Simplon), canals (such as the Lorini-Marocco and the Milan-Pavia in Lombardy), bridges, and public buildings in big cities such as Turin and Milan. In particular, Milan benefited greatly from its new role as capital and trade center in the expanded regional state of the Cisalpine Republic (with 3.5 million inhabitants) and, after 1805, the Kingdom of Italy (with over 6 million people).

**b) The phase of contraction (1816/21-1848)**

By 1809 the limits of the agricultural and commercial expansion of the preceding period had become apparent. Peasants in South Tyrol, Polesine, Mantovano, Veronese

rebelled against the sharp rise in prices, taxes, and conscription. By 1813, as a result of Napoleon's Continental Blockade, smuggling was endemic, Genoa and Venice were suffering, and several commercial and banking houses involved in the trade of tropical products and cotton had failed. At the same time, the silk industry of Lyons -- northern Italy's principal silk export market entered into a period of crisis. The failure of agricultural crops, particularly wheat, in Venetia (1812-13) and in the entire region (1815-16-17), as in most of Europe, caused widespread famine and spontaneous riots with assaults to bakeries and homes of notables. Finally, between 1818 and 1826, as a result of massive grain imports from the Black Sea and good regional harvests, the price of wheat collapsed and then stagnated up to 1846-47, the last great European famine.

Agriculture remained the chief source of wealth and continued to employ most of the available human and economic resources. There were two types of responses to the agricultural depression. In the lowlands, landowners and **fittabili** expanded convertible husbandry, forage crops, and rice-fields as the prices for butter, cheese, meat, and rice remained stable or even increased. In certain lowland areas, such as the Cremonese and Lodigiano, these two groups introduced mulberry plantations as a substitute for flax cultivation, whose place in textile production was taken increasingly by cotton.

It was in the hills and the highlands, however, that they -- along with peasant smallholders -- expanded mulberry tree cultures as the price and demand of cocoons increased. The latter context was where the reduction of the size of farm units entrusted to peasant families and the **contratto misto** became generalized. Landowners and **fittabili** continuously forced the **pigionanti** to pay higher rents in wheat, plant more mulberry trees, and raise more silkworms. These peasants' living conditions worsened, and there was a steep rise in pauperism, begging, vagabondage, seasonal migration, mortality, infant abandonment, disease, and debt. By contrast, the landowners and **fittabili** maintained or even increased their incomes. For them, **l'ombra del gelso e' l'ombra d'oro** ("the shadow of the mulberry is the shadow of gold") (Jacini 1857:204).

Within the manufacturing activities, the dominant position of silk production increased. The multiplication of **filande** and **filatoi** was a phenomenon that accompanied the rapid extension of the mulberry-silkworm-cocoon complex throughout the pre-alpine area. Prices and demand for north Italian raw and spun silk expanded dramatically in the markets of London, Lyons, Geneva, and central Europe. Bengali and Chinese production became a growing threat, but north Italian silk enjoyed a privileged market position in Europe. These favorable market conditions facilitated the progressive diffusion of more capital-intensive methods of

production. Steam processes activated by centralized wood-burning boilers were introduced in the **filande** and the use of water-driven machines in the **filatoi** became generalized. Capital concentration slowly proceeded as the bulk of foreign demand progressively shifted towards silk yarns (**organzini** and **trame**), and as more specialized operators (**filandieri-filatoieri** and **negozianti in banca e seta**), challenged the position of landowners and **fittabili** who controlled most of the less capital-intensive plants. The **filandieri-filatoieri** integrated the preliminary phase of winding with that of twisting and yarn production. The **negozianti in banca e seta**, by performing several economic functions and roles, came to control most of the silk production and trade.[21] They were, at the same time, bankers that provided manufacturers with working capital, large landowners with **pigionanti** engaged in the mulberry tree-silkworm-cocoon complex, industrialists that controlled **filande** and **filatoi**, and finally **negozianti** or wholesale merchants who, together with the commissioners of foreign houses, concentrated and exported raw and spun silk. They were based in Milan, Turin, and Genoa, and rapidly became one of the most powerful economic groups of the entire region.[22]

The other textile branches, most notably cotton, wool, and linen, continued to produce for internal demand and benefited from the fact that the economic crisis was dealt

with on the political level by setting up protectionist measures. These tariffs sealed off the north Italian market from foreign yarn production. This condition encouraged indigenous merchant-manufacturers, together with immigrant French, Swiss, and German entrepreneurs, to extend their supervision over the finishing stages of cloth production, its bleaching, dyeing and fulling, in order to obtain standardized products. From control of finishing they moved to the production of improved yarn by concentrating and mechanizing the productive phase of spinning. A few spinning factories, using centralized motive power and foreign-made machines (spinning and mule jennys), were established in areas of the hills and highlands such as the Biellese, Novarese-Verbano, upper Milanese, Comasco, Lecchese, Bergamasco, and Vicentino. In these areas there were numerous small rivers coming down from the Alpine valleys -- Adda, Brembo, Cervo, Lambro, Olona, Strona -- that could provide the motive power suited to small-scale factories. Furthermore, here it was possible to recruit an abundant and cheap labor force among the families of **pigionanti** and smallholders, hard hit by the agricultural crisis and already engaged in proto-industrial activities.

In this phase, industrialization advanced in a kind of selective symbiosis with peasant domestic production, reflecting a form of capitalist organization in which the commercial interest still had the ascendancy over the

technical and manufacturing interests. The entrepreneurs integrated the newly industrialized phase of spinning with domestic weaving organized on the basis of putting-out arrangements. Domestic spinning of cotton and wool was virtually eliminated, but domestic weaving dramatically expanded to keep up with the increased output of yarn. The maintenance of this close complementary relationship between factory and peasant domestic production allowed capital accumulation to proceed only slowly; nevertheless it did grant flexibility to capitalists. The price of labor remained below its cost of reproduction. The mechanization of spinning raised overall productivity, production, quality, and lowered total costs. These conditions enabled entrepreneurs to expand their share of the regional market and raise their profits. At the same time, the predominance of variable capital, particularly in the form of raw materials, over fixed capital (buildings and machinery) allowed entrepreneurs promptly to vary production levels to match changing market conditions. As demand grew, capitalists could increase production simply by adding raw material and domestic labor inputs; as demand contracted, they could reduce or even stop production with little or no economic damage for themselves. Entrepreneurs could then systematically pass on the effects of market slumps to the rural population engaged in domestic weaving.

During the 1830s and 1840s, a new bourgeoisie emerged

and began to consolidate its position in northern Italian society. Landowners, **fittabili**, wholesale merchants, and the small group of textile industrialists formed a rapidly rising entrepreneurial middle class. They intensified the integration of a more capital-intensive agriculture with commerce and also strived to transform silk, cotton, and wool production into industrial activities. Their power base was largely located in the countryside and small towns where they monopolized local economic and administrative life.

However, these provincial notables increasingly moved to the cities and, in particular, to Milan, Turin and Genoa, the principal commercial and administrative centers of the region. Here these "new men" came in close contact with the aristocratic world. They built their comfortable palaces alongside those of the old nobility, they married their daughters to noble cadets, they were admitted to the exclusive aristocratic salons, they received noble titles, and they joined forces with noble wealth to set up commercial and banking ventures such as the Savings Bank of the Lombard Provinces (1823), the Savings Bank of Turin (1827), the Bank of Genoa (1844-45), and the Bank of Turin (1847).

At the same time, these "new men" pursued their own agenda. Together with professional groups, civil servants, and a handful of young progressive nobles, they joined

masonic lodges and nationalist secret societies; they created new institutions, associations, and schools dedicated to the promotion of technical knowledge and to the instruction of qualified workers; and they supported journals and publications that provided a constant flow of "useful cognitions" in the economic, scientific, and technical fields.[23] They began to influence economic policies and debates over free trade and protectionism, the role of public incentives and credit in the develonpment of economic activities, and the necessity of an expansion of infrastructures -- roads, ports, and railways. Finally, these "new men" began to impress their interpretations of the requirements of modernity on the civic administrations still dominated by the aristocracy. A new urban landscape and life-style emerged with the provision of new public services -- such as water supplies, street lighting and paving, cemeteries outside the walls, municipal slaughterhouses, fire brigades -- speculation in city housing, cafes, restaurants, theaters, hotels, and carriages.

## The Gavazzi family

By 1817 the Gavazzi family was considered one of the most important **filandieri-filatoieri** of the province of Como.[24] Following a path similar to that of other families the Bovaras, Reinas, Verzas, Sormanis, Palearis -- the

Gavazzis had already played a relevant role in the precocious industrialization of silk production in the Brianza and district of Lecco.[25] In less than two generations these skilled and innovative entrepreneurs came to control an industrial capacity that allowed them to integrate the preliminary phase of reeling with that of twisting and yarn production thereby simultaneously increasing production, exercising greater control over quality and cutting overall costs.

The industrial success of the Gavazzi family was rooted in the 18th century. Pietro Antonio Gavazzi (1729-1797) was, until 1756, a tax-farmer of Canzo (upper Brianza). Later, he acquired technical and managerial skills by working for the Bovara brothers, the most important silk manufacturers of the district of Lecco (Cattaneo 1982: 41-45). He entered in business by himself in 1772 by leasing one mill in Valmadrera, a small village a few miles south of Canzo. While at the beginning he worked as a subcontractor for the Bovaras, he subsequently expanded his operations with the help of his three sons -- Giuseppe Antonio (1768-1835), Carlo, and Pietro Francesco. In 1791 Pietro Antonio leased a twisting mill (acquired by his sons around 1800), and then a second reeling mill in 1797.

Several factors influenced the Gavazzis' initial success. Firstly, they were able to establish close business relations (e.g. subcontracting and financing) with

other important silk operators of the area and consolidated these through marriage alliances. Mira Gavazzi married Giacomo Paleari and in 1801 Pietro Antonio's oldest son, Giuseppe Antonio, married Luigia Verza (1784-1866), the daughter of Carlo Verza and Giovanna Sormani of Canzo. The Palearis, Verzas and Sormanis were also important silk manufacturers and the latter two were related through marriage with the Bovaras (Cattaneo 1982:99-114). Luigia Verza brought with her not only the "hooked nose," so characteristic of Gavazzi descendents, but also a conspicuous dowry (Rachele Gavazzi, interview 30-01-1988). The dowry, together with loans and accumulated capital, enabled the Gavazzis by 1807 to add to the mills they already controlled in Valmadrera a new water-powered mill in Bellano, on Lecco's branch of lake Como. Here, they integrated the reeling and twisting processes in a single vast building. In 1813 the total annual production of the silk firm Gavazzi Pietro was estimated in 1,860 kg of **organzini**, 6,520 kg of **trame** and 424 kg of raw silk, with an overall value of 300,000 lire (Cova 1987:25).

Secondly, the Gavazzis' success depended on their commercial skills, that is, on their ability to buy cocoons directly from producers at favorable conditions (e.g., discount prices and delayed payments) and obtain advances and short-term credits from Milanese wholesale merchants and foreign commissioners to whom they sold their silk. Both

were critical factors in ensuring the financial equilibrium of a firm. There were two constraints that affected the latter. First, cocoons had an absolute predominance over all other costs of production. Second, manufacturers had to conclude the purchase of cocoon supply in the very short period of the year in which silkworms were raised. Favorable prices and modalities of payment for cocoons as well as access to short-term funds relieved the pressure on cash-flow allowing a firm to operate and expand even in the face of the marked discontinuity of the silk productive cycle.

Between 1816 and 1819, however, poor cocoon harvests and high cocoon prices hindered considerably the ability of north Italian manufacturers to respond effectively to the rising European demand for raw and spun silk. These new conditions prompted the Gavazzis to reorganize the productive and organizational bases of their operations. They bought vast land properties in order to secure a direct source of cocoon supply. They invested in the expansion of productive capacity and in the introduction of new methods of production to raise product quality and labor productivity of their mills. They also consolidated their commercial and financial position and became wholesale merchants and bankers (**negozianti in banca e seta**).

As a first step in this process, Giuseppe Antonio bought in 1817 the properties of the Countess Teresa

Confalonieri,[26] which consisted of 111 hectares of forest and arable land intercropped with mulberries (located mostly in the territory of Valmadrera and partially in those of Civate, Garlate and Oggiono), a palace, commercial buldings and private homes in the urban center of Valmadrera and several peasant houses dispersed in the countryside. Along with the property came also the control over most of the water of the Luera.[27] With this and subsequent smaller acquisitions, the Gavazzis became the largest landowners of the area and controlled most of its natural and human resources. However, they exercised this control in ways and for objectives that differed markedly from those that were prevalent among the rentier nobility.[28] For the Gavazzis, control over human and natural resources was a means to facilitate and advance industrial accumulation. Giuseppe Antonio, and after 1835 his three sons Pietro (1803-1875), Egidio, and Antonio, used their power to shape a social and territorial structure responsive to the accumulation requirements of industrial silk production.

Firstly, in the countryside, the Gavazzis were interested in expanding the mulberry-silkworm-cocoon complex as much as possible. Accordingly, they introduced the "mixed contract" regime to regulate their relations with the peasants working their land and to encourage the expansion of mulberry cultivation. Vast tracts of deciduous forest were rapidly cleared and planted with mulberries. The

Gavazzis wanted high quality cocoons. Cocoons influenced the productivity of the industrial operations since the yield and quality of the silk and the prices it could command were directly related to the quality of the cocoons used in the productive process. Hence, the peasants were trained in the new methods of mulberry cultivation and silkworm husbandry. They also found their houses rebuilt, enlarged, and ventilated by the Gavazzis who were interested in surrounding the silkworms with conditions favorable to the latter's well being.

Secondly, the Gavazzis transformed the Valmadrera palace into a multifunctional complex so that its different constituent parts could serve as loci of residential, administrative, productive and religious activities. The transformation was very successful and, in later decades, the complex became a paradigmatic model for the entire silk industry.[29] The Gavazzis hired Giuseppe Bovara, a relative and the most famous architect of the district of Lecco (Borghi 1975), to plan and oversee the transformation. He modified the functions and the internal space divisions of each of the three floors of the palace. The ground floor was turned into a storage area for cocoons, silk, wood, and agricultural products. Porticos provided a protected but ventilated space to carry out particular tasks of silk production. The first floor was turned into the residential quarters of the Gavazzi family. Here the space was divided

in private rooms and in ample salons for social and family gatherings. The second floor, under the roof, was used and equipped for silkworm husbandry (**gallettera**). Here, throughout the spring a large number of silkworms were raised by peasant women under the watchful eye of the Gavazzis. This practice allowed the family to experiment with new techniques of silkworm husbandry and to improve the quality of cocoons. However, this remained the only "silkworm factory" set up by the Gavazzis because the high concentration of silkworms increased the risk of epidemics and of consequent crop failure. The family continued to depend for most of their cocoon supply on the production carried out by peasants in their homes.

In subsequent years Bovara integrated the palace with old and new buildings that provided additional space for stables, storage, and residence. He created a dormitory for a small number of young female orphans and non-residents working in the reeling mill nearby. Nuns lived in the dormitory to supervise the orphans and, after 1843, also to teach Sunday classes to all the girls under 15 years of age that worked in the mill.[30] In 1834 Bovara transformed the 17th century chapel of St. Gaetano located in the garden of the palace into a small circular church complete with a cupola and columns. In this church Gavazzi family members were baptized, attended Sunday masses together with the nuns and the orphans, got married and held funerals.

Finally, Bovara supervised the construction of a new reeling mill, completed by 1820. The mill was located in the garden a few meters away from the palace. It was a rectangular brick-building with two floors and several ample windows. The first floor was used for storing cocoons and silk. On the second floor, a large single room 70 meters of length contained 80 steam-heated boilers (150 by the 1840s) equipped with reeling machinery, powered by the water of the Luera river. The mill employed 90 young girls (9 to 15 years old) that assisted the 200 women who worked as reelers or performed other related tasks. A dozen men fed the furnace, maintained the machinery and transported materials. All these workers came from peasant families, many of them were wives and daughters of Gavazzis' **pigionanti**. They worked 12 to 15 hours a day for 180-200 days a year.[31] The production of the mill was halted in the spring to allow the workers to raise silkworms in their houses and in the palace.

With this new reeling mill, the Gavazzis were among the first and few silk manufacturers in Lombardy to adopt the machinery that the Bruni brothers of Como had developed by perfecting the Gensoul method. The substitution of boilers heated by separate wood-fires with a centralized system of steam heat that served individual boilers was an important innovation. Its introduction became one of the major factors of capital concentration in the reeling industry.[32]

The steam process required a higher initial investment but gave to the Gavazzis decisive competitive advantages. On the one hand, they were able to cut costs: (1) the new machinery required less space and consumption of wood as fuel; (2) the entire group of attendants of individual fires was eliminated; (3) a new lay-out of the machinery, with the workers sitting aligned one next to the other, made it easier to control them. On the other hand, with the steam process the Gavazzis increased the quality of the product. The possibility of controlling and regulating the temperature of the water in the boiler as necessary, reduced the risk of damaging ("overcooking") the silk filaments and thereby the danger of imperfections and ruptures during the reeling process was also reduced.

Moreover, the Gavazzis coupled the adoption of the steam process with changes in the labor process that were aimed at increasing product quality and labor productivity.[33] They created a new category of workers, the **scopinatrici** or scrubbers, who took over some of the preliminary tasks of the reeling process, until then performed by reelers. These young girls moved constantly from one boiler to the next, washing the cocoons and loosening with a scrub the silk thread from the gummy sericin in hot, often muddy-looking water. Their fingers had to move swiftly, gathering the filaments from several cocoons and handing them over to the reelers. Thus, their

work limited the task of the reelers to the constant feeding of several of the filaments into the reeling machine. This new division of labor increased the speed of operations and made it easier for the reelers to produce uniform and cohesive strands.

The Gavazzis also introduced the new reeling process in their other mills. They obtained the best results in Bellano where they produced what contemporary observers considered to be the best raw silk in all of Lombardy.[34] Their raw silk was more translucent, cohesive, "nervous," regular, and resistent. This finer product commanded higher prices in the Milan market.

At the same time, a finer raw silk provided the Gavazzis with an additional competitive advantage. It allowed them to improve significantly the quality of their yarns and the productivity of their twisting operations in Valmadrera and Bellano.[35] These achievements became, from the 1820s on, crucial for the Gavazzis as well as for all other major Lombard silk manufacturers, when the bulk of international demand shifted from raw to spun silk. Cheaper Indian raw silk rapidly took over the London market, until then the most important market for Lombard raw silk.[36] To compensate this loss, Lombard silk manufacturers turned to German, Swiss, French, Austrian, and Russian markets. However, the industries of these countries, with the exception of France, were only specialized in weaving and

dyeing processes and thereby demanded silk yarns rather than raw silk. By the early 1850s, six-sevenths of all the silk exported from Lombardy was reported to be in the form of **organzini** and **trame** (Frattini 1856:65).[37] The Gavazzis and other major producers of the Brianza were particularly successful in satisfying this growing demand. The **sete brianzole** (silk yarns of Brianza) were sought after and competed directly with the best French and Piedmontese twisted yarns.

In the early 1840s the Gavazzis were able to further improve their competitive position by replacing the old spinning machinery with that perfected in France by Vaucanson. The old machines had vertical structures which often occupied two or three floors of vast and tall buildings. Instead, the new machines had horizontal structures that required much less space. The Vaucanson spinning machines improved substantially the speed of operations, labor control, and working conditions. It became easier to produce more uniform yarns.

The re-organization and expansion of productive activities after 1817 articulated with the increasing ability of the Gavazzi family to develop more effective commercial and financial ventures. In the early 1820s they joined forces with Felice Quinterio and other investors to create the **Gavazzi e Quinterio** that rapidly became one of the most powerful silk commercial houses in Milan.[38] This

firm operated with the legal status of **società in accomandita**, a stock company in which some of the shareholders (**accomandatari**) were responsible only for their share of capital, while others (**accomandanti**) were subject to unlimited liability. The latter usually gave the name to the company and actively managed it. The capital invested by shareholders gained a fixed interest (4 to 5%) and specific provisions regulated the division of profits between the partners. The **società in accomandita** was the preferred device for mobilizing the considerable sums of capital required for such commercial enterprises (Greenfield 1965:124; Angeli 1982:107 ff).

The **Gavazzi e Quinterio** was involved in all the aspects of the silk productive cycle. It bought and sold mulberry leaves, cocoons, raw and spun silk. It performed several commercial services related to the international commerce of silk, including insurance, storage, shipment, and seasoning. It also performed banking services, including the discount of bills of exchange and the provision of short-term credits to landowners and industrialists. The Gavazzis used the **Gavazzi e Quinterio** to market their silk production and to gain a share of the lucrative profits made in the export trade. The firm also financed their program of productive expansion.

Until 1817 the Gavazzis financed their operations with their own funds and with dowries or loans from inside their

network of close relatives and friends. A very important role was played also by advances and short-term credits provided by Milanese commercial houses and foreign commissioners to whom they sold their silk. After 1817, family funds remained central but the acquisition of the vast land properties in Valmadrera, the expansion of the productive facilities, and the creation of the **Gavazzi e Quinterio**, allowed the Gavazzis to considerably enlarge opportunities and sources of credit. Above all, it was posssible for the family to mortgage its considerable real estate and industrial properties to secure large medium-term loans at 4 to 5% interest. These loans were made by private capitalists, usually landed nobles, who were represented by brokers.

The Gavazzis invested the borrowed funds and their agricultural, industrial and commercial profits to further expand productive capacity, acquire additional land and, from the mid 1830s, to consolidate their financial and social position in Milan. Here, Pietro, the new leader of the family, founded a private bank, the **Gavazzi Pietro e Fratelli** that remained strictly a family controlled operation earning profits for the Gavazzis and their close friends. As a private banker Pietro, advanced money on the security of mortgages, discounted the notes of wealthy and recognized proprietors, merchants and industrialists and, took part in the financing of commercial transactions and

industrial ventures. His banking business provided an important channel for the mobilization of silk profits and wealth amassed by the nobility. By 1844 it was considered to be among the 28 most important private banks of the city of Milan (**Manuale** 1844:136).

Finally, the Gavazzis used part of their financial resources to build in 1838 a family palace in the new residential area of Borgo Monforte (Via Montenapoleone 23) in Milan. In 1844 a guidebook listed Gavazzis' palace among the 50 most magnificent public and private palaces of Milan and noted that it was "of recent construction, rich design, and of beautiful execution by the architect Clerichetti" (**Manuale** 1844:73,77). The construction of a palace in the center of Milan underscored the Gavazzis' growing interest for commerce and finance. This was an initiative with a precise economic logic since, like the properties in Valmadrera, constituted one of the most liquid forms of capital investment of the time. Both served as hedges against downturns in the silk market and it was easy for the family to convert them into mortgages and loans to finance additional productive investments.

At the same time, the elegant palace in the center of Milan celebrated the Gavazzis' entrepreneurial success and pride by providing a public image of their economic strength. The family aimed to incorporate itself into the ranks of the Milanese élite. It took the life-style of the

city-based landed aristocracy as its model and lived comfortably in the elegant palaces of Valmadrera and Milan, surrounded by a contingent of servants. Family members contracted "good" marriages with scions of respectable bourgeois families[39] and participated actively to the life of some of the most prestigious Milanese institutions, such as the Chamber of Commerce, the **Società di Incoraggiamento delle Arti e dei Mestieri** and the **Società dell'Unione.**[40]

### The Ponti family

At the beginning of the 18th century, the Pontis were already established merchant-manufacturers of cotton and linen fabrics in Gallarate (upper Milanese). By the end of the century they had expanded the scale of their putting-out and commercial operations and had begun to centralize segments of the productive process. After 1820 they pursued a strategy of vertical integration by fully industrializing cotton spinning and vastly expanding domestic weaving and their market organization. By 1848 the Pontis were the most important cotton entrepreneursof the Kingdom of Lombardy-Venetia and they managed a flourishing commercial and financial business headquartered in Milan.[41]

The Ponti family's early involvement in the production of cotton and linen fabrics in Gallarate dates back to the late 16th century when its commercial network reached Milan and Venice (Luzzatti 1919:222). At that time, the making of

cotton and linen fabrics was organized as a typical cottage industry in the upper Milanese, particularly around the towns of Busto Arsizio and Gallarate. In this highland area, local agricultural crops were inadequate both because of the lack of irrigation and the heathlike nature of the soil. Such conditions even hindered the development of the mulberry-silkworm-cocoon complex in the 18th century. It was mainly through the engagement in handicraft industries producing for the market that the rural population managed to compensate for the natural deficiencies of the land. These proto-industries benefited from the fact that Busto Arsizio and Gallarate were on the Milan-Domodossola road and became two major commercial centers. Their weekly markets had a regional scope since they attracted both people and products from alpine, hill and lowland zones.

The cotton proto-industry depended on a network of wholesale merchants and middle men for its supplies of raw material from overseas sources, as well as for the distribution of the finished product to other regional market centers. Accordingly, its rise and expansion from the 16th century onward was accompanied by the formation of a sizable group of merchant-manufacturers with considerable financial means, commercial expertise, and a thorough familiarity with textile technology. It was this group that revived the industry in the 18th century by spreading domestic spinning and weaving to the surrounding countryside

and to the nearby rural centers of Somma Lombardo, Legnano, Solbiate, Castellanza, and many others. And, it was from this group that cotton manufacturers of the early 19th century such as the Pontis, Turatis, Crespis, Borghis, Candianis, and many others, emerged to transform cotton spinning from a galaxy of dispersed peasant cottages to a cluster of centralized factories (Bondioli 1936; Dagradi 1971; Romano 1991).

In the 18th century, Bartolomeo Ponti was an important local merchant-manufacturer, who supplied peasants with raw and spun cotton and marketed the cloths that they produced with his handlooms in their homes during the winter months. Between 1780 and 1814, his son Andrea Sr. (1752-1819) greatly expanded the scale of the firm's activities in relationship to other local merchant-manufacturers. He extended the network of rural domestic spinners and weavers working for his firm while, at the same time, establishing a small centralized workshop.

Andrea Sr. paid close attention to both commercial and technological aspects of the business. For example, immediatly after the peace of Amiens (1802) between France and Britain, he bought great quantities of American cotton. This supply enabled the firm Andrea Ponti to continue and even expand operations during the Continental Blockade, while many of the other firms had to close down for lack of raw materials. He then began to concentrate initial and

final operations of the productive process in a small plant with 30-40 workers. In 1813 Andrea Sr. went to Paris to request permission to import new French spinning machinery. By 1815, the firm Andrea Ponti was the only one of the 30 firms based in Gallarate and of the 41 in Busto Arsizio, that had partially concentrated yarn production with the adoption of animal powered mule-jennies for a total of about 100 spindles (Zaninelli 1967:33 ff).

Between 1814 and 1818, the embryonic process of transformation of cotton manufacturing into a more capital intensive industry was halted by the great political and economic instability that followed the collapse of the Napoleonic regime. Quickly, it was possible for industrially-produced and cheap English, Swiss and French cotton yarns and cloths to take over most of the northern Italian market, pushing out the Pontis and the other cotton manufacturers of the upper Milanese (Glazier 1966:103 ff). In 1816, however, Andrea Sr. Ponti wrote a letter to the government in which he made it clear that he was willing to invest in the mechanization of production if a protectionist policy was implemented.[42] But, the restored Austrian government was reluctant to protect cotton manufacturing because it considered the existence of this branch of the textile sector in the Kingdom of Lombardy-Venetia as "unnatural." In fact, cotton was a fiber that, contrary to silk, flax, hemp, and wool, the indigenous agriculture did

not produce and had to be imported from abroad (Turkey, India, United States, and Egypt).

The impasse was overcome in the fall of 1817 when, under the immediate pressure of the famine, the Austrian government began to enact the initial measures of the so called "prohibitive system." The next year, the Austrians imposed high tariffs and prohibitions on the import of cotton yarns and cloths while, at the same time, keeping the import of raw cotton almost free of duties. These measures were aimed at sealing off the Kingdom of Lombardy-Venetia from foreign products and at promoting a process of industrialization.[43]

The new tariffs prompted two main responses. On the one hand, there was a spectacular development of contraband of high quality cloths, particularly from bordering Switzerland, which lasted up to 1848 (Caizzi 1972:114-16, 221-36). On the other hand, indigenous manufacturers mechanized spinning and expanded domestic weaving for products of medium and low quality. They were joined in this effort by several Swiss, French and German entrepreneurs, technicians and skilled workers, who settled in the Kingdom of Lombardy-Venetia because were attracted by its protected and still underdeveloped market.[44]

When in 1819 Andrea Sr. died, the ownership of the firm Andrea Ponti passed to his older son Bartolomeo (1785-1860) who, however, decided to employ and share the profits of the

firm with his two younger brothers, Giuseppe (1786-1853) and Francesco (1794-1874). In the following years, each of them assumed the responsibility for a specific business area. Bartolomeo moved to Milan where he supervised the overall administration of the firm and dedicated himself with great skill to commercial and financial speculations. Giuseppe remained in Gallarate where he was in charge of productive operations. Francesco, after traveling to the United States and other countries to purchase raw cotton, settled in the fast growing Austrian commercial free-port of Trieste where he managed a subsidiary. As the solidarity among the brothers remained unshaken over the years, the division of responsibilities between them proved an effective managerial solution for providing the necessary coherent coordination of the increasingly complex and spatially dispersed economic activities of the firm.

With the issue of generational succession settled and the "prohibitive system" in place, the Pontis moved quickly in order to seize the new opportunity for expanding their productive activities and achieving a predominant market position in the Kingdom of Lombardy-Venetia. They decided to invest in the mechanization of spinning in order to synchronize yarn production with domestic weaving. In fact, domestic spinning with the wheel was comparatively slower than domestic handloom weaving and it was unable to keep pace with the growing demand for yarns (it took 10 to 20

spinners at the wheel to feed one weaver). The Pontis knew well that after 1780, northern European manufacturers had dramatically increased the productivity and quality of the yarn produced through the introduction of major technological innovations -- the spinning jenny, the water frame, and the mule-jenny to which steam power was applied -- coupled with the new labor process of the factory organization. The industrial production of yarn had allowed northern European manufacturers to fulfill internal and external demand and to expand their putting-out networks of handloom weavers dispersed in rural households (it took 4-5 spinners at the spinning-jenny to feed one weaver and only two at the mule-jenny).

The Ponti brothers began to import French-made spinning and mule-jennies in 1820 and between 1821 and 1823 they established the largest cotton spinning factory of the Kingdom at Solbiate, a small rural center on the Olona river, close to Gallarate. The factory employed 153 workers, almost all of them men, and had more than 3,000 spindles driven by 40 hydraulic horse power derived from the Olona river. The supply of wood was running out and northern Italy was likewise lacking in coal. With fuel scarce and dear, the steam engine was a luxury and water provided the power to the new spinneries. Only in the early 1840s did the Pontis add a steam engine to provide power when the water was low.[45]

In the following years, the Pontis further expanded the productive capacity of the Solbiate spinnery. They brought the total number of spindles to 8,000 in 1836 and to 10,500 in 1842. At that time, the factory was operated by 450 laborers working 12 hours a day and was also integrated with a smaller twisting establishment (80 workers) in Gallarate for the preparation of the threads that were fed to domestic weavers. The Pontis also operated a small workshop to dye and whiten their fabrics.

In the late 1840s the Pontis employed 530 workers in the two spinneries: 300 men, 100 women and 130 children under 14 years of age. The wages of these workers, although always low, varied according to their skill, age and gender. Skilled men earned between 2 and 3 lire a day, skilled women only half as much and children only between 25 and 50 cents. These factory workers were part of that segment of the rural population of the highlands that had become pauperized as a result of the changes in land tenure and the agricultural crisis. Hence, the labor force of the new cotton spinneries consisted largely of men, women and children who had never known any other discipline and training than those of the rural family. Some manufacturers required from prospective workers a certificate of good behavior from the parish priest and a deposit equal to two weeks' wages as pledges of discipline. The deposit was returned only after the laborer had served the firm for a year. Furthermore, to break the

workers to the new routine of the factory, manufacturers imposed fines to punish absenteeism, delay, abandonment of work, damage of machines and products. Usually, the fines went into a fund managed by manufacturers for the benefit of sick workers.

The observers of the time were in general agreement that the Pontis and the few other major promoters of the Lombard cotton industry showed no disposition to push exploitation of labor to the limit, as did their English contemporaries. The still rural social atmosphere of the region, linked with the fact of a well protected market and the absence of acute competition, mitigated labor exploitation. However, in the Pontis' mills, as well as in those of the other upper Milanese cotton entrepreneurs, the problems of the factory quickly emerged -- not only the problem of factory discipline and technical training, but of long hours and unhealthy working environments. Built on low ground by the rivers, the spinneries were located in damp sites and were in general ill-ventilated rooms, where workers breathed air charged with moisture and irritating cotton dust. In particular, contemporary observers were appalled by the working conditions of children, who formed more than half of the labor force of the new spinneries.[46]

The Lombard press proudly followed the development of the spinning industry[47] and as the **Eco della Borsa** observed in 1836,

> It is only a few years since the spinning of cotton was introduced, and already the factories of the firm of Andrea Ponti and others of first rank contend with the leading French and English establishments (in Greenfield 1965:88).

This was an overly optimistic evaluation of the situation. The English spinning industry had a much higher productivity than the one of Lombardy. The firm Andrea Ponti employed around 40 workers for every 1,000 spindles installed, while the English average was only of 22. Furthermore, English spinneries produced finer quality yarn, while Lombard producers with rare exceptions limited their production to lower and medium grades. The Pontis, for example, did not go beyond grade number 10 in Gallarate and 22 at Solbiate.[48]

The Pontis not only operated the most important water-driven spinnery and the only centralized workshop for the preparation of the threads, but they also employed the greatest number of looms engaged by any one firm in cotton weaving, 1,624 in 1845.[49] The firm Andrea Ponti and that of Turati and Radice at Busto Arsizio, also owners of a mechanical spinnery, together employed one-fifth of the total number of looms active in weaving cotton in the province of Milan in 1845. The Pontis at Gallarate had 250 looms in the town and 1,374 dispersed in the countryside. Turati and Radice had a total of 1,198 looms -- 820 in the urban area of Busto Arsizio, of which only 34 were concentrated in the manufacture -- and others 378 dispersed

in the countryside. In 1845 of a total of 138 Lombard firms engaged in cotton weaving only four had great manufactures where the employers worked together. These enterprises counted only 629 looms (less than 5% of the total), of which only 70 were water-driven.

After 1820, the Pontis and the other Lombard entrepreneurs considerably expanded the weaving of cotton fabrics, but did not transform it into an industrial activity. The mechanization of weaving encountered several obstacles: the high cost of new foreign-made automatic looms compared to the low wages paid by manufacturers to rural handloom weavers, the lack of an adequate motive power and the lack of the stimulus of an extensive consumer market for cloths. Weaving continued as a rural household activity limited to the production of coarse cotton cloth, chiefly for the consumption of urban lower classes and peasants. High quality cloths were imported or smuggled from Switzerland, England and France.

Cloth was produced in Gallarate, Busto Arsizio and Monza, but these three towns operated mainly as administrative centers for the supervision of networks of weavers dispersed in the surrounding countryside. The organizational structure of most of the cotton weaving firms remained centered around the figure of the merchant-entrepreneur, who fed to rural part-time weavers the increasing output of the new mechanical spinneries. The

weavers were paid on a piece-work basis and operated in their homes the firms' handlooms. Sacchi, a knowledgeable contemporary observer, gave an optimistic evaluation of the condition of these peasant-weavers. The weavers, he wrote (1847:151-52),

> while they pursue the life of the artisan remember always to be country people, and preserve the habits and occupations of such. During the winter and the rainy season, when the farmer can accomplish nothing in the fields, our manufacturers of cotton industriously apply themselves to their looms ... In this industry they are often aided by the family ... As soon as the heat of the sun dries the soil in spring ... the weaver rolls up his web, and putting away the shuttle, takes the hoe and the sickle and goes with the other peasants to govern the fields inherited from his elders ... industry is associated with agriculture, and these two modes of life, which are elsewhere rivals and often enemies, are with us always kept sisters and friends.

The positive results, he continued, were the conservation of the "providential order of the family," florid health, and personal independence from "the servitude of the factory" on one hand, and from "the servitude of the glebe" on the other. Sacchi concluded,

> Meanwhile we must cordially thank the promoters of this industry in Lombardy because they have procured us all the benefits that it can give, while avoiding the economic and moral evils which, alas! too much disturb other populations.

After 1820, notwithstanding the mechanization of spinning and the expansion of domestic weaving, the Pontis and the other major promoters of the Lombard cotton industry, still made most of their profits by means of commercial speculation. As with silk, cotton trading was even more profitable than manufacturing and the importation

of raw cotton and high quality cloths became increasingly important businesses. The Pontis engaged a relevant part of their capital in the commerce of American, Indian and Egyptian raw cotton and they also imported foreign yarns, cloths, machines, and dyeing products. Already in the early 1820s they established close links with English banking and commercial houses to finance the importation of large quantities of raw cotton for the consumption of their new spinneries and for sale to other Lombard producers. In 1827, Francesco Ponti traveled to New Orleans to buy raw cotton and select the firm's agents for the American market. Similar arrangements were made in India and Egypt. In the following years, the Pontis were able to buy raw cotton directly from local suppliers which eliminated the middlemen in the ports of Liverpool and Le Havre and thus kept their overhead low. The cotton was then shipped directly to the ports of Genoa and Trieste. In the latter city, Francesco supervised commercial transactions, while the firm had commercial offices in Germany and Britain.

The Pontis' growing interest in commercial and financial activities is underscored by the relocation of the firm's headquarters and commercial deposit to Milan where Bartolomeo Ponti oversaw the concession of credits for cotton and machinery to smaller producers. This growing business was highly profitable and the firm Andrea Ponti, together with those of other major (for the most part

non-Italian) cotton manufacturers -- Kramers, Candianis, Krumms, Schochs, and Turatis -- was registered at the Milan Chamber of Commerce among the bankers, **negozianti** and commissioners.

By the late 1840s, the Ponti family had attained a solid financial and social position and could look forward to its future with optimism. At this time, the next generation -- Antonio (1818-1862) and Andrea Jr. (1821-1888), the two sons of Giuseppe -- had already joined the firm after marrying descendants of cotton entrepreneurial families. Antonio married Erminia Turati of Busto Arsizio and Andrea Jr. married Virginia Pigna, whose sister had married Luigi Borghi (1812-1859), a member of another prominent cotton dynasty of Gallarate. Antonio worked with his uncle Bartolomeo at the firm's headquaters in Milan and often traveled to the U.S. to purchase raw cotton. His brother Andrea Jr., after having received a Law School degree at the University of Pavia and technical training at an Alsacian cotton firm, supervised with his father Giuseppe the spinneries of Solbiate and Gallarate.

## The Sella Family

The Sella family of Mosso was one of several families of the upper Biellese who throughout the 18th Century operated as merchant-manufacturers and formed a sort of kin-related "wollen aristocracy" -- the Piacenzas,

Ambrosettis, Vercellones, Borgnana-Piccos, Amossos, Torellos, Robiolios, and a few others. These families played the leading role in reshaping the organizational configuration of wool production in the province of Biella between 1815 and 1848.[50] They transformed spinning, together with the preliminary and final phases of the woolen productive cycle, into industrial activities by concentrating them in water-powered factories. Furthermore, while initially they favored the expansion of handloom weaving as a domestic activity, by the early 1840s, they began to concentrate it in their woolen manufacturies. It was the successful implementation of these changes in the organization of production that allowed the Sella family to increase rapidly its capital accumulation and emerge as the single most powerful political-economic group of the Biellese and also of the Kingdom of Sardinia at the end of the 1840s.

The Sellas descended from the Cravellos, 15th century notables of the district of Mosso, who were men of law, feudal administrators, consuls, and priests in the upper Biellese.[51] Their direct involvement in the manufacture of woolens as merchant-entrepreneurs began during the 17th century, with Giacomo and Comino (1598-1678), who loaned money at interest and on the security of mortgages, and owned vineyards around Lessona (lower Biellese), grazing lands, sheep herds, and a small workshop for the dyeing and

finishing of woolen cloths in Mosso Santa Maria. They supplied their own wool to a network of peasant extended families, who resided in the small dispersed hamlets (**cantoni**) of the upper valleys of the Biellese. The wool was sorted, washed, dryed, pounded, carded, spun, and woven by these peasant-artisans. It passed from house to house following the various phases of production. The cloths were then fulled, dyed, pressed, and branded in the workshop and, finally, commercialized.

Since the late Middle Ages, the proto-industrial manufacture of wool,[52] hemp, leather, wood, and iron products for the market allowed a growing local population to compensate for the natural poverty of the soil and the chronic shortfalls in agricultural production of this pre-alpine area.[53] Several dyeing workshops and watermills to grind cereals, to pound hemp, to spin silk, and to full wool, exploited the abundant waters of the many steep and fast-running rivers of the upper Biellese valleys. These workshops and mills were owned by the local villages acting as corporate entities, by religious organizations and by a rising class of merchant-manufacturers. The latter controlled not only the long-distance trade with the capital and other major cities of the state, but also most of the commercial traffic with the centers of the lower Biellese and Vercellese plain. Members of this new class traded proto-industrial, milk and forest products for foodstuffs

maize and other cereals, wine, fruits, oil, and salt -- which in turn were sold at a profit to the population of the upper valleys, and which were used to obtain raw materials for the proto-industries -- wool, hemp, flax, and cocoons. The upper valleys were economically integrated with the hills and lowlands also as a result of the intense seasonal movements of migrant laborers and transhumant animals (cows and sheep), and of the growing investment of merchant-manufacturers in vineyards, meadows and **cascine**.

At the death of Gio Giacomo Sella (1652-1695), the family patrimony and business was divided among his three sons -- Bartolomeo (1677-1707), Gio Battista (1680-1745) and Gio Bernardino (1685-1766). Each brother established his own separate woolen and banking firm (**negottio di saje e altre stoffe** with a **tingeria** or dyeing works). Of the resulting three branches of the family, the second and third ones achieved powerful economic, social and religious positions by the end of the 18th century. The woolen firm of the second branch, established by Gio Battista, continued by Gio Giacomo (1704-1771) and then by Gio Domenico (1738-1805), grew rapidly after having received in 1709 the governmental authorization and entitlement to preference. By 1777, it employed directly more than 100 domestic spinners and weavers and had 14 handlooms in the manufacture. The firm was valued at 45,000 lire in 1795 and was considered one of the three best woolen enterprises of

the Kingdom. In addition, this branch could count on the income deriving from its extensive agricultural properties in the lower Biellese -- the **cascina** of Balocco and the vineyards of Cossato, Casa del Bosco, and Sostegno -- and on the direct access to the raw material, with its ownership of sheep herds -- 447 heads already in 1746.

The accumulation of the third branch was even faster. An official report of 1783, listed Gio Giacomo (1711-1785), the first son of Gio Bernardino, among the holders of family fortunes comprised between 200,000 and 400,000 lire. The woolen business of his son Gio Antonio (1738-1814) was valued at 60,000 lire in 1795, one of the highest amounts of the entire Kingdom. Moreover, this branch of the family also owned sheep herds and extensive agricultural properties in the lower Biellese and in the Vercellese plain.

Several factors favored the rapid accumulation of the two branches of the Sella family during the 18th century. First of all, they were able to get an increasing share of the profitable contracts for military woolen cloths that after 1691 the House of Savoy reserved almost exclusively for the small group of Biellese merchant-manufacturers, holders of governmental authorization and entitled to preference.[54] The relevance of this factor is apparent if one considers that the bellicose House of Savoy, fielding an army of 30,000 to 50,000 men, was engaged in constant warefare from 1690 to 1748 and that the size of the army was

not reduced even during the following forty-four years of peace (Mondini 1951). At the end of the century, the war of 1792-1797 against the French invaders brought a new wave of large contracts to the merchant-manufacturers of the Biellese. In 1796, the firm of the second branch of the Sella family obtained a contract valued in 168,713 lire for the production of 30,000 satins (**rasi**) and the firm of the third branch another amounting to 159,716 lire (Bulferetti 1963:373-4).

Secondly, the Sellas prospered from their activities as bankers and suppliers of raw wool for many of the Biellese "master weavers" (**mastri tessitori**). The latter worked as subcontractors for local merchant-manufacturers, but also sold part of their coarse cloth production directly to the peasants of the lower Biellese and the nearby Valsesia, or to the small merchants of the plain. State regulations of the woolen industry protected these masters and their low quality productions (See note 54). They bought the raw and spun wool required for their independent activity from the Sellas and other local merchant-manufacturers, who had access to the regional wool market of Borgosesia and also owned sheep herds. These transactions were done on credit with the concession of loans at interest and on the security of mortgages. The most common system involved the sale to the merchant-manufacturers of plots of land with the agreement that the master weaver could redeem them in the

following years, once he had produced and sold his cloths. In the meantime, he continued to cultivate the plots for his own benefit, while paying an annual interest of 5% to the buyer. Often, the masters relied on this form of credit also to overcome seasonal difficulties,[55] to buy animals and additional plots of land, or to pay for funerals of relatives and dowries of daugthers and sisters.

Finally, the accumulation of both branches of the Sella family was ensured by the careful and consistent pursuit of intergenerational succession and marriage practices that satisfied the two basic desiderata of: (1) transmitting the family fortune to a single male heir, preferentially, to the first-born male; (2) forming marriage alliances with other local power-holding families. The first objective was achieved, on the one hand, by excluding female offspring from the ownership of productive and real estate assets. Unmarried women -- six out of a total of eleven women who reached adulthood in the 18th century -- spent their lives in the parental house and were supported by their parents and their married brother. Married women moved to their husbands' parental houses and their dowries included only financial and personal assets.

On the other hand, the intergenerational fragmentation of the patrimonies of each family branch was avoided through the celibacy of cadets. Formally, all male offspring of a deceased father succeeded jointly in the ownership of his

productive and real estate assets. Twelve of the 25 male offspring, who reached adulthood in the course of the 18th century, however, remained bachelors, with ten of them joining various orders of the Catholic Church.[56] Only one male offrspring of each family branch married and had sons in a generation.[57] The result of this practice was that the fortunes of both branches of the Sella family remained **de facto** undivided throughout the century.

The practice of inhibiting cadets from marrying, however, was only one aspect of the marriage policy pursued by the Sellas in the 18th century. The other was the enforcement of a rigid practice of social endogamy. Marriage was a means to strengthen relations with the families of other major local merchant-manufacturers and power-holders -- the Garbellas (See note 59), Ubertallis,[58] Ormezzanos,[59] Torellos, Garbazios, Cerrinos, Florios (See note 57), Pichettos, Bedottos, Gilettis,[60] Robiolios,[61] Galfiones, Gilas (See note 60), and Ambrosettis.[62] Both branches of the Sella family were able to accumulate relevant financial resources in the matrimonial market. In the course of the 18th century, they received 13 dowries and paid out only six.[63]

The strength of the economic power of the Sellas was seriously put to test by the severe crisis that the Biellese wool proto-industry suffered in the period of the French domination over Piedmont (1797-1814). According to the

authorities of Biella, the number of the laborers engaged in the wool proto-industry fell from 7,500 in 1789 to 5,400 in 1800 and, finally, to 3,100 in 1810 (Ramella 1983:28). This contraction was the result of several factors. In the first place, French authorities deregulated the wool industry, allowing Biellese producers to manufacture also high quality woolens (See note 54), but the incorporation of Piedmont into the Empire after 1801 exposed the formerly protected Biellese producers to the direct competition of more efficient French and Belgian manufacturers. At the same time, French authorities discontinued the practice of reserving military contracts at very favorable conditions to the Bielleses. Furthermore, the price of local wool rose sharply as rents for grazing land increased with the extension of rice cultivation in the Vercellese plain.

The Sellas reacted to these new conditions in many ways. They began to acquire raw wool produced in other areas of Italy -- in the Bergamasco, Romagna, Maremma, Lazio, and the South -- and in foreign countries (through the port of Leghorn), to overcome the shortage of Biellese wool and also to improve the quality of their woolens. To reduce the costs of production, the Sellas acquired hand-powered spinning jennies and encouraged their diffusion in the Biellese. It was in these decades that the **filanti** (hand-spinners at the jennies) began to supplant the **filere a conocchia** (distaff-spinners), (it was still too early for

mechanization), allowing a significant increase in the quality of the yarns produced and in the productivity of the work.[64] Finally, the Sellas expanded their commercial organization to compensate for the reduction of the market for military cloths. In 1806, for example, the third branch opened a shop in Turin for the direct sale of woolens. Until 1811, the store was in the name of a partner, the merchant Giovan Battista Filippi, and then assumed the name of Sella Brothers.

It was politics, however, to which the Sellas paid the most attention in this period. They supported the moderate-conservative policy pursued by the Napoleonic regime after the annexation of Piedmont to the Empire in 1801. The Sellas viewed this policy of **ralliement**, seeking the consensus of moderate elements of local élites, as an opportunity to establish themselves as a major local political force and impose on the Biellese society a series of reforms that could favor accumulation. They collaborated with French authorities in the suppression of the remaining feudal privileges, in the reorganization of local finances, in the sale of the **biens nationaux**, and in the implementation of a program of public works. Their loyal support was rewarded by the French with the appointment of family members to significant local political posts. Gio Domenico (1738-1805), the leader of the second branch, who had been the first Biellese to erect the "tree of liberty" in 1798,

was appointed president of the **Assembleé du Canton de Mosso** and councillor of the **Arrondissement de Biella** and of the **Department de Sesia** from 1803 until his death in 1805. Gio Antonio (1738-1814), the leader of the third branch, was appointed **maire** (mayor) of Mosso Santa Maria and of Valle Superiore Mosso from 1801 to 1809. His son Bartolomeo (1776-1861), who had embraced Jansenism and Jacobinism (See note 56), was appointed president of the **Assembleé du Canton de Mosso** from 1807 to 1811.

With the fall of the Napoleonic regime in 1814, Victor Emanuel II of the House of Savoy returned from his exile in the island of Sardinia to Turin with his Court and was restored to the Crown of the Kingdom of Sardinia.[65] Politically, the new regime was very conservative, if not outright reactionary. One of its first official acts was the abolishment of the **Code Napoleon** and the return to the Royal Constitution of 1770. Even the traditional militaristic policy of the House of Savoy was resumed. Already in 1816, the War Ministry absorbed 27 million lire or 50% of the state's total expenditures and planned to bring the army to 80,000 men in two years.[66] Economically, however, the new regime was confronted immediately with the consequences of the disastrous famine of 1816-1817 and with an enormous balance of trade deficit (47 million lire in 1818-1819). These factors pressured the House of Savoy into following a protectionist economic policy. The moderate tariff of 1816

was aggravated in 1818 and in the following years.[67]

It was in the context of these policies of rearmament and protectionism that the Biellese economy recovered from the crisis suffered in the years of French domination and that the firm of the third branch, the **Gio Giacomo e Fratelli Sella**, owned jointly by the six sons of Gio Antonio (1734-1814) -- Gio Giacomo (1769-1840), Bartolomeo (1776-1861), Pietro (1784-1827), Gio Battista (1788-1878), Benedetto (1789-1839), and Giuseppe Vincenzo (1791-1865) -- began to mechanize spinning, together with preliminary and final phases of wool production. The initiative was taken by Pietro, who was thoroughly familiar with the new methods of industrial production since he had spent several months of 1815 in Great Britain on a mission of "industrial espionage," working as a laborer for British woolen firms.

In 1816, Pietro acquired the first water-powered machines from the Cockerill mechanical workshop of Seraing (Belgium) -- a beater, a card, a teasel, a clipper, and mule jennies able to spin daily 280 kilograms of carding wool into both thick and thin yarns. The arrival of the new machines at Mosso provoked the immediate reaction of the **filanti** (the hand-spinners), who felt threatened by the new machines. Fifty-seven Biellese **filanti** presented a petition to the Council of Commerce invoking the prohibition of the use of the new machines. The Council, however, went along with Pietro, who to the **filanti**'s petition had replied that

"if machines are harmful, why don't we take off the wheels from carriages?" (Castronovo 1988:29). The petition was dismissed,[68] the introduction of the new machines was authorized, and the Sellas' firm was granted an entitelment to preference for two decades.

Belgian technicians trained the labor force in the new methods of production and established a small workshop for the maintenance and production of machines. The Sellas placed the new machines in an old fulling water-mill -- the so called **Batör** or beater, established in 1682 -- located in the territory of Valle Superiore Mosso along the Strona river. The mill was seriously damaged by a flood in 1819 and was subsequently reconstructed and enlarged by superposing several stories that contained ample working rooms.[69] The resulting vertical structure became the architectural prototype of the Biellese woolen factory (See Comitato per l'Archeologia Industriale 1987).

In the following years, Pietro became the close economic advisor of the Minister Roget de Cholex and was appointed in 1825 to the Royal Chamber of Agriculture and Commerce of Turin, the body charged with the regulation of industrial activities and with the compilation of protectionist tariffs. From these positions, Pietro was able to influence all the major decisions of the government on the woolen industry. In particular, he opposed the reintroduction of the regulations of the woolen industry

that had protected the manufactures produced by hospitals, charitable institutions and other regions of the Kingdom in the 18th century (See note 54). As a result, Ormea's request for the restatement of its monopoly for high quality woolens was dismissed and the right of Bielleses to manufacture also these more profitable cloths was confirmed. Furthermore, he opposed tariffs on the import of raw wool, arguing that the imports were necessary to overcome the shortage and low quality of the national production. Pietro himself traveled extensively to the major wool producing areas of Italy, central and eastern Europe.[70]

These generally favorable conditions, together with the mechanization of spinning and of the preliminary and final phases of wool production, enabled Biellese entrepreneurs to expand their productive activities between 1817 and 1848.[71] Both branches of the Sella family and their firms played leading roles iin this expansion. At the death of Gio Domenico (1738-1805), the firm and patrimony of the second branch was inherited jointly by his five sons -- Carlo (1769-1828), Pietro Giacomo (1771-1821), Pietro Antonio (1777-1855), Vincenzo (1781-1828), and Maurizio (1784-1846). The firm, based in Valle Superiore Mosso, received the authorization from the Savoyard government in 1814 and continued as a typical merchantile-manufacturing operation in the following years. In the late 1820s, when the family patrimony[72] of this branch was divided between the three male

offspring of Pietro Giacomo and the two surviving brothers, Pietro Antonio and Maurizio, the latter two became the sole owners of the woolen firm, which was named **Maurizio Sella e Fratello**. The partnership between Pietro Antonio and Maurizio, however, lasted only a few years and each brother started his own firm in 1834. On the one hand, Pietro Antonio established the firm **Sella & Piacenza** in partnership with his son Giovanni Domenico (1806-1870) and two members of prominent Biellese entrepreneurial families that were related to the Sellas, Giuseppe Ormezzano and Giacomo Piacenza.[73] The firm's new spinning machines were placed in an old fulling-mill owned by Ormezzano at Valle Inferiore Mosso.

On the other hand, Maurizio for a time rented two fulling-mills in the area and then formed a partnership with Gio Agostino Crolle, a merchant-manufacturer of Mosso Santa Maria, in 1835. Each partner invested 25,000 lire and the new firm acquired a silk spinning-mill from the Sanctuary of the Madonna of Oropa. The mill, established in 1695, was powered by the water of the Cervo river and was located in the territory of Chiavazza, hamlet at the outskirts of Biella. Maurizio was able to acquire Crolle's share of the firm for 39,866 lire in 1838, once the initial transformation of the old mill into a modern wool spinning factory was accomplished.[74]

The economic success enjoyed by the firm **Maurizio Sella**

in the following years,[75] depended largely on the initial choice of locating the modern spinning factory away from the upper Biellese valleys and close to Biella. The latter had almost 9,000 inhabitants, was the major commercial and administrative center of the region and enjoyed better communications with Turin. The factory became one of the most important and modern of the Kingdom and was enlarged through the aggregation of nearby mills. At Maurizio's death in 1846, the patrimony of his offspring was valued in 451,291 lire -- 78,973 lire for each of his four sons and 22,564 lire for each of his six daughters. The firm was inherited jointly by Maurizio's four sons -- Francesco (1819-1895), Gaudenzio (1820-1860), Giuseppe Venanzio (1823-1876), and Quintino (1827-1884). They established a new partnership in 1851, named **Fratelli Sella fu Maurizio**, which continued to prosper under the leadership of Gaudenzio.[76]

As we have already noted, however, it was the third branch of the Sella family that achieved an early dominant position in the Biellese. The firm **Gio Giacomo e Fratelli Sella** continued to maintain the leadership in the mechanization and expansion of wool production even after the death of Pietro. In the late 1820s, it employed 1,150 domestic and factory workers -- about one-fifth of the total Biellese woolen labor-force -- and consumed around 70 tons of raw wool, producing more than 5,000 cloths a year roughly

one-third of total Biellese production. At the end of 1828, the firm's capital amounted to 3,086,626.43 lire divided among Giovanni Giacomo for 1,298,839.89 lire, Giovanni Battista for 1,302,820.62 lire and Giuseppe Vincenzo for 482,965.92 lire. The first-born Gio Giacomo (1769-1840) became the sole owner of the firm between 1829 and 1830, however, when the entire patrimony of this branch of the Sellas was divided among the five surviving brothers. He liquidated Giovanni Battista and Giuseppe Vincenzo partly with a cash payment and partly with a transfer of the firm's machines, supplies, credits, and workers. As a result, the firm's capital fell to 1,763,746.23 lire, its profits to 87,077,35 lire and its labor-force to 700 units in 1831 (Castronovo 1964:310).

Gio Giacomo reacted to the new situation by attempting to strengthen the firm's commercial business. To this end, he recruited his son-in-law Giacomo Rey (1800-1869)[77] as a partner and put him in charge of the firm's commercial house in Turin, together with his first-born son, Giovanni Giacomo Antonio (1803-1864). Giacomo Rey seemed to be the right person for this kind of responsibility since he had worked in his family's woolen commercial enterprise in Turin. But, he turned out to be a disappointing administrator and left the partnership in 1835.[78]

At the end of 1837, Gio Giacomo donated his firm and patrimony to his two sons, Giovanni Giacomo Antonio and

Gregorio (1815-1862). This was a stratagem devised to avoid the new inheritance laws of the forthcoming Civil Code (**Codice Civile Albertino**), which obliged the testator to leave at least half of his estate (**legittima**) to all his offspring, including daughters, in equal shares.[79] The three surviving daughters, the widow and the children of the three deceased daughters, fought a long legal battle against the two brothers after the death of Gio Giacomo in 1840. The former won the case in 1849 and the two brothers had to reimburse them of the value of their shares of the **legittima** plus interests. The legal battle was particularly bitter and involved both branches of the Sella family because Rosa Maria (1799-1881), Gio Giacomo's oldest daughter, had married in 1813 her fourth degree cousin Maurizio (1784-1846) of the second branch.

Meanwhile, Giovanni Giacomo Antonio and Gregorio parted ways and patrimony in 1839. On the one hand, Giovanni Giacomo Antonio took extensive agricultural properties -- the wheat- and rice-fields of Murrione and Merizzo in the Vercellese, and the vineyards of Lessona -- and a large cash payment that he invested partly in the firm **Sella & Cartotto** that had a modern wool factory on the Strona river managed by the brothers Paolo and Bartolomeo Bertotto. The factory was sold to the Galoppo brothers in 1851 and the next year the offspring of Giovanni Giacomo Antonio had him declared legally incapacitated to stop his large donations to the

Congregation of St. Philip Neri.

On the other hand, from the division of the patrimony Gregorio obtained the firm, renamed **Fratelli Sella** in 1837, the commercial house in Turin, agricultural properties in the upper and lower Biellese,[80] and real estate properties in Biella and Turin. The firm continued to employ 700 workers but its share capital fell to 993,643.48 lire in 1840 as a result of the liquidation of Giovanni Giacomo Antonio. In the following years, however, the firm's share capital increased rapidly as Gregorio reinvested the conspicuous yearly profits.[81]

Gio Battista (1788-1878) and Giuseppe Vincenzo (1791-1865), the two brothers liquidated by Gio Giacomo partly with a cash payment and partly with productive assets of the **Gio Giacomo e Fratelli Sella**, formed a new partnership, the **Sella & Compagnia**, together with Giovanni Domenico (1806-1870) of the second branch and the businessman Giuseppe Zanotti in 1830. The partnership established a modern water-powered woolen factory with British-type carding and spinning machines and 30 looms at Campore in the territory of Mosso Valle Inferiore. The factory became known as the **Macchina Nuova** or "New Machine" to distinguish it from Gio Giacomo's **Batör**, which became known as the **Macchina Vecchia** or "Old Machine." The New Machine employed almost 500 workers, most of whom had left the latter at the brothers' division. Giovanni Battista oversaw the

productive operations in Mosso, while the lawyer Giuseppe Vincenzo managed the firm's commercial business in Turin.

The establishment of water-powered factories, in which spinning, preliminary and final phases of the woolen productive cycle were centralized and mechanized, was the common element of all the above mentioned entrepreneurial initiatives undertaken by the Sellas between 1817 and 1848. To transform these productive activities into industrial operations, they introduced new foreign-made machines, reorganized the labor process and formed an industrial working-class. In particular, mechanization meant that higher levels of labor productivity depended directly on the stability (low turn-over) and continuity of the labor engagement of the workers centralized at the machines. To ensure these goals, the Sellas adopted several measures.

First of all, they segmented the new industrial labor-force on the bases of gender and age into two main groups: a small strategic nucleus of male tenured laborers, properly trained to the new methods of mechanized production, and a larger body of less stable laborers -- women, children and youngsters -- who fluctuated between factory work and domestic activities. The spinner at the mule jennies was always a man and his assistant was always a boy, notwithstanding the fact that the cost of female labor was much lower and that spinning was a women's work in the proto-industrial organization of production.[82] Women were

excluded from spinning and other more qualified and mechanized jobs because they tended to leave the factory at marriage.[83]

Secondly, the Sellas adapted to the new conditions of factory organization the patriarchal system typical of the domestic mode of production, in which the head of the household -- the father, a married brother or uncle -- exerted an overwhelming moral and legal authority (**patria potestas**) over the members of the extended family. In this system, the head of the household supervised the allocation of the labor of family members to agricultural and proto-industrial activities and disposed of their earnings. The Sellas used the patriarchal system, for example, in the contracts with the chief-fullers. The Sellas supplied the latter with the soap, the urine and other raw materials, but the chief-fullers had the exclusive right to choose the group of their assistants and organize their work. The group as a whole was paid by the piece and the chief-fuller divided the earnings according to each member's contribution and seniority. Often, the chief-fuller was the head of a household and his assistants were his sons or nephews.

Thirdly, the Sellas created an increasingly structured organization, in which everybody and everything had a precise place and obeyed precise rules of behavior. This organization was formalized for the first time with "the rules of discipline and good order for all the workers,

assistants, directors, and chief-workers," which Gio Giacomo introduced at the **Gio Giacomo e Fratelli Sella** in 1826 to replace **ad hoc** agreements with individual workers (Quazza 1961:156-62). "The regulations of the seven pains," as these factory regulations became known in reference to the Madonna of the Seven Pains worshipped in the Biellese upper valleys, were the archetype for all the Biellese woolen factories. The terms were made more severe by Maurizio in 1835 and remained in force until the strikes of 1863-64.

The length of the normal working day was fixed at 12 hours for 300 days a year -- but it reached 14 hours during June and July -- and the night-shift was fixed at 11 hours during the winter and 10 hours during the summer. Rigid terms were set for the duration of the employment: after a permanence of 15 days, a worker was obliged to work for a year in the factory (two years in Maurizio's version of 1835).[84] Even the protocols for dismissal and the refund of damages were spelled out.[85] Discipline was imposed with a strong hand and included personal searches and heavy fines. The message given by the long list of "fines common to all" was clear: behavior which was acceptable in the context of domestic work was considered incompatible with the new order of industrial production.[86] In particular, the workers were no longer able to control the rythms of production.

> Whoever accelerates the movement or slows it down without having received an order to do so or being entrusted with this task, will receive a fine equal to two days' pay if it is a partial machine, and a week's

> pay for a cylinder that moves more than one machine; of a month's pay for that of a wheel... (in Quazza 1961:159).

The last part of the regulations contained a long list of detailed penalties for seventeen different specialties, which fixed with precision the duties of each laborer and reaffirmed the strongly punitive character and the rigid hierarchical graduation of labor functions imposed by the Sellas in the new factory organization. Heavy fines also unequivocally marked the distance between the workers and the Sellas.[87]

These labor management strategies adopted by the Sellas significantly reduced the initial high rate of workers' turn-over and absenteeism, but they were unable to eradicate these phenomena. Wage labor became an important, but not exclusive, source of subsistence for the factory workers and their families. Wages remained rigid between 1817 and 1848, while the prices of corn and other staples began to increase rapidly after 1827. The families of the Biellese upper valleys, to ensure their livelihood under these conditions, continued to allocate the labor of their members to other activities as well as factory work -- temporary migration, proto-industry, cultivation of family-owned plots of land, and animal herding. The rigid organization and schedule of the factory inevitably came into conflict with these other vital labor requirements of the domestic economy, particularly in the summer when the peak season of industrial

production coincided with agro-pastoral activities.

The centralization and mechanization of yarn production and of the preliminary and final phases of the wool productive cycle, allowed the Sellas to intensify their profitable productive, commercial and financial relations with the **mastri tessitori** dispersed in the hamlets of the Biellese upper valleys. The number of these domestic handloom weavers expanded rapidly until the mid 1830s, as did their subcontracting work for the Sellas and other entrepreneurs and their independent production for local peasant markets. As in the 18th century, the master weavers acquired the yarns necessary for their autonomous cloth production from the Sellas. These transactions were done on credit with the concession of loans at interest, and on the security of mortgages and represented an important voice in the overall balance of the different Sellas' firms.

Since the mid 1830s, however, the market for woolens produced autonomously by the master weavers began to narrow as prices of cereals rose rapidly and as the Sellas and the other major Biellese entrepreneurs strengthened their commercial operations. The masters became increasingly dependent on the subcontracting orders and even these narrowed by the early 1840s as the Sellas and the other entrepreneurs began to reinforce the centralized weaving departments of their firms in order to achieve greater efficiency, lowering costs through the coordination of the

various phases of the process of production and improving the quality of their products. Higher quality woolens required the exercise of a much more rigorous control over the entire productive cycle.

The process of centralization of handloom weaving began in the early 1840s and about 800 looms were centralized by 1848. The master weavers, however, resisted this movement actively and allowed only their sons and nephews to be their assistants. Work being equal, their earnings were lower than those made in the previous phase of domestic production, as the weaving of high quality woolens required more time and attention. They were paid by the piece so that their earnings varied in relationship to the time required to weave an entire cloth. Skilled weavers were able to earn twice the pay of others since weaving a cloth in 8 days instead of 12 meant earning one-third more. A weaver who accelerated his work too much, however, ran the risk of making mistakes that quality control specialists spotted once the cloth was woven, and punished with heavy fines. It was more difficult for mistakes, imperfections and even tricks used by domestic weavers to cheat merchant-manufacturers -- such as not using the entire weft or soaking it beyond what was allowed -- to pass unnoticed under the new conditions of centralization.

The Sellas' leading position in the industrialization process of the Biellese continued to go hand in hand with

their active engagement in politics. Gio Giacomo was mayor of Valle Superiore Mosso for several years. Maurizio held the same post from 1827 to 1835 and became municipal councilman of Biella in 1846. Gio Battista and Gregorio were elected to the first **Parlamento Subalpino** in 1848 and 1849 respectively. Their election demonstrated the Sellas' tight political hold on the Biellese and their desire to achieve national recognition and influence. Gio Battista and Gregorio had been among the promoters of the Association for the Advancement of the Arts, Trades and Agriculture of Biella in 1838, established under the auspices of the Archibishop Losana and with the participation of several members of Biellese élite families. Furthermore, Gregorio had served on the Board of Statistics of the Province of Biella from 1839 to 1843 and on the Royal Superior Commission of Statistics of the Sardic States after 1843. His political program for the parliamentary elections was a strong defense of protectionism based on the views that he had expressed in the book **Del libero scambio e del sistema protettore** ("On free trade and the protectionist system") of 1848.

As in the 18th century, all the political and economic initiatives of the Sellas were propelled and held together by their rather complex but flexible kinship organization. The rapid expansion and mechanization of the various Sellas' woolen firms, for example, was made possible by the

allocation of conspicuous financial resources by relatives through the transformation of undistributed profits into additional capital and through the recourse to dowries of mothers, sisters and wives or loans at interest (See notes 75, 76, 77, and 81). Firms were set up, consolidated and transmitted from fathers to sons with the active participation of brothers, uncles, cousins, and in-laws, who provided necessary financial resources and industrial or commercial expertises. These practices were favored by a sort of integral devotion to the well-being of family firms and by a regimen of parsimony that abhorred any manifestation of luxury and often bordered upon avarice. Sons were raised under a rigid discipline centered upon the respect of the family hierarchy and their training was conceived as a means to strengthen the operations of family-owned firms. Of the four sons of Maurizio, for example, Francesco and Gaudenzio were trained by their father in the supervision of administratve and productive operations, Giuseppe Venanzio was encouraged to study chemistry in order to set up the firm's dyeing workshop and Quintino was sent to study hydraulic engineering at the University of Turin. The Sellas were convinced that they owed their economic success "in large measure to the perfect union that reigned in our family, union that we must study the means to maintain the longer we can," as Gaudenzio wrote to Quintino in 1850 (See note 76).

Even the divisions of the patrimonies of both family branches, which occurred for the first time after more than a century in the seventh generation between the late 1820s and the late 1830s, did not shake the Sellas' fundamental faith in the value of family solidarity. These divisions became the springboards from which they launched the great industrialtransformation of wool production and, in any case, they were largely reabsorbed by the Sellas' kinship organization by the early 1850s. The divisions came as a result of the softening between 1805 and 1815 of the rigid 18th century practice of inhibiting the marriage of cadets. This softening occurred under the pressure of the new inheritance laws of the **Code Napoleon**, which were enforced from 1804 to 1814. These laws required that younger sons share in inheritances and that daughters also have shares. Under these new conditions six out of eight cadets were allowed to marry, but three of these marriages were arranged with Sella cousins.[88] This practice was favored not only by social and geographical proximity or by occasional business relations, but also by the awareness of a common heritage, notwithstanding that the two Sella family branches had parted ways at the beginning of the 18th century. More than a century after that division, for example, the two branches still shared the same family grave in the old cemetery of Mosso (Lodovico Sella, interview 8-01-1988).

The divisions of the patrimonies provoked an undeniable

efflorescence of entrepreneurial initiatives -- five modern industrial woolen firms, four of which were established or managed by cadets. The rapid accumulation of each of these firms supported the élite position of one or more sub-branches of the Sella family. However, the enactment of the new inheritance laws of the **Codice Civile Albertino** of 1837, which resembled closely those of the **Code Napoleon**, threatened to bring about a new wave of cadet marriages and a rapid fragmentation of the patrimonies (See above and note 79). The Sellas reacted to this new challange by arranging seven marriages among cousins.[89] Four of the seven cadets of the eighth generation, who reached adulthood and married by 1853, married Sella cousins and three first-born sons followed also the same pattern. Familial ties were enhanced also by the marriages of Sella cousins and siblings with couples of siblings of other families -- the Ormezzanos (See note 73), Reys (See note 77) and Moscas.[90] These practices transformed the potential threat represented by a new wave of marriages of cadets and daughters into a means for recomposing the solidarities and patrimonies of family branches.

Cousin marriage, however, was only one of the practices followed by the Sellas to contain the centrifugal forces of the kinship organization between 1800 and the early 1850s. The practice of inhibiting cadets from contracting marriage was still enforced -- twelve of the twenty-four adult cadets

remained bachelors by the early 1850s, with two of them joining the Catholic Church. This practice, instead, was abandoned in the case of daughters only one woman did not marry out of a total of 33 adult women -- but they were still excluded from the co-ownership of productive assets. Their dowries and shares of the family patrimonies (**legittime**) were formed exclusively by personal, financial and real estate assets.

Parents still exercised a tight control over the matrimonial options of their offspring. Besides the ten marriages among the Sella cousins, all the other thirty-four Sella marriages of the period 1800-early 1850s, were the result of the coherent pursuit of a rigid practice of social endogamy, which was conceived as a means to form or strengthen political and economic relations with other established and emerging power-holders -- such as the Amosso, Bertolazzo, Boggio, Boussu, Bozzalla, Cartotti, Colongo, Corte, Garlanda, Giletti, Mosca, Ormezzano, Pezzia, Rey families, and many others.[91] It was through this careful and consistent marriage policy that the Sellas proved capable of incorporating in their kinship network several potential challangers to their political and economic power. As we will also see in the following chapter, once the latter and their families were transformed into relatives, they became loyal and active supporters of the Sellas' élite position.

## Conclusions

On the eve of the second long wave, the general physiognomy of northern Italy was that of a dynamic agrarian semi-periphery of the world-economy. The agricultural sector was the chief source of regional wealth and employment, much like in the 18th century, but the social structure of this predominantly rural region had changed along lines that made it more permeable to the solicitations of the expanding capitalist mode of production. The commercialization and specialization of agriculture was intensified in response both to the rising internal demand for basic foodstuffs (wheat, maize, rice, meat, etc.), and to the ever increasing international demand for silk, hemp, flax, and other products such as wine, olive oil, and cheese. At the same time, proto-industries and industries, rooted in the pre-alpine areas, had received a powerful impulse, not only from protectionism (cotton and wool), but also from rising international demand (silk, hemp and linen yarn).

The new political-economic dynamism went hand in hand with changes in the composition of the regional élite. Some of the rentier nobility did not keep pace with the ongoing transformation being unable or unwilling to implement productive and organizational changes that required costly investments. At the same time, however, a relatively consistent group of more capitalist-oriented families and

operators -- whether aristocratic or bourgeois, whether Italian or foreign -- accumulated considerable resources by establishing a more capital-intensive, market-oriented and specialized agriculture, and also by transforming silk, cotton and wool proto-industrial production into industrial activities. The economic power of this group was reinforced by its ability to closely integrate these agro-industrial activities with regional and international commerce and finance.

In the lowlands, the class of large landowners and leaseholders (**fittabili**) accentuated the capital-intensive character of the **cascine** agriculture by investing in fixed capital and land improvement (irrigation and drainage canals, roads and buildings), by introducing new methods of cultivation and machines to raise production and productivity, by expanding wheat, rice-field and forage cultivation, convertible husbandry, and wage-labor, and by improving the quality of milk products. As a result of these developments, the lowlands continued to be the bread-basket for the alpine and pre-alpine areas and also to serve as a vital outlet for the seasonal unemployment of migrant workers from them, and for simple manufactured goods produced there. The new investments fostered also a closer integration of the lowlands in the world-economy as growing quantities of cheese, livestock, rice, hemp, and flax were exported to northern Europe.

In the hills and highlands, the rapidly rising demographic pressure allowed the class of large landowners and **fittabili** to achieve a higher degree of agricultural commercialization often by simply imposing harsher contractual terms on the peasantry, rather than by investing to raise land productivity. The intensification of peasant labor, the reduction of the size of farm units entrusted to peasant families, and the generalization of the **contratto misto**, or of similar contractual forms, articulated with the extension of vine and olive grove cultivation and of the mulberry-silkworm-cocoon complex. The living conditions of the often debt-ridden peasants worsened as their margins of subsistence were eroded, but the revenues of landowners and leaseholders rose as cocoons, wine and olive oil were all products geared towards a rapidly growing northern European demand.

Furthermore, a class of merchant-entrepreneurs and industrialists achieved a pre-eminent political-economic position by re-organizing the bases of textile manufacturing in the pre-alpine areas. The emergence of a consistent group of specialized silk entrepreneurs -- the **filandieri** and **filatoieri** -- was facilitated by rising international prices and demand for reeled and spun silk. They expanded the productive capacity by transforming the traditional silk mills dispersed throughout the cocoon producing areas -- the **filande** for reeling and the **filatoi** for twisting or spinning

-- into more capital-intensive water-driven factories operating with new methods and processes of production. By the late 1840s, the most successful silk entrepreneurs -- such as the Gavazzis -- had become **negozianti in banca e seta** and controlled most of the silk production and trade by performing several functions and roles. They were, at the same time, bankers who provided lesser manufacturers with working capital, large landowners with **coloni** engaged in the mulberry-silkworm-cocoon complex, industrialists who by managing **filande** and **filatoi** integrated the preliminary phase of reeling with that of twisting and yarn production, and finally **negozianti** or wholesale merchants who, together with the commissioners of foreign houses, concentrated and exported reeled and spun silk. They were one of the most powerful economic groups of the region and had moved their residence to the main commercial and financial urban centers.

The emergence of a consistent group of specialized cotton and woolen industrialists producing for the internal market -- such as the Pontis and the Sellas -- was facilitated by the fact that the depressive phase was dealt with on the political level by setting up protectionist tariffs that sealed off the north Italian market from foreign yarn production of a lower quality. Under such favorable circumstances, these entrepreneurs concentrated and mechanized the productive phase of spinning in small and

medium-size factories driven by water. By transforming spinning from a galaxy of dispersed peasant cottages to a cluster of centralized factories, the entrepreneurs were able not only to cut costs, exercise a greater control over labor, and increase the output and quality of yarn, but also to expand the scale of domestic weaving organized on the basis of putting-out arrangements. The engagement in proto-industry had always been the only real outlet for large numbers of peasants in the pre-alpine areas as it offered them supplementary or substitute employment that allowed them to keep their families together. Thus, the integration of the new spinning factories in the rural social structure was facilitated by the fact that they complemented and further promoted peasant domestic production by widening the opportunities for proto-industrial work.

By the late 1840s, it had become apparent that an innovative and enterprising bourgeoisie -- formed by landowners, **fittabili**, wholesale merchants, and textile industrialists -- had emerged alongside the landed aristocracy in northern Italy. As we have seen for the Gavazzis, Pontis and Sellas, entrepreneurial success of the "new men" may have appeared to be recently achieved, however, in fact it was rooted in the long-term economic strategies (often dating back to the 16th and 17th centuries) of their forefathers, who were themselves members

of notable provincial families. The most successful textile industrialists of the 1840s were all members of extended families who had already accumulated substantial economic and social capital and who could claim a long-standing engagement in merchant-manufacturing in the small rural market centers of the pre-alpine areas. By the end of the Napoleonic era, in fact, these families: (1) controlled solid patrimonies formed by commercial houses, putting-out networks, workshops, watermills, water rights, entitlements to preference for military contracts, agricultural land, herds, buildings, and credits (dowries and loans at interest on the security of mortgages); (2) monopolized most of the economic, administrative and even religious life of the rural areas where they resided; (3) formed silken, cotton and woolen "aristocracies" that carefully and consistently pursued intergenerational succession and marriages practices that allowed them (a) to transmit the productive assets of the family patrimony to a single male heir, preferentially the first-born male, and (b) to form marriage alliances with other local power-holding families.

If the families that formed the northern Italian bourgeoisie were not "new," however, the economic behavior of their generational leaders did contain several elements of novelty. As the more attentive contemporary intellectuals noted in their articles in the journals of "useful cognitions" (See note 23), it was this innovative

behavior that was altering northern Italian society in fundamental ways, pushing it toward a more capitalist-oriented equilibrium between agriculture, proto-industry, industry, and commerce. At the same time, the small group of moderate liberal thinkers (the most notable exception being the republican Cattaneo) was also convinced that this equilibrium called for a new political-institutional order, which could support more coherently and organically the actions and needs of the enterprising bourgeoisie. They urged producers and holders of wealth to look abroad, introduce and adopt modern methods in their own interest, but the minds of these observers were fixed on a horizon of interest that was increasingly political and national. They interpreted northern Italian economic progress as a possibility and a model for an Italy united and capable of playing a more active role in European political-economy. Their proposals turned increasingly from purely economic measures to political reforms because of their conviction that the present weakness of the Italian economies (**vis-à-vis** those of northern European nation-states) derived primarily from the inhibitory effects of political fragmentation and authoritarianism. With increasing enthusiasm, they saw material interests and the interests of a rejuvenated Italy marching in tandem: the ongoing economic transformation could become for Italy a political one because economic forces could serve as instruments of policy

in working towards the formation of a liberal nation-state that would comprise the entire peninsula.

On the eve of the political rising of 1848-49, moderate liberals such as Gioberti, Balbo, d'Azeglio, Petitti, Cavour, Torelli, Durando, and others manifested in their books, tracts and articles the strategic aim of framing a platform on which all the active elements in the nation (the enlightened public opinion formed by the liberal aristocracy and the bourgeoisie), including the princes, could unite with a fair prospect of immediate practical results[92]. Their writings were characterized by two underlying convictions: (1) that the Italian peninsula was a national entity, that is a cultural and economic unit; (2) and that there was a necessary relation between economic and social progress and the achievement of national unity and political emancipation. They openly professed the Italian political independence as their objective, but they put first certain economic, social and moral reforms that were typical of contemporary European bourgeois liberalism. These were summed up by d'Azeglio in 1847 to include: the promotion of industry, agriculture and commerce by free associated effort and by the application of technical knowledge; the extension of railroads on a national plan; an Italian free-trading Customs-League (although withouth Lombardy-Venetia) similar to the German Zollverein and a uniform system of money, weights and measures; a reform of the legal codes, which

would banish from the law all traces of monopoly and special privilege and remove state and Church control over productive resources while protecting rights of private property and private accumulation; some measure of representative government; a free press; popular education directed by laymen; and a lay philanthropy uniting rich and poor.

These partisans of progress viewed these reforms as embodying the demands of a new type of civilization and social order that had been spreading through Europe since the French Revolution. They saw a vast and accelerated movement of economic and intellectual expansion in England and France, of which the two great motive forces were capitalist enterprise and techno-scientific innovation. Its manifestations were to be found in textile factories, steamships, railroads, gas illumination, iron bridges, scientific agronomy, joint-stock companies, expanding trade, rapid exchanges and economic expansionism; and no less in new scientific and philanthropic institutions and the technical and moral education of the lower classes.

These patriotic writers were convinced that a profound change in European economic and social life was taking place and that this movement made a "liberalization" of the political-institutional order necessary. If Italians remained divided and failed to reform their political institutions in accordance to the demands created by the new

movement they would fatally lose their place in the forward march of European civilization. On the other hand, once united and aligned with the progress of civilization the nation would be working with the support of an irresistible force to redeem itself and achieve a higher level of material, intellectual and moral prosperity.

Moderate writers based their hope on the Italian princes. Lombardy-Venetia was excluded. The only hope for this most richly endowed and civilized part of Italy seemed to be the expulsion of Austria, as Balbo suggested, by some future crisis in Europe that would divert Austria's attention to the Balkans, or by the united effort of the rest of the nation. Either way it was a hope difficult to realize and, as we shall see in the following chapter, the issue of the formation of the Italian nation-state remained the major open political question for most of the entire expansionary phase of the second long wave (1848-1873/76).

## Notes

1. On the crisis of the 17th century and on its effects on northern Italy see the following authorities: Aymard 1978; Beltrami 1961; Bulferetti 1953, 1964; Cipolla 1974; De Maddalena 1982; Faccini 1988; Hobsbawm 1954a, 1954b; Moioli 1986; Pullan 1968; Quazza 1971; Rapp 1976; Romano 1964a, 1964b; Sella 1968, 1974, 1979; Vianello 1941; Wallerstein 1980:193-203; Woolf 1968.

2. The description of northern Italian society provided in this section and in the subsequent section on the first long wave, is based on the following authorities: Angeli 1982; Barbagallo 1951; Beltrami 1954; Berengo 1956, 1963; Borelli 1974; Bulferetti 1957a, 1957b, 1963; Bulferetti and Costantini 1966; Bulferetti and Luraghi 1966; Cafagna 1976, 1983; Caizzi 1957, 1965a, 1965b, 1968, 1972; Castronovo 1964, 1965; Cattaneo 1844; Ciasca 1924; Cova 1963, 1986; De Maddalena 1974; De Maddalena et al. 1982; Della Peruta 1987a; Dewerpe 1985; Doria 1968; Felloni 1971; Fossati 1951; Giacchero 1951, 1973; Giorgetti 1974; Glazier 1966; Greenfield 1965; Jacini 1857; Levi 1967, 1974; Luzzatto 1961; Meriggi 1983, 1987; Merzario 1987, 1989; Moioli 1976; Morandi 1931; Mori 1989; Notario 1980; Poni 1976; Prato 1908; Presotto 1963, 1965; Pugliese 1908, 1924a, 1924b; Quazza 1957, 1961; Ramella 1981, 1983; Romani 1957, 1959a, 1959b, 1960, 1976, 1982; Romeo 1969, 1975, 1977; Sapori 1962; Segreto 1988; Tarle 1950; Tremelloni 1947; Valsecchi 1931; Vianello 1934; Woolf 1964, 1973, 1979, 1986; Zaghi 1975; Zanetti 1972; Zangheri 1968; Zaninelli 1963, 1967; Zorzi 1986.

3. **Fabbriche privilegiate** or **royales** were, for example, those of Niccolo' Tron and other wool merchant-entrepreneurs in Schio; of Francesco Tieffen (wool) in Milan; of Cipriano and Carlo Rho' (cotton calicoes) in Milan; of the Guaita brothers (wool) in Como; of the **Lanificio** in Ormea; and of the many welfare institutions (**opere pie** and hospitals). This policy, however, produced only scarce results.

4. This process is best exemplified in the silk sector. While Milan had on paper a total monopoly in silk production, after **de facto** losing the monopoly of weaving to Lyons in the 17th century, it lost those of spinning and twisting to the countryside. The number of silk mills in Milan decreased from 388 in 1674, to 270 in 1678, to 100 in 1698, to 34 in 1762 -- while at this latter date there were 784 silk mills in the entire state (Sella 1979:124).

5. The consumption demands of cities over the countryside were enforced by government legislation, concerned to ensure adequate food supplies at controlled prices. Producers were

obliged to send large quantities of grain to the cities in order to avert the danger of famine. Political authorities pursuing mercantilist policies kept prices artificially low through the enforcement of direct controls and prohibitions of the export of cereals and certain raw materials utilized by the city guilds and by artificially sponsored manufacturies.

Agricultural rents and commercial profits were spent in the cities where the landed nobility resided in its luxurious palaces.

Finally, the fiscal systems discriminated against the countryside. Direct taxes on land did not provide the major source of state income. Those who worked the land paid heavier taxes than the city-based landed nobility who owned it. The taxes on goods of basic consumption, the excise on the sale of salt, the poll-tax (**testatico**) on every adult, the customs duties on manufactures and goods in transit, the exceptional taxes which, imposed a first time, tended to be repeated, all favored the city-based landowners by method of imposition and fell most heavily on rural villages.

6. The condition of the peasantry worsened because of the harsher terms imposed not only by the landowners, leaseholders, and stewards but also by government fiscal agents. The governments began to draw together and lease their multiple sources of income to groups of tax-farmers (**fermieri**) who increased the efficiency of the fiscal administration by often ruthless methods. The 18th century was marked by a steady growth in the indebtedness of peasants and rural villages. As arrears mounted, the local owners of wealth -- sometimes nobles or ecclesiastics, more frequently stewards, merchants, lawyers, doctors, pharmacists, notaries, inn-keepers -- loaned small sums and tightened their hold. Most peasants found themselves pledging increasing proportions of their future income to pay interest on their rising debts.

7. The Alpine pastoral economy produced as marketable surplus cheese, butter, meat, leather, cattle, charcoal, and in some districts wool (close to Biella, Bergamo, and Schio) and metal goods -- nails and arms -- or iron bars manufactured out of local ores (Valsassina, Val Trompia, Val Camonica, Val di Scalve, Val Cavargna, above Dongo, and near Rezzonico).

Migrants worked in agriculture as herdsmen, scythers, sowers, tree-pruners, terrace repairers of hillside vineyards, common laborers and as **mondine** in the rice fields around Vercelli and Novara. But they also worked as masons, stone-cutters, roof-layers, carpenters, plasterers, barrel-makers, miners, servants, porters, seamen, and metal-workers.

8. The hill zone largely follows the Alpine arc and includes from west to east: the Monferrato, the Langhe, the hills of the Oltrpo' pavese, the Biellese, the area of the great lakes (Novara, Varese, Como, Bergamo, Brescia, Verona, Mantova); the Berici and Euganei hills (Verona, Vicenza, Belluno, Treviso, Udine).

The highland is a band that in Lombardy becomes 20-30 kilometers wide and includes the upper Milanese and part of the Brianza.

9. The **contratto misto di affitto a grano e a mezzadria per i frutti delle culture arboree** strictly regulated the mulberry-silkworm-cocoon complex. The owner or the **fittabile** provided the **pigionante** with a given quantity of silkworms to raise. In general, this quantity was directly proportional to the quantity of mulberry leaves produced by the farm, to the available space, and to the family's labor force. The raising of the silkworm was for the peasant an obligation not a right. The mulberries were owned by the owner who was the only one that could decide to expand or contract the surface devoted to their cultivation. The mulberry leaves were reserved to the owner that could sell or consume them for the silkworms to be raised. The **pigionante** was responsible for storage space, implements, heating and cleaning, the labor force for raising the silkworms and harvesting the leaves, and transportation of the cocoons to a place indicated by the owner. The owner was responsible for the disinfestation and eggs, supervision of the various operations, and acquisition of supplementary leaves. However, the **pigionante** was required to cover half of all the expenses. The owner took the whole crop and sold it or processed it in his mills. The **pigionante** got whatever remained of his half share of the proceeds after the deduction of half of the total expenses and of any debts he might have contracted with the owner (Parea 1844:159; Spreafico 1844; Jacini 1857:217 ff; Serpieri 1910; Romani 1957:81-89; Giorgetti 1974:297, 338-345).

10. The production of **woolens** was carried out around Biella, Ormea, Bergamo, Gandino, Schio, Valdagno, Thiene, Vicenza, Treviso. These cloths were generally low quality **mezzelane** (wool and flax), made with wool obtained from the nearby mountains. They were sold to peasants and urban poor although in Piedmont army contracts constituted an important market. During the 18th century, Schio presented the most dynamic situation. It was here that Kay's flying shuttle was first introduced in Italy and that English technicians helped the local group of merchant-manufacturers -- Tron, Garbin, Pasini, Titoni, Bologna and many others -- to produce imitations of foreign cloths (the Bristol type). These were sold also in other Italian states. In Schio the Verlagssystem was integrated with manufacturies in which

certain phases of production were centralized -- weaving, dyeing, and fulling (Panciera 1985; 1989).

**Cotton fustians** and **bombasine** (cloths with a linen or silken warp and a cotton weft) were produced around Gallarate and Busto Arsizio in the upper Milanese, in the Mantuan countryside, and around Chieri, Vigevano, Vercelli and the Oltrepo' Pavese in Piedmont. This production was usually controlled by merchant-importers of cotton, spices, and tropical products.

**Linen** or **tele** were produced in the Cuneese and other areas of Piedmont, Cremasco, Cremonese, Bergamasco, Bresciano, and Venetia.

11. The transformation of silk from the spider-web filament spun by the silkworm into silk yarns used for weaving required several steps:
1) the **trattura** or drawing entailed unwinding the filament from the cocoon and winding it on a big reel (**aspo**). Although reeling mills (**filande**) were already in operation, at the end of the 18th century this activity was still largely carried out in the peasant home by women and children. The cocoons were placed in boilers full of hot water (50-60 degrees centigrad) and scrubbed with a brush in order to soften the sericin, a gummy substance coating and binding the worm's thread. Then a number of filaments, almost invisible when single, were brought together to form a strand. The skeins of silk thus created were the raw or crude silk (**seta greggia**).
2) the **incannatura** entailed winding the silk from the big reel (**aspo**) on a smaller reel (**rocchetto**).
3) the **stracannatura** entailed the passing of the strand through special buttons and knobs to eliminate irregularities, dirt, and hairiness.
4) the **filatura** or throwing entailed the twisting of the strand to increase its strength.
5) the **binatura** entailed the combining of two or more strands together.
6) the **torcitura** entailed a twisting of the strand in an opposite direction to that given in the **filatura**.

Although these steps were obviously connected, they were often carried out in distinct processing plants, characterized by specific organizational, managerial and locational patterns.

12. Areas of higher density of **filande** were: the small centers of the Ligurian Rivieras, Piacenza, Vigevano, the Cuneese (Mondovì, Savigliano and Saluzzo), Pinerolo, Racconigi, the Varesotto, Como, the Brianza (Monza, Castello, Canzo, Erba, Oggiono, Malgrate, Parè, Valmadrera), Lecco, the Bergamasco, the Bresciano, the Veronese, the Vicentino (Bassano), the Trevisano, the Trentino, and Friuli.

While in the other main proto-industrial sectors the work was done in the peasant home and was dependent on the rythms of agricultural work (at night, off-season, winter), in the silk sector work was often concentrated in the manufacture or factory and coincided with the peak months of agricultural work (late spring and summer).

13. Already in 1708 in Racconigi there were 5 **filatoi** employing more than 150 workers, 6 more than 100, 7 more than 50. At this date, the **filatoio** of the French Peyron employed 300 workers. By 1787 in Saluzzo and Racconigi 60 **filatoi** employed 5876 workers (Poni 1976:466). These mills had all the characteristics of the factory system: they were water-driven machine systems, employed wage-labor, had a hierarchy of supervisors and internal disciplinary systems to fight labor force indiscipline, theft, and ensure the regularity and continuity of the production process.

14. The **organzini** or wefts were obtained by subjecting the silk to all the steps described in note 11, while the **trame** or warps were obtained by avoiding the **filatura** (step 4) and by twisting the strand only lightly in step 6.

15. While until 1772 Italy spun more silk than England cotton, only a fraction of it was utilized by the weavers of Milan, Como, Vigevano, Venice, and Genoa who produced expensive brocades, handkerchieves, ribbons, stockings, velvets and silver or gold embroidered cloths (Poni 1976:492).

16. The systematic harnessing of water for irrigation purposes and the transformation of the low plain from a land of swamps and marshes to one of intensive, highly complex farming got under way as early as the 12th century, albeit on a limited scale, at the initiative of Cistercian monks; it was massively pursued first by the medieval communes (Milan, Lodi, Cremona) and later by the Visconti and Sforza dukes, only to be fully completed in the 19th century. By the 18th century, at any rate, large portions of the low plain, particularly in the triangle between Milan, Lodi and Cremona, an elaborate irrigation system was in operation, and the farming methods that were practiced bore a striking resemblance to the convertible husbandry typical of the English Norfolk system. Cereal crops alternated periodically with artificial grasses and industrial crops such as flax, thus dispensing with the need for periodic fallowing. Stall feeding had replaced the grazing of cattle on open, natural pastureland, and a flourishing dairy industry had become firmly established.

17. It was above all in the Po plain that the Church and the aristocracy asserted their pre-eminence. In Lombardy, in

the mid-18th century, the nobility owned 42% of the plateau and 46% of the plain, alongside 49% of the hilly areas, while the Church (including lay religious confraternities and hospitals) owned 21%, 22%, and 23% respectively. In the middle and lower Mantovano, the richest plains of the Duchy, the nobility owned 45% and the Church 13% of the land (142 noble families owned 1/3 of the entire Duchy). In Venetia, in 1740, the ruling oligarchy and local nobles (0.3% of the state's population) owned 32% of all the privately owned land and, in particular, 55% of the plain and 38% of the hills, while the Church owned 7% respectively. When considered regionally, these holdings varied considerably -- from 91% of the Vicenza plain owned by the nobles to the 42% of the Adria plain. In Piedmont noble and ecclesiastical ownership was less overpowering: probably 10% of all cultivated land was in the hands of the nobility and 15% in those of the Church.

The size of the noble estates varied enormously, from the middling properties of a few hundred hectares of the Piedmontese nobles to the twenty-three square miles of land held by the Manin, the family of the last doge of Venice (See Beltrami 1961:124-131; Woolf 1979:45).

18. The **fidecommessi** or entails became diffused since the latter 16th century and were rigid legal devices whereby successive heirs were prevented from alienating parts and even the whole of the family estate (in Venetia even **in perpetuo**). They prescribed a fixed line of hereditary succession, normally primogeniture, but also seniorate as with the **maggiorasco** (inheritance by the oldest member of the family, no matter how distantly related to the previous holder). Daughters were excluded from succession and movable goods formed their marriage or convent dowries. Cadet males were provided for by their married brothers. They remained single and entered into religious orders, politics or business (Trifone 1914; Besta 1935; Tria 1945; Davis 1975).

19. Entails, primogeniture and other preferential inheritance systems were first abolished in northern Italy between 1796 and 1797 by the new Jacobin regimes. Those who held entailed lands became their outright owners. However, these early regulations left the principle of male inheritance almost unquestioned. It was with the adoption of the Napoleonic Code of 1804 that it was not only required that younger sons share in inheritances but that daughters also have shares. The law stipulated that the testator with one child had to leave him at least half of the estate; if he had two children, he had to divide at least 2/3rds of the estate equally among them; if three or more, 3/4ths. This provision resembled one in the Austrian code and was later imitated in the Italian code. In effect it permitted a

father to use a degree of primigeniture, since he could if he wished give his oldest son the fraction of his estate not covered by the law. The outlawing of entails and most other preferential systems of inheritance (notable exceptions were: the **maso chiuso** of South Tyrol and the few imperial titles with primogenitures conferred after 1809 by Napoleon to his followers, e.g. Melzi d'Eril and Visconti di Modrone) made it easier to sell and divide a family's landholdings, at the same time that the new inheritance law guaranteed at least a share of an estate to all children. These measures encouraged the fragmentation of large land properties but also the pulverization of peasant smallholdings.

With the Restoration the Austrians imposed their civil code in Lombardy and Venetia. The Universal Austrian Civil Code had been originally promulgated in the 1780s but provisions had been made during the Napoleonic wars. By 1815 it represented a compromise between the traditional values and customs of a conservative, rural aristocracy and reforming egalitarian principles. The provisions regarding entail and the division of goods among children in part reflected the emperor's efforts to control his nobility by making it harder for them to conserve their fortunes. The testator who had children was obliged to leave at least half his estate to all his children, including daughters, in equal shares. Thus, if a testator had three sons and a daughter, the daughter was entitled to at least 1/8th of the estate. The testator could do as he wished with the rest of the estate, settling all of it, say, to his oldest son. In regard to entail, the Austrian code expressly permitted the **maggiorasco** and provided that only the half of the estate which did not have to be divided among the children could be entailed. The shares to which each child was legally entitled could not be entailed; any entails or "conditions" on them were invalid. This codification was less progressive than the Napoleonic Code, which had forbidden entails of any kind.

With the Restoration the House of Savoy re-imposed the code of 1770 whose laws had faithfully reflected the wishes of the landholding Piedmontese nobles. Daughters had virtually no inheritance rights and entails could be used freely. The code was revised twice, however, in the middle decades of the 19th century, and on each occasion it was revised more along the lines which had been suggested by the Napoleonic Code and by the laws drawn up in Tuscany even before the French Revolution. In what then became the Italian Civil Code, entails were forbidden and all children, including daughters, shared equally in at least half of the estate (See Trifone 1914; Besta 1935; Tria 1945; Strakosh 1967; Cole and Wolf 1974:175-206; Ungari 1974).

20. In Piedmont typical purchasers of national properties were the great noble families whose names were to figure so

prominently in the later period of the **Risorgimento** -- Cavour, Lamarmora, Balbo, D'Azeglio. In Liguria they were acquired almost exclusively by wealthy merchants, bankers and administrators -- De Albertis, Balbi, Penco, Ghiglione, Maystre, Migone, Gnecco. In the Kingdom of Italy, leading administrators -- Aldini, Guiccioli, Massari -- created their huge patrimonies. In some areas, such as central Piedmont, with a tradition of smallholdings and sharecropping, the wealthier peasants gained. But in others, such as the Vercellese and Novarese where high-farming or rice cultivation expanded, an inverse process of creating landless laborers became evident.

Between 1805 and 1814, the landowners and notables came to collaborate actively with the Napoleonic regime. The latter pursued a moderate-conservative policy of **ralliement** seeking the support not only of the "new men" but also of the moderate elements of the old nobility. To the latter it offered posts in the bureacracy, army, or at Court. Communal administrations were deliberatly placed in the hands of the **estimati**, the listed tax-payers.

21. In Lombardy silk was the commodity around which the commercial interest chiefly revolved. The great bulk of this product was traded by the wholesale merchants (**negozianti in banca e seta**) of Milan. At Milan there were 90 firms that were dedicated to this trade. They were heavily subsidized by foreign markets or held commissions from these. They bought the silk through brokers in the form of raw silk, the product of mills operated by the proprietors themselves or of reelers (**filandieri**) to whom the wholesale merchants advanced on the deposit of silk the capital necessary to finance this preliminary stage of the industry. In summer and early fall, when the silk crop was being harvested, reeled, and put in trade, the credit system was stretched beyond its capacity and reelers could obtain money from wholesale merchants only at rates that provoked outcries against usury. In relationship to the wholesale merchants the **filandieri** were:

> ... **a type of household workers**, who receive pay for the work performed, rental of the holdings, the price of fuel, and the hire of the machines, while the provider of funds receives interest on the capital lent, with a premium for the risk, and with the speculative profits of purchase, sale and commissions (Cattaneo 1837:233-34;emp. in orig.).

An increasing part of the local output was exported in the form of silk thread. In some cases the merchant themselves carried on the industries of reeling and thread-making. It was through their initiative that the silk-spinning industry made notable advances during the

first half of the 19th century.

A contemporary observer underscored the predominant role played by Milanese **negozianti in banca e seta** in the silk business:

> Of about 3,000 reeling mills that operate in Lombardy, more than 200 are located in the province of Milan. But Milan is also the market for many of those located in other Lombard and Venetian provinces, because either they are owned by Milanese **negozianti**, or because they are financed by the latter's capitals. Most of the raw silk of Lombardy and Venetia flows to Milan, either because it is bought by Milanese operators, or it is sent here to be sold on account of the owners, by commissioners who, when needed, advance money to them. Milanese **negozianti** operate directly or sponsor many spinning-mills in the province for **organzini** and **trame**: there are 575 [spinning-mills] in the state, of which 33 are in the city, 40 are in the rest of the province. Most of these mills are in the province of Como that has 256 of them... The huge quantity of silk that is drawn to Milan increases constantly. Here [silk] is bought and sold and for the most part is exported either for commissions or for speculations by our **negozianti** (Campiglio 1844,vol. I:97).

22. A 1829 report of the Chamber of Commerce of Milan maintained that over a total of 3,353 commercial and financial firms operating in the city, with a total capitalization of 89 million lire, there were only 90 (or 2.6%) **negozianti in banca e seta** and silk commissioners but their total capitalization amounted to more than 26 million lire or more than 29% of the total (Romani 1960:701 ff; Angeli 1982:98 ff).

23. In Milan, for example, wealthy citizens founded in the early 1840s the Civic Museum, the Mylius Institute (1842), and the Society for the Encouragement of Arts and Crafts (1838). These institutions promoted popular instruction in the form of popular lectures, particularly for the purpose of disseminating a knowledge of applied science. In particular, the Society was due to the initiative of an association of businessmen, journalists and professional men, prominent among them were Enrico Mylius, Carlo Cattaneo, and Antonio Kramer. The object of the Society was to promote industry by the two-fold method of awarding prizes and offering technical education. Widely attended were its free courses for the instruction of workingmen in industrial chemestry, physics, applied mechanics, and silk manufacturing (**Atti della Società d'Incoraggiamento** 1844).

Similar societies for the promotion of industry got under way at Biella in 1838, Genoa in 1845, and Bergamo in

1847.

Milanese businessmen also backed financially the movement for the **asili d'infanzia** or pre-schools for the children of the poor that were first introduced at Cremona in 1829 by a priest, Don Ferranti Aporti. They were modeled on the type of school developed by Robert Owen in Scotland. The movement that supported the **asili** stressed religion and morality, a charity making for self-help, the union of all classes of society in a philanthropic endeavor.

Milan was also the site of an extensive and active journalism that illustrated and debated all the signs and symptoms of economic, social and scientific progress. This journalism invoked an agricultural, industrial and commercial revival for Italy. The journals included: the **Il Conciliatore** (1818-1819) of Silvio Pellico, Giovanni Berchet, Ermes Visconti, Giuseppe Pecchio, Sismondi, Giandomenico Romagnosi, Luigi Porro-Lambertenghi, Federico Confalonieri, and Ludovico Di Breme; the **Annali Universali di Statistica** (1824-1859) of Francesco Lampato, Melchiorre Gioia, Giandomenico Romagnosi, Cesare Correnti, Cesare Cantù, Giuseppe Ferrari, Giuseppe and Defendente Sacchi. The **Annali** sought and found collaborators in other parts of Italy: Luigi Serristori and Cosimo Ridolfi in Tuscany; Giacomo Giovanetti, Carlo Ilarione Petitti and Camillo Cavour in Piedmont. Other Milanese publications included: the **Termometro mercantile e d'industria** (1831-39); the **L'Ape delle cognizioni utili** (1833 ff) of Giuseppe De Welz; the **Eco della Borsa** (1836-1860) of Michele Battaglia, who was the secretary of the Milan Chamber of Commerce; the **Foglio commerciale di Milano** (1836-39); the **Rivista Europea** (1838-1848) of Giacinto Battaglia, Carlo Tenca and Carlo Cattaneo; the **Il Politecnico** (1839-1845) of Carlo Cattaneo; and the **Foglio commerciale e d'industria** (1839-46) of Ludovico Hartmann.

In Turin similar journalistic initiatives appeared only after 1847 with a softening of the royal absolutism of king Charles Albert. After this date they included: the **Risorgimento** of Cavour (1847 ff); the **Concordia** of Lorenzo Valerio (1848); and **La Gazzetta del Popolo** of Botero, Govean and Borrella (1848 ff).

One of the important offices that these institutions and journals performed was to familiarize the public with the names, the writings and the opinions of its future political leaders. Among these were Cattaneo, Correnti, Ridolfi, Capponi, Guerrazzi, Montanelli, Tommaseo, Manin, D'Azeglio, Balbo, Gioberti, and Cavour (See Greenfield 1965:147 ff; Woolf 1979:227 ff).

24. The following sources provide for this period information on the Gavazzi family and its activities: Angeli 1982; Ballestrero and Levrero 1979; Cattaneo 1982; Cova 1987:24-25; Mariani and Pozzoli 1978-79; Merlini 1857; Sala

1976; Treccani 1950.

25. The district of Lecco, part of the Como province, included the eastern Brianza, Valsassina and the coastal region of the Lecco's lake. In this hilly region silk production, both in its agricultural and industrial phases, emerged precociously at the end of the 17th century and expanded rapidly during the 18th century, particularly in the sub-districts of Brivio, Canzo, Introbio, Erba, Oggiono, and Missaglia. Climatic and soil conditions were particularly favorable for mulberry and silkworm cultivations. A dense deciduous forest provided a cheap and reliable supply of fuel to heat the vats for drawing the silk, while numerous steep small rivers provided the motive power for the mills. Finally, an early and rapid shift from sharecropping arrangements to the "mixed contract" created the social conditions that supported the expansion of the mulberry-silkworm-cocoon complex and industrialization (See Cattaneo 1982; Levrero and Ballestrero 1979).

26. Of the price of 318,289 lire, Giuseppe Antonio paid immediatly only 15,350 lire, the rest was payable in 8 years. However, he made the full payment only in 1831 with the disboursement of 106,556 lire. To cover the latter, he obtained a loan of 70,000 lire from a broker acting for the Count Ercole Belgioioso Cottignola. This loan was repaid in 7 years at 4.5% interest (Cova 1987:25).

27. In 1830 the Gavazzis reached an agreement with the town administration of Valmadrera whereby in exchange for building a public laundry with vats in the town they obtained the right to dispose of 16/28ths of the water of the Luera. The town maintained control over only 6/28ths, while the count Sambrunico and the Fatebenefratelli hospital had 3/28ths each (Cattaneo 1982:93).

28. The Countess Teresa Confalonieri sold out because the properties in Valmadrera were unprofitable and the implementation of productive and organizational changes would have required costly expenditures. In 1814, well before the famine years of 1816-1817, she complained in a letter to her husband, Count Federico, that during a visit to Valmadrera she had found:

> ... nothing but trouble. Imagine that I am not able to recover even enough to cover my obligations. It will be necessary to take a loan for this. The villagers are a burden on my shoulders to maintain; in short there is real misery. This situation is also the result of the present organization. It will be necessary to make some reforms (Gallavresi 1911, part I:231).

The Countess, as most Milanese nobility, paid little or no attention to the cultivation of her estates in the Brianza, which she visited only to settle accounts and as a country retreat. The hills of the Brianza were praised by the Milanese nobility for their clear, cool air and beautiful landscapes, and were chosen as preferential sites for villas:

> The nobility go regularly at St. Martin's [11th of November] to settle with their tenants and frequently stay until Christmas. Their other visits to the country are few and distant, and their **villeggiatura** last but few days. (Morgan 1821:214)

29. One has only to compare the complex created by the Gavazzis in Valmadrera after 1817 with the following description:

> The installation of a complete silk mill requires a vast, dry and ventilated building that must include spatious courtyards for receiving and shipping goods, large storage space for cocoons, ample porticos to store wood, storage space for silk, quarters for the spinners and other workers, the office and the residence of the administration... The most important part is the reeling mill, including the stove to kill the moths inside the cocoons, the areas for reeling and spinning with the respective service rooms... There should also be an ample pool to keep the water necessary for the drawing process (Merlini 1857:30).

30. The Sunday classes were instituted after the government issued a decree regulating the employment of children in factories in 1843. Factory owners were forbidden to employ children under 9 years of age. A child had to be 14 years old to be employed where conditions were dangerous to life and health. S/he had to have had at least two years of elementary instruction "unless the owner of the factory provides this in the same," otherwise until s/he reached the age of 12, s/he had to be allowed two hours a day to attend the free schools. A child under 12 could not be employed under any condition for more then 10 hours a day; children from 12 to 14 years old could not be employed for more than 12 hours. Night work for children under 12, corporal punishment and intermingling of the sexes in the factory, were likewise forbidden. The inspectors were to be accompanied by the public doctor on their rounds (Greenfield 1965:122).

These measures came after an intense debate that denounced the conditions of child employment in the new factories. Contemporary observers denounced the fact that factory work was taking children away from schools and from

the family, replacing paternal discipline with that of a hierarchy of foremen. These observers were particularly impressed by the situation in Lecco ("the Manchester of Lombardy") where silk production was the main manufacturing activity. They considered it with alarm as symptomatic of a coming industrialism:

> The example of the Lecco district destroys to a great extent the rooted idea that Lombardy is all agriculture and has little industry. Agriculture is indeed the prevalent condition of the country, but industry, lodging and concentrating in certain localities, has almost suppressed agricultural life and taken its place. The benefits and evils of industrialism already exist among us, and exist with all their economic and moral consequences (Sacchi 1842:249).

These observers were appalled by the exploitation of labor and the misery and pauperism that characterized contemporary English capitalism. They opposed the replication in Lombardy of the English model of industrialization:

> England has become the great market of the world, is the **officina gentium** [workshop of the world]. She produces everything for everybody: the wealth or poverty of a country depends on her. Her economic empire is universal. However, who could propose her as a model of social economy? (Sacchi 1842:242).

A similar point of view was expressed by Gian Domenico Romagnosi, one of the most influential intellectuals of the period:

> We can admire the effort of activity of England, but not propose her as an example. If we examine [her example] from a moral standpoint [we see that] everything tends too much towards a clash of personal and direct interests between social classes; everything tends too much towards the suffocation of equity and cordiality; everything tends too much towards the disturbance of thoughts and affective relations; everything tends too much towards on the one hand arrogance and avarice and on the other the irritation of hunger and brutality; finally everything is so contrary to benevolence, dignity and sociability that no wise and honest man as well as no statesman would propose the English economic state as a model for any civilized country (Romagnosi 1829:113-114).

These observers believed that the evils of capitalist machine production could be controlled or avoided in northern Italy by implementing the specific economic,

educational and philanthropic measures they advocated in their journals.

31. During the winter, the reeling area was heated by the hot pipes that supplied steam to the individual boilers. Thus, it was possible to obtain a relatively dry silk also during the cold season. However, Pietro Gavazzi began experimenting with more effective methods of wintry reeling and spinning around 1825. In 1849 he perfected a technical solution that was later adopted by most north Italian silk mills. He enclosed the reels in wood containers and heated them with warm air so that the strands could dry without sticking to each other.

32. The method of heating the boilers with steam instead of direct fire, was devised by Gensoul, a French mechanic, and was first introduced in northern Italy in a mill near Turin around 1807. In Lombardy it was first adopted by Count Vincenzo Dandolo in 1815 and by Count Porro Lambertenghi (Porro 1816) in his mill near Como in 1816. Two mechanics of Como, the brothers Giovanni and Agostino Bruni, who had obtained patents for some improvements they made, produced the machinery used in the mills of Lombardy.

In Lombardy by the early 1850s, out of a total of 3,088 reeling mills and 24,486 boilers, only 144 mills (less than 5%) had adopted the steam process but had 9,718 boilers or almost 40% of total boilers. In the province of Como, considered to be the most advanced area, out of a total of 412 mills with 8,796 boilers, 62 mills (or 15%) had adopted the steam process but had 4,178 or 47% of total boilers (Frattini 1856:57).

The vast majority of the fire heated reeling mills were owned by large landowners and *fittabili* who invested very little capital in these small-size operations. These mills were operated only for a period of 80 days in the summer and were located in old buildings or storage spaces with little light and ventilation. Most of their reeling machinery was old, simple, and powered by animal or human energy. They produced lower quality silk that commanded lower prices in the market.

33. Some of these changes were discussed in a pamphlet written by Count Vincenzo Dandolo (1819).

34. The silk mill of Bellano combined reeling and twisting and by the 1840s employed more than 500 workers. Contemporary observers aknowledged its superior performance:

> There are many important silk mills operating in Lombardy. Among them we mention three that can be considered as outstanding for the quality of their product, the perfection of their work, and the fine

> manner in which they are managed. These are the reeling mill of the Gavazzi brothers in Bellano, the reeling mill of the Verza brothers in Canzo, and the spinning mill of the Turinas in Casalbuttano. The first two are those that usually produce the best quality of silk... [and] they are considered the most important ones commercially (Merlini 1857:40).

35. Twisting operations were speeded up as a consequence of the higher quality raw silk. A finer and more cohesive silk strand allowed for less stoppages of the machines to correct or eliminate imperfections and to repair ruptures of the strand. As a result, the Gavazzis produced cheaper and more resistent yarns.

36. During the Continental Blockade, which threatened the supply of raw silk from Italy, the English introduced the mulberry and the Italian method of extracting silk into Bengal. The experiment did not bear fruit at once, but the Indian supply, brought to London and marketed under preferential conditions by the East India Company until 1834, increased and improved steadily. British manufacturers began to adjust themselves to the use of the cheaper Indian raw silk and the Lombards found their privileged position endangered.

The increase of Bengal raw silk sold in London was accompanied by that of an even more formidable competitor, the white raw silk of China. It was this rival which gave the last blow to the Lombard trade in England when China was finally opened to British merchants after the Opium War of 1842. By 1848 raw silks from Asia had almost closed the London market to all but the finest grades of raw silk from Lombardy.

Bengali and Chinese raw silks were cheaper than those of Lombardy, but their quality was inferior. Their commercial success on the London market came as a result of the gradual dismantling of protectionist tariffs after the mid 1820s, which induced a reorganization and mechanization of English spinning and weaving industries. English manufacturers were not in a position to face French competitors, who enjoyed cheaper labor costs and raw material and produced goods of a superior fashion quality, thus they chose to concentrate on less valuable goods (e.g. ribbons, crapes, linings, smooth and mixed fabrics), which were compatible with the use of Asian raw silks and, at the same time, were more susceptible of mechanization (see Godart 1899; Gilonne 1948; Flanagan 1954; Pommier 1980; Gontier 1985; Bush 1987; Giroud et al 1989; Feltwell 1991).

37. In 1855 it was estimated that Germany and Switwerland alone were absorbing more than one-half of the total

quantity exported, while 5/40 was going to London, 7/40 to Lyons, 1/40 to Russia, 1/40 (plus) to Vienna, 4/40 (plus) was being consumed by the looms of Lombardy itself (Frattini 1856:58).

38. The following sources provide information on the **Gavazzi e Quinterio**: Pugliese 1924a:430; Caizzi 1972:191,192, 295; Angeli 1982:131,150,153,155; Della Peruta 1987b:97.

Between 1825 and 1836 the firm acted as representative agent for a company that provided steamboat services on the lake of Como.

39. Giuseppe Antonio Gavazzi (1768-1835) and Luigia Verza (1784-1866) had three sons and seven daughters. Pietro (1803-1875), the first-born son and leader of the family in his generation, married in 1829 Ernestina Pascal (1805-1884), daughter of Luigi and Teresa Tavernier. Luigi Pascal was a wealthy French silk businessmen who had settled in Milan during the Napoleonic regime. The two other sons, Antonio (1815-1885) and Egidio (1818-1877), remained bachelors in accordance to the practice of inhibiting the marriage of cadets.

All the seven daughters married. Teresa became the wife of Giuseppe Antonio Rusconi, the scion of a noble family of Como. Enrichetta married Giovanni Dolzino, who was a partner in the Milanese commercial house **Dolzino Fratelli e Compagnia**. Giuseppina married Marco Ponti. Maria married Giuseppe Badoni of Lecco, a large landowner and the owner of one of the most important ironworks in Lombardy. Luigia married Antonio Simonetta, a scion of a family of respected Milanese professionals. Rosalinda (1820-1855) married Giuseppe Dell'Orto (1803-1849), a scion of a family of landowners and silk businessmen. Paola married Bartolomeo Vismara, a scion of a wealthy Milanese family that owned the Vismara palace (formerly Bossi at the number 1774 of the **contrada dei Bossi** in the old center of Milan) where the banking house **Pietro Gavazzi e Fratelli** had its headquaters.

40. For the **Società di Incoraggiamento delle Arti e dei Mestieri** (1838) see note 23.

The Milanese élite patronized three main social clubs in the 1840s (See Arese 1953; Meriggi 1991). The **Nobile Società** (1815) restricted its membership only to nobles. It had a restaurant, a pastry shop, a cafe, and a dancing hall. The **Società del Giardino** (1818) was patronized by both the nobility and the bourgeoisie. It was headquatered in the Cusani palace and had a large dancing hall and a garden that was lighted up for night-parties (after 1844). The **Società dell'Unione** (1841) followed the model of the English social club and celebrated the union between the progressive and liberal wing of the nobility and the bourgeoisie (41% of its

107 members were bourgeois in 1842).

41. The following sources provide information on the Ponti family for the period between 1780 and 1848: Campiglio 1844:108-109; Frattini 1846; Pasolini 1876; Alfani 1890:97-109; Luzzatti 1919; Cotonificio di Solbiate 1923; Macchi 1933; Treccani 1936:895; Bozzi 1951; Zaninelli 1967; Dagradi 1971; Caizzi 1972:117-128; Macchione 1987:132-39.

42. In July of 1816 the government attempted to sell some cotton and linen spinning machines. However, the major manufacturers refused to make any concrete offer for them. Andrea Sr. Ponti wrote the government that he knew about these machines, but that he was unwilling to make such a substantial investment because its outcome was too uncertain. He was willing to take into consideration the government's offer only if import duties were adequately increased (Caizzi 1972:117).

43. The "prohibitive system" consisted of a series of protectionist measures enacted by the Austrian Monarchy between 1817 and 1823. High tariffs and prohibitions made the import-export of several raw materials and products very costly or even impossible. The goal of this policy was to encourage the development of a national industry to compensate for the agricultural depression and to foster a process of economic specialization of the vast provinces of the Austrian Monarchy. The political objective was to reinforce the unity of the Monarchy by favoring trade between the various provinces. However, overall results were disappointing, with the national economic system evincing little vitality. Only a minimal economic integration of the Monarchy was achieved and internal communications remained difficult. After 1825, tariffs and prohibitions were progressively reduced but the system was totally dismantled only in 1851 (Caizzi 1972:6-8,287).

The Austrians assigned to Lombardy a primary economic role in their plans for national economic development. However, the protectionist policy was strongly opposed by Milanese merchants, who controlled substantial amounts of foreign credits and currencies as a result of the silk export business. While a few of them benefited from protectionism because they financed the highly profitable contraband, most merchants agreed that such policy inhibited Milan from becoming a great import-export center not only for Lombardy and Venetia but also for Switzerland and southern Italy.

An additional point of contention between Milanese businessmen and the Austrian government revolved around the utilization of Genoa and Trieste as ports of commercial transit. The government made a persistent effort to divert the traffic of Lombardy from Genoa to the Austrian free-port

of Trieste. This was a policy that ran counter to the commercial habits of Milanese merchants and was openly opposed by the Milan Chamber of Commerce. After 1822, with the opening of the direct road Milan-Genoa, the relations between Milanese and Genoese mercantile organizations were strengthened. By the late 1840s most of the cotton and coal imported by Lombardy passed through Genoa (Greenfield 1965:72-80; Caizzi 1972:237-241).

44. Several foreign cotton entrepreneurs had settled in Lombardy already between 1780 and 1820: Giovanni Adam Kramer from Frankfurt in 1782; Federico Schmutz from Karlsruhe in 1784, who was the first to introduce the mule-jennies (1811-1812); Adam Krumm fom Germany, who was the first to introduce the spinning jennies in the late 1780s.

Among those who settled in the Kingdom of Lombardy-Venetia between 1820 and 1848 were: the Germans Andrea and Eraldo Krumm from Wittemberg; the Tyrolian Francesco Saverio Amman from Feldkirch, who introduced new fast and bright red dyes; the Swiss Giovanni Gaspare and Enrico Schoch, Bodmer, Carlo Martin, Sebastiano Wick, Giovanni Giacomo Zuppinger, Hoeslin, Näf, Kössly, and many others (See Caizzi 1972:120 ff; Macchione 1987:139-143; Mori 1989:635).

Kramer, Eraldo Krumm, Amman, and Schoch achieved considerable economic success and founded dynasties that played primary roles in the subsequent economic history of northern Italy.

45. The new cotton spinneries tended to localize near the water-power sites of the upper Milanese and Bergamasco. By 1844, the small river Olona, in a 45 km. tract between Varese and Milan, moved 424 water wheels of which 13 provided the power for great cotton spinneries. A similar situation was found along the Lambro river between its origin and Melegnano. Contemporary observers maintained that if the cost of establishing a new spinning plant was higher in Lombardy than in England due to the importation of the machinery, the cost of managing it was lower, thanks to the lower cost of labor and to the relative advantage obtained from the use of water power instead of steam power (Lombardini 1844:83).

46. In 1845, 1,645 of the 3,168 cotton spinners of Lombardy were children -- 600 boys and 465 girls. In the years 1834-39, in the district of Busto Arsizio, 405 children from the foundlings' home in Milan were put to work in the cotton spinneries (Sacchi 1847:275,283). Sacchi denounced the conditions of children working in the cotton spinneries.

> The hard work protracted also into the night, the lack of ventilation of the working spaces, the continuous

> discomfort of the body constrained into very few movements, the danger from the close contact with the machines, the noise of the latter, the monotony of the work itself, tire, sadden and consume the life of these poor children, who enter in the spinnery when they are 7 or 8 years old and are alert and vivacious and come out of it larvae of men (Sacchi 1842:261).

47. In 1836 there were 18 cotton spinneries operating in Lombardy with a total of 40,680 spindles (Caizzi 1972:120):

**Table 5. Cotton spinneries operating in Lombardy in 1836**

| Location | Spindles | Firm | Headquarters |
|---|---|---|---|
| Lecco | 1,800 | F.lli Grassi | Milan |
| Carate Brianza | 600 | Sperati,Bazzoni & C. | Milan |
| Bergamo (1829) | 1,800 | Zuppinger & C. | Bergamo |
| Bergamo | 1,130 | Hoeslin | Bergamo |
| Bergamo | 650 | Näf | Bergamo |
| Como | 1,500 | F.lli Pestolazza | Milan |
| Milan (1833) | 1,400 | Carlo Martin & C. | Milan |
| Legnano (1833) | 5,000 | Carlo Martin & C. | Milan |
| Legnano | 4,000 | Turati e Radice | Busto Arsizio |
| Legnano | 500 | Cantoni e Borgomainero | Gallarate |
| Legnano | 600 | Giuseppe Turati | Busto Arsizio |
| Olgiate Olona | 1,000 | Luigi Candiani | Busto Arsizio |
| Olgiate Olona | 300 | Ferrario e Ottolina | Busto Arsizio |
| Solbiate Olona | 8,000 | Andrea Ponti | Milan |
| Castiglione Olona | 600 | Giovanni Schoch | Castiglione |
| Malnate | 1,600 | F.lli Schoch | Malnate |
| Varano (1819) | 2,200 | Pasquale e F.lli Borghi | Gallarate |
| Chiavenna | 8,000 | F.lli De Planta | Milan |

The expansion of productive capacity proceeded relatively fast in the decade 1836-1846, a period in which the international price of raw cotton continued to fall. By the mid-1840s the cotton industry had risen to a place of importance in local manufacturing economy second only to that occupied by the manufacture of silk. The development of the cotton spinning industry had taken it out of the cottage. All of the plants were of considerable size. Only four had fewer than 1,000 spindles; some had as many as 8,000 to 10,000. The average number of spindles per plant in the province of Milan was 3,886; the average number of workers 135. In Lombardy, the total number of spindles increased from 40,680 in 1836 to 101,648 in 1845, with 3,186 workers employed in the factories (Frattini 1846:22).

**Table 6. Cotton spinneries in Lombardy in 1845**

| Province | Spindles | Workers |
|---|---|---|
| Milan | 58,292 | 2,027 |
| Como | 22,096 | 582 |
| Bergamo | 11,968 | 339 |
| Sondrio | 8,500 | 218 |
| Brescia | 792 | 20 |
| | 101,648 | 3,186 |

Contemporary observers proudly underlined the achievement of the industry and its high level of profitability.

> The Lombard cotton spinning industry consists today of 28 great plants, models of industrial architecture, an immense productive material, paid, complete, perfect, that remunerates at usurious interest the invested capital (**Atti della Società di Incoraggiamento** 1844:10).

48. Exceptions were the new spinnery of Sioli, Dell'Acqua e C. (1841) of Vaprio, the Candiani of Olgiate, the Amman of Legnano which, although producing mostly lower grades, were capable of turning out also grades up to 40, while at Peregallo the firm Stucchi and Fumagalli (1842) started from grade 4 to reach 48 (Frattini 1846:24).

49. Frattini (1846:28 ff) listed the most important weaving firms of the province of Milan in 1845:

**Table 7. Cotton firms in the Province of Milan in 1845**

| | | Looms | | | |
|---|---|---|---|---|---|
| District | Firm | Town | Rural Area | Jacquard | Total |
| Busto | Airoldi Carlo | 151 | 184 | -- | 335 |
| Arsizio | Candiani e Bonomi | 94 | 56 | -- | 150 |
| | Candiani Luigi | 584 | 117 | 20 | 721 |
| | Crespi Benigno | 91 | 62 | -- | 153 |
| | Ferrario Carlo | 194 | 54 | 6 | 254 |
| | Introini Gius. Ant. | 50 | 84 | -- | 134 |
| | Gambero Gaetano | 235 | 139 | -- | 374 |
| | Ottolini Carlo | 247 | 80 | 4 | 331 |
| | Pigna Luigi | 35 | 95 | -- | 130 |
| | Provasoli Michele | 57 | 260 | -- | 317 |
| | Provasoli Luigi | 40 | 211 | -- | 251 |
| | Turati Gius. e figli | 92 | 58 | -- | 150 |
| | Turati e Radice | 820 | 378 | 34 | 1,232 |
| Gallarate | Cantoni Costanzo | 20 | 377 | -- | 397 |
| | Crespi Giulio | 14 | 170 | -- | 184 |
| | Locarno G. B. | 3 | 97 | -- | 100 |
| | Ponti Andrea | 250 | 1,374 | -- | 1,624 |
| Carate | Caprotti Bernardo | -- | 608 | -- | 608 |
| Monza | Annoni Defendente | 180 | 2 | -- | 182 |
| | Antonietti Gerardo | 18 | 92 | -- | 110 |
| | Biffi Luigi | 95 | 120 | -- | 215 |
| | Fumagalli F.lli | 500 | 100 | 20 | 620 |
| | Fusetti Vincenzo | 18 | 110 | -- | 128 |
| | Maggi e Paracchi | 220 | 200 | -- | 420 |
| | Pessina Alfonso | 60 | 40 | 2 | 102 |
| | Salmini Domenico e C. | 150 | 100 | 10 | 260 |
| | Scotti Gaetano | 40 | 140 | -- | 180 |
| | Staurenghi Domenico | 90 | 300 | -- | 390 |
| | Stucchi Giuseppe | 105 | 575 | 4 | 684 |
| | Trabattoni Ignazio | 40 | 110 | -- | 150 |
| | Veronelli Giacomo | 30 | 370 | -- | 400 |
| | Villa Giuseppe | 120 | 80 | 3 | 203 |
| Gorgonzola | Sioli, Dell'Acqua e C. | 70 | (semi-autom.) | -- | 70 |

50. The following sources provide information on the Sellas, on the other major families of the "woolen aristocracy" and on their activities up to 1848: Sella 1848; Sella 1850, 1863, 1873; Sella 1864; Pozzo 1870, 1877, 1881; Sella 1881, 1897; Faldella 1883; Fra Dolcino 1882; Guiccioli 1887-1888; Botto 1925; Ormezzano 1926, 1928; Rigola 1930; Renier 1937; Zucchi 1952; Sodano 1953; Secchia 1960; Quazza 1961, 1984;

Castronovo 1964, 1966, 1988a; Valz Blin 1966, 1973; Bessone 1976, 1985; Neiretti 1978, 1983; Quazza and Quazza 1980; Sciolla 1980; Ramella 1981, 1983; Piacenza 1982; Coda Bertotto 1984; Comune di Biella et alter 1984; Sella 1984; Gamaccio 1986; Comitato per l'Archeologia Industriale 1987; Gawronski 1987.

The province of Biella is that Piedmontese region of pentagonal shape bordering to the north with the alpine arc (Mount Rosa); to the west with the Aosta Valley and the Canavese; to the south-west with the morainic bastion of the Serra that to the south opens itself into the Vercellese plain; and, finally, to the east with the Sesia Valley. Its landscape alternates from the mountainous and meadowy leaps of the upper part to the green woodlands and hills that descend to the low-lying plain of the Vercellese. From west to east, the Biellese is articulated in six main valleys: the Valley of the Elvo river, then those of the Oropa, Cervo, Strona of Mosso, Ponzone, and Sessera. The Valleys of the Elvo, Oropa, Cervo, and Strona open into a short plain at the center of which there is the city of Biella.

Politically, the villages of the Biellese, with the exception of Masserano and Crevacuore, submitted themselves to the Dukes of Savoy between 1372 and 1404 in exchange for military protection and the concession of economic privileges and prerogatives that were always reaffirmed in the following centuries. From 1626 to 1861, the Biellese was an autonomous province of the Savoyard state. During the period in which Piedmont was annexed to France (1801-1814), the Biellese lost its status of autonomous province and was incorporated in the Department of Sesia (Vercelli, Biella, Crescentino, Santhia', Crevacuore).

The Biellese acquired also a unique religious identity and organization with the creation of the "Sacred Mounts" in the Counter-Reformation period -- the Sanctuaries of the Madonna of Oropa, of St. Charles of Graglia, and of St. John of Andorno. The Catholic Church established it as diocese in 1772.

51. The Sella family recognizes as his common ancestor Bartolomeo Cravello. He acquired the last name of Sella when, after his marriage with Antonia, moved from the hamlet of Cravello to that of Sella of Mosso, where he died before 1612.

52. In the Biellese, the manufacture of wool was regulated in 1245 by the statute of the city of Biella, in 1310 and 1348 by the statutes of the weavers and the drapers of Biella, and in 1581 by the statute of the weavers of Mosso. A 14th century painting in the Cathedral of Biella portrays a Christ "tortured" by weaver's tools.

The most active centers of woolen cloth production were: Sordevolo, Occhieppo Superiore and Pollone in the

Elvo Valley; Callabiana, Camandona, Mosso Santa Maria, Valle Inferiore Mosso, Valle Superiore Mosso, Crocemosso in the Strona Valley; Trivero and Portula in the Sessera Valley.

53. The agro-pastoral subsistence economy of the upper valleys was based on the altimetric distribution of resources, typical of the polycultural systems of alpine and pre-alpine ecological environments: the bottom of the valley provided fruits and vegetables, particularly beans; halfway up, the products of the forest -- chestnuts, wood, berries, mushrooms, and game; the mountain, the meadows for cows, sheep and goats which provided milk products, meat, leather, and wool. Already by the 16th century most of the slopes exposed to the sun were cleared, terraced and cultivated. Each extended family owned small plots at different altitudes, but communal ownership and use of the forest, meadow-lands and water sources was prevalent (at the level of village, parish or hamlet).

The peasant population of these upper valleys carried on precariously balancing the lack of local natural resources with their demographic growth through family- and community-oriented strategies that involved a combination of complex marriage and inheritance practices (with male primogeniture as the ideal), agro-pastoral activities, seasonal migration, and proto-industrial work (See Ramella 1981, 1983).

Ghilini, the intendant of the province of Biella described in his report of 1777 the Biellese upper valleys as one of the poorest agricultural areas of the entire Kingdom, where a overabundant rural population was able to meet its subsistence needs only by engaging in proto-industrial activities.

> The portion of the province that I have chosen to visit in the current year, subsists almost completely on manufacturing activities because the land is sterile, notwithstanding the peasants' hardships. This area is located in the middle of high mountains and sloping rocks, where is difficult to penetrate due to the quality of the steep and stony roads; horrid is the sight, but here is concealed a numerous, nice and vigorous population, of quick talent, fit for military service, and ready, naturally inclined to agricultural activities, manufacture of wool and hemp, and commerce... (Ghilini 1777, cited in Sciolla 1980:225).

> ... The cool air of the mountains of Biella renders the inhabitants robust and tolerant to fatigue, their poverty, the narrowness and sterility of their territories, the abundant and long-lasting snows, the example, and other circumstances, render the inhabitants industrious and parsimonious, for these

> reasons they sell the products of their labor at such low price that maybe in the entire Europe there is no other province where the cost of labor is so cheap (Ghilini 1777, cited in Quazza 1961:279).

54. In the 18th century, the Biellese woolen manufacture was affected directly by two major measures adopted by the Savoyard regime. On the one hand, the government reserved to Biellese producers most of its military contracts and, on the other, with the regulations of 1733 it prohibited the production of high quality woolens and reserved it to Ormea (province of Cuneo).

These two measures had contrasting effects. The concession of long-term military contracts favored the consolidation of a small group of merchant-manufacturers entitled to preference by the government -- the Ambrosettis (since 1691), the Sellas, the Piacenzas, and a few others who went on to become the most powerful Biellese woolen manufacturers of the 18th century. They obtained fiscal privileges, advances to buy wool and exemptions from customs duties for the import of oils and dyestuffs.

The regulations of 1733, which prescribed to the Bielleses to manufacture only low quality and less profitable woolens, and to preserve the traditional methods of production, protected the numerous "master weavers" (**mastri tessitori**) and their coarse cloths, and allowed major merchant-manufacturers to accumulate only slowly. These regulations were implemented by the government until the 1790s because they met the vital requirement of preserving the socio-economic welfare of the peasant-artisans of more politically and militarily strategic areas of the Savoyard state. It is with this preoccupation in mind that Ghilini, the intendant of the province of Biella, wrote in his report on the Biellese upper valleys that

> ... If we were to concede to the Bielleses the permission to manufacture high quality woolen cloths, in ten years all the manufacturies of Piedmont would be ousted and extinct, since they would not be able to sustain the competition of the low labor cost of the Biellese worker and of his precision, economy and refinement, all things which the inhabitant of the plain and fertile Piedmont is absolutely incapable of (Ghilini 1777, cited in Quazza 1961:279).

55. The welfare of the master weavers was directly threatened when cereal crops failed in the surrounding areas. Bad harvests brought sharp increases in the prices of the cereals imported from the plain and, at the same time, reduced the incomes of peasants, who were the primary consumers of coarse woolens.

Major merchant-manufacturers, instead, were less

affected by bad harvests because they had access to military contracts and urban markets. During periods of crisis, they were expected to help the rest of the local population. Hence, during the the Franco-Savoyard war, when the Biellese was struck by the famine (1795-97) and there were popular insurrections with assaults to convents and foodstores, Gio Domenico (1738-1805), the leader of the second branch, organized the free distribution of food to the inhabitants of Mosso.

56. Many members of the family joined the Catholic Church beginning with the Capuchin friar Gio Battista (born in 1649) and Pietro Maurizio (1689-1754), vicar of Mosso since 1725. Of the second branch of the family were ecclesiastics: Pietro Antonio (1707-1784), priest and prior; Gio Battista (1735-1811), priest; Giacomo (1741-1816), rector of Soprana Mortigliengo; Pietro Maurizio (born in 1747), priest of the order of St. Francis of Capua; Carlo Antonio (1769-1828), vicar of Sordevolo and "examinator" of the Biellese synod of 1825; Giacomo (1813-1876), priest; Carlo (1815-1840), who died in a monastery.

Of the third branch of the family were ecclesiastics: Giuseppe Antonio (1739-1814), Capuchin friar under the name of Pietro Maurizio. He was a renown preacher, a lecturer in moral and dogmatic philosophy and theology, and since 1783 "definer" and then general custodian of the Capuchin order. He wrote a mystic work in 1807: **The ecclesiastic in solitude**. Giovan Battista (1745-1827), superior of the missionaries of the Congregation of St. Vincent de' Paoli of Casale Monferrato under the name of Maurizio Pio. He wrote a **Treatise of Theology**, founded and financed the boarding school of Sella of Mosso in 1815. Maurizio Ignazio (1752-1830), priest; Pietro Antonio (1754-1829), Capuchin friar; Cecilia Anna Maria (1778-1836), nun; Gioacchino (1813-1884), friar of St. Philip of Biella. He was the last ecclesistic of the family and acted as spiritual leader of most of the Biellese clergy and as close advisor of the philanthropic bishop Giovanni Pietro Losana. He was responsible for the liturgy of the great Biellese Sanctuary of the Madonna of Oropa. After 1860, when the Italian state nationalized St. Philip, Gioacchino used his personal patrimony to buy it back.

After the 1780s, many of the family's ecclesistics and lay members were strongly influenced by Jansenism. For example, Bartolomeo (1776-1861), a member of the third branch, after receiving a degree in theology in Turin, went to study medicine at the University of Pavia, the great intellectual center of Jansenism in Lombardy. In 1799 he was listed among the Jacobins of Piedmont and became the president of the **Assemblèe du Canton de Mosso** from 1807 to 1811. After the Restoration, he exercised the medical profession for the benefit of the poor of the area. In his

will of 1829, he left his entire patrimony of Vercellese land properties valued 750,000 lire to the Primary Congregation of Charity of Turin, as a fund for the free distribution of medicines and relief to the inhabitants of Mosso in time of famine and crisis.

During the French rule (1797-1814), when churches and monasteries were disbanded by the political authorities, the ecclesistics of the family returned to the family house at the Sella of Mosso, which became known locally as "the house of the priests" (la casa dei preive).

57. The only exception in this practice is in the third branch with Antonio (1719-1755), the third son of Gio Bernardino (1685-1766). In 1749, Antonio married Marianna Florio (1730-1805), an offspring of a family of woolen merchant-manufacturers of Bioglio, who was the first cousin of Angela Maria Florio (1718-1785), the wife of Antonio's oldest brother, Gio Giacomo (1711-1785). Of the two sons of Antonio, only Gio Antonio (1750-1804) married and had one son, Antonio (1781-1834), while the younger, Pietro Antonio (1754-1829), joined the Capuchin order. The economic activities of Gio Antonio, however, were of little relevance in comparison with those of Gio Giacomo and his offsprings. This is an indication, perhaps, that he received only a fraction of the patrimony of Gio Bernardino, which thus passed practically intact to Gio Giacomo and his offsprings.

58. In 1709, Gio Bernardino (1685-1766), the founder of the third branch, married Maria Ubertalli (1690-1736), an offspring of the most important family of merchant-manufacturers and landowners of Portula (Sessera Valley). The Sellas and the Ubertallis remained close business partners throughout the century.

The dowry of Maria consisted of 1,000 silver lire, personal assets valued 473 lire (silk and woolen garments, blankets, bed sheets, two trunks, and damask fittings), 245 lire in cash, 222 lire in the form of a loan made to a Sella relative, and 60 lire of rents owed by the Sellas to the Ubertallis. Gio Bernardino assigned to his prospective wife a counter-dowry of 100 lire. (Valz Blin 1973:276-277).

59. There were two marriages with the Ormezzanos of Vallemosso. The first was the second marriage of Gio Bernardino (1685-1766) with Margherita Ormezzano, daughter of Gio Battista. The second, in 1762, was that of Gio Domenico (1738-1805), the leader of the second branch in his generation, with Anna Maria Ormezzano (1745-1830), the daughter of the lawyer Carlo Antonio. The two Ormezzano women were first degree cousins and the sister of Anna Maria, Angela Maria (1750-1815), married in 1759 Francesco Piacenza (1727-1796) of Pietro Francesco, the leader in his generation of the most important family of merchant-

manufacturers of Pollone (Elvo Valley).

Furthermore, it is important to consider that Gio Battista (1680-1745), the founder of the second branch, married in 1703 Caterina Garbella (1687-1763) of Mosso, the daughter of Pietro and Maria Bernardina Ormezzano. The latter was the sister of the grandfather of Margherita, Anna Maria and Angela Maria.

The Ormezzanos were the most important family of the Strona Valley until the 1780s. They had come into *de facto* possession of the waters of the Strona river around Mosso in the 16th century and the three brothers -- the notary Gio Bernardino (1702-1782); Giovanni Battista (1707-1742), the master of cerimonies of the bishop Ferrero of Vercelli; and the lawyer Carlo Antonio (1713-1782) -- owned four watermills and two iron workshops. Their first-degree cousin, Giovanni Vercellino (1675-1754), owned three other watermills.

Between 1736 and 1745, the Ormezzanos, together with the few other local watermills owners, fought and won a legal battle with the local feudal lord, Count Antonio Piccono, over the right to use freely the water of the Strona. Their legal victory encouraged the construction of new watermills in the following decades. By 1790, 39 of the 50 Piedmontese watermills to full wool were in the Biellese (Ormezzano 1928:101-102).

60. Significant were the marriages between the Sellas, the Gilettis of Pratrivero (Sessera Valley) and the Gilas of Portula (Sessera Valley). In 1768, Gio Antonio (1738-1814), the leader of the third branch in his generation, married Anna Maria Giletti (1751-1806), the daughter of Quirico and Antonia Barberis. In 1796, their older son, Gio Giacomo (1769-1840), the leader of the third branch in his generation, married Lucrezia Gila (1782-1855), the daughter of Giacomo and Maddalena Giletti. The latter was the sister of Anna Maria, hence Gio Giacomo and Lucrezia were first-degree cousins. It is important to consider that Maria Rosa Gila (1784-1884), the sister of Lucrezia, married Pietro Francesco Piacenza (1777-1841) of Francesco (See note 59), the leader in his generation of the most important family of merchant-manufacturers of Pollone (Elvo Valley).

61. Significant were the two marriages that linked the Sellas with the Robiolios of Vallemosso. In 1762, Anna Maria (1744-1801), the daughter of Gio Giacomo (1711-1785), the leader of the third branch in his generation, married Pietro Robiolio. Their daughter Giuseppina (1773-1843) married in 1796 her third degree cousin Pietro Giacomo Sella (1771-1821), the older son of Gio Domenico (1738-1805), the leader of the second branch.

62. In the 18th century, the most important marriage of a

Sella woman was that of Teresa (1775-1854), the daughter of Gio Antonio (1738-1814), with Gregorio Vincenzo Ambrosetti (1768-1833), son of Gio Battista and Rosa Clara Florio. He was the leader in his generation of the most important family of merchant-manufacturers of Sordevolo (Elvo Valley) and of the eentire Biellese in the 18th century.

63. However, the second branch received six dowries and paid out four, while the third branch received seven and paid out only two. These differences, probably, account somewhat for the faster financial accumulation of the third branch.

64. Distaff-spinning was strictly a female work that thousands of women practiced up to the beginning of the 19th century. Their earnings and productivity were very low: a **filera** spun only a daily average of 150 grams of wool.

It is possible that part of the contraction registered by local authorities in the number of laborers engaged in the wool proto-industry, was the result of the diffusion of the hand-powered spinning jennies. Less than a hundred **filanti** of both sexes were able to spin as much wool as thousands of **filere** (See Sodano 1953:46-49).

65. The Congress of Vienna re-assigned to the House of Savoy the Crown of the Kingdom of Sardinia. In the latter were included, however, not only the old territories of Savoy, Nice, Piedmont, and Sardinia but, also, the territories that in the pre-Napoleonic era were part of Republic of Genoa (Liguria).

66. Military expenditures remained high until 1848. In the period 1831-46, the War Ministry had average yearly budgets of 30 million lire on total state's expenditures that oscillated between 70 and 84 million lire.

67. A full protectionist system was in place by 1825 and was confirmed in 1830-32. The movement toward liberalization of foreign trade begun by reducing the barriers on foreign grain (1834, 1840, 1847), repealing the prohibition on the export of crude silk (1835), and concluding 26 commercial treaties with European and American states (1832-1846), including an important treaty with France (1834). The liberalization, however, was completed only by Cavour between 1850 and 1853.

68. The introduction of the water-powered mule jennies proceded gradually and did not encounter any other form of opposition in the Biellese, once the petition of the fifty-seven **filanti** was defeated. The latter were not displaced by the new machines. An official survey reported that forty-four **filanti** were still operating in the Biellese in 1832 (Ramella 1983:29). They became spinning specialists

of particular types of wools or grades of yarns and worked as subcontractors for local industrial firms, merchant-manufacturers and master weavers.

The new machines, however, gave the final blow to the domestic distaff-spinning of the **filere**. The mule jennies introduced by Pietro Sella spun daily as much wool as 1,800 **filere**. The loss of the small earnings of these women was compensated by an increase in those of their husbands, fathers and brothers, who were usually master weavers. The former **filere** did not become spinners in the new factories. They continued to operate in the domestic economy as seamstresses, darners and hemp spinners. Furthermore, they took over most of the agricultural work to compensate for the increased involvement of male family members in industrial and proto-industrial activities (See Ramella 1983:38 ff.)

69. Periodic floods damaged the woolen factories of the Biellese upper valleys, which were all built at the level of the rivers. In order to contain the floods, the entrepreneurs built embankments, paved the river-beds and reafforested the slopes.

Fire was the other major danger for the factories. Fire was particularly destructive since the burning of wooden floors and beams, impregnated with oil used abundantly in the production, provoked the complete collapse of the buildings. The high risk of fire was a consequence of the over-heating of the shaftings and gearings of the machines and of the use of wood stoves and oil lamps.

Destructions caused by floods and fires were able to destabilize a firm since buildings required relevant investments and represented a very important voice in its balance sheet. For example, the buildings of the **Gio Giacomo e Fratelli Sella** were appraised 194,244 lire, almost two-thirds of the value of the machines and about 9% of the whole active capital in 1834 (Quazza 1961:149-150).

70. In the spring of 1826, while at Pest (Hungary) to buy wool, Pietro had a fit of apoplexy. He was able to travel back to Mosso where he died exemplarily in the family's factory among the workers and the machines.

71. Total Biellese production of woolen cloths increased from 5,370 in 1812 to 12,523 in 1819. Governmental surveys reported the following situation in 1819 (Quazza 1961:45-47):

**Table 8. The Biellese wool industry in 1819.**

| Locality | Firm | Workers | Looms | Cloths |
|---|---|---|---|---|
| Biella | Various | 169 | 28 | 680 |
| Mosso Valle Sup. | Sella - two firms | 670* | 53 | 3,220 |
| Mosso Valle Inf. | Fratelli Picco | 40 | 4 | 882 |
| Mosso Valle Inf. | F.lli Robiolio/F.lli Torello | 100 | 9 | 942 |
| Sordevolo | Ambrosetti and Vercellone | 720* | 90 | 2,899 |
| Pollone | Piacenza | 33 | 4 | 190 |
| Occhieppo Sup. | Various | 89 | 22 | 640 |
| Occhieppo Inf. | Berizzi and Birolini | 600 | 40 | 800 |
| Others*** | Various | 3,319** | 87 | 2,000 |
| | | 5,740 | 337 | 12,253 |

* Including domestic spinners.
** Including the spinners of the entire Biellese.
*** Trivero, Ronco, Zumaglia, Portula, Coggiola, and others.

In 1827, the 17 more important Biellese woolen firms were (Quazza 1961:48):

**Table 9. Biellese wool firms in 1827**

| Locality | Firm | Workers* | Cloths |
|---|---|---|---|
| Biella | Amosso P. Marco | 6 | 100 |
| | Amosso G. Matteo | 9 | 100 |
| | Goggia Piero | 4 | 150 |
| Crocemosso | Gio Giacomo e F.lli Sella | 25 | 5,100 |
| Mosso Santa Maria | Crolle Giacomo | 3 | 100 |
| Occhieppo Sup. | Berizzi e Birolini | 13 | 350 |
| Pollone | Piacenza | 10 | 450 |
| Portula | Bozzalla Giacomo | 3 | 150 |
| | Bozzalla Giovanni | 9 | 150 |
| | Bozzalla Giuseppe | 3 | 50 |
| Sordevolo | Ambrosetti G. B. | 5 | 50 |
| | Bona F.lli | 6 | 50 |
| | Vercellone G. B. | 4 | 280 |
| | Salza Pietro | 8 | 200 |
| | Vercellone Franc. e F.llo | 4 | 100 |
| Valle Inf. Mosso | Borgnana-Picco F.lli | 16 | 900 |
| Valle Sup. Mosso | Maurizio Sella e F.llo | 3 | 250 |
| | | 131 | 8,530 |

* Only the weavers concentrated in the manufacture.

Governmental surveys, conducted between 1830 and 1832, reported the following data on the woolen sector in the province of Biella (Ramella 1983:29). There were 15 major woolen firms that had already mechanized spinning. The largest was the **Gio Giacomo e Fatelli Sella** of Crocemosso that employed 1,150 factory and domestic laborers, equal to 1/5th of the total Biellese labor force engaged in wool production (5,800). There were 124 various other smaller manufacturers, of which 12 in Pettinengo produced socks and hosieries, employing 919 laborers. Finally, there were 44 **filanti** that worked as subcontractors and 150 families of **mastri tessitori** -- about 950 individuals or 1/6th of the total -- that produced cloths independently for the market.

Carlo Ignazio Giulio, in his report of 1844 on the woolen industry of the Kingdom, highlighted the achievements of the Bielleses: 79 factories and workshops, 11,240 spindles, 816 looms, and 5,329 workers. In comparison to the 255 factories and workshops, 23,820 spindles, 1,715

looms, and 11,297 workers of the entire Kingdom, the Biellese, with less the 20% of the total factories and wokshops, had 54% of the spindles, 53% of the looms, 52% of the workers. In particular, the Biellese producers covered 8/9ths of the Kingdom's total production of hoisery (Quazza 1961:51).

72. The family patrimony of the second branch included buildings and equipment of the firm at Valle Superiore Mosso and Mosso Santa Maria; credits of the firm; agricultural properties -- tracts of forest and meadowland in the upper Biellese, **cascine** in the lower Biellese at Balocco and Formigliana; agricultural supplies and equipment -- barrels, hay, wheat, wine, cows, and sheep; a watermill in Trivero; maternal dowries and "pensions" of older members (Castronovo 1964:308-09).

73. It is interesting to note that close kinship ties connected all four partners of the **Sella & Piacenza** (on the marriages between the Sellas, Ormezzanos, and Piacenzas in previous generations See 59, 60). Giuseppe Ormezzano (1800-1880), son of Gio Battista and Angela Ottino, married in 1824 Anna Maria Sella (1807-1851), daughter of Vincenzo (1781-1828), Pietro Antonio's younger brother. Giuseppe's younger brother, Francesco (1801-1887), a lawyer and president of tribunal in Turin, married in 1834 Giuseppina Sella (1817-1892), daughter of the lawyer Giuseppe Vincenzo (1791-1865) of the third branch.

The lawyer Giacomo Piacenza (1812) was the son of Pietro Francesco (1777-1841) and Maria Rosa Gila (1784-1884). She was the sister of Lucrezia Gila (1782-1855), the wife of Gio Giacomo Sella (1769-1840) of the third branch. But, Giacomo was also the grand-son of Francesco Piacenza (1727-1796) and Angela Maria Ormezzano (1750-1815). The latter was the sister of Anna Maria Ormezzano (1745-1830), who was the wife of Gio Domenico Sella (1738-1805). Anna Maria and Gio Domenico were the parents of Pietro Antonio and the grand-parents of Giovanni Domenico. Thus, Giacomo Piacenza was their second-degree cousin.

74. This transformation involved the construction of a derivation channel from the Cervo river to provide the motive power for two hydraulic turbines. The new machines included a complete carding and spinning mechanical assortment, numerous beaters and openers, continues and mule jennies, looms, trimmers, and clippers. There was also a small mechanical workshop for the maintenance and construction of machines.

75. The profits of the **Maurizio Sella** were registered under the voice "cash on hand and credits" in the firm's budget

and were capitalized each year. They were as following: 3,167.35 lire for 1837, on average revenues of 7-8,000 lire for 1836-37; 3,316.48 lire for 1838, on average revenues of 25-28,000 lire for 1838-39; 14,257.16 lire for 1842; 16,492.10 lire for 1843; 15,712.29 lire for 1844, on average revenues of 60-62,000 lire for 1840-44; 10,388.95 lire for 1845; 7,843.33 lire for 1846; 27,363 lire for 1848; 43,740.05 lire for 1849, on average revenues of 75-78,000 lire for 1848-49; 45,353.69 for 1850 (Quazza 1961:183; Castronovo 1964:313).

In 1850, the factory employed 100 workers. Its equipment was all water-powered and consisted of 4 spinning machines, 6 complete carding assortments, 4 fulling machines, 2 washing machines, 6 trimming machines, and 4 clipping machines. It consumed 30 tons of imported wool -- 1/4th from Rome, 1/4th from Russia and Spain, 1/4th from Barbary, and 1/4th from Germany. Finally, it produced 1,410 cloths of various types for a total of 32,000 meters 310 **pilots** for 10,000 meters; 300 **zephirs** for 6,000 meters; 300 **casimiri** for 7,500 meters; 100 **mollettoni** for 2,500 meters; 100 flannels for 3,000 meters (Quazza 1961:52).

76. The terms for the new partnership among the four brothers were exposed in detail in the following two letters of Gaudenzio and Quintino, written in the Spring of 1850 while the latter was studying at the **École des Mines** in Paris. Besides the terms, the two letters are important because provide a vivid inside description of how much the Sellas' managerial practice was based on reciprocal trust among the four brothers and on inextricable linkages between business and family: in the same book-keeping, for example, appear side by side the payments made for the acquisition of the factory's machines, those for the home's furniture and those for the sisters' dowries.

The following was the letter of Gaudenzio to Quintino (Quazza and Quazza 1980, Vol. I:118-121).

Biella, February 22nd, 1850

Dearest brother.

... I want to give you a short account of our business ... As you will notice below, we have spent indeed very large sums for the acquisition of the beater, the construction of the new dyeing workshop and the acquisition of new machines; but to reap one has to sow, thus we don't doubt that because now we have regularized and increased the water power of our factory, furthermore because we can count on the cooperation of the brother-in-law Geniani, to whom we pay 3,500 lire a year, if favorable opportunities present themselves we will be able to profit by them more than it was possible for us in the last two years given our lack of motive-power, and in any case we are

able to fight advantageously from now on against our colleagues. To make clear to you the amount of our business fund (**fondo di negozio**) and of the profits made by us after the death of our father, we thought of beginning from the inventory of January 1846 made still by him, because the judicial one, made after his death in August, was general, reflecting not only the business but also the real estate holdings and other goods... Here is the detail of the benefits resulting from the three inventories: that is in

| | |
|---|---|
| 1846 | 34,300 |
| 1847 and 1848 | 211,336 |
| 1849 | 80,790 |
| Lire | 326,426 |

these benefits appeared in our inventories as follows:

| | |
|---|---|
| net business fund at the 21st of January 1850 | 377,649 |
| net fund at the 31st of December 1845 | 218,552 |
| surplus produced by profits | 159,097 |
| paid to our sisters on the account of dowries | 68,815 |
| acquisition of new machines | 31,528 |
| for the construction of the dyeing workshop and improvements in the factory | 18,267 |
| for the acquisition of real estate | 35,632 |
| various expenditures for the house, acquisition of furniture, etc | 13,117 |
| Lire | 326,456 |

We are sure that you didn't expect to see our fatigues crowned by such a good success considering the small consistency of our capital, and we can convince ourselves that we owe this result in large measure to the perfect union that reigned in our family, union that we must study the means to maintain the longer we can, among which one of the most important is to fix clearly our reciprocal positions. Now you will allow us, as you already expressed the desire to our mother, to talk seriously about the manner in which we can settle the account of the last three years, and fix our partnership for the future. Regarding your portion for these three years, endowed as you are of good sense we are sure that you will find reasonable that we take 150 thousand lire, that is 50 thousand lire each, so that the fund on hand of 377,649 lire is divided among us brothers as follows:

| | |
|---|---|
| position of us three brothers, each with 50 thousand lire more, 106,912 lire.....total | 320,736 |
| your position, with 50 thousand lire less, 56,912 | 56,912 |
| | 377,648 |

and on this basis the ownership of the factory with the totality of the machines and all the real estate properties, including those already bought by us, would remain perfectly equal among us four brothers. We flatter ourselves that you would not consider our share exorbitant, or detrimental to you, nor that we foster bad dispositions toward you, when you would think that if this was the case we would have assigned your share in real estate assets at the death of our father, or fixed it into a capital the product of which in both cases would not have been equal to what you spent in these three years (13,000 lire and more), expenditures that were made by drawing from the patrimony as a whole.

You were not going to complain if we had done that because you engaged yourself in a different career. Now, instead, even according to the above basis, while you cultivate on your own a capital that we don't doubt will yield much more than our share, we refer to your personal capital, which is extraneous to us, and which you spent besides your income, others with their fatigues and sweats procured you a yearly saving of 11,000 lire, employed as showed in the note below in the payments of dowries, acquisition of machines, etc. Now for your information, the liabilities of our patrimony that do not appear in the inventory amount to 75,000 lire as follows:

| | |
|---|---|
| residue of the acquisition of the beater..... | 24,000 |
| to the sister Geniani..... | 17,000 |
| " " " Lucrezia..... | 10,000 |
| " " " Emilia and Elena..... | 2,000 |
| " " " Effisia..... | 22,000 |
| | 75,000 |

and the account that now we have with our mother for the portion of her dowry that we took it appears as a debt in the inventory less the amount of the **cascina** of Chiavazza that she has reimbursed to us, remaining it her own, and extraneous to our accounts. Since we don't doubt that you will have nothing to object to this first point, let us examine now how we can come to terms for a partnership that we could establish among us brothers. To ensure the regularity of our partnership it would be necessary to appraise the factory with the machines, and the real estate properties with all the supplies, a kind of work that is impossible to do right away, and it would be difficult also to agree given the multiplicity of the items, which have to be appraised, and which you would not be able to know enough. However, nothing prevents us from coming to an agreement on the amount of the personal deduction allowed to us three brothers,

reserving ourselves to settle this issue at your return home, and at that time also for good rule we can draw formally our partnership. It is our opinion that a yearly deduction of 2,500 lire for each of us from the whole business fund (massa di Negozio) is honest and fair remaining the yearly profits divisible among us four in equal proportion to the fund of each of us. On the other capitals that as a guarantee to the partners, and which for the well being of the business will be good to insert in the contract of partnership, we are certain that there will be no serious difficulties, and hence we avoid to discuss the isssue further persuaded as we are that in practice everything will be settled with recipocal satisfaction.

The following is a detailed account of the expenditures that we have made, and the debts paid in the last three years:

| | Dowries Paid | Real Estate | Factory | Machines |
|---|---|---|---|---|
| to Mariottina for the full settlement of her dowry..... | 16,240 | | | |
| to Lucrezia on account..... | 9,500 | | | |
| to Elena on account..... | 21,000 | | | |
| to Emilia..... | 22,075 | | | |
| value of Chiavazza's meadow... | | 400 | | |
| " of Garbaccio's house at the bridge..... | | 4,100 | | |
| to Galvano on account for the beater..... | | 18,000 | | |
| to Lady Cerruti..... | | 5,000 | | |
| assembling and gratuities..... | | 1,590 | | |
| meadow bought in Cossato..... | | 316 | | |
| bank behind Garbiglietti's factory..... | | 2,803 | | |
| meadow Gilardino in Chiavazza. | | 925 | | |
| vineyard Marsaglia in Cossato. | | 498 | | |
| supplies for the boiler and the carding machines..... | | | | 785 |
| 3 fulling machines..... | | | | 2,800 |
| 1 screw for the press..... | | | | 1,000 |
| 2 home-made purifiers..... | | | | 1,200 |
| 8 looms for cloths..... | | | | 1,000 |
| 8 purifiers, 2 mule jennies, 2 trimming machines, 1 fulling machine, 1 washing machine, 1,000 carding-irons,1 steamer, 2 boilers, 35,000 shuttles bought at Chambe'ry, total..... | | | | 13,353 |
| 3 new boilers and carding-irons..... | | | | 2,200 |
| construction of the wheel for the beater and transmission... | | | | 9,150 |
| for the construction of the dyeing workshop..... | | | 12,937 | |
| for alterations of the size of machines / other innovations.. | | | 5,330 | |
| | 68,815 | 35,632 | 18,267 | 31,488 |

We hope that the details that we have given can clarify to you the state of our patrimony and persuade you of our good will, and of our engagement in

pursuing your interest together with our own, and we hope to receive from you an approving answer regarding our intentions. At the same time we will be grateful to receive news of your health, and of your studies. Here everybody greets you.

Your most affectionate brother,
Gaudenzio.

The following was the reply of Quintino to Gaudenzio (Quazza and Quazza 1980, Vol. I:118).

Paris, March 1st, 1850

Dearest Brothers.

I hasten to answer to the letter of Gaudenzio in order to let you know at once what are my intentions. I consent fully to the conditions that you propose to me, and if I have understood well from the letter, it remains agreed upon that the present capital of each of you three is one-fourth of the value of the factory, real estate and furniture that we own (less the 75,000 lire that still burden these assets) plus 106,900 lire, while my own capital is one-fourth of the value of the above mentioned plus 56,900 lire.

Then you propose for the future that until we establish our partnership, each of you three draws 2,500 lire yearly and that when the partnership will be established each of you three will draw from the profits accumulated since the beginning of 1850, and that what remains will be divided in proportion to the capital that each of us has in the partnership. But as I see it there isn't any obstacle to the immediate establishment of the partnership other than my absence during the compilation of the inventory of the factory, supplies, and real estate, I declare to you that if you want to eastablish the partnership at once, I accept with the same tranquillity and safety as if I had done it myself from head to foot. Therefore if it seems a good thing to you to establish from now on a partnership among us four for a given number of years on the above mentioned bases or on those that you might think as more convenient (I leave it all to you) the consideration of my absence must not block you, since I place on you the same confidence that I would place on myself.

If you don't think of establishing the partnership now, I accept with delight the conditions that you propose to me and that (if I have understood well the letter) are those that I have explained above.

The **Sella Fratelli fu Maurizio**, the new partnership among the four brothers, came into existence at the beginning ot 1851. Its capital amounted to 597,162.26 lire

and was divided among Francesco, Gaudenzio and Giuseppe Venanzio for 164,108.14 lire each and Quintino for 100,837.84 lire.

In 1853, however, Francesco left the partnership and was liquidated with 186,400 lire. As a result, the firm's capital fell to 494,629 lire, divided among Gaudenzio and Giuseppe Venanzio for 206,052.63 lire each and Quintino for 135,673.74 lire. But, already the next year it rose to 547,779.00 lire (Castronovo 1964:316).

77. There were two marriages between two Rey brothers and two daughters of Gio Giacomo Sella. Giacomo (1800-1869) married Maria Luigia (1810-1836) in 1830 and Giuseppe (1803-1875) married Matilde (1808-1878) in 1831. The third brother, Giovan Battista (1811-1893) married Rosa Cardone.

78. The partnership of Giacomo Rey was limited to his right to receive 7% of the firm's yearly profits. His total share of accumulated profits amounted to 32,290.68 lire plus interests, when he left the partnership in 1835. The same year, Gio Giacomo liquidated also another commercial partner, Gioacchino Peyron, for 16,139.24 lire plus interests. Notwithstanding all these payments, the capital of the firm incresead of 755,755.61 lire, passing from 1,709,185.13 lire in 1834 to 2,464,940.74 lire in 1837.

Between 1831 and 1840, the firm obtained several conspicuous loans from family members and business associates -- 20,290 lire from Giacomo Rey, 15,000 lire from Bartolomeo (1771-1861), 4,180 lire from Giovanni Giacomo Antonio, and 6,082 lire from the businessman Giuseppe Vincenzo Belli. These loans received an interest of 5 to 7% and represented an important source of financing (Castronovo 1964:310).

79. A daughter had virtually no inheritance rights and movable goods formed her marriage dowry, in accordance with the restored Royal Constitution of 1770, which were enforced from 1814 until 1837. The new laws of the **Codice Civile Albertino** established that the dowry of a married daughter constituted in effect only an advance payment of her share (**legittima**) of the father's estate, which she had the right to receive at the latter's death (See Ungari 1974).

80. In the following years, Gregorio acquired additional agricultural properties -- **cascine** and vineyards in the lower Biellese and **cascine** and large properties rented to **fittabili** in the Vercellese and Novarese (Sannazzaro Sesia) and became one of the largest land-owners of Piedmont. He established an important stud farm and founded the Italo-Franco-British Company for the Introduction in Italy of Agricultural Machinery in 1856.

81. The capitalized profits amounted to 1,242,862.1 lire in the period 1841-1850 and were accumulated as following: 23,609.49 lire in 1841; 70,999.82 lire in 1842; 95,273.87 lire in 1843; 124,171.60 lire in 1844; 147,734.99 in 1845; 137,779 in 1846; 100,542.66 in 1847; 205,322.59 in 1848; 184,729.61 in 1849; 152,698.62 in 1850 (Quazza 1961:182-183; Castronovo 1964:313).

In 1850, the equipment of the factory was all water-powered and consisted of 3 preparatory machines, 1 purifier, 26 Cockerill carding machines, 7 continues, 1 spinning machine for thick yarns, 7 mule jennies of 260-330 spindles each; 4 other spinning machines (Quazza 1961:52).

Notwithstanding the fact that it suffered two redeployments, the firm remained the most important and modern of the entire Kingdom and produced high quality woolens as witnessed by the golden medals it won at the Turin Exhibitions of 1829, 1838, 1844 and 1850.

82. At the Sellas' factories, women's daily wages amounted to 0.40-0.70 lire, those of children to 0.30-0.35 lire, while those of men to 0.90-1.40 lire. Male specialists earned higher daily wages: an assistant to the machines 1.25 lire, a chief-clipper 1.50 lire, an assistant-fuller 2 lire, and a chief-fuller 2.50 lire. The minimum vital income was appraised in 317 lire a year for the Biellese in 1840, while women earned 120-210 lire by working 300 days in a year, children 90-105 lire, men 270-420 lire. To these figures, however, one should subtract the inevitable diminuitions resulting from the impositions of occasional fines (Quazza 1961:176-177).

83. Women remained an unstable segment of the new industrial labor force throughout the period. They tended to work in the factories only in the period before marriage as a means to form their dowries or provide economic help to their parental families. Women were encouraged to abandon their factory jobs at marriage by several factors. The rigid factory-hours were largely incompatible with the time required to manage the new family and raise children. Factory work of married women was considered a threat to the good reputation of a new family since it was viewed as an indication that it was going through economic hardships and that the husband paid little attention to his wife's sexual behavior.

84. The regulations introduced by Maurizio in 1835 established harsh terms also for apprentices.

> The apprentices of whatever trade will have to stay for a time double than that of the others, otherwise they might resign as the others after a length of time of two consecutive years, but if they want to exercise for

> themselves or for others any of the trades that they have learned, they will have to hand over to the owner the pay that they receive in the first year to indemnify him, or with a longer permanence, or in cash, of the free tuition, which they have received by an expert person, at his expenses, and of the little and often badly executed work, which is obtained during their apprenticeship... (in Quazza 1961:157).

85. The regulations introduced by Maurizio in 1835 spelled out in detail the protocols for dismissal and the refund of damages.

> No worker, director, countermaster, chief or other will be able to resign in the months from May to the end of November if he has not given an advance notice of two months, under the penalty of losing two months' salary and having to refund the damages. The above mentioned are responsible for the damages to the implements, furniture, window panes, machines, wools, cloths and other damages, which result from negligence and inattention. The nearest bystanders are responsible, if they do not reveal the culprit (in Quazza 1961:157).

86. The regulations introduced by Maurizio in 1835 established harsh disciplinary terms, including also personal searches and heavy fines. The message given by the long list of "fines common to all" was clear: behavior which was acceptable in the context of domestic work was considered incompatible with the new order of industrial production.

> The doormen, engineers, countermasters are authorized to search at their liking the workers at the exit of the factory or working-rooms, because this is also in the interest of honorable persons that sometimes can be compromised or suspected. The workers must respect their chiefs, and obey promptly (in case they might be harmed they can appeal to the owners for justice) under the penalty of losing one week's pay, and except for more serious cases that might require a denunciation to the police. Every person employed in the factory will make a deposit equal to fifteen days of work, which will be used as a guarantee for the fines, and those who are paid by the piece will make a deposit equivalent to it. The chiefs, directors and assistants in charge of watching over, supervising or similar duties, are exempt from the deposit, but they receive the same fine of their delinquent subordinate every time the fault of the latter is discovered by the owners or members of their families. This fine will be

> doubled in case the latter are convinced that the fault was not denounced although it was known and that the registration of the due fine at the first suitable moment was omitted. The thieves will be brought to justice... Whoever enters later than a quarter of an hour since the first ringing of the bell will lose one fifth of one day's pay. The absence, except in case of illness and still with preventive notice, will be punished with one third of the absence. The abandonment of one's own place, conversations are fined one quarter of one day's pay. The departure or permanence before or after the ringing, one quarter of one day's pay. Going to the common areas by indirect route, half of one day's pay... Sleeping at night, one day's pay; during the day, half; standing, half; and for those paid by the piece, one quarter. Drinking wine, brandy or other liquors, eating chestnuts or fruits the leftovers of which dirty the rooms, one quarter; the same, by not sweeping every day. Singing, walking or talking loud, one quarter, and at night one third. Arriving at the door drunk, or entering as such in the woolen factory, half of one day's pay. The interference in extraneous things, especially by simple workers, in the repair of machines, looms or implements is fined half of one day's pay, besides the damages that might have been caused, since everyone must stick to his task... Throwing garbage in the courtyards, stairs and bathrooms, one quarter... Smoking tobacco is forbidden under the penalty of one day's pay, chewing it, half of one day's pay. Bringing cloaks, umbrellas, bundles or baskets, canes or other, beyond the room of the doorman, or other adjacent, a fine of half of one day's pay. The entrance or exit from whatever side it may be, except through the big door, will give the right to stop and hand over to the police the delinquent as a suspect, and through the big door hiddenly, that is without the knowledge of the doorman, will be fined half of one day's pay. The warning given by a worker with signs, whistle, scream or words to another to alert him of the impending danger of being caught at fault or idling will bring about a tenfold fine for him and the same fine if this was done by a chief director or assistant, with the further loss of one month's salary... (in Quazza 1961:158-159).

87. The regulations introduced by Maurizio in 1835 established heavy fines that unequivocally marked the distance between the workers and the Sella family.

> Entering in the office, kitchen, basement or whatever other rooms or living and personal service places of the owners is fined with the loss of one month's salary

or earnings, if one does not give advance notice of his presence or arrival (in Quazza 1961:159).

88. Gio Domenico (1738-1805), the leader of the second branch, and his wife Anna Maria Ormezzano (1745-1830) had ten offsprings. Only six reached adulthood, however, and they were in order: Carlo (1769-1828), who became a priest; Pietro Giacomo (1771-1821), who married in 1796 his third-degree cousin Giuseppina Robiolio (1773-1843) (See note 61); Pietro Antonio (1777-1855), who married in 1805 Lucrezia Giletti (1784-1857) of Giacomo Antonio and Angela Maria Robiolio (for previous marriages between the Sellas, Gilettis and Robiolios See notes 60 and 61); Vincenzo (1781-1828), who married Marianna Rosso (1779-1832), daughter of Giovanni Quirico and Caterina Costa, of a family of woolen entrepreneurs of Callabiana; Maurizio (1784-1846), who married in 1813 his fourth-degree cousin Rosa Sella (1799-1881), daughter of Gio Giacomo and Lucrezia Gila of the third branch; and, finally, the only daughter Maria Angela (1786-1842), who married in 1807 her third-degree cousin Benedetto Angelo Maria Sella (1789-1865), the son of Gio Antonio and Anna Maria Giletti of the third branch.

Gio Antonio (1738-1814), the leader of the third branch, and his wife Anna Maria Giletti (1751-1806) had fifteen offsprings. Only nine reached adulthood, however, and they were in order: Gio Giacomo (1769-1840), who married in 1796 his first-degree cousin Lucrezia Gila (1782-1855) (See note 60); Angela Maria (1771-1836), who remained unmarried; Teresa (1775-1854), who married in 1792 Gregorio Vincenzo Ambrosetti (1768-1833) (see note 62); Bartolomeo (1776-1861), who remained single; Pietro (1784-1827), who remained single; Gio Battista (1788-1878), who married in 1813 his fourth-degree cousin Modesta Sella (1798-1872), the daughter of Pietro Giacomo and Giuseppina Robiolio of the second branch (See above); Benedetto Angelo Maria (1789-1839), who married in 1807 his third-degree cousin Maria Angela Sella (1786-1842) of Gio Domenico and Anna Maria Ormezzano of the second branch (See above); and, finally, Giuseppe Vincenzo (1791-1865), who married in 1815 Giovanna Molinari (1791-1857).

89. The seven marriages among Sella cousins were the following:

Secondo (1819-1884), the third adult son of Benedetto Angelo and Maria Angela Sella, married in 1843 his first-degree cousin Caterina (1828-1916), the third adult daughter of Gio Battista and Modesta Sella.

Carlo Corte (1821-1849), the first-born son of Lorenzo Corte and Teresa Sella, married in 1844 his first-degree cousin from the mother side Augusta Pezzia (1825-1910), the only adult daughter of Gio Battista Pezzia and Serafina Sella.

Valentino (1816-1884), the first born-son of Gio Battista and Modesta Sella, married in 1846 his second-degree cousin from the mother side Lucrezia (1831-1885), the fourth adult daughter of Maurizio and Rosa Sella.

Gaudenzio (1820-1860), the second-born son of Maurizio and Rosa Sella, married in 1847 his second-degree cousin Ottavia (1831-1903), the fourth adult daughter of Gio Battista and Modesta Sella. It is important to note that while the patrimony of Gaudenzio was valued in about 200,000 lire, Ottavia's dowry and share of her father's patrimony amounted to 800,000 lire.

Giuseppe (1827-1869), the second-born son of Giuseppe Vincenzo and Giovanna Molinari, married in 1849 his first-degree cousin Federica (1834-1909), the fifth adult daughter of Gio Battista and Modesta Sella.

Francesco (1819-1895), the first-born son of Maurizio and Rosa Sella, married in 1850 his first-degree cousin from the mother side Augusta Pezzia (1825-1910), the only adult daughter of Gio Battista Pezzia and Serafina Sella, and the widow of Carlo Corte (See above).

Quintino (1827-1884), the fourth adult son of Maurizio and Rosa Sella, married in 1853 his first-degree cousin from the mother side Clotilde Rey (1835-1915), daughter of Giacomo Antonio Rey and Maria Luigia Sella.

90. The Moscas were in the construction business. They had moved from the Andorno Valley to Chiavazza (Biella). Angelo Mosca (1811-1889), son of Giovanni Battista and Caterina Rosazza, married in 1841 Carolina (1823-1906), the sixth adult daughter of Gio Giacomo and Lucrezia Gila. Angelo was mayor of Chiavazza for several years. His sister, Clementina (1835-1920), married in 1851 Giuseppe Venanzio (1823-1876), the third-born son of Maurizio and Rosa Sella.

91. These marriage partners of the Sellas can be distinguished in three different groups on the basis of the economic activities in which they and their families were involed.

A first group of marriages were celebrated with members of 18th century entrepreneurial families that however wealthy were unable to make sucessfully the transition to the industrial organization of production -- Bonas, Cartottis, Cortes (See note 88), Garlandas (see below), Moscas (See note 90), Ormezzanos (See note 73), Pezzias (See note 88), Rossos (See note 88), Torello-Vieras.

A second group of marriages were celebrated with members of families that, as the Sellas, were among the successful pioneers of the industrialization process of Biellese wool production.

Giovanna Battista (1815-1858), the fifth adult daughter of Pietro Giacomo and Giuseppina Robiolio of the second branch, married in 1840 Gioacchino Colongo (1813-1873), the

son of Tiburzio Colongo and Teresa Borgnana-Picco. Gioacchino and his brother Bernardo were the designated heirs of their uncle Giacomo Antonio Borgnana-Picco (1787-1855), who was one of the pioneers of the industrialization of Biellese wool production. It is interesting to note that the Sellas of the third branch had fought a bitter legal battle with Borgnana-Picco from 1822 to 1828, which involved land boundaries and rights to use the water of the Strona river to power their respective factories. Over the years there were several other disputes between the two sides involving reciprocal accusations of "industrial espionage" conducted through the "stealing" of laborers trained to machine work.

Elena (1829-1895), the third adult daughter of Maurizio and Rosa Sella of the second branch, married in 1847 Luis Benoit Boussu (1798-1855), who had come to Biella from Vienne (Dauphine') with his brother Federico on the invitation of the Savoyard government in 1824. His family had a woolen firm in Vienne and the invitation of the Savoyard government was made in the context of a policy that intended to stimulate the qualitative improvement of wool production. Boussu introduced several modern machines and with his brother established successfully a factory for the production of "French style cloths" next to the one of the **Maurizio Sella** at Chiavazza (Biella).

Giovanni Domenico (1806-1870), the first-born son of Pietro Antonio and Lucrezia Giletti of the second branch, married in 1848 Cecilia Amosso (1830-1922), the daughter of Paolo Amosso and Eleonora Bora. Paolo Amosso had inherited the woolen firm of his father Matteo in Biella and his personal patrimony was valued already in 80,000 lire in 1834 when he became municipal councilman of Biella, post that he kept for several years.

Efisia (1833-1881), the sixth adult daughter of Maurizio and Rosa Sella of the second branch, married in 1851 Giovanni Bozzalla-Pret (1827-1882), son of Luigi Bozzalla and Carolina Salza. The Bozzallas were a family of 18th century entrepreneurs from Castagnea (Sessera Valley), who had established successfully a modern woolen factory in 1832.

A third group of marriages were celebrated with members of 18th century entrepreneurial and landholding families that had engaged themselves in professional activities and civil service since the beginning of the 19th century.

Giuseppina (1818-1876), the first-born daughter of Gio Battista and Modesta Sella, married in 1831 Giovanni Pozzo (1805-1859) of Giuseppe, who was the judge of Mosso and a native of Candelo (lower Cervo Valley).

Maria or "Mariotina" (1815-1895), the first-born daughter of Maurizio and Rosa Sella, married in 1834 the medical doctor Pietro Angelo Boggio (1806-1869), the son of Giuseppe Boggio and Teresa Regis. The Boggios were an 18th

century entrepreneurial family of Mosso Santa Maria and Pietro Angelo established a modern woolen factory at Ometre in 1840. One of the nieces of Pietro Angelo, Cecilia Boggio (1828-1912), the daughter of Gio Battista Boggio and Maria Crolle, married in 1846 Albino Sella (1820-1886), the second-born son of Gio Battista and Modesta Sella.

Giuseppina (1817-1892), the first-born daughter of the lawyer Giuseppe Vincenzo and of Giovanna Molinari, married in 1834 Francesco Ormezzano (1801-1887), the son of Gio Battista Ormezzano and Angela Ottino of Mosso Santa Maria. Francesco was a lawyer and became the president of the Court of Turin (for his brother Giuseppe see note 73).

Gregorio (1815-1862), the second-born son of Gio Giacomo and Lucrezia Gila, married in 1841 Anna Bertolazzo (1816-1895) of Diego and Clara Bullio. The Bertolazzos were a family of lawyers and notaries of Biella. The Bullios had been among the most important 18th century merchant-manufacturers, but they had lost out in the Napoleonic period. Anna brought a conspicuous dowry made of buildings in Biella and agricultural properties in the lower Biellese. She inherited also a large sum of money from her step-father, the Baron Francesco Bella Fabar.

Maria (1801-1871), the second adult daughter of Pietro Giacomo and Giuseppina Robiolio, married in 1832 the notary Gio Antonio Garlanda (1801-1865), the son of the notary Gio Bartolomeo and of Anna Apollonia Tallia of Mortigliengo. Both the Garlandas and the Tallias had been important 18th century merchant-manufacturers.

Quintina (1826-1877), the second-born daughter of Gio Battista and Modesta Sella, married in 1843 Agostino Carnera (1813-1880), the son of Francesco and Lucrezia Genetrone, and one of the chief inspectors of the Corp of Civil Engineers.

Finally, it is important to note that several of these marriages connected the Sellas with well to do families that resided and operated in Turin, the capital of the Kingdom -- such as the Reys, Ormezzanos, Carneras, Fourrats, Soldatis.

92. The moderate liberal platform was shaped in the following books: Gioberti V., **Del primato morale e civile degli Italiani**, Brussels, 1843; Balbo C., **Delle speranze d'Italia**, Paris:Didot, 1844; de Petitti C. I., **Delle strade ferrate Italiane e del migliore ordinamento di esse**, Capolago, 1845; Cavour's review of this book in **La Revue Nouvelle**, May 1, 1846; Torelli L., **Pensieri sull'Italia di un anonimo Lombardo**, Paris:Delay, 1846; Durando G., **Della nazionalità Italiana**, Paris, 1846; d'Azeglio M., **Degli ultimi casi di Romagna**, 1846; ibid, **Proposta d'un programma per l'opinione nazionale Italiana**, Rome, 1847.

# "GREAT FAMILIES:" CAPITAL ACCUMULATION AND POLITICAL POWER IN ITALY

by

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VOLUME II

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1994

# CHAPTER 6
# NORTH ITALIAN DYNASTIC FAMILIES IN THE SECOND LONG WAVE (1849-1896)

## Introduction

While in the nation-states that formed the core of the world economy -- Great Britain, France, and toward the end of the period, also the United States and Germany -- there are substantial manufacturing developments that are directly linked with the generalized use of coal as motive-power and steel as raw material and with the colonial partition of the world market, old points of weakness subsist for accumulation in industry in Italy.

Until the end of the 1850s, the water of alpine rivers and streams continues to be almost the exclusive source of motive-power in northern Italy. It is only between the 1860s and the end of the century that coal becomes an important source of energy, allowing the diffusion of steam-powered machines and the development of basic industrial production like cement. At the end of the century the electric industry develops and Edison's first European power-station is built in Milan in 1883. The metal industry continues to remain under-developed although, for reasons of national security, rather conspicuous public resources are channeled into this sector.

In Italy it is not possible to take full advantage of the benefits of the expansionary phase of the second long-wave (1848-1873) because the country is still divided

in separate States, although their respective customs duties are being lowered. The wars that lead to the political unification of the entire Italian peninsula are fought on the territory and leave behind a very critical financial situation. Even the formation of the national market is problematic: overland communication is very expensive and slow; English exporters can control the market of the central-southern regions with conveyance by sea, while in the Appennine regions the population, whether rural or urban, has incomes that are too low and grow too slowly to be able to form an effective market for the developing textile industries and proto-industries located in the pre-alpine hills and highlands.

As for the international market, both the old governments and the moderate political party, which becomes the ruling **Destra Storica** (the "Historic Right") after the unification, view the country as an agricultural semi-periphery that can benefit only from an incorporation in the world economy as an exporter of specialized agricultural crops, minor minerals and "natural" semi-finished manufacturing goods like silk yarns. Even in this case, however, only meager benefits can be reaped because of the disappointing conditions of viticulture and sericulture that, for most of the 1850s and 1860s, are hit by the oidium and pebrina diseases.

The subsequent contraction phase (1874/77-1896)

coincides with the first 25 years of the Italian Kingdom and its great financial difficulties and fiscal pressure. In 1876 the government shifts from the **Destra** to the **Sinistra Storica** (the "Historic Left"), which follows an interventist line in economic policy, investing heavily in the construction of railway and road networks to unify the country and in the army and navy to keep internal order and to try building a colonial empire abroad. The big infrastructures, heavy arms and military vessels, however, are made largely by foreign companies with foreign funds, while the diffused misery of the peasantry and the critical conditions of pre-alpine areas caused by the crisis of sericulture and viticulture provoke the first migratory movements to South America from the northern regions. These movements become massive from the **Mezzogiorno** to the United States in the 1880s, once the negative effects of the drastic collapse of the international prices of all agricultural crops begins to be felt. With the dramatic crisis of Italian agriculture and the loss of dynamism of the silk industry, protectionist interests prevail and tariffs are introduced in 1878 and then raised in 1887. Protectionism creates the conditions for the definitive affirmation of the factory system in the cotton and wool sectors and for the first establishment of iron-and-steel and heavy engineering industries for military purposes.

One point of strength that emerges in the second long

wave is the full manifestation of the northern Italian industrial aristocracy as a ruling élite, a process analyzed in this chapter in the case studies dedicated to the Gavazzi, Ponti, Cantoni, Crespi, and Sella dynastic families. What characterizes the members of this self-conscious élite is a polivalence of activities: technical studies, industry, finance, local administration, and national politics. After several generations of slow and family managed accumulation, this élite produces in this period two generations of complex personalities, who manifest a level and range of cultural interests fully in line with European standards, and who behave according to typically bourgeois ethical values and attitudes.

## The Second Long Wave (1849-1896)

### a) The expansionary phase (1849-1873/76)

The transition from the depressive phase of the first long wave (1816/21-1848) to the expansive phase of the second (1849-1873/76) was marked by turbulent economic and political developments.[1] Political institutions had to be reconciled with economic and social change. The European continent was hit by aterrible agrarian crisis (1846-47) and by the political revolutions of 1848-49.[2] In the spring of 1848, revolution appeared to have destroyed the Restoration, highlighting the intrinsic weaknesses of absolutist regimes and the widespread discontent.[3]

Northern Italy was shaken by the disastrous famine of 1846-1847 that resulted from the failure of agricultural crops. In Lombardy-Venetia, the discontent of the peasantry grew when economic distress became widespread and the hostility of the most progressive sectors toward Austrian rule increased with their awarness that the Italian Kingdom was supporting a stagnant economy and subsidizing imperial finances.[4] There were several spontaneous riots and only the outbreak of the revolt against the Austrians in 1848 relieved the spectre that class warefare could turn Lombardy-Venetia into another Galicia.[5]

The 1848-49 revolution was one of the main events of the Italian **Risorgimento** and took on a nationalist connotation, although the risings at Palermo, Milan and Venice were started by artisans and workers essentially concerned about the sharp rise in prices and unemployment. Both major Italian political forces -- the democrats and the moderates -- regarded urban workers, as well as peasants, with distrust and fear,[6] while considering national independence and unification as the center-pieces of their respective programs. The two sides differed mainly on the strategy to achieve these objectives.

The Mazzinian democrats invoked an independent and united republic based on the principles of the French Revolution. This was to be achieved through popular insurrection and guerrilla warfare under the guidance of a

small group of dedicated and secretly organized activists (the **Young Italy**). In contrast, the loosely-linked and regionally based moderates envisaged the creation of an Italian neo-guelph confederation under the political leadership of the Pope and the military force of Piedmont. The moderates feared democracy, but supported gradual movements toward constitutional monarchy, economic and administrative reforms, and free trade among Italian states.

The concession of constitutions by Italian absolutist rulers[7] and the sudden break-down of Austrian authority in the spring of 1848, seemed to offer the necessary favorable conditions for the implementation of the moderate program. The moderates, however, provided a semblance of leadership only so long as a power-vacuum existed. They were pushed along by events for which they were not responsible and which they were unable to control. In Lombardy and Venetia, moderates proved incapable or unwilling to obtain the active support of the popular classes and viewed the intervention of the regular Piedmontese army as the only possible salvation from "anarchy."[8] The initiative passed to the democrats after the Austrian military victory at Custoza, but they were crushed by the summer of 1849.[9]

The failure of the revolutions led to the triumph of reaction. Absolutism became once again the norm in Italy, except in Piedmont. No territorial changes had been achieved and the Austrians had regained their dominant

political role.[10]

The failure of the moderate and democratic initiatives brought to the surface the intrinsic limits of their respective strategies for the achievement of Italian independence and unification. Both political movements entered a period of soul-searching and revisionism that was damaging for the democrats,[11] who had emerged from the revolutions with considerable prestige and much optimism, notwithstanding their final defeat. After 1857, an increasing number of disillusioned democrats turned towards Piedmont and joined the moderate Italian National Society whose political formula was "Italy and Victor Emanuel."[12]

The progressive disintegration of the democrats was mirrored, after the abandonment of the neo-guelph illusion, by the successful reorganization and rapid strengthening of themoderate movement under the hegemony of the Piedmontese group. The initiative of this group was facilitated by the fact that Victor Emanuel II, alone among Italian rulers, upheld the constitution after 1849.[13] The Piedmontese moderates kept the control of the government and enacted a program that advocated the creation of a constitutional anti-Austrian, anti-clerical, economically modern, and nationally-minded Piedmont. The implementation of this program of reforms offered an effective alternative to the democratic initiative and resulted in the formation of a political-institutional system that coherently promoted and

supported the economic transformation of Piedmontese society. This achievement, together with the radical transformation of the international scene caused by the break-down of the Concert of Europe, allowed moderate and monarchical Piedmont to play the leading role in the Italian unification process at the end of the 1850s.

Count Camillo Benso di Cavour (1810-1861) was the leader of the Piedmontese moderates and the main artificer of their strategy.[14] He believed in the primacy of **le juste milieu**, the fusion of the aristocracy with the emerging bourgeoisie backed by a policy of liberal reforms in the context of a parliamentary system. Consistent with this philosophy, Cavour based his political action on the practice of absorbing constitutional oppositions and struck an agreement for support with constitutional democrats in 1852. This political "marriage" or **connubio** between Cavour's center-right forces -- representing great land-owners, whether noble or bourgeois, local notables and businessmen -- and Rattazzi's center-left forces -- representing small proprietors and professional classes -- underwrote the formation of a great political Center that provided Cavour's government with a relatively stable majority in the **Parlamento Subalpino** during most of the 1850s.[15]

One of the main objectives of Cavour's reforming initiative was the rapid development of the Piedmontese

economy through its progressive incorporation in the world market. Given the difficulties of competing sucessfully against English and French industrial products, the economic future of small states such as Piedmont and even of a unified Italy -- according to Cavour -- lay in agricultural exports, based upon specialization of products and advanced agronomic techniques, and on "natural" industries such as that of silk.[16]

In order to boost exports, Cavour's economic policies combined a liberalizing approach to trade with state intervention. He lowered customs duties substantially[17] and expanded public expenditures for the improvement of roads, waterways and all forms of communication. In order to finance trading transactions and accelerate monetary circulation, he reformed the credit system, developing a central bank -- the **Banca Nazionale degli Stati Sardi**, established with the fusion of the two major banks of Genoa and Turin. He also encouraged private financial houses and savings banks. Finally, since the increasing foreign trade was unable to meet the sharp rise in public spending, Cavour covered the alarming growth in the budget deficit and public debt with large internal and foreign loans.[18]

In the course of the 1850s, these policies made Piedmont economically the most modern, even if primarily agricultural, state in Italy. Its economic hegemony grew through intensified commercial and financial links with

north European countries, even if not with the other Italian states, as rising international prices stimulated exports of agricultural products and semifinished goods -- wine, olive oil, rice, diary products, raw and spun silk. At the same time, however, the import of raw materials and machines accelerated the mechanization of the woolen and cotton industries while state orders for railways, military supplies and especially ships provided some stimulation for metal-working workshops. These nuclei of mechanized industry developed at the expense of craft-based manufacturing. Overall, Genoa and its commercial bourgeoisie flourished as a result of the expansion of international trade, state expenditures and investments of foreign capital.[19]

All the other Italian states, even Naples and the Papal States, lowered tariffs and sought foreign capital and entrepreneurs, as did Piedmont, in this decade. The Austrians tried to revive accumulation in Lombardy-Venetia in the context of a conservative and absolutist political regime, hoping to detach the aspirations for economic progress from those for liberalism and nationalism. To gain consensus among the peasantry and punish the landowning élite for its infatuation with Charles Albert in 1848, the Austrians shifted the fiscal burden from consumption and personal taxes to the land-tax and hinted at the possibility of a land reform.[20] Furthermore, the Austrian government,

desirous to gain the consensus of the Lombard **negozianti** and only too conscious of its exclusion from the expanding free trade markets, tried to encourage commerce and industry by lowering some of the tariffs and by forming a customs union between Lombardy-Venetia and the central Italian duchies in 1852. It hoped to transform this into a vaster economic union between the **Zollverein**, the Austrian Empire and an Italian customs league excluding Piedmont (a common market of more than 70 million people), which would be consolidated by new railway lines from Lombardy south to the Papal states.

The quick unravelling of these plans, however, accelerated the final collapse of Vienna's dominion over Lombardy-Venetia. The creation of a vast economic union was sabotaged by Prussia and Piedmont, and even Parma -- flooded with Lombard products -- withdrew from the renewal of the customs agreement in 1857. Moving ever nearer to bankruptcy, Vienna was forced to cut back on its railway plans, which only surfaced again with private financing in the later 1850s. Finally, a disastrous crisis of the pre-alpine economy and the general recession of 1857 made all Austrian hopes of rapid economic growth evaporate.

Two main factors precipitated the crisis of the pre-alpine economy during the 1850s: (1) wine and cocoon production were devastated by vine (**oidium**) and silkworm (**pebrina**) diseases; (2) the rents in wheat paid by the

**coloni** under the "mixed contract" arrangement were raised by landlords in an attempt to defend their income from the losses caused by the land-tax increase and the failure of grape and cocoon harvests. The landlords' income diminished as did the value of their land and their ability to obtain mortgage credit. There was a removal of available capital from pre-alpine agriculture and a resumption of investment in the modernization of low-land agriculture and in commercial, industrial and financial activities.[21] Peasants' living conditions worsened and some contemporary observers, who sensed the concrete danger of a peasant revolt, proposed the alteration of the "mixed contract" arrangement;[22] others expressed the opinion that only an increase of proto-industrial and industrial work could guarantee the stability of the pre-alpine social system.[23]

Cavour's conscious opening up of Piedmont to western trade satisfied his mostly agrarian internal constituency and responded to larger political imperatives. The implementation of free trade policies, together with political liberalism, was a means to counter Austrian domination in Italy and, at the same time, to cultivate the friendship of France and England. The latter was considered necessary by Cavour since he was convinced that the solution to the Italian question lay outside of Italy, in French military aid against Austria and in British benevolent neutrality. In order to strengthen political relations with

these two powers, Cavour sent 18,000 soldiers to fight on their side in the Crimean War (1855). The war and the Congress of Paris (1856) revealed the unwillingness of the great powers to collaborate in restoring a system for the peaceful settlement of disputes in Europe. The collapse of the European Concert offered Cavour the opportunity to exploit the differences among the powers and conclude a military alliance with Napoleon III aimed at the destruction of Austrian power in Italy.[24]

The war of 1859 finally broke out because of Vienna's conviction that the Kingdom of Sardinia could only be checked by force and that the war would spread, with Prussian support, to the Rhine. Napoleon only managed to keep the war localized by the hastily concluded peace of Villafranca in July 1859, which left Venetia in Austrian hands. He had allied himself with nationalism, but was fearful of revolution. It was Cavour's deliberate incitement of revolution in the Papal States, supported by British ministers, which forced Napoleon to abandon his plans for an Italian federation and accept Sardinia's annexation of Lombardy, the Duchies, the Legations, and Tuscany in exchange for its cessions to France of Savoy and Nice (March 1860).

The "betrayal" of Napoleon III at Villafranca spurred the Action Party into a final drive for unification. When an insurrection broke out at Palermo and quickly spread to

the countryside (April 1860), a group of Sicilian democratic exiles -- Crispi, Pilo and the Orlando brothers -- organized Garibaldi's expedition. The military and administrative structure of the Kingdom of the Two Sicilies rapidly collapsed as peasants revolted and Garibaldi's "Thousand"[25] took control of Palermo and, once on the continent, of Naples. The brutal repression of the Sicilian peasant movement, however, demonstrated the ideological submission of Garibaldi's Action Party to the moderate National Society, which advocated political unity under Victor Emanuel and consciously excluded social upheaval.[26] At Teano, Garibaldi handed over his power to Victor Emanuel, who had invaded the Papal States from the north to prevent Garibaldi from attacking Rome.[27] Rapidly, plebiscites in the Marches, Umbria, Naples, and Sicily ratified the annexation of these territories and the unification of Italy under the Savoyard monarchy. Only Venetia and Rome were still to be gained to complete the territorial integrity of the nation-state.[28]

The consequence of the hasty and exclusively political manner in which Italy acquired its independence and was unified under the hegemony of the moderates and monarchical Piedmont, was the marked continuity between the political and institutional orders of the Kingdom of Sardinia and those of the new Kingdom of Italy. The new nation-state, in fact, was established as a constitutional monarchy with

Victor Emanuel II as its king, Charles Albert's Statute of 1848 as its constitution, and Turin as its capital. The legal codes, the centralized system of administration, the customs duties, and the fiscal and monetary systems of the new state were derived directly, with little or no modifications, from those of Piedmont.[29]

The moderates were conscious of the enormity of the tasks that lay ahead and confident in their own capacities and austere public morality. They saw their duties as guiding an immature nation in an enlightened liberal manner. They were concerned above all with avoiding revolt and bankruptcy,[30] with establishing the new kingdom's political and financial credit in Europe. In order to overcome the deep-rooted regional fragmentation of the Italian peninsula, the moderates tried to impose the national sentiment through a centralized interventionist state, which they created by considerably broadening the scale and deepening the intensity of activity, compared with previous governments.[31] This initiative, however, ran into enormous difficulties as well-trained and experienced public administrators were rare and public finances in a perpetually desperate condition. The presence of the state at the local level was too often hostile, particularly for the peasantry, because of its identification with oppressive local élites, not to mention the tax-collector and the **carabiniere**. There was a scarcity of intermediary groups in continuous contact with the people

and capable of bridging the gulf and encouraging the identification of nation and state.[32]

As a result, the Destra patrician parliamentary oligarchy was able to rule until 1876, but failed to secure the support of broad sectors of the Italian people. Its cultural formation and the predominance of leaders from the north and center estranged it from the particular problems of the south, if not from those of the peasantry in general.[33] The hostility of the Church, inevitable given the creation of the Italian state at the expense of the Pope's temporal possessions, but rendered more intransigent by the anti-clericalism of the secular authorities, deprived the moderates of the support of both priests and Catholic laity.[34] The high property requirement for voting rights, which gave the vote to a mere 2% of the population, reduced the social base of the moderates as it excluded many middling groups with appropriate educational qualifications. This ostracism of democratic elements isolated the ruling class of the Destra above all from the urban lower-middle classes and artisans.

The economic policy implemented by the moderates was based on the extension throughout Italy of Cavour's two main directives: the improvement of communications and free trade. Rather extensive public works programs improved all sorts of communications, providing wide opportunities for capital accumulation among nuclei of the emerging

bourgeoisie.[35] Railway construction was speeded up in particular. The moderates regarded the railway as an indespensable basis for the political integration of the new nation-state, as a symbol and instrument of national unity and public policy.[36] The construction of the national railway network, however, had a very little by way of a multiplier effect on industrial activities. Italy's lack of coal hindered the development of a viable metallurgical industry[37] so that the demand for rails, engines, carriages and trucks, and iron for bridges was supplied, with few minor exceptions, from abroad. The railway network was administered by foreign concessionaires who were linked with non-Italian firms and had no interest in undertaking or encouraging Italian iron, steel and engineering industries.[38] As a result, domestic firms were involved only in the least complicated technical aspects -- the making of wagons and coaches, repairs and maintenance, and processes connected with the construction of tracks. This type of demand led to the establishment of the first cement industry in Lombardy.

When the moderates pushed through their liberalizing policy, it was on the assumption that economic progress would follow inevitably once the numerous restrictions imposed by the pre-unitarian regimes on private property and on the free movement of goods and people were eliminated. A free-trade policy also fulfilled the moderates' desire to

intensify contacts with northern European countries, particularly with France and Great Britain, and was supported by landowners, farmers and industrialists producing goods for export: raw and spun silk, oil, wine, cheese, citrus fruits, etc. These groups were considerably more numerous, stronger, and better represented in Parliament than the few industrialists of the cotton, woolen and metal sectors, who produced for the domestic market. Thus, the **Destra** remained faithful to Cavour's belief in an international division of production, in which Italy would rely primarily for its exports on a modernized farming sector, mining -- Sicilian sulphur, asbestos, manganese, Elban iron, mercury, copper, and marble -- and "natural" industries such as that of silk, while importing industrial goods and machinery.

The effects of the economic policies implemented by the **Destra** are difficult to assess. Historians have relentlessly debated whether Italian agriculture responded effectively to the new opportunities or remained largely stationary.[39] To be sure, free trade in a period of rising demand and prices, the improvement of internal and international communications, irrigation and land reclamation works, and the vast privatization of ecclesiastical and public lands (See note 30) encouraged capital investment and specialization in scattered areas of the countryside and in the few selected products for export.

The low productivity and outmoded nature of wheat and corn cultivation, however, continued to prevail over the bulk of the country's arable land, so that the growing domestic cereal demand was met only through increasing imports from abroad at the cost of building up severe balance of payments problems.[40]

Furthermore, the economic gap between south and north, already existent at the time of unification because of the north's structural advantages, increased during these years as most of the more dynamic agricultural developments took place in the north, particularly in the Padania plain, while the south found its most valuable agricultural exports threatened by northern competition. Political unification had formally created a national market of some 25 million but there was still little economic complementarity between the south and the north. The south had very few products to offer the north -- wool and animal skins -- while northern industries could not compete with cheaper French and British goods in southern markets. The southern proto-industries were quickly displaced by foreign imports as the newly imposed tariffs were about 80% lower on average than those which had been maintained by the pre-unification southern state.

In northern Italy, small and medium water-powered spinning factories persisted in scattered pre-alpine areas. They based their slow expansion on a close connection with

localized agrarian structures for the supply of some raw materials -- silk, hemp, flax, foodstuffs -- and, above all, for the strong links that their labor force maintained with the peasantry. The gradual industrialization process of the region proceeded in symbiosis with the sluggish transformation of the agrarian structure. Low wages earned through industrial work complemented the income of the peasant family while the latter functioned as a labor reservoir for the slowly expanding industries.

Lombardy and Piedmont continued to benefit primarily from silk, the major Italian export. The production of raw silk and silk yarns continued to represent the chief industrial base of the northern Italian economy and to be firmly erected on the agriculture of the hills and highlands. After China, northern Italy remained the largest producing area of cocoons in the world, although after the crisis of the **pebrina** -- a silkworm disease that destroyed most of the indegenous varieties between 1854 and 1866 -- silkworms were usually reared from eggs imported from Japan. This crisis in the domestic supply of the raw material spurred on an increasing concentration of the reeling industry with the prevalence of the larger steam-heated **filande**. It also had the effect of urging Lombard businessmen to import ever-increasing quantities of raw silk from abroad to supply twisting-mills. As a result, the proportion of silk yarns within total silk exports increased

from 17% in 1855 to 80% in 1865.[41]

The more modern cotton and woolen firms of Lombardy, Piedmont and Liguria made only slow progress up to the late 1870s.[42] Their expansion was held back by the commercial treaties of these years,[43] the "cotton famine" caused by the American Civil War, the still too high costs of imported coal (See note 37) and of transportation by land, and the low level of consumer incomes (only in limited north-central areas did agriculture offer a suitable basis for an increase in expendable income).[44] Moreover, the high financial requirements of the state, necessary to service the large national debt and expanded military establishment, as well as to guarantee the extension of the railway network and other infrastructures, also deflected the already scarce flow of capital away from industry.[45] Yet, the politicians of the **Destra** remained suspicious of the protests of the industrialists[46] and fearful of the negative social consequences of rapid industrialization.[47] They also assumed that the creation of a single national market would automatically offset the initial disadvantages of foreign competition.

Notwithstanding these constraints, two circumstances provided some positive compensation for those industries, such as cotton and wool, that produced for the domestic market. The first was the government's adoption of the inconvertibility of banknotes, the **corso forzoso**, made

necessary by the heavy expenditure of the war of 1866 against Austria. The **corso forzoso**, by altering the rate of exchange, in effect operated llike a devaluation of the lira of about 10%, favoring Italian vis-a-vis foreign products.

The second was the economic boom following the inauguration of the Suez canal (1869)[48] and the Franco-Prussian war (1870), the chief effects of which were an in-flow of foreign speculative capital and a temporary reduction in the competitive pressure of foreign products on the national market. Many economic circles in Genoa, Milan and Turin viewed this exceptional and short-term situation as an opportunity for a qualitative change: they tried to concentrate productive and financial resources and began a search for new forms of outside financing for banking and industrial activities. Several banking ventures were quickly set up by indigenous and foreign capitalists and the first small group of industrial joint-stock companies came into being -- the Rossi Woollen Manufacture (30 million lire of share capital), the Cantoni Cotton Manufacture (5.75 million lire), the National Hemp and Linen Manufacture (8 million lire), the Borgosesia Woollen Manufacture, the Richard Ceramic Manufacture (8 million lire), and a few others. Under the leadership of a handful of mostly textile entrepreneurs -- Ponti jr., Cantoni, Rossi, Turati, Gavazzi, Borghi, Sessa, Amman, Antongini, Crespi, Richard, Pirelli -- for the first time some of the landed nobility, merchants

and bankers were attracted towards employing capital in industry in the form of shares. Unfortunately, the short-lived boom was characterized by intense speculation and rather few of the new banks survived after 1874.[49] But the new industrial joint-stock companies were able to keep on their feet, even as they encountered financial difficulties.

In northern Italy, the economic boom of 1869-73 had another important effect as well. It demonstrated that the main cities of Lombardy, Liguria and Piedmont -- Milan, Genoa and Turin -- were acquiring the aspect of modern commercial, financial and administrative centers possessing considerable national and international trade contacts. Milan, for example, was becoming the commercial bridge-head of the principal European firms producing machinery. Moreover, these cities were developing secondary schools and colleges such as the Polytechnics of Milan and Turin, technical information publications, and a financial and commercial milieu which was more prepared to support industrial initiatives. Thus they were increasingly able to act as points of reference and bases for the further capitalist transformation of their respective regions.

**b) The phase of contraction (1874/77-1896)**

Only five years after the inauguration of the Suez Canal (1869) raised expectations for the rapid growth of

trade between Europe and Asia, capitalist expansion gave away to another downturn. The international prices of industrial and agricultural commodities began to drop sharply after 1874, precipitating a new long-term crisis of overproduction. The Great Depression of 1874/77-1896 was not equally widespread and intense everywhere, but major changes occurred in the pace and nature of capitalist accumulation.

It was above all the steam-driven English industry that slowed down, while the more concentrated and capital-intensive American and German industries expanded gradually on the new technological foundations of organic chemestry and the internal combustion engine and turbine, driven by oil or electricity. Britain lost its predominance as "the workshop of the world" and became merely one of a number of industrializing countries. Acknowledging decline, the London financial establishment exported capital, especially to the colonies.

At the same time, European agriculture ran into a major crisis, as it was subjected suddenly to massive imports of American and Russian wheat, Asian rice and silk, Californian citrus fruits, and other crops produced in the colonies, which led to a steep fall in global agricultural prices. In particular, American expansion into the plains and Russian cultivation of the south-eastern steppe increased supplies of wheat, while improved transportation -- because of the

construction of railroads and the expansion of steamship travel across the Atlantic -- caused a rapid decline in overland and ocean freight rates. This shook the foundations of European agriculture and intensified the outward flow of peasant migrants to the Americas.

In order to confront the negative consequences of the Great Depression, European capitalists pressed for state policies that would protect home markets for national industries and support their search for new investments and markets abroad. They, and their respective states, found themselves in fierce competition with one another for control of regions of the world that could provide cheap raw materials and labor. Devising an imperialist rethoric, they sought to unite disaffected and contending classes at home behind a common struggle for colonies or "spheres of influence" abroad, promising the "mother country" a good return.[50]

In Italy, the start of the downturn coincided with the "parliamentary revolution" of March 1876, which removed Cavour's moderate successors at the very moment when they had finally balanced the state budget. The **Destra** had accomplished one of its main objectives, though at the cost of unpopularity and defeat at the polls.[51] The **Sinistra** (Left) that succeeded owed its political victory in large part to the (enfranchised) public's discontent with heavy consumer taxes.

The politicians of the **Sinistra**, who dominated Italian politics until 1896, were an heterogeneous agglomeration of Piedmontese constitutional democrats (the "historic Left") led by Agostino Depretis (1813-1887), **Risorgimento** democrats, who had passed from Mazzini to Victor Emmanuel during the final drive for unification -- Cairoli, Zanardelli and Crispi -- and of southern democrats led by the Baron Nicotera. Past ideals and the fact that they derived much of their electoral strength from the lower-middle classes -- professionals, civil servants, small landowners, and small businessmen -- committed the politicians of the **Sinistra** to an extension of the suffrage and to other limited reforms.[52] At the same time, still obsessed with questions of national independence and status, they tried to set a new course for Italy, to follow great-power policies that would confer upon the new nation-state a more direct involvement in international affairs. Italy was no longer to be a mere political and economic adjunct of western Europe: they concluded an alliance with Germany and Austria and embarked upon a quest for a colonial empire in East Africa.[53]

The democratic ministers of 1876-96, aging former nationalist revolutionaries, came to power too late and governed during twenty years of depression, when falling agricultural prices traumatized the whole economy,[54] fuelling the already growing Socialist[55] and Catholic[56]

movements so frightening to the liberal establishment. Hence, the politicians of the **Sinistra** had to face problems that their early training in conspiracy and insurrection did not prepare them for. They were unable to achieve a genuine democratic state in Italy and their electoral reforms opened the door to what looked like revolutionary socialism. At the same time, their efforts at fostering heavy-industry suitable to a great power led too often to dead ends, while their great-power aspirations turned into tragic fiascos. The era of the Left ended in a squalid decade of bank crashes, colonial defeats, and semi-revolutionary tumult from Sicily to Milan. From 1896 to 1900, the very survival of the Italian parliamentary system seemed in doubt.

The democratic Left, however, laid the foundations for the whole political and economic order that was to work rather well from 1900 to 1915. In spite of its turbulent and confusing character, there were certain fundamental developments in the Depretis-Crispi era that led to the formation of the social structure that sustained rapid accumulation during the liberal apogee of the Giolitti era (1901-1913). Between 1876 and 1896, the **Sinistra** established a new political system based on a coalition of political and economic interests on a peninsular scale and thereby overrode the old, deep-seeded regional imbalances of the Italian nation and attained, however partially, the goal of national unity set by **Risorgimento** movements.

Politically, the policies of the **Sinistra** led to **trasformismo**, a practice that refers to the "transformation" of a government's opponents into its supporters and to the absence of political parties representing different ideas, programs and methods with alternating terms of power and a clear constitutional opposition. After it had become obvious that the old distinction between a monarchic-constitutional Right and a republican-democratic Left was outworn, both sides having accepted the political-institutional settlement of 1861, no alternative parties, one of order and one of progress, emerged in the Chamber of Deputies. Hence, instead of working through the classic two-party system, the mass of parliamentary deputies formed a sort of permanent centrist coalition, with fluid personalistic groupings backing this or that ministerial combination and negotiating their support in terms of purely local and sectional interests. Successful and lasting parliamentary majority groups were held together by the carefully balanced yet wide distribution of political offices, by a generous and broad-based awarding of public works contracts, and by election making.[57] The real skill of prime ministers consisted in thus managing a parliamentary majority group. The deputies themselves became brokers or agents, little inclined to look into the higher matters of state. As a result, transformism gave the monarchy power and prestige, since the king, through the

veto and the pressure that he was able to exercise at decisive moments, guaranteed long-term diplomatic, military, and colonial policies.

The great merit of transformist politicians of the Left was that they worked to prevent the appearance of regional parties -- these would probably have been either revolutionary or papal-reactionary -- with all the disruptive consequences that would have followed. The cost of the achievement of a national political system through transformist practices, however, was twofold. On the one hand, transformism tended to discredit the parliamentary system,[58] since much of the real political action took place behind the scenes. There was little relation between the formation or the fall of a government and any explicit vote of the Parliament, and the system discouraged the circulation of alternatives in the political class. On the other hand, transformism promoted a deepening of the basic differences between north and south as the local constituencies of the two regions were incorporated differently in the political process. In the north they were influenced by infrastructural works, while in the south by personal favoritism and clientelism. An imposing facade of modern parliamentary national politics hid painful regional inequality and disaffection, and the gap between the "legal" limited-suffrage Chamber and the "real" nation, the still disenfranchised peasant masses, was not bridged.

Economically, the **Sinistra** implemented a series of measures to confront the negative consequences of the depressive phase and to affirm Italy's great power status, which led to the adoption of a new interventist line in economic policy. The **Destra's** belief in a rather harmonious international division of labor, in which Italy would rely for its economic growth and social stability primarily on the export of agricultural produce, minerals and semi-finished products, became untenable already by the late 1870s as world-market prices for these commodities tumbled, and as a severe balance of payments problem emerged (See notes 40 and 54). Growing awareness of Italy's vulnerability in a new world political-economy marked by diffidence, rivalry, imperialism, and a system of opposing alliances dominated by industrialized and protectionist states, explains the abandonment of free-trade by the **Sinistra** and its attempt to mobilize the nation in the pursuit of industrial and military self-sufficiency and competitiveness. The politicians of the **Destra** considered rapid industrialization as an expensive and dangerous option; those of the **Sinistra** came to view it as an expensive and dangerous necessity.

The new course of the **Sinistra**, justified in terms of the need to equip a "strong" Italy, was based on three general directives: (1) an expansion of state expenditure with a return to deficit spending; (2) the introduction of

direct state assistance to heavy-industrial sectors; and (3) the erection of a system of customs duties aimed at protecting industrial and agricultural production from the devastating effects of foreign competition. The implementation of these directives proceeded slowly by expedient rather than masterplan, and two different moments are distinguishable: the Depretis era (1876-1887) and the Crispi era (1887-1896). Overall, however, the new course resulted in a complex network of subsidy and protection thrown around the whole peninsular market that created a bloc of national political-economic interests to parallel and uphold the transformist ministerial majorities in the Parliament.

The governments of the Depretis era (1876-1887), operating in the first decade of the depressionary phase, widened rather considerably and fruitfully the spectrum of opportunities for indigenous industrial expansion. The activism of the Italian state became superior to that of all other European states as its expenditure climbed from 12-14% to almost 20% of Italian GNP. Governments reinforced their effort for the improvement of all sorts of communications,[59] gave a new impetus to building projects in big cities,[60] and boosted the military budget.[61] These programs provided a derivative demand for industrial goods such as building materials, lumber, iron, and machinery. The rise in state expenditure and the growing gap in the balance of payments

were covered through a massive influx of foreign capital, which was encouraged by the stabilization of the lira and its return to the **gold standard** with the abolition of the **corso forzoso** (1881-1883).[62] The banking system, however, continued to remain decentralized and to serve the nation's economy poorly, as transformist ministers were reluctant to touch existing regional privileges and interests.[63]

The governments of the Depretis era paid particular attention to the development of heavy-industry. They enacted multiple masterplans for strengthening the navy, merchant marine, metal and engineering industries, the more so after several official inquiries ascertained the backward and depressed conditions of these sectors.[64] Subsidies, fiscal rebates, handouts, and privileged quotas for railway and military supplies provided a shot in the arm to national producers. Moreover, the decline of the price of coal, other raw materials and semi-finished products seemed to offer favorable conditions for the establishment of an Italian capital goods industry.[65]

The future of heavy-industrial initiatives, however, appeared uncertain given the scale of the capital required for their construction and operation, the lack of adequate organizational and technological know-how, the narrowness of the national market, and the difficulty of gaining access to markets abroad because of the high cost and low quality of the products. The situation of many of these initiatives

was paradoxical from the start: producers frequently labored under wide margins of excessive capacity even though in terms of the world market they were undersized and uncompetitive. Contemporary critics such as Pareto and Pantaleoni characterized them as "artificial" creations that, with very few exceptions, could not survive without monopoly conditions and constant support of the state and big banks. Heavy industries became natural backers of protectionism, nationalism and colonial expansionism. All the worst features of Italian heavy industrialization -- militarism, speculation, and lack of serious economic, technical and organizational planning -- were highlighted by the vicissitudes of the two monopolies promoted by the **Sinistra** in this period: the **Società della Navigazione Generale Italiana** (SNGI), established in 1881 with the merger of the two major subsidized shipping companies, the **Rubattino** of Genoa and the **Florio** of Palermo;[66] and the **Terni** iron-and-steel works, established in 1884 as a private enterprise with funds advanced by the state, to provide armored plates for the navy and rails.[67]

Protectionism was introduced in 1878, on a small scale, almost for the exclusive benefit of cotton and woolen entrepreneurs.[68] They had loudly voiced their discontent for the free-trade policies of the **Destra** in the course of the **Parliamentary Inquiry on Industry** of 1870-1874 (See note 46), and had become such an influential political force that

Depretis had promised a revision of customs duties in his successful electoral campaign of 1876. The expansion of the woolen sector was held back by technical and organizational problems and by a wave of hard fought strikes,[69] but the cotton sector received a powerful impulse from the new tariffs. Productive capacity of cotton spinning expanded as mule-jennies were replaced by English-made self-acting spindles and as Swiss entrepreneurs established factories in the hills around Bergamo and Brescia. Indigenous producers made rapid progress toward definitively conquering the national market, even if the abolition of the **corso forzoso** in 1883 and a series of **ad hoc** commercial treaties signed in the following years partially annulled the protection provided with the tariffs of 1878. Cotton weaving, however, was increasingly unable to keep pace with spinning as it still had a proto-industrial organization and few power-looms.

While industrial activities made some advances during the Depretis era, agriculture was increasingly shaken by the world price slide that had began in 1874. The slide was particularly sharp for silken products as a result of the growth in cheap Chinese and Japanese imports on the European market. The prices of the other Italian export products dropped rather slowly up to the early 1880s, as did the internal price of cereals. After the return of the lira to the **gold standard** in 1883, these prices remained stable or

fell slightly except for wheat, corn, and other cereals which collapsed under the pressure of an avalanche of cheap imports.[70] The crisis assumed dramatic proportions as these crops made up the bulk of Italian agriculture. The gravity of the situation was underlined by the vast decrease in national cereal production throughout the 1880s, and by the sharp increase in the mortgage debt and in the number of land expropriations for failing to pay land-taxes.

The more market oriented agriculture of the north was the hardest hit. In the hills and highlands, the situation for the small owners and the **coloni** of the **contratto misto** became critical with the fall of wheat, corn and cocoon prices and with the devastation of vineyards by the phylloxera. The **coloni** mobilized to obtain rent reductions and their family subsistence became increasingly dependent on the income earned from proto-industrial and industrial employment. In the lowlands, large landowners and **fittabili** sharply reduced wheat, rice and hemp cultivation while increasing fodder for livestock, and the **braccianti** engaged in the first wave of strikes to protest against unemployement and wage reductions (1884-1885).

Positive reactions came only from scattered southern enclaves where small owners and tenants continued to expand vine, olive, fruit, and vegetable cultivation. Wine production for export to France received a new impulse by the fact that the phylloxera, which was destroying French

and north Italian vineyards, did not reach the south in this period. The predominantly wheat-producing southern agriculture remained stagnant, however, as established social relations allowed absentee landowners to discharge the negative effects of the crisis on to the landless peasantry.

The preoccupation of the Italian political class with the agricultural crisis was witnessed by the **Parliamentary Inquiry on Agriculture** (1877-1884) of Jacini and Bertani, which pointed out that the long season of agrarian accumulation had ended in Italy, without having determined an adequate and generalized capitalist transformation of the countryside. The Inquiry documented the miserable living conditions of cultivators, most of whom were peasant owners, small tenants or sharecroppers, operating with little capital and at low level of technology and producing little above subsistence needs once rents, taxes and other payments had been met. Over 100,000 cases of malaria were identified in 1881, 11.8% of conscripts were rejected as not tall enough and a further 26.5% were rejected on grounds of health or deformity. Pellagra and malnutrition were widespread, and over 55,000 people died of cholera between 1884 and 1886. The blame for this situation was laid on the fiscal policies that weighed heavily on the small landed bourgeoisie, said to have used most of their resources, accumulated during the expansionary phase, to acquire land

and state bonds, to pay mortgages, and to make usurious loans to the peasantry.[71] To correct this situation, the Inquiry proposed a drastic lowering of the fiscal burden to allow the landed bourgeiosie to renew itself through a new wave of investment aimed at creating a modern productive organization. The government reduced the land-tax rate, promoted a vast land reclamation program in the Padania valley,[72] instituted a reform of agrarian credit and provided for travelling teachers of agronomy.

These measures, however, had little immediate effect and falling agricultural prices continued to destabilize the entire economy. The decline in rural income reduced the capacity of the internal market to consume industrial goods, thus jeopardizing the growth of indigenous industries. The balance of payments worsened rapidly as the value of export goods declined while imports of cereals, coal, cotton, wool, semi-finished, and finished goods, and machinery continued to grow.[73] The state encountered increasing difficulties in financing itself on the internal market, exactly when it was engaged in vast expenditure programs and when foreign capital was beginning to withdraw, frightened by the deepening of the international depression. Finally, there were the first signs of exhaustion of the speculative boom based on urban building, which had siphoned large state, private and banking resources throughout the 1880s.

A reinforcement of protectionism appeared as the best

short-term solution to stop the sudden fall of agrarian and industrial accumulation, to improve state finances and the balance of payments, and to compensate influential interest groups that sustained or were ready to sustain the government. Parliament issued a new tariff system for the protection of "national labor" (15 July 1887), which represented a compromise between the forces of industrial capitalism and those of agrarian rent capitalism, since it guaranteed a high level of protection to textile manufacturers, iron and steel-makers, sugar-beet growers and refiners, and wheat growers.[74] The most outspoken sponsor of this compromise was the woolen industrialist and Senator Alessandro Rossi of Schio, who was very sensitive to the interests of Lombard and Venetian agrarian capitalists among whom he raised the capital for his joint-stock companies. The 1887 tariff system was the last economic act of the Depretis era, but Depretis did not preside over its coming into force (January 1888). He died two weeks later and Francesco Crispi, leader of the **Sinistra** in Parliament and minister of Interior in the last Depretis government, became the new premier and minister of Interior and Foreign Affairs.[75]

The Crispi era (1887-1896) coincided with the most acute period of the internal and international depressionary phase. Crispi abandoned the caution of Depretis as he believed that the nation needed a new "virile" political and

economic course in order to pull out of the crisis. He was a fervent admirer of Bismarck's conservative and authoritarian state-paternalism and thus promoted a form of economic nationalism, modelled on "economic Germanism," whose goal was the establishment of Italy's rank as a great military, industrial and colonial power. Crispi deemed Italy's traditional dependence for trade and capital on France as the great obstacle to the achievement of this goal and thus worked to emphasize the anti-French political and military character of the Triple Alliance and to reduce the influence of French interest groups over the Italian economy.

Crispi's new course led to the development of an all-out tariff war against France, which resulted in the breaking off of economic relations between the two countries at the beginning of 1888. The break lasted until 1898 and had immediate disastrous consequences for the Italian political-economy as France absorbed 44% of Italian exports and as French investors held 80% of Italian State bonds placed abroad. The blow was particularly hard for the most dynamic sectors of Italian agriculture since France was the main market for northern silk and livestock and for southern wine, olive oil, and fruit.[76] There were also negative financial consequences as French banks withdrew the capital lent to Italian banks and as massive sales of Italian state bonds at the Paris **Bourse** provoked the collapse of the value

of the Italian **rendita**. German capital intervened at Crispi's insistent request, but was unable to fill the deep financial void created by the drastic withdrawal of French capital. The result was a general economic downfall between 1888 and 1894, the darkest period of depression for Italy, which was marked also by the revolt of the Sicilian **Fasci** of 1892-93, harshly repressed by Crispi,[77] and by the collapse of most of the banking system.

The internal credit squeeze, which accompanied the hastywithdrawal of French capital, put an end to the speculative boom based on urban development projects. Private investors and big real estate companies that were deeply engulfed in the quicksands of Roman and Napolitan urban development came close to bankruptcy. The government, alarmed over the plight of various northern Italian banks that had plunged over their depth to support speculation, began to intervene in the banking world to salvage the **Banca Tiberina** in 1889;[78] reform seemed especially urgent after the **Banca Romana** affair.[79] By the end of 1893, Italy finally had a unified, state-regulated, central note-issuing bank, the Bank of Italy, which had as its nucleus the old **Banca Nazionale**.[80] At the same time, thanks to a decisive infusion of German capital, the bankrupt regionally-based banks were replaced by new investment banks -- the **Banca Commerciale Italiana** (1894) and the **Credito Italiano** (1895) -- that began to attract deposits on a truly national

scale.[81]

The 1887 tariff system and falling international prices closely conditioned developments in the shaky agricultural sector. The 1887 tariff and its subsequent aggravations made protection for grain, sugar-beet, rice, and hemp into a structural feature of Italian political-economy. Internal prices for these crops remained stable or even slightly increased after 1888, and food began to cost more in Italy than in other industrial nations by the mid 1890s, even though wages remained lower. It is true that agricultural tariffs insured a rapid development of milling and sugar refining with eventual export possibilities, but they also perpetuated a chronic state of under-consumption in Italy's laboring classes. Tariffs were of benefit to a few hundred thousand large producers of the center-north and to the southern **latifondisti**, rather than to the small peasant. The former could harvest in the summer and store their produce until the fall, when prices rose, while the small peasant had to sell grain immediately to pay his debts and land rent, and then buy flour in the fall at the high prices that the tariff ensured.

Moreover, agricultural protectionism reinforced the existing Italian dualism, marking off southern agriculture from that of the rest of the country. In the south much arable land that could have been devoted to more productive and variegated uses was left to low-yield grain cultivation

and extensive pasture. Absentee landlords and the government showed little interest in modernizing the southern countryside, where investment in land improvement and technical progress were most needed. The south remained in large part an inefficient and expensive granary instead of becoming a profitable orchard and vineyard.

Protectionism was used as a means to modernize and diversify agricultural production only in the center-north. Grain protection allowed large producers of these regions to accumulate resources for new investments rather quickly. They were more market-oriented and efficient than southern **latifondisti** and their land was generally of a better quality. They benefited also from the protection for sugar-beet, rice, and hemp, as these crops were cultivated exclusively in the center-north, and particularly in the Padania plain. In the latter area, a new generation of innovative agricultural entrepreneurs introduced more advanced agricultural practices, selected seeds, machines, chemical fertilizers, and intensified livestock raising. State funded land reclamation and irrigation projects received a new impetus, the networks of rural savings banks and popular banks continued to expand and to finance land improvement, and a network of Agrarian Societies (**Consorzi Agrari**) grew rapidly after 1889. All these changes reinforced the capitalist orientation of the agriculture of the Padania plain and also contributed to increase sharply

unemployment and underemployment among day-laborers.

While the prices of protected cereals grew slightly after 1888, those of specialized crops continued to fall and the loss of the French market was only partially compensated by an expansion of export to Central Europe after the early 1890s. This new situation brutally subverted the foundations of the peasant subsistence economy and many of the small owners and tenants of the south, but also of Venetia, Piedmont and Liguria, who had expanded olive, fruit, mulberry, and particularly vine cultivation in the previous decade, either were completely ruined and lost their land or fell heavily in debt with local notables. In many areas, these peasants became the backbone of the Catholic, Socialist and Fasci protest movements, which were repressed harshly by Crispi (See notes 54,55,77). In increasing numbers, however, those who lived in areas where proto-industrial and industrial activities were lacking or where the institutional network of the Catholic social movement was weak, found temporary or even definitive migration to Italian cities, North Africa, South America, and other European countries to be the best alternative to rural proletarianization.

Migration figures, net of emigrants who returned, show an increase from 378,000 in the decade 1872-81 to 845,000 in 1882-91 and 1,378,000 in 1892-1901; total departures from Italy were three times as high, rising from about 100,000 a

year in the early 1870s, to 300,000 annually by the 1890s.[82] As a result of the agricultural crisis, the way in which the Italian political-economy was incorporated in the world market was shifting rapidly from the provision of pprimary and semi-finished products for industrializing European societies to the export of cheap labor. Mass emigration appeared to be shattering the Sinistra's dream of a "strong" Italy able to compete in the world political-economy. Wide sectors of the Italian ruling class, however, considered migration as a positive phenomenon. To large landowners it was an effective safety valve against the pressure of the peasant movement, which permitted continuation of the established relations of property and production. In the meanwhile, remittances from emigrants were the only fast growing active voice in the balance of payments. Finally, the emigrants' Atlantic crossing was the most lucrative business for Genoese shippers, while mass emigration was creating markets abroad for Italian food and textile goods.

Crispi sought to transform mass emigration into one of the driving forces of his grandiose colonial schemes. He promoted a form of demographic imperialism, which was based on the assumption that the best solution to Italy's tragic over-population lay in the establishment of peasant settlements in the highlands of East Africa. Crispi's aggressive imperial policy was strongly supported by a small

group of industrialists and financiers -- the Bombrinis, Orlandos, Oderos, Florios, Piaggios, Raggios, V. S. Breda and a few others -- who were "drillers of the state," according to Pareto and Pantaleoni, operating in heavy-industry and shipping behind the populist banner of the tutelage of "national work." In the case of these entrepreneurs, the distinction between the role of the businessman and that of the politician could not be rigidly defined as they conceived and carried out strategies that inevitably required the presence of political power and state resources.[83] For these businessmen-politicians, the 1887 tariff system, the new wave of military expenditure decreed by Crispi in 1888, and colonial expansionism in East Africa were means to overcome the negative consequences of the darkest phase of the Great Depression. The **Navigazione Generale** of the Florios and Piaggios was kept afloat by profits made from the transportation of troops and materials to the colonies, the **Ansaldo** of the Bombrinis by those made from engines for the navy, and the Leghorn shipyards of the Orlandos by those made from warship construction. Not even protectionism and lucrative contracts for naval armored plates, however, saved the **Terni** iron-and-steel works from bankruptcy. The Bank of Italy had to salvage it in 1893-94 and the level of steel output achieved in Italy in 1889 was not again reached until 1904.

The state-private military-industrial complex, formed

largely by uncompetitive metal and naval initiatives based in Genoa, Leghorn, Naples, Savona, Venice, and Terni, was, however, only one of the poles of Italian industry and not its nerve center.[84] In the same heavy-industrial sector, for instance, was another more market-oriented and innovative pole formed in Lombardy around iron-and-steel. This nucleus derived from the old iron industry of the valleys and from several mechanical firms that were acquiring important niches in the national market with products combining some standardization with specialty appeal. The pole was less tied to military expenditure and owed its economic success to the large railway commissions given to national industry, orders arising from the formation of urban and suburban tramway networks in the main cities of the north,[85] and finally the acquisition of shares in markets for supplies and machinery for agriculture, paper, food, printing, and building industries, and, above all, for the developing textile industry, where turbines and boilers became essential as medium-scale factories expanded and moved over to steam-driven machinery. The mechanical enterprises were started or managed by a new generation of innovative entrepreneurs -- Tosi, E. Breda, Prinetti, Miani, Salmoiraghi, Riva, Porro, Galimberti, Cabella, Marelli, Stigler, and a few others -- who had received their training as technicians and engineers at the Polytechnics of Milan, Turin, Zurich and other technical schools, and often had

spent periods of work-and-travel abroad. These entrepreneurs overcame the negative effects of the 1887 tariffs (which raised costs of machine manufacturing by putting a high duty on iron and steel while failing to protect against imported machines) by transforming the work environment. Introducing foreign-made semi-automatic machine tools -- calipers, revolver lathes, countersinking-machines, multiple drills, and hydraulic machines -- they also reorganized production, increasing the division of labor and product standardization. Among other things, the work with calipers and on fixed types permitted the manufacture of interchangeable parts, thus reducing the work of adapters. Specific workers and teams were charged with making specific parts, enhancing efficiency, precision and standardization. As both skill and speed of work became important values in the new work organization, traditional skills and roles tended to dissolve, together with the master worker's control over apprenticeship and with the laborer's autonomy in planning his work. Milanese workers' resistance to this process was underlined by a two-week strike in 1891, but new tasks, skills, functions, hierarchies, and wage differentials were coming into being, and at the same time a growing low skilled labor-force was drawn to factory labor[86].

Of the various poles of Italian industry, the most dynamic and labor-intensive were constituted by northern

small and medium-scale enterprises operating in the five main textile branches -- cotton, wool, silk, hemp, and flax. Overall, their evolution in these years can be summarized in the following terms: (1) complete conquest of the internal market; (2) expansion of the productive capacity of spinning and industrialization of weaving through its incorporation in the factory system; (3) opening of an export market for cotton goods and the further development of silk, hemp and flax as export industries.

The expansion of these textile poles and their rapid restructuring around a solid nucleus of enterprises organized in accordance with the factory system was not only the result of technological and commercial changes, but also of changing labor market conditions in the northern hills and highlands. Here, the combined effects of the structural crisis of agriculture and rapid population growth increased pressure at the margins of subsistence and destroyed the autonomy of most of the peasantry. The predominant response to this accelerating process of proletarianization was not to abandon the countryside, but to find alternative means of remaining there. The income earned with casual employment in the building trades, seasonal migration, various types of proto-industrial work -- hat-, garment-, furniture-, and shoe-making -- and especially factory work, became essential for the survival of ever larger sectors of the rural population. This situation was underlined also by the new

impulse that entrepreneurs gave to the social forms of "corporate paternalism" -- working-class villages, boarding-houses, company-stores, health and educational services.

The cotton industry -- largely located in the Piedmontese-Lombard belt extending from Novara to Brescia and in a few enclaves of Liguria, southern Piedmont and Venetia -- continued its practically uninterrupted growth, experiencing no noticeable effects from the crisis of 1888-1894[87]. It became apparent that cotton industrialists formed the most substantial and dynamic nucleus of Italian entrepreneurship. Tariff protection and the commercial war with France finally guaranteed the home market for indigenous yarn and cloth producers, and as a result of urbanization this was an expanding market. Moreover, falling prices of raw cotton, coal and machinery, increasing standardization of products, the new national commercial networks, and rising productivity -- achieved through the installation of steam-driven machinery in spinning and power-looms in weaving -- made lower sale prices possible and with this a larger consumer market. The intense expansion of productive capacity was the result of the reinvestment of profits, and also of new investments made by foreign cotton entrepreneurs and by Italian silken and woolen businessmen. Investment was facilitated by the existence of a network of small local banks often directly

controlled by cotton entrepreneurs -- such as the **Banca di Busto Arsizio** (1880), the **Banca di Gallarate** (1882) and the **Banca di Legnano** (1887) -- which remained largely immune from the crisis that hit the bigger banks. The search for foreign markets was pursued with growing success through **ad hoc** trading companies[88] tied to the few vertically integrated large companies, which operated multiple factories and already had a predominant share of the domestic market by the early 1890s. Borghi, Cantoni, Crespi, Cotonificio Veneziano, De Angeli, Poma are exemplary. To avoid the negative consequences of an incipient crisis of over-production, they began to export woven goods to the Ottoman Empire, Balkans, Eastern Europe, and especially to Latin America where a vast wave of Italian peasants had settled. The international projection of major cotton industrialists was underlined also by their control, through the spinning monopoly of the **Linificio and Canapificio Nazionale**, of most of the flax and hemp industry, which continued to operate as an export industry supplying yarn to industries abroad.[89]

A similar process affected woolen manufacture, localized around Biella, Vicenza and Prato, although with less brilliant results.[90] Indigenous producers took over the home market for carding and mixed goods, while foreign producers maintained a predominant position for finer and more costly combing wools. Productive capacity was expanded

in the Biellese as a new generation of hard-nosed entrepreneurs emerged alongside the still dominant "woolen aristocracy" of the Sellas and Piacenzas. The Rivettis, Botto-Poalas, Ceruttis, Zegnas, and many other "new men" became the heroes of a vast hagiographic "will is power" literature and based their economic success on the production of ordinary low-cost goods for mass and military consumption. Costs were lowered through the self-exploitation of these large entrepreneurial families, the utilization of recycled wool, and the installation of often second-hand machines and power-looms. The latter, together with the re-organization of the preliminary and final phases of production in accordance with more rapid rhythms and more uniform criteria, led to a doubling of productivity and broke the control over the labor market and work organization of the more skilled labor-force -- weavers, dyers and carders. The work with the power-loom, like that with the automated spindle, did not require particular skills and its massive introduction enabled the entrepreneurs to expell the "master weavers," who had fought to defend their autonomy from the factory system for decades. The "master weavers," whose contractual strength and family economy were weakened also by the agrarian crisis, were replaced by a new, cheaper, unorganized and unskilled female labor-force. Many former weavers emigrated to the United States to work in textile factories of the

Northeast, while those remaining either formed production co-operatives or went back to work for lower wages as proletarians in the factories.

The silk industry -- increasingly concentrated around Como and the Lower Brianza, but still relying on cocoons supplied by small-holders and **coloni** throughout the pre-alpine regions -- continued to be the main industrial sector of the Italian economy in terms of labor-force, product value, and import/export value. This despite some setbacks. Silk was hard hit by the sharp fall of international prices, Asian competition and world-wide protectionism.[91] The commercial war with France damaged the reelers and throwers badly, as over 60% of their exports had been absorbed by Lyonnais weavers, before they turned to Asian suppliers. The sudden loss of the French market, however, was compensated after the early 1890s by a growth of exports to Switzerland and Germany and the value of silk exports continued to represent between a third and a quarter of total Italian exports. Imports of Asian raw and spun silk also increased owing to the fact that Milan was now taking over the place of Lyons as the principal European market and as the second in the world after Yokohama. The increase in production in silk spinning -- reeling and throwing -- was achieved mainly through a more intensive use of existing productive capacity, involving no great investment and virtually no increase in manpower. As

organization throughout the year improved, so did its productivity. So successful were the **filandieri-filatoieri** and the **negozianti in banca e seta** that they sought to diversify their capital by investing in the other textile sectors, the developing mechanical and electrical industries, local banking, and the industrialization of silk weaving. The latter received new impetus also from the 1887 tariffs and the installation of Swiss-made power-looms. Low-cost Lyonnais-type woven goods acquired a growing share of the London market.[92]

If spinning and weaving made considerable progress in all the fiber branches, as a whole the stage of textile manufacturing represented by dyeing remained backward.[93] Dyeing was linked with advances in the chemical industry, which in Italy enjoyed little tariff protection and made only small advances -- in the areas of sugar-refining, fertilizers, medical drugs, and rubber -- as a result of the initiative of a few outstanding Italian and foreign entrepreneurs -- Erba, Pirelli, Lepetit, Dufour, and Maraini. Even these initiatives, however, were often in sectors that were already consolidated abroad and did not require extensive scientific knowledge or laboratory research. They provided only scarce stimulae, occasions and requests to the scientific community, which continued to pursue pure science and to occupy only a marginal position in the Italian academic world. The latter was still

hegemonized by a classical humanistic orientation that was more suited to the forming of country-gentlemen and public officials than of applied scientists able to actively support the industrialization process.[94]

The gap between modern scientific research and economic activity was bridged only in the electrical industry by a handful of professors and technicians -- Colombo, Ferraris, Mengarini, and Semenza -- whose great merit was that of intuiting the prospects offered by the electric lighting system presented by Edison at the Paris Exhibit of Electricity in 1881. Giuseppe Colombo, a professor of the Polytechnic of Milan and one of the leaders of the Milanese political-economic establishment,[95] promoted the installation of Edison's first European power station in Milan (28 June 1883) and raised the enthusiasm of major Lombard bankers and entrepreneurs for the new industry. The Milanese **Società Edison Italiana** (1884) acquired Edison's patents for the Italian market and, together with a few other companies, built the first thermic power stations and urban electric llighting networks in the late 1880s. It was, however, the prospect of developing hydroelectric production (**carbone bianco** or "white coal") through the exploitation of the abundant hydraulic resources of northen Italy that had a great psychological effect in economic circles. Indigenous technicians began to plan and install hydro-electric power stations after the early 1890s, although attempts to

establish an electrical equipment industry failed. The rapid growth of the hydro-electric industry began after 1895, as the technical and legal obstacles to the transport of power from a distance were finally overcome and as German technology and capital became readily available.[96]

From 1882 to the early 1890s, the transformist political system was able to articulate the contrasting poles and regions of the Italian political-economy by extending a complex network of subsidy and protection over the entire domestic market. In this respect, its most enduring achievement was the 1887 protectionist tariff system that allowed for forging a more coherent and stable **modus vivendi** between the forces of agricultural and industrial capital, and between north and south. The bloc of national protectionist interests -- formed by a few thousand large agricultural producers of the center-north and southern **latifondisti**, the military-industrial complex, and the cotton and woolen industries -- upheld the transformist ministerial majorities in the Parliament.

Initially, the conflicts arising inside this national protectionist bloc were resolved rather easily by deflecting pressures downward. Through high prices and indirect taxation, the peasantry and popular classes paid most of the cost of the compromise between the various sections of the ruling class. Once the national protectionist bloc was fully established and the economic crisis deepened, however, the

entire political-economic system became engulfed in a socially conservative spiral: more taxation on consumption and higher tariffs and prices reduced the margins of subsistence of peasants and workers, provoking their revolt, which the transformist politicians confronted with increasing internal repression, nationalism and colonialism, in turn leading to more taxation on consumption and higher tariffs and prices. Giolitti attempted to open a path out of this vicious circle (1892-93), but his fall as a result of the **Banca Romana** scandal highlighted the dangers that political leaders faced once they tried to modify the socially conservative nature of transformism.[97]

After 1893, with the dramatic crisis of state finances and most of the banking system, the cracking of the national protectionist bloc's internal solidarity over fiscal and expenditure policies,[98] the explosion of popular unrest and strikes from Sicily to Milan, and the eruption of war in East Africa, much of the political world became convinced that some sort of authoritarian government, drawing on monarchical and military prestige, would have to replace transformist parliamentary ministries, which were losing their grip. In his last ministry (1893-1896), Crispi tried to supersede the transformist system by combining the harsh repression of the peasant and socialist movements at home with the drive for empire in East Africa, only to quit after the disastrous defeat at Adowa. Successive governments

acted out of conservative panic and resorted to rule by martial law, with cloture rules for the troublesome opposition in the Chamber. The end-of-the-century crisis showed clearly that great-power politics, repression, and efforts to gag parliament did not amount to a viable solution. Rather than taking the final step toward some sort of military regime, the monarchy chose to pass the initiative back to the parliamentary politicians for a new socially reformist version of the transformist system, this time led by Giolitti.

## The Gavazzi family

By the late 1840s, the Gavazzis were among the most successul and dynamic silk entrepreneurs of the Kingdom of Lombardy-Venetia. As big landowners, owners of large reeling and spinning mills (**filandieri-filatoieri**) and leading merchant-bankers (**negozianti in banca e seta**), they managed one of the most complex business organizations that operated as: (1) a large producer of cocoons, raw and spun silk; (2) a provider of working capital to a wide network of small producers; (3) a concentrator and exporter of large quantities of silk yarns. In the course of the second long wave (1849-1896), the Gavazzis chose to further raise the level of efficiency and vertical integration of their industrial organization.[99] The new strategy was carried on in concert by two main branches of the family: one branch

continued to upgrade reeling and spinning, using the firm **Pietro Gavazzi e Fratelli**; the other branch industrialized weaving and dyeing through the incorporation of these stages in the factory system, using the firm **Egidio e Pio Gavazzi**. It was by intensifying their commitment to industrialization that the Gavazzis were able to maintain a high rate of accumulation in an agro-industrial sector that continued to be the most important of the (north) Italian economy and to produce for the export market.

Two main factors prompted the Gavazzis to accentuate their presence in the industrial stages of the silk productive cycle: (1) the end of the more than centenarian and extensive growth of north Italian silkworm breeding; (2) the formation of a truly global market for all silk products resulting from the increasing integration of Asian raw silk production with fast growing European and American spinning and weaving industries. The combined action of these two factors created new conditions for accumulation in the various segments of the north Italian silk sector and induced the Gavazzis to progressively redefine the scale and scope of their entrepreneurial activity after the late 1840s.

After China, Italy remained the largest world producer of cocoons but its silkworm breeding proved unable to continue in its uninterrupted expansion. The domestic cocoon output peaked in the early 1850s, was reduced to half

by the pebrine epidemic between 1854 and 1866, and then rose again, but not overcoming the 1850s' level until the mid 1890s.[100] The disappointing state of sericulture was a consequence of disastrous and protracted silkworm and mulberry diseases, which caused sharp collapses in total and unitary cocoon production.[101] Consequent steep cost increases were compensated at least partially by rising prices in the expansionary phase, but there was an income reduction of small-holding peasants, **coloni**, **fittabili**, and large land-owning aristocratic rentiers when prices fell sharply in the depressionary phase.[102]

These negative elements contributed to keep silkworm breeding in a state of immobility because there was an increase in the risks involved in the introduction of productive and organizational improvements based on greater specialization and investment. Production and productivity of north Italian sericulture rose only slowly after the pebrine crisis (1854-1866) since small-holding peasants and **coloni** families continued to bear directly most of the weight of cocoon production, intercropping mulberry trees with cereals, carrying on silkworm breeding at home, and receiving only a fraction of the proceeds.

Land-owning aristocratic rentiers, who controlled most of cocoon production, had always considered sericulture essentially as a means to obtain a monetary surplus without having to sustain a real cost. These rentiers saw little

incentive to change their managerial style under the new adverse conditions because cocoon production continued to guarantee a valorization of their estates with little or no monetary expenditure and also because the "mixed contract" arrangement continued to allow them to exploit rather freely the (unpaid or underpaid) labor of the **colono** and his family.

Even the Gavazzis demonstrated no interest in trying to transform cocoon production into a full capitalist activity and the **colono** into a true rural proletarian. Such a transformation, in fact, not only required positive solutions to very difficult technical problems and relatively high capital investments, but it also implied the breaking-up of that equilibrium between agricultural and industrial work which allowed an entrepreneur to pay wages that were below the subsistence level to members of **coloni** families working in their **filande** and **filatoi.**[103] The Gavazzis favored, rather, the introduction of Japanese silkworm varieties, of new techniques of silkworm husbandry, nutrition and cleaning, and of mulberry cultivation, fertilization and pruning -- improvements that were based simply on a further intensification of the labor of the **colono** family, rather than on additional capital investment on their part.

The disappointing state of domestic cocoon production and the growing competition of low-cost Asian raw silk

producers contributed to reduce profit margins in the north Italian reeling industry. Domestic cocoon output was unable to sustain the productive capacity of all the existing **filande** during the worst years of the pebrine epidemic, while an ever-increasing supply of cheap Asian raw silk took over one-third of the Italian market, even before the opening of the Suez Canal in 1869. These unfavorable conditions set in motion a process of concentration and modernization in the reeling industry. There was a sharp increase in productive capacity and productivity of larger and more capital-intensive mills (**filandoni**), while many of small-size and less efficient reeling mills (**filandine**) closed down.[104]

Thousands of **filandine** were scattered throughout the cocoon producing area in the early 1850s. These mills constituted the bulk of the industry's productive units and were responsible for most of the regional output of raw silk. The efficiency, productivity and product quality of the **filandine**, however, was very low. A small-size reeling mill was usually located in an old builing -- a warehouse, a watermill, a country home, or a portico -- not always fitting the requirements of silk production or providing for a healthy working environment. A **filandina** had a small productive capacity comprising 10-20 wood-fired boilers and simple hand-powered machinery for turning the reels. The mill was in operation for 15-60 days in the summer,

processed only a small amount of (often second-rate) cocoons and its product was of a low quality.[105]

The **filandine** were owned by **fittabili**, small land-owners, provincial notables, and small operators who had little capital and credit. These entrepreneurs enjoyed a very weak bargaining position in the cocoon and raw silk markets. To operate they often accepted unfavorable prices and conditions of payment that reduced their profit margins to a minimum. The new market conditions, characterized by the scarcity and higher cost of cocoons and by the competition of larger **filande** and of Asian producers, gave the **coup de grâce** to many of these operators, who simply ceased their activity -- at no loss, however, given their insignificant investment in fixed capital.

The closing down of thousands of **filandine** went hand in hand with the strengthening of the position of larger and more capital-intensive reeling mills (**filandoni**). These mills were owned by large land-owning aristocratic rentiers, who either leased them to specialized entrepreneurs or entrusted hired directors with their management, and by a group of silk entrepreneurs (the **filandieri-filatoieri** and **negozianti**), who made their profits with the sale of twisted yarns rather than raw silk.[106] The accumulation of these entrepreneurs depended on their ability to achieve a close and efficient integration of reeling **and** twisting operations. They were often also large cocoon producers and

disposed of ample capital, credit, productive capacity, and commercial outlet, all elements that allowed them to enjoy a very powerful position in the cocoon market. They bought large parcels of cocoons from big land-owning rentiers at favorable prices and conditions of payment.

The **filandieri-filatoieri** considered the introduction of productive and organizational innovations in reeling mills as means to improve the competitive advantage of their spinning mills (**filatoi**). The use of new, faster water- and steam-driven machinery in the **filatoi**, which began with the introduction of the Vaucanson spinning machines in the early 1840s (See Chapter 5 and below), compelled these entrepreneurs to re-organize and upgrade the reeling activity, finding new ways to increase the output of their **filande**, lower the cost of production and improve the quality of raw silk. Among these operators, the Gavazzis demonstrated a remarkable disposition to innovate, setting up a productive organization that all the others attempted to imitate.[107]

In the years immediatly preceding the diffusion of the pebrine epidemic, the Gavazzis were able to achieve a more intensive use of the productive capacity of the Valmadrera and Bellano reeling mills. They increased the number of annual working days of one-third, from 180-200 to 270, through the introduction of an effective method of winter-time reeling perfected by Pietro Gavazzi in 1849, whereby

reels were enclosed in narrow containers made of wood and glass and heated by the steam pipes that fed the reeling boilers.[108]

The Gavazzis continued to expand their reeling activity even during the years of the pebrine epidemic (1854-1866). They leased a reeling mill from the Duke Serbelloni at Cornaredo in the second half of the 1850s[109] and became the sole owners of a **filanda-filatoio** at Cernusco on the Naviglio in the mid 1860s.[110] Furthermore, they installed gas lighting in the reeling mill of Valmadrera before 1859 so that night-work could be carried on at peak season (Cantù 1859).

Two main factors allowed the Gavazzis to expand industrial production even during the pebrine crisis. Firstly, in the area around Lecco, where the reeling mills of Valmadrera and Bellano were located and where the mulberry-silkworm-cocoon complex had achieved a higher degree of specialization and productivity than in any other north Italian area, the pebrine struck silkworm breeding less intensively. Even the recovery came earlier and faster than in the rest of the region because healthy Japanese silkworm eggs and Pasteur's new methods for the prevention of the disease (See note 101) were introduced here first. This evolution of Lecco's sericulture favored the Gavazzis because they were among the great local cocoon producers and buyers.

Secondly, the Gavazzis benefitted also from the formation of regional, national and international cocoon markets during the years of the pebrine crisis. Improvements in the means of transportation, the political unification of Italy and the introduction of hot-air desiccators contributed to de-localize cocoon markets. In particular, the widespread diffusion of new desiccators accelerated the erosion of local commercial monopolies and the demise of small-size reeling mills. Dried cocoons could be preserved for long periods of time, thus freeing producers from the urgency of having to sell their crop immediately, often under inconvenient conditions. Long distance transportation of cocoons became cheaper since dried cocoons were easy to pack and weighed one-third less than fresh ones. The Gavazzis took advantage of the new trading opportunities and sustained their reeling capacity also with Balkanic and Middle Eastern cocoons imported via Marseilles.[111]

The Gavazzis accelerated the re-organization of the process of production in the **filande** of Valmadrera, Bellano and Cernusco during the second half of the 1860s, in conjunction with the overcoming of the pebrine and the introduction of a new generation of spinning machines in the **filatoi** (See below). To raise labor productivity and product quality, they installed: (1) new steam-heated boilers and reeling machines whereby the number of threads

simultaneously reeled by one operative increased from four to six, eight or ten, and the number of turning big reels from one or two to three, four or five respectively (two threads for each big reel); (2) one separate scrubbing vat for every reeling boiler, equipped with a mechanized scrub to wash the cocoons and loosen the gummy sericin coating and binding the silk filament; (3) a mechanized system to draw hot fumes out;[112] (4) a new working organization whereby the task of the reeler (**filandiera**) was reduced to overseeing only the winding of filaments, assigning their preparation to a brusher (**scopinatrice**) and the knotting of broken threads to a third operative (**annodatrice**); (5) automatic machinery to wind (**incannare**) the threads from the big reels (**aspi**) on smaller reels (**rocchetti**);[113] (6) a steam-engine of 3 HP at Cernusco and additional hydraulic power at Bellano and Valmadrera.[114]

Even with the introduction of these novelties, however, the speed of the reeling process and the quality of the raw silk continued to depend on the quality of cocoons used, on the desired grade (**titolo**) of the thread,[115] and above all on the ability and experience of the reeler.[116] A reeler was considered skilful if she was able to ensure the regularity of the grade of the (4, 6, 8, or 10) forming threads at a reeling speed of 50-70 turns per minute -- equal to 75-100 meters. Occasional thin lengths of thread, even if short, reduced the commercial value of the product because they

caused breakages during subsequent twisting and weaving operations. Avoiding thin passages was not, however, easy[117] and to produce threads of a regular grade at a sustained reeling speed, a reeler had to pay constant attention to the filaments and to the winding capacity of cocoons. She had to determine promptly the necessary number of filaments that ensured the uniform composition of each thread, removing, replacing or adding the winding filaments depending on the feel.

The Gavazzis continued to invest in the reeling industry also in the following decades. To the **filande** of Valmadrera, Bellano and Cernusco they added others at Desio, Orio and Vendrogno, all integrated with **filatoi**. They introduced cast-iron reeling machinery, metallic big reels, more powerful hydraulic, steam and electric engines and, in the early 1890s, the automatic filament-sticker (**attaccabave automatico**).[118] By the end of the century as a result of these innovations, a skillful reeler was able to produce simultaneously up to 10 threads at a reeling speed of 80-100 turns per minute -- equal to 120-150 meters. This level of production became, however, an impassable limit since all the attempts made to achieve the complete mechanization of the reeling process failed. It proved impossible, in fact, to replace the skilful reeler with an automatic system capable of constantly evaluating with sufficient accuracy the grades of the forming threads and thus of ensuring their

regularity.[119]

As the Gavazzis and the other specialized silk entrepreneurs modernized and concentrated the reeling industry, they also reorganized and expanded the twisting industry. It was, in fact, in the latter that these entrepreneurs enjoyed the most favorable conditions for growth and accumulation after the 1840s. The twisting industry became the main beneficiary of the displacement of the **filandine** by the **filandoni**. The latter were integrated with the **filatoi** by the more specialized entrepreneurs, and supplied these with finer raw silks. A growing supply of more uniform and cohesive threads made it easier to improve the quality of twisted yarns and to accelerate the introduction of faster twisting machinery and more efficient methods of production, thus raising total output and labor productivity while reducing costs.

The twisting industry was also the main beneficiary of the formation of a global market for all silk products. Globalization allowed the Gavazzis and the other north Italian specialized silk operators to rapidly expand the productive capacity of the **filatoi** since it became possible to produce twisted yarns with an ever-increasing quantity of Asian raw silk, besides the domestic supply.[120] The **filatoieri** became the most important industrial brokers between Asian raw silk producers and the fast developing industries of north-west Europe, fulfilling a great part of

the voracious appetite for twisted yarns of French, German and Swiss fabric industries.[121]

The supremacy of the north Italian twisting industry in world markets was favored by three main competitive advantages: (1) the existence of a small but solid group of highly specialized entrepreneurs, like the Gavazzis, who were willing to invest in the further expansion and modernization of the industry and who also had a long-standing practical experience of foreign markets; (2) superior levels of productivity, technology, organization, and product quality in relation to those achieved by Asian competitors and at least equal to those of other European twisters; (3) a labor-force possessing high levels of specialized skills, but at a lower cost in relation to other European twisting industries.

In the case of the Gavazzis, twisting operations underwent three phases of technological renewal, each fostering sharp increases in labor productivity and total output. The first phase began in the early 1840s when, in order to provide a more effective response to the rapidly growing demand for twisted yarns of French, German and Swiss fabric industries, the Gavazzis replaced the old twisting machinery with that perfected in France by Vaucanson. The old machines, essentially modeled on the **molino alla bolognese** (first introduced in Bologna in 1372), had round wooden frames with many passes (**valichi**) and a vertical

central axis that occupied several floors of vast and tall buildings. The new machines (**piantelli in quadro a bacchette**), instead had horizontal and rectangular wooden frames (always with many passes) that required much less space and were easier to put into action, work and repair.[122] The movement was transmitted by the vertical central axis made of cast-iron to wooden pulleys activating leather belts which made spindles turn by friction. Threads passing vertically wound themselves on smaller wooden reels that were slipped into rods (**bacchette**) and in this transfer received the twist. The Vaucanson twisting machines improved the speed of operations substantially (the speed of spindles increased from about 800 turns per minute to about 2,000), labor control and working conditions also improved. As a result, it became easier to produce more uniform and resistent yarns.

The second phase began in the second half of the 1860s in conjunction with the recovery of indigenous cocoon and raw silk production and with the opening of the Asian raw silk market to the north Italian twisting industry. To increase production, raising the speed of the small reels, and consequently also that of spindles, the Gavazzis replaced the rods (**bacchette**) with wooden cylinders or drums, upon which were placed the small reels. The small reels were turned by friction; they were, as well, separated one from the other and from the underlying cylinder or drum,

by small supports, so that they could be stopped independently of one another. This allowed knottings to be made with ease, even with fast spindles. These twisting machines also had the advantage of providing a more uniform twist, because the reeling speed of the thread on the small reel was constant, corresponding as it did to the diameter of the cylinder or drum.

The third phase began in the early 1880s in conjunction with the steep fall of prices for all silk products, determined by a world-wide overproduction of raw silk. Under the pressure of falling prices for yarns, the Gavazzis tried to defend their profit margins by reducing the cost of production. They introduced new iron-made twisting machines that required little space because they had only two passes (**valichi**). These machines made much more efficient use of available power and were equipped with very fast-turning cylinders, drums and spindles.[123]

The introduction of the new twisting machines went hand in hand with changes in the labor process. Every phase of technological renewal, in fact, allowed a simplification of the tasks of operatives and a raising of labor productivity measured in terms of the amount of yarns produced per unit of time and of the number of spindles placed under the supervision of each worker. Occasional active resistance of the workers to these changes was dealt by the Gavazzis with an iron-fist. When the introduction of faster independent

spindles was met with a short wave of strikes in the **filatoio** of Valmadrera in 1869, Pietro Gavazzi fired all the operatives and replaced them with a new, cheaper and more submissive, female labor-force.[124] Normally, however, the Gavazzis preferred to regulate their relations with the labor-force through the implementation of a very effective preventive paternalist policy.[125]

The impressive growth of the north Italian twisting industry went hand in hand with the transformation of Milan into one of the great commercial and financial centers of the global silk market, competing for leadership with Lyons, Marseilles, London, Yokohama, and New York. Beginning in the late 1850s, the Gavazzis and the other specialized silk entrepreneurs and merchant-bankers fostered a re-organization of the credit system to obtain a more elastic supply of commercial credit and to free the silk trade from financial dependence on foreign bankers and wholesalers. They participated in the establishment of specialized joint-stock banking institutions, which mobilized some of the abundant capital held by Lombard aristocratic rentiers, and were among the promoters and beneficiaries of the formation of a national credit system.[126]

The growth of Milan as a world-class center of silk trade was fostered also by Italian and foreign customs tariffs. Asiatic raw silk was imported into Italy free of duty, to be refined in the **filatoi**, while the duty on the

export of yarns was relatively low until 1892, when it was finally abolished.[127] This was largely the result of the political influence exercised by the Gavazzis and the other silk businessmen on the Italian government, either indirectly through their interest group organizations or directly as members of Parliament.[128] Furthermore, with the exception of France, which was engaged in a commercial war with Italy after 1888, European countries imposed only low tariffs on yarns imported from Italy, even during the years of triumphing protectionism. This preferential customs treatment of Italian yarns by foreign governments was secured through **ad hoc** commercial treaties whereby, in exchange for it, the Italian government made similar concessions on the import of their industrial products. Once again the rapid growth of the silk trade was tightly linked to the capacity of north Italian silk businessmen to influence the foreign trade policies of the Italian government.

Less spectacular, but very important in terms of subsequent developments, was the acquisition by the weaving segment of national and international market niches for cost-sensitive silken fabrics (e.g. fabrics for linings, umbrellas and parasols). This result was achieved after the late 1870s when, in conjunction with the drastic collapse of the price of twisted yarns, a small nucleus of emerging capitalist enterprises activated a process of reorganization

of the weaving sector. This nucleus centralized a relatively small number of power-looms in factories around Como and Milan and became the core of wide networks of hand-weavers dispersed in small-size workshops or in peasant homes.[129] The Gavazzis played a major role in this process by forming one of the most important firms, the **Egidio e Pio Gavazzi**, an initiative of Pietro's two younger sons, Egidio (1846-1910) and Pio (1848-1927).

The two brothers graduated from the Polytechnic of Milan in engineering after having participated as volunteers in the Third War of Indepence against Austria in 1866. During a visit to silk weaving industries in Switzerland in 1869, they bought 31 power-looms from the firm Honegger of Ruti. These Swiss-made power-looms were the first ones ever employed in the Italian silk sector, and together with 20 hand-looms, formed the initial productive base of the **Egidio e Pio Gavazzi** firm, which was established by the two brothers as a **società in accomandita** in January 1870. The firm produced two main types of goods: (1) inexpensive cloths -- fabrics for umbrellas, black and colored taffetas, grisailles, and striped cloths; and (2) fine quality silk fabrics for women's clothing. Production was carried out in several workshops scattered in the small villages of the Milanese (around Melegnano, Melzo, Desio, etc.), only a few kilometers away from Milan where the head-office of the firm was located.

Several considerations influenced the decision to carry out this new venture outside of the old family firm, **Pietro Gavazzi e Fratelli**. Egidio and Pio felt that in the latter their ambitions were inevitably stifled by the active involvement of their father Pietro (1803-1875), their uncles Antonio (1815-1885) and Egidio (1818-1877), and their older brothers Giuseppe (1831-1913), Carlo (1832-1878) and Riccardo (1836-1903). At the same time, their relatives felt reluctant to directly engage the family firm in the weaving business. Such an engagement, in fact, implied the transformation of the firm into a direct competitor of its own local customers. Furthermore, relatives considered mechanized weaving as an activity that was still economically too risky and technically too complex to be carried out successfully in Italy. The two brothers, however, were supported benevolently by the rest of the family through loans at low interest and the supply of low priced twisted yarns.

As relatives had foreseen, the new venture encountered several initial difficulties, notwithstanding the fact that the dominant market position of Lyonnese producers was shaken until 1874 by the political and economic turmoil that followed the Franco-Prussian war of 1870. The new firm incurred heavy losses in 1870 and 1871 as a result of the weight of initial investments, the hardship of creating a network of customers, and the difficulties of assembling

machines and training workers. The critical moment was overcome only with the direct financial intervention of Pietro Gavazzi, who became a financial partner of the firm in 1872, and with the first commercial success of the firm's fabrics, particularly of those for umbrellas, until then imported into Italy from Lyons and Zurich.

During the 1870s the **Egidio e Pio Gavazzi** gradually increased its productive capacity as it began to find foreign commercial outlets.[130] The Gavazzis were only too conscious that accummulation depended on the degree of commercial success encountered by their products in major international markets. They spent time and money to pursue this aim. The firm participated in national and international industrial exhibitions,[131] opened commercial offices in Paris (1877) and London (1879), and established business ties with fabric importers and distributors of Vienna, Madrid, Bruxelles, Zurich, Krefeld, and New York.

This commercial strategy paid off from the early 1880s when sales in foreign markets increased sharply year after year. The Gavazzis had to expand productive capacity to keep up with the rapidly growing demand. From the mid 1880s, they created a different type of productive organization for each of the two main types of products. On the one hand, the two brothers invested large resources to re-organize the production of inexpensive fabrics under the factory system. In this area, in fact, competitive

advantage depended upon a high volume of output and low costs. The number of the firm's power-looms increased from 100 in 1881 to 1,000 in 1896 and production was entirely centralized in a single large modern factory at Desio (with 2,000 workers in 1896), where female operatives took the place of males at the power-looms.

On the other hand, the production of fine quality fabrics for women's clothing was organized differently. Unresolved technical difficulties and the cheapness of skilled hand-loom labor retarded mechanization. Hand-loom weaving continued as the dominant form of production and the Gavazzis shaped a flexible and low cost productive organization that allowed the firm to adapt effectively to the recurrent ups and downs in international demand. The firm's steady trade was based upon 250 hand-looms centralized in the Desio factory and in times of brisk trade the firm gave out work to hundreds of independent hand-weavers scattered in small-size workshops and in peasant homes throughout the region. Independent hand-weavers bore the costs of fixed charges for rent, loom, etc. and in the event of a decreased demand, the firm worked its 250 looms as long as possible while the services of sub-contractors were dispensed with. In any case, only weaving was put-out since all preliminary and final phases (dyeing, warping, quality control, and packaging) were carried out in the Desio factory.

Two factors, besides a sustained rate of accumulation resulting from the commercial success in foreign markets, anabled the two brothers to construct the large factory at Desio after the mid 1880s. On the one hand, Egidio and Pio benefitted from the hereditary division of the family patrimony that followed the death of uncle Antonio in Paris in 1885. Antonio was the last surviving member of his generation and left a huge patrimony valued in 14 million lire -- which included one-third of the ownership of the **Pietro Gavazzi e Fratelli** -- to his five nephews, the surviving offspring of Pietro: Giuseppe, Adele, Riccardo, Egidio, and Pio. Egidio and Pio sold their shares to their siblings, particularly to their older brother Giuseppe, and invested the proceeds in the development of their own firm at Desio.[132] This hereditary division led to the formation of two main branches in the Gavazzi family: (1) the "Valmadrera branch," led by Giuseppe (1831-1913) and his two sons Piero (1854-1932) and Lodovico (1857-1941), which controlled **filande** and **filatoi** through the **Pietro Gavazzi e Fratelli** firm; and (2) the "Desio branch," led by Egidio (1846-1910) and Pio (1848-1927), which controlled the weaving factory at Desio through the **Egidio e Pio Gavazzi.** Social and business relations between the two branches remained cordial and were cemented by complex marriage alliances in following generations.[133]

On the other hand, the ability demonstrated by the

Gavazzis to couple the exercise of economic power with political control made possible the establishment of a large industrial factory and the transformation of the small rural village of Desio into a company-town by 1896. This political activity of the two Gavazzi brothers developed in the context of the re-organization of the Lombard-Milanese **Destra** (the "New Right"), carried out under the leadership of Giuseppe Colombo and other industrialists after the early 1880s (See notes 47, 95, 98). Pio was elected municipal councilman in Milan,[134] while Egidio was appointed mayor of Desio in 1883 and remained in office until his death in 1910.[135]

As mayor of Desio, Egidio carried out a vast program of public works that improved the quality of the town's social services and infrastructure. He promoted the construction of a new town-hall, a new public theatre, new public schools, a larger cemetery and church, and a tramway line connecting Desio with Milan.[136] Streets were paved and gas-lighted; the first acqueduct came into being and sheltered laundries were built. Most of the cost of these improvements was covered by the municipality (through taxes, bank-loans and bonds), but the Gavazzis made conspicuous donations and their company was often directly involved in the realization of some of the projects.[137] Furthermore, in some instances, the Gavazzis and the other civil and religious authorities promoted the successful mobilization

of the labor of the population, as in the case of the enlargement of the town's main church between 1888 and 1895.[138]

In this manner the Gavazzis were able to improve the quality of life at Desio and find a suitable solution to the problem of creating an abundant, stable, loyal, and reliable labor-force. New population was attracted to the town by the prospective of more decent living conditions and jobs in the factories of the Gavazzis and the few other entrepreneurs.[139] The successful transformation of Desio into a company-town was celebrated officially when King Umberto I and Queen Margherita inaugurated the new 500 HP engine at the Gavazzis' factory in November 1895.

For the Gavazzi family, the visit of the royal couple was the highest public recognition of the success achieved by the fourth generation. At the same time, the royal visit signalled that a new, positive and attentive, attitude toward industrialization was finally emerging among some of the most influential sectors of the Italian political establishment. The Royals were paying homage to one of the most dynamic families of the north Italian industrial bourgeoisie. At the same time, this bourgeoisie was engaged in implementing a model of management of the industrialization process that made the latter seem compatible with established principles and hierarchies of the monarchic-liberal social order (See note 47). The

Gavazzi family, in fact, was technically and economically innovative, but politically and socially conservative. It consciously built a modern industry to overcome the crisis of domestic raw silk supply and exploit the new opportunities offered by the widening of the world market for all silk products, without at the same time allowing for an alteration of existing social relations. The Gavazzis, whether in Valmadrera, Bellano or Desio, operated in accordance with the firm belief that capitalists had to take care of their labor-force through a series of measures aimed at preventing the emergence of deep-seeded socio-political imbalances and the formation of an autonomously organized working-class. Their philosophy of benevolent control permeated every aspect of workers' lives in an attempt to develop socially controlled communities and thus avoid the horrors and squalors associated with industrialism. It was to this philosophy, above all, that the Sovereigns were paying homage with their visit to the Gavazzis' factory in 1895.[140]

### The Pontis, Cantonis, Crespis, and the other dynasties of the Lombard cotton élite

By the late 1840s, it was apparent that the cotton industry, rooted in the pre-alpine areas of the upper Milanese, Bergamasco and Bresciano, had risen to a place of importance in Lombard manufacturing economy second only to that occupied by silk, and that the group of Lombard cotton

entrepreneurs was one of the most dynamic and innovative components of the rising north Italian bourgeoisie. This group was formed by: (1) offspring of Lombard extended families that could claim a long-standing engagement in cotton and linen merchant-manufacturing in the small rural towns of the upper Milanese -- families such as the Pontis, Turatis, Borghis, Cantonis, Crespis, Caprottis, etc.; and (2) Swiss and German entrepreneurial families -- such as the Ammans, Mylius, Krumms, Schochs, De Plantas, Zuppingers, etc. -- who had settled in Lombardy mostly after the 1820s, attracted by the still under-developed and protected local market. These indigenous and foreign entrepreneurs chose to invest part of their commercial profits into cotton industrial production after the Austrian government began implementing a protectionist policy in 1817, which sealed off the Kingdom of Lombardy-Veneto from foreign cotton yarn and cloth production of a lower quality. They increased their direct control over the cotton productive cycle by concentrating and mechanizing the productive phase of spinning in small and medium-size factories driven by water, by expanding the scale of rural domestic weaving organized on the basis of putting-out arrangements, and by extending their supervision over the finishing stages of cloth production -- its bleaching, dyeing and fulling. By introducing these changes, cotton entrepreneurs increased overall productivity, output, quality, control over labor,

and lowered total costs. These conditions enabled them to expand their share of the local market, increase their profits and strengthen their position in the local political-economic arena.

The same entrepreneurial families played a dominant role also in the further industrial development of the cotton industry during the second long-wave (1848-1896), although a few other cotton dynasties emerged in northern Italy aafter the late 1860s -- for example, the Lombard Viscontis di Modrone, De Angeli-Fruas, Bernocchis, Fossatis, Bassettis, etc.; the Piedmontese Mazzonis and Pomas; the Ligurian Raggios, De Ferraris, Figaris, and Delle Pianes; and the Swiss Leglers, Blumers, Zopfis, Abeggs, Wilds, and Leumanns.[141] The Pontis and the other dynasties of the pre-1848 Lombard cotton industry kept their main economic power base in cotton manufacturing and continued to invest in the technological and organizational upgrading of the spinning, weaving, dyeing, and printing phases. They mechanized the entire cycle of production of their firms, replacing mule-jennies with self-actings and rings, and hand-looms with power-looms. The private family firm remained their prevalent and preferred form of business organization, although they cooperated to create a few large, vertically integrated industrial joint-stock companies.

At the same time these cotton dynasties operated in

concert to extend their influence outside of the cotton industry by investing jointly in agriculture, railroads, banking, insurance, and several other manufacturing sectors -- such as the wool, linen, hemp, mechanical, chemical, ceramic, and electrical industries. The development of many sectors of the north Italian economy during the second long-wave was often the result of attempts by the old Lombard cotton dynasties to diversify their capital investment. Grounds for common action were found with relative ease by generational leaders who were linked together through tight webs of kinship and friendship. These leaders also shared an optimistic world-view overflowing with the awareness of being the vanguard of a rapidly rising capitalist class. By acting in concert, Lombard cotton dynasties came to form an élite able to play an aggressive role in the political-economic arena and even to acquire a "revolutionary" connotation inside the north Italian bourgeoisie.

The generation of the "pioneers" of Lombard cotton industrialization -- Bartolomeo Ponti, Francesco Turati, Francesco Saverio Amman, Luigi Borghi, Costanzo Cantoni, Antonio Crespi, etc. -- exercised its leadership throughout the 1850s, a decade in which the industry continued its slow growth nothwithstanding the entry of the pre-alpine agrarian economy into a decline, caused by the devastation of wine and cocoon productions by vine-tree (oidium) and silkworm

(pebrine) diseases.[142] Three main factors explain the uninterrupted growth of the Lombard cotton industry in this decade: (1) the price of raw cotton fell as the world market was flooded by the ever-increasing supply of new American, Egyptian and Indian plantations; (2) the Austrian government kept high duties on imported yarn and cloth, while totally exempting raw cotton after 1853; and (3) there was a dilatation of demand for cotton goods as a result of (a) the customs agreement between the Kingdom of Lombardy-Venetia and the Duchies of Parma and Modena (1852-1857), and (b) the lower prices and improved quality of cotton yarns and fabrics, which induced lower classes to dismiss traditional linen and woolen products in favor of cotton.

Under these conditions the cotton industry enjoyed a high level of profitability. Knowledgeable contemporaries estimated that the cotton productive cycle yielded entrepreneurs a yearly net profit of about 7.5 million lire, half a million more than the sum paid in overall wages.[143] The value of Lombard spinning plants (121,052 spindles in 1857) was calculated to be about 10 million lire (80 lire per spindle installed). Thus, it is possible to infer that entrepreneurs were able to cover a large share of the value of fixed capital in a good business year, considering that the weaving phase still had a proto-industrial organization and that most of the rural weavers owned the hand-looms with which they worked in their homes.

Even so entrepreneurs chose to re-invest only a fraction of their profits in additional fixed capital. They considered as too risky to invest in either a rapid expansion of productive capacity or a radical improvement of product quality. On the one hand, the local market for low quality products could grow only slowly since the expendable income of the popular classes was low and too dependent upon the critical state of many agricultural crops. On the other hand, the local market for medium-high quality products was already in the hands of powerful and efficient foreign producers and was in any case relatively narrow since it involved only a small stratum of the urban upper classes.[144] For these reasons, Lombard cotton entrepreneurs still preferred to engage most of their disposable capital in commercial, financial, real estate, and other types of speculation.[145]

The Pontis and the Turatis, who owned the two most important cotton spinneries and supervised the two largest networks of rural hand-weavers in Lombardy, were also the two great importers and local traders of raw cotton and of foreign-made yarns, cloths, machines, and dyestuffs. The Pontis spent several hundreds thousands lire to acquire a palace from the Counts Taverna in the old center of Milan (via Bigli 11), and turned it into the family residence and the headquarters of the firm **Andrea Ponti**. Bartolomeo Ponti managed the family, the family firm and a wide-ranging

banking business from the richly decorated rooms of this Renaissence palace. In particular, he oversaw the concession of loans at interest for the acquisition of cotton, other raw materials, manufactures, machinery, and real estate to smaller cotton producers, entrepreneurs in other sectors, and landed aristocratic families. In 1852, for example, the firm **Andrea Ponti** loaned 450,000 lire at an interest of 4.7% on the security of mortgages and repayment in nine years to Costanzo Cantoni, an important cotton entrepreneur of Gallarate, to finance his acquisition for 500,000 lire of the estate of Count Benedetto Francesco Arese-Lucini at Castellanza (300 hectares of arable and woodland with a country palace and rural buildings in the upper Milanese). The Pontis themselves bought a large country estate in the irrigated lowlands near Cornaredo (15 km. west of Milan).

The "pioneers" relinquished the field between the late 1850s and late 1860s to a new generation of leaders, the so-called "captains of industry," who were born in the 1820s/early 1830s and managed the families and firms until the late 1880s/early 1890s -- Andrea Ponti Jr. (1821-1888), Eugenio Cantoni (1824-1888), Cristoforo Benigno Crespi (1833-1920), Giovanni Schoch (1830-1888), Luigi Krumm (1828), Ernesto Turati, etc. Generational succession proceeded overall in a smooth, linear fashion -- from father to older son. This outcome was facilitated by the fact that

male primogeniture was still a widely accepted ideological principle and that often there was only one surviving male offspring in the main branches of cotton dynasties. Most of the new leaders had received a good formal education (some even had Law School degrees from the University of Pavia) and had participated actively in the nationalist **Risorgimento** movement. Many of them had travelled throughout northern Europe to visit the cotton industrial districts of Switzerland, Germany, Alsace, and England. Finally, all of them had worked for years in their family firms under the watchful supervision of their fathers and uncles. As a result of their training and first-hand experience, these men had already accumulated a remarkable economic and political know-how when they took full responsibility of their family firms.[146]

The new generation of Lombard cotton entrepreneurs cultivated ambitious hopes for the future. Their ascension to leadership proceeded in parallell with the final phase of the struggle that led to Italian independence and unity between 1859 and 1870. They supported the nationalist movement and optimistically believed that the formation of an Italian nation-state could foster the opening of a phase of rapid accumulation based upon the intensification of the industrialization process. They hoped that a domestic market comprising the entire peninsula could provide a powerful incentive for transforming their family firms,

which formed the most consistent nucleus of the Italian cotton sector,[147] into more capital-intensive and vertically integrated industrial companies. These hopes, however, were frustrated in large measure by a series of negative developments that held back the renewal and expansion of the Lombard cotton industry for most of the 1860s and 1870s.

The years between 1860 and 1866 were simply disastrous. The Italian market was saturated by a flood of foreign cotton goods after Cavour's general tariff reduction in 1860.[148] The politicians of the **Destra**, fearful of the negative social consequences of rapid industrialization, remained faithful to Cavour's belief in a free-trade approach and in an international division of production, in which Italy would rely for its economic growth primarily on the exports of a modernized farming sector, mining and "natural" industries such as silk, while importing industrial goods and machinery. Accordingly, and notwithstanding the vibrant opposition of Lombard cotton entrepreneurs, the government pushed through a series of bilateral trade agreements with northern European countries that substantially cut customs duties on cotton and other manufactures substantially after 1863.[149] At the same time, the Lombard cotton industry lost the important Venetian market since Veneto remained under Austrian domination. Finally, productive activity was hindered by the "cotton famine" caused by the American Civil War. (Attempts by

Andrea Ponti Jr. and others to promote cotton cultivation in areas of southern Italy had only a limited success[150]). Given these unfavorable conditions it was not surprising that some entrepreneurs abandoned the cotton industry altogether in these years, closing down their firms or going bankrupt,[151] while the Pontis, Cantonis and others kept their plants open only four days a week for long periods of time.

Conditions improved between 1867 and 1870. The supply of imported raw cotton returned to normality with the end of the American Civil War. Veneto was incorporated into the Italian nation-state and the Lombard cotton industry regained its dominant position in this market. Positive effects also followed fromthe government's decisions to reserve military contracts to national producers and to adopt the inconvertibility of banknotes, the **corso forzoso**, made necessary by the financial crisis resulting from the heavy expenditure of the war of 1866 against Austria. The **corso forzoso**, by altering the rate of exchange, in effect operated like a devaluation of the lira of about 10%, favoring Italian over foreign products. Finally, there was a partial recovery of the pre-alpine economy as vinyard and silkworm deseases were brought under control. The demand for cotton goods gained momentum and, with the coming into being of a more efficient and extensive national transportation system, Lombard producers began to feel the positive effects of a larger domestic market for the first

time.

These favorable conditions allowed cotton entrepreneurs to expand production and accentuate the degree of vertical industrial integration of their firms. They adopted three main policies to achieve these objectives: (1) they introduced night-work and began to replace mule-jennies with self-actings in spinning;[152] (2) they expanded their networks of rural hand-loom weavers, while at the same time introducing night-work and the first power-looms in concentrated weaving departments; and (3) they increased productive capacity by installing, or helping others to install new spinning, weaving, dyeing, and printing mills, even outside of the traditional locales of the cotton industry. Eugenio Cantoni was among the new leaders of the old Lombard cotton dynasties who implemented these policies with particular determination, transforming his firm into the second largest in Italy after the **Antonio e Andrea Ponti** by 1870. The **Cantoni** became a complex productive organization that covered the whole cycle of production -- from raw cotton to bleached, dyed or printed fabrics -- through the integration of the work of six specialized mills and about 1,000 rural hand-loom weavers.[153]

More efficient firms and higher profits enabled Lombard cotton entrepreneurs to play an important role in the economic boom following the inauguration of the Suez Canal (1869), the Franco-Prussian War (1870), and the transfer of

the Italian capital to Rome (1870). They took advantage of the extremely favorable situation created between 1870 and 1873 by a reduction in the competitive pressure of foreign products on the Italian market and by an in-flow of foreign speculative capital, to gain a larger share of the domestic market, concentrate productive resources, search for new forms of outside financing, and promote the growth of other industrial sectors. While private bankers, landed aristocrats, foreign capitalists, and silk businessmen (such as the Gavazzis) pulled together financial resources to set up banks that engaged in intense financial speculation, Eugenio Cantoni, Andrea Ponti Jr., and the other leaders of the old Lombard cotton dynasties were more concerned with trying to bring rapid acceleration and qualitative changes to the industrialization process. This was the same concern expressed by the Milanese technical periodical **L'Industriale**[154] in its first editorial on December 1871,

> Italy, finally embarked again on the solid basis of National Unity with Rome as capital, does not need to divert its own forces into political struggles anymore and can concentrate them freely in Work, Commerce and Industry to transform itself into a truly productive nation. ... Our country is in many apects in such condition that can become one of the first and most advanced Industrial Nations... (cited in Decleva 1982:191).

The Milanese economic newspaper **Il Sole**,[155] in its editorial on 4 January 1872, expressed a similar view:

> Italy has woken up from its long sleep and wants to regain its station of honor among industrial nations (cited in Cafagna 1962:102).

Lombard cotton industrialists engaged all of their personal prestige, managerial skills and capital in their attempt to form a limited number of large and viable industrial companies -- the **Cantoni Cotton Manufacture,**[156] the **National Linen and Hemp Manufacture,**[157] the **Rossi Woollen Manufacture,**[158] the **Richard Ceramic Manufacture,**[159] the **Pirelli & C.,**[160] the **Silk Waste Spinning Company,**[161] and a few others.[162] It was under the leadership of such "captains of industry" as Eugenio Cantoni and Andrea Ponti jr. that large banks, private bankers, landed nobles, silk businessmen, and merchants were attracted for the first time into employing capital in industry in the form of shares.

The beginning of the depressive phase of the second long-wave (1874-1896), however, shattered the hopes of the "captains of industry" since it had damaging consequences for the whole Italian economy and halted the advancement of industrialization until the late 1870s. All the new big industrial companies were caught in a cash-squeeze once the stock-market and most of the new banks collapsed after 1874. Suddenly, it became impossible to finance already planned investments or even necessary re-organizations. At the same time, profits evaporated overnight with the drastic drop in prices of raw materials and finished products and with the dumping of goods on the Italian market by foreign producers who were trying to avoid the worst effects of the international crisis of overproduction. The capital of all

the new big industrial companies had to be reduced when it became apparent that storehouses were full of over-priced raw materials and products. The small group of "captains of industry" became concerned exclusively with trying to avoid bankruptcy. They had to restructure, sell out or close down unprofitable plants under the pressure of great losses and the revolt of disgruntled small share-holders. Eugenio Cantoni, Andrea Ponti Jr., Alessandro Rossi and the other "captains," however, continued to dominate the life of joint-stock companies by supporting each other on the boards of directors.[163]

The crisis made evident that, notwithstanding a remarkable progress between 1866 and 1873,[164] the Italian cotton industry was still unable to compete with foreign industries. Lombard cotton entrepreneurs had loudly voiced their discontent for the free-trade policies of the **Destra** in the course of the **Parliamentary Inquiry on Industry** of 1870-1874 (See note 46). They had argued that it was necessary to increase customs duties[165] to compensate for some unfavorable conditions that impinged upon industrial production in Italy in respect to northern European countries. They considered these negative conditions to be: (1) the higher costs of internal transportation;[166] (2) the higher costs of imported machinery and raw materials;[167] (3) the higher price of imported coal, especially as hydraulic-power was becoming inadequate to the new requirements of

industrial production;[168] (4) the low level of specialization and productivity of industrial firms;[169] (5) the lack of mechanization in the weaving phase;[170] (6) the higher level of taxation;[171] (7) the mediocrity of the internal market and quality of products;[172] and (8) the inadequate development of Italian commercial organization.[173] Lombard cotton entrepreneurs were ready to admit that a lower labor cost was the only real advantage that they enjoyed in relation to foreign competitors,[174] although they lamented the lack of trained technical cadres.[175]

Lombard cotton entrepreneurs intensified their offensive in favor of protectionism after the fall of the **Destra** in 1876. Depretis, the prime minister of the new **Sinistra** government, had promised to revise customs duties in his successful electoral campaign, but cotton industrialists were deeply dissatisfied with the new commercial treaty drawn up with France in July 1877. Eugenio Cantoni, Andrea Ponti Jr., other main Lombard cotton entrepreneurs, Alessandro Rossi, and the Piedmontese Paolo Mazzonis, founded the **Cotton Association** in Turin in 1877 to oppose the essentially free-trade content of the treaty. Their opposition was successful since, when the French Assembly rejected the ratification of the new treaty, the Italian government enacted a new general tariff that introduced protectionism almost for the exclusive benefit of the cotton and wool industries.[176]

The cotton industry received a powerful impulse from the new tariff.[177] Productive capacity and productivity were increased in spinning as indigenous and Swiss entrepreneurs established new spinneries[178] and as industrialists replaced mule-jennies with English-made self-acting spindles. North Italian producers made rapid progress toward the conquest of the national market for yarns, even if bilateral commercial treaties and the abolition of the **corso forzoso** in 1881-83 lowered the level of protection that the 1878 tariff had provided. Factory organization made some progress also in the manufacture of fabrics since the traditional proto-industrial organization of production was becoming increasingly unable to keep pace with the rapid expansion of yarn production.

Besides protectionism other factors facilitated the expansion of the cotton industry after 1878. There was a temporary economic recovery fueled by a massive influx of foreign capital and by the new interventist economic policy of the **Sinistra** governments (See notes 59,60,61,62). There was a fall in the prices of coal, raw cotton, dyeing products, and imported machinery.[179] The indigenous mechanical industry began to be able to fulfil part of the demand for steam engines, spindles, looms and spare parts.[180] The virtual completion of a national railroad system facilitated the formation of a network of large wholesale dealers throughout the peninsula and the emergence of a few

manufacturers of ready made clothes, while consumers began to get used to standardized articles woven at the power-loom.[181]

The industrial firms of the Lombard cotton dynasties produced large profits again. The Pontis, Cantonis, Crespis, Ammans, Turatis, etc. were able to enlarge and improve existing plants and to establish new ones.[182] As during the financial boom of the early 1870s, they acted in concert to try to widen and modernize the existing Lombard economic base. Lombard cotton entrepreneurs were among the more enthusiastic promoters of the Milan Industrial Exhibit in 1881, the great success of which contributed to create the myth of Milan as the "moral capital" in contrast to Rome, the "legal capital."[183] They tried to strengthen other sectors of economic activity, from local banking[184] to the mechanical industry[185] and agriculture.[186] They also used part of their resources to support a patrician life-style, acquiring and restoring old Milanese palaces, building grand summer villas in the countryside and patronizing a variety of cultural and social activities.[187] Finally, the renewed activism of the Lombard cotton entrepreneurs was sealed by their direct participation in Milanese politics in the ranks of the moderate **Nuova Destra** that dominated local political life. Many of them were elected to the municipal council and it was through this experience that some of the members of the new generation -- such as Ettore Ponti (1855-1919),

the son of Andrea Jr., and Ernesto De Angeli (1849-1907), one of the favorites of Eugenio Cantoni -- emerged among the most representative new leaders of the Lombard bougeoisie.[188]

The phase of economic recovery, however, did not last long since the rapid fall in prices of agricultural goods destabilized the whole Italian economy by the mid 1880s (See notes 54,70,73). Eugenio Cantoni, Andrea Ponti Jr., Alessandro Rossi, and the other north Italian industrialists producing for the internal market, argued that only with a reinforcement of protectionism could it be possible to stop the sudden reversal in the agrarian and industrial accumulation process, and at the same time improve public finances and reduce the balance of payments deficit. The politicians of the **Sinistra** were very sensitive to these arguments and viewed protectionism also as a means to compensate influential interest groups that supported or were ready to support their government. Parliament issued a new general tariff for the protection of "national labor" (15 July 1887, but going into force in January 1888), which represented a compromise between the forces of industrial capitalism and those of agrarian rent capitalism, since it guaranteed a high level of protection to textile manufacturers, iron and steel-makers, sugar-beet growers and refiners, and wheat growers (See note 74).

The cotton industry was one of the main beneficiaries of the new general tariff and the resulting commercial war

that interrupted trade relations between Italy and France from 1888 to 1898. The sealing off the domestic market to foreign cotton yarns and fabrics provided indigenous producers with a powerful incentive to make large investments in new plants, to expand productive capacity with the introduction of new self-actings, rings and power-looms, and to turn the factory system into the dominant form of labor organization in all phases of production, weaving included. Italian manufacturers took over the whole home market and opened an export market for fabrics, although the first signs of an incipient crisis of overproduction in spinning started to materialize before the end of the 1890s.[189]

It was in the context of this accelerated expansion of the cotton industry that generational succession was carried out inside most of the Lombard dynasties. The "captains of industry" -- such as Andrea Ponti Jr. (1821-1888), Eugenio Cantoni (1824-1888), Cristoforo Benigno Crespi (1833-1920), Giovanni Schoch (1830-1888), etc. -- either died or retired between the late 1880s and 1900. They were replaced by a new generation of leaders -- such as Ettore Ponti (1855-1919), Costanzo Cantoni Jr. (1861-1937), Silvio Benigno Crespi (1868-1944), Giorgio Mylius (1870-1935), Edoardo Amman (1851-1921), Enrico Schoch (1865-1919), etc. who were born in the mid 1850s/early 1870s and ruled the families and firms until the years between the two World

Wars. Extensive technical training and first-hand business experience were the major qualifications of these men. Their typical formative curriculum retraced that of their fathers: they had received a good formal education, spent long periods of work-and-travel abroad and then worked for years under the close supervision of their fathers and uncles in the family firms.

One of the priorities of the new leaders was the strengthening of organizational and managerial resources so that firms could continue to expand on the basis of the vertically integrated model of industrial organization, that is, operating in all phases of the productive cycle. Thus, the rise to power of the new generation of "captains of industry" was accompanied by the emergence of a small group of skilled organizers of production and managers, who were their contemporaries and who supported them in all technical functions. Exemplary names are Soldini, Olcese, Frua, Maino, Festi, Borgomaneri, Colombo, Marelli, and a few others.[190] It was with the help of these skilled cadres that the new "captains" were able to build big firms which, by 1896, carried out the complete industrial transformation of cotton into dyed and printed fabrics. This group of big vertically integrated firms continued to dominate the cotton industry until Italy's return to free-trade in the 1950s, giving a peculiar character to the Italian cotton industry in comparison with other European cases in which big firms

specialized exclusively in single phases of the production cycle.

The Crespi family of Busto Arsizio was one of the old Lombard cotton dynasties that resolutely pursued accumulation through the intensification of vertical integration and the concentration of production. The brilliant exploit of the Crespis came after an attempt to establish an integrated complex of five separate plants had ended in failure due to a break-down of family unity at the moment of generational succession.[191] In fact, the five ambitious Crespi brothers had parted ways at the death of their father Antonio (1807-1883), each taking a piece of the family's productive assets to set up five autonomous cotton firms: (1) the first-born, Cristoforo Benigno (1833-1920), took a spinnery at Capriate (Bergamo) and named his firm **Benigno Crespi**, after the old family firm founded by his grandfather; (2) Carlo (1838-1910) took a spinning and weaving mill at Ghemme (Novara) and a weaving and dyeing workshop at Busto Arsizio, naming his firm **Carlo Crespi of the late Antonio**; (3) Giuseppe (1846-1922) took a spinnery at Vigevano (Pavia) and named his firm **Crespi Giuseppe & C.**; (4) Benigno (1848-1910) took a spinnery at Vaprio (Bergamo) and named his firm **Crespi & C.**; and (5) Pasquale (1850-1920) was first a co-owner with Carlo of the factories at Ghemme and Busto Arsizio and then set up his own spinnery at Verona in 1889, naming his firm **Crespi Pasquale**. All five branches

of the Crespi family continued to be engaged autonomously in the cotton industry, although with different objectives and results. The branch of Benigno, for example, used most of the profits of the **Crespi & C.** to diversify, investing in the Milanese newspaper **Il Corriere della Sera**, agriculture, electricity, and other businesses[192]. The other branches, instead, chose to plow all their profits back into the development of their cotton firms.

Through re-investment, the Cristoforo Benigno branch turned the **Benigno Crespi** into one of the most important vertically integrated firms in the Italian cotton industry.[193] This success was also due, however, to the great technical and entrepreneurial skills of Silvio Benigno (1868-1944), the first-born son of Cristoforo Benigno. His father appointed him general manager of the firm's industrial plant at Capriate in July 1889 and, on his 21st birthday, gave him power of attorney. It was rather unusual for a leader of the older generation to entrust one of his young offspring with the management of production, but Cristoforo Benigno wanted to devote himself only to administrative and trading activities, and to withdraw amidst his valuable collection of paintings in the great Milanese palace bought by him from the Counts Perego in 1884.[194] Besides, Silvio Benigno was a clever, witty, brilliant, and enthusiastic young man, who had received a Law School degree at the University of Pavia in 1889, with a

dissertation on arbitration in commercial controversies.[195] He had already acquired some technical and business training and spoke German and English fluently. The German came from working as a fitter in a German firm producing machinery for the cotton industry, the English from spending three summers in England, working first in a spinnery of Oldham, then in one of the largest cotton firms, and finally in the London office of the Credit Lyonnais. Under the technical direction of Silvio Benigno, the firm's plant at Capriate was transformed into a large, vertically integrated factory: the spinning department was re-organized and expanded, while the weaving, dyeing and finishing departments were installed before the end of the 1890s (See note 51).

Besides being engaged in this effort Silvio Benigno dedicated himself to the implementation of a vast program of corporate paternalism that revolved around the construction of a neo-medieval company-village. This company-village, clustered around the factory and named Crespi d'Adda, was one of the greatest realizations of corporate paternalism in Italy. Silvio's father had erected three large buildings to host the families of the foremen recruited from Busto Arsizio, while Silvio planned and realized an architectonically and urbanistically coherent company-village that comprised three sizeable apartment buildings and 60 single and two-family cottages (each with a kitchen-garden). The complex had a church, a kindergarten, a primary school, a

food shop, an infirmery, a public lavatory, a guest-house, a residence/castle for the Crespi family, and a cemetery.[196] Silvio Benigno proudly illustrated his realization and paternalist philosophy at the International Congress of Milan on Labor Accidents and Social Insurance in 1894.

> ... At the end of the day of work, the laborer must return with pleasure under his roof: thus the entrepreneur must mind that he finds himself comfortable, tranquil and at rest there; he must use every means to make nurture the affection and love for the house in his heart. Who loves his own home loves also the family and the fatherland, and will never be the victim of vice and slothfulness.
>
> And the cotton entrepreneurs who have their factories far away from the villages, who always recruit one part of their laborers from far away villages and must build houses for them, should do this in a manner that can procure the greatest satisfactions for them and their subordinates.
>
> Everybody followed, until a few years ago, the system of building big houses of several storeys, capable of containing 10 and up to 20 families: this was a mistake. These are barracks not houses, in which the weeping of children, the gossip of women, every kind of noise continuously interrupt the quietness necessary for rest, and life unfolds almost in common, with great danger for morality and domestic peace, and the excessive closeness of the families generates ill feelings, which end in discord, in quarrels.
>
> The industrialist should not delude himself that he is creating an affectionate labor-force with the use of such a system of construction: he will always have rambling laborers, eager only to make more money.
>
> The ideal working-class house should host only one family and be surrounded by a small kitchen-garden, separate from any communion with others. We recall the English company-towns, made of a long row of houses facing a small garden, and having a small kitchen-garden in the rear. The garden is fenced and is used as entrance; the main door then usually opens on a narrow passage that on the side leads to a living-room, facing the kitchen. Between the living-room and the kitchen there is a staircase that leads to the two bedrooms of the first floor; the closet is isolated and in the rear of the house; the houses are united among themselves at the opposite sides; and thus they are economical, sufficient for each family. Oldham,

Bolton, Accringhton, etc., are all towns built in such a manner... Such models of construction are used now also in Italy; the sight of small company-villages is not new, clustered around the factory, and this kind of model is represented by the well deserving works of the Rossi family in the industrial cities of Schio and Rocchette Piovene. Among the cotton industrialists I will take the liberty to present the topography of a small, completely modern, village that rose in a few years, 15 years on the whole, along the shores of the Adda. The law that has made it into a borough, annexing it to the town of Capriate, has named it Crespi, and under this name I hope it prospers and becomes larger.

... That small village has several big working-class houses, built according to the old system, but provided anyhow with tall large rooms, healthy in every regard, and of several cottages surrounded by kitchen-gardens and gardens, separated by iron fences that mark the area belonging to each family.

The cottages are of two kinds; those with a single entrance and those with two entrances. Those with two entrances host two families that enjoy 4 rooms, forming by themselves a small complete house. The access is through a passage that leads to the staircase and the kitchen... There is a small portico with a lavatory in the rear of the house, and then the closet, which is thus completely detached from the building. The rooms receive air and light from two sides.

Since the population has been distributed in the new cottages, the tranquillity and hygiene of the cited company-village are perfect: deaths are very rare, infectious diseases do not take root nor do they spread: the most serious worry of the owner is the too frequent births... A cottage of the kind that I have described costs between 7,000 and 8,000 lire; that is less than 1,000 lire per room: a large building, furnished with rooms of similar size costs 600 or 700 lire per room.

But, what are 100 or 200 lire in relation to the advantages that one obtains by using the system that I reccomend?

The advantages are of two kinds, material and moral; the latter especially are incalculable.

For the provident industrialist the most beautiful moments of the day are those in which he sees the robust children of his laborers running about the flowery gardens, running toward their fathers who come back glad from work; in which he sees the laborer amusing himself with the decoration of the kitchen-garden or the clean and orderly house: in which he

> discovers an idyl or a sight of domestic happiness; in which a ray of sympathy, of frank and sincere brotherhood, runs between the eye of the owner and that of the subordinate. Then the absurd worries of class struggle vanish, and the heart opens itself to always higher ideals of peace, of universal love... (Crespi 1894:89 ff).

Crespi believed that industrialists had to be conscious of their new socio-political responsibilities. He thought that, with the inevitable triumph of large scale factory organization, only enlightened corporate paternalism and the exercise of entrepreneurial activity with an "intellect of love" could prevent legions of laborers from becoming brutes and adhering to socialist or anarchic revolt.[197] Silvio Benigno became the champion of such moderate reformist industrialists, being appointed secretary, from 1890, of the Industrial, Agricultural and Commercial Association of Milan. He also served as the first president (1894-1897) of the Association of Cotton Industrialists, a powerful lobbying organization promoted by Alberto Amman and a few other Lombard entrepreneurs to influence governmental policies. In one of his first official acts, Silvio Benigno criticized many of the provisions of a bill brought in by Ministr Lacava to reform labor regulations for working youngsters (boys and girls under 15 years of age), although he was in favor of the complete abolition of night-work for these workers.[198] Subsequently, in 1896-97, he led a hard fought battle inside the Cotton Association to pass a resolution calling for the complete abolition of night-work

for youngsters and adult women. Crespi considered this a necessary measure for humanitarian reasons as well as to limit production and thus avoid an incipient crisis of overproduction in spinning. A mild and ambiguous resolution was passed by the assembly of the Association provoking a deep internal split that was overcome only with the replacement of Silvio Benigno by Costanzo Cantoni Jr. as the president (Romano 1985:50-53). The engagement of Crespi in public life continued, however, as he was elected representative of the district of Caprino Bergamasco (which also comprised Crespi d'Adda) to the Chamber of Deputies in 1899.

On the eve of the third long wave, the Crespis and the other old Lombard cotton dynasties were still one of the most dynamic groups of the Italian bourgeoisie. They dominated the cotton industry, the strongest industrial sector in the nation by now, and also exerted an extensive influence over the wider Italian political-economy. Lombard cotton dynasties were an essential component of the protectionist bloc that ruled the country and exploited the opportunities created by the formation of a protected national market. The new generational leadership was setting the cotton sector on a new organizational and technological basis, concentrating and mechanizing the entire cycle of production in medium-large vertically integrated industrial plants. Furthermore, by localizing factories in rural areas, and by implementing corporate

paternalist policies, the cotton industrialists successfully avoided the formation of a self-conscious and antagonistic working class.

This overall positive picture was contradicted, however, by two new phenomena whose effects began to be felt for the first time at the end of the century: (1) the progressive saturation of the internal market; and (2) the only partial inclusion of the cotton industry in the investment programs of the new "mixed banks" -- Comit and Credit. The emergence of these two new phenomena signalled that the cotton industry rested upon a relatively weak foundation and that the Lombard cotton dynasties were bound to face a powerful challange in the next decade.

## The Sella family

The Sella family emerged from the first long wave as one of the most dynamic components of the Biellese "woolen aristocracy", that is, of that political-economic élite formed by a small group of kin-related families of the upper Biellese who had been engaged in woolen manufacturing since the 17th (or 18th) century -- the Sellas, Piacenzas, Ambrosettis, Vercellones, Borgnana-Piccos, Amossos, and a few others.

The Sella family had been structured in three branches since the early 18th century, but only the second (the descendents of Gio Battista [1680-1745]) and the third (the

descendents of Gio Bernardino [1685-1766]) had maintained an élite position into the 19th century. After 1815, the seventh generation of the Sellas, that is, the five sons of Gio Domenico (1738-1805) of the second branch -- Carlo (1769-1828), Pietro Giacomo (1771-1821), Pietro Antonio (1777-1855), Vincenzo (1781-1828), and Maurizio (1784-1846) and the six sons of Gio Antonio (1734-1814) of the third branch -- Gio Giacomo (1769-1840), Bartolomeo (1776-1861), Pietro (1784-1827), Gio Battista (1788-1878), Benedetto (1789-1839), and Giuseppe Vincenzo (1791-1865) -- had achieved a high rate of accumulation as a result of the mechanization of spinning and of the preliminary and final phases of wool production. These advances were carried out in the water-powered factories owned by their five firms: the **Gio Giacomo e Fratelli Sella**, the **Sella & Compagnia**, the **Sella & Piacenza**, the **Sella and Cartotto**, and the **Maurizio Sella**. In addition, while initially the Sellas had favored the expansion of hand-loom weaving at domicile, they had begun to centralize it in their workshops by the early 1840s.

The two branches of the Sella family kept their main economic power base in woolen manufacturing and consolidated their élite status even further during the second long-wave.[199] They were able to exert an almost complete hegemony in the Biellese area and proved capable of playing a prominent role in Italian national politics and culture as

well. But, above all, they were a driving force in the long, complex and often contradictory processes that led to the imposition of the factory system as the paradigmatic form of productive organization for the entire cycle of Biellese woolen production by the late 1890s.

The accumulation of great political and economic power by the two branches of the Sella family went hand in hand with the careful implementation of consistent inheritance and marriage practices that tried to: (1) avoid or, at least, limit the fragmentation of patrimonies threatened by the inheritance laws of the **Codice Civile**, which required that the testator leave at least half of his estate (the **legittima**) to all of his offspring, including daughters, in equal shares; (2) maintain and reinforce a sense of family solidarity encompassing the whole Sella kinship network; and (3) strenghten old alliances while forming new ones with other power-holders.

These objectives were achieved, on the one hand, by excluding female offspring from the ownership of productive assets: the dowries and shares of the family patrimonies held by daughters consisted exclusively of personal, financial and real estate assets, while firms continued to be set up, consolidated and transmitted from fathers to sons.[200] Parents continued to exercise a tight control over the marriage choices of their offspring. The old, rigid practice of inhibiting the marriage of women and cadets was

definitively abandoned, but the centrifugal tendencies of the kinship organization were contained by a matrimonial policy that promoted marriages between cousins -- 14 between the 1840s and the 1890s -- as the only possible alternative to a marriage arranged by parents.

> I would say that arranged marriages were the rule and that the only way to avoid an arranged marriage was to marry inside the family, where love could effectively occur among cousins. ... Young women had little or no freedom of movement. There were great difficulties for young men and young women to meet and flirt and it was much easier to overcome these difficulties among cousins, because there was less control and separation. Among the enormous number of cousins one felt at ease because their education was very similar, they grew up together, and they engaged in a very active social life with visits, parties and entertainment. ... If love relationships occurred that were not arranged and not inside the family they were ostracized (Lodovico Sella, interview 8-01-1988).

Arranged marriages were the result of the rigidly pursued practice of social endogamy, which was conceived as a means to reinforce, or form, relations with other established or emerging power-holders at the local, regional and national levels. Exemplary names are: Alasia, Ambrosetti, Amosso, Biancheri, Boggio, Bona, Bonacossa, Bozzalla, Colongo-Borgnana-Picco, Corte, De Filippi, Garlanda, Giacomelli, Halenke, Mosca, Omar, Orengo, Ormezzano, Piacenza, Poma, Rey, Santocanale, Saracco, Vercellone, and many others.[201] One of the most active enforcers of this practice was Quintino Sella, the great politician of the family, who arranged the marriages of many of his offspring, nephews and nieces with some of his close friends (and their

relatives), who were top officials of the State bureaucracy or members of the Italian Parliament.

> Quintino gave certain hints that led to marriages with offspring of members of Parliament -- like Biancheri, Orengo, Santocanale, Saracco, Giacomelli, Alasia, and a few others. I do not think that Quintino ever said I want my niece to marry the son of a deputy or of a top official. I simply think that he wanted them to marry and in this logic he asked his own friends, in his entourage (Lodovico Sella, interview 8-01- 1988).

Among those few members of the seventh generation who survived after 1848, Gio Battista enjoyed the widest prestige inside and outside the family. He occupied a central position in the overall kinship network as a result of the numerous cousins with whom he was linked by marriage and, until his death in 1878, he managed the **Sella & Compagnia** with good results. This was the woolen firm that he had established with his brother Giuseppe Vincenzo in 1830. But, Gio Battista was not only a revered patriarch and a successful entrepreneur, he was also a politician who uplifted the family prestige. He was elected to the first **Parlamento Subalpino** in the district of Bioglio in 1848 and was appointed Senator in 1853. His appointment was confirmed in 1861 and he sat in the Italian Senate until his death in 1878. Finally, as mayor of Valle Inferiore Mosso for many years after 1857, his major achievement was the building of two roads, financed through the sale of common lands -- the Biella-Mosso-Valsesia and the Mosso-La Sella. Both improved communications significantly, cutting transportation costs for manufacturers.

The next generation, the eighth, grew up contemporaneously with the new technological development of the woolen industry. Engagement with industry remained central to the entire Sella kinship network, but several members also cultivated other interests, thereby indicating a more open cultural horizon, a less utilitarian mentality, and a higher awarness of their social role as part of an élite formation.

Alessandro (1810-1872), son of Benedetto and one of the partners of the **Gio Giacomo e Fratelli Sella**, devoted his life to medical research. He won a scholarship at the College of the Provinces of Turin, graduated **inter optimos** in surgery in 1831, taught hygienics at the Agrarian Institute of Sandigliano and, after receiving a degree in medicine in 1843, became deeply interested in medical problems that derived from with the living and working conditions of industrial laborers. He devoted himself to medical pathology, conducting research on rickets, miliary desease, albuminuria, "rural and private" hygiene, seaside nursing homes, that is, to the fundamental themes of working-class morbidity. Alessandro was one of the best known Italian hygenists of the 19th century and for several years he was the vice-president of the Royal Academy in Medicine of Turin. He also proved himself to be a clever public administrator during his tenure on the Turin municipal council (1859-1867).

Alessandro's brother, Gioacchino (1813-1884), was ordained as a priest in 1836, and became not only an accomplished preacher, but the influential spiritual leader of most of the Biellese clergy and the trusted adviser of the local Bishop and philanthropist Losana. Meanwhile in Pietro (1803-1862), son of Pietro Giacomo of the second branch, was interested in school problems and left most of his assets to support the kindergarten of Lessona and the foundation of a technical school at Mosso Santa Maria that was one of the first that provided training in business accounting.

Eugenio (1820-1882), son of the lawyer Giuseppe Vincenzo, was a valiant entomologist, who assembled an important collection of birds and coleoptera that he then donated to the Zoological Museum of Turin. He discovered a new species of coleoptera in the Val Sessera and named it **Carabus Olimpiae Sella**, in honor of his second-degree cousin Olimpia. His younger brother, Giuseppe (1827-1869), was a noted member of the Piedmontese school of landscape painters.

By this time, with these family members sensitive to high culture and unselfish charity, the Sellas came to acquire a variety of traits that legitimized their élite standing. Even those who continued to be engaged directly in business activities were influenced to a certain extent by their talented and cultured kin, although they always

preserved something of the original family's austerity.

Giovanni Domenico (1806-1870) continued the entrepreneurial activity of his father Pietro Antonio with his firm **Gio Domenico Sella** and generously showed a patriotic impulse by undertaking the expenditure for the dressing of Garibaldi's "Thousands" in 1859. But, as his grand-child Emanuele (1876-1946) noted later on (Quazza 1961:25), his wife Giulia Amosso (1830-1922) did not remember him kindly, even many years after his death. She spoke of him as of an authoritarian and though character: the original imprint of the severe world view of the family persisted, despite individual efforts to subdue it. Even those industrialists who were more open to technological and organizational renewal remained austere with themselves and their relatives. They were men who had the ruthless character of the builder who sacrifices all of himself to his own work.

The family of Maurizio Sella lived an austere life, often bordering on the most inflexible parsimoniousness, and produced some of the most prominent representatives of the woolen élite -- Francesco (1819-1895), Gaudenzio (1820-1860) and, above all, Giuseppe Venanzio (1823-1876), not to mention the most illustrious politician of the north Italian bourgeoisie, Quintino (1827-1884).

Giuseppe Venanzio, after having studied philosophy at the Royal College of Biella, acquired an exceptional

knowledge of chemistry and physics, which he deepened through studies at various European universities. While he worked in the family firm, supervising the dyeing department, he continued his research so as to be able to present a study on the "Comparative method for determining the acids, alkalies, salts, and simple elements in their solutions" to the Academy of Sciences of Turin in 1850. This work was published the following year with the title "Chemical polymerism." In the following years Giuseppe Venanzio continued to experiment, producing a series of innovations in the field of chemistry which were applied to colors. A new method for obtaining variable color gradations was outlined in his essay "Chemical procedures in the woolen industry" (Sella 1873). At the same time, he demonstrated an ingegnious versatility in solving various problems related to the new practical applications of physics and chemistry, with the publication of the first exhaustive Italian treatise on photography, the "Manual of the perfect photographer, or the practical and theoretical art of drawing men and things on glass, paper, metal, etc. by means of light" (Turin, 1856) -- an essay that was soon translated into French and German. Sole manager of the firm **Fratelli Sella fu Maurizio** from 1860 until his death in 1876, promoter and first president of the Biellese Bank (1869), and municipal councilman of Biella (1862-1876), after 1860 Giuseppe Venanzio became one of the most

prominent leaders of the "woolen aristocracy." As far as the Italian woolen industry was concerned, he recognized in his "News over the woolen industry" (Sella 1863) and then in the "Notes over the woolen industry on occasion of the Vienna Exhibition" (Sella 1873), the necessity of its structural and technological renewal. He maintained, however, that this renewal was hindered mainly by the free-trade policy implemented by the Destra and he called for an immediate return to protectionism, citing the new German doctrine of "economic nationalism" propounded also by Alessandro Rossi of Schio, the other great Italian woolen industrialist and politician of the period.[202]

With Quintino, a man of great talent, the cultural horizon of the Sellas opened up dramatically. With him the family went far beyond an extemporaneous foray into high culture, the obedient acceptance of a charitable duty, ecclesiastical in nature, or the capricious lay philanthropy of its various members. With Quintino, in fact, it achieved both a total engagement in professional scientific research (he was a well-known mineralogist and one of the founders of modern crystallography) and an integral devotion to politics. Even the religiosity of the family, often passive and not devoid of superstitious elements, was translated by him into a conscious ethico-cultural sensibility and the dogmatic obedience gave way to a free critical awarness. Notwithstanding such peculiar intellectual and moral

qualities, however, the mark of the family culture remained evident. The studies at the Royal College of Biella, the degree in hydraulic engineering in Turin (1847), the doctorate at the Ecole des Mines in Paris, the teaching of applied geometry at the Technical Institute of Turin (1852), the appointment as engineer of the Royal Staff of Mines and member of the Academy of Sciences (1856), the effort to transform the Technical Institute into an Engineering School (1860) -- all these accomplishments of Quintino were the result, not only of a very special and bright talent, but also of a tenacity, an endurance of fatigue, an austerity of life, a scrupolosity of training, which was rooted in the values and way of life of the Sellas.[203]

In the last two years before Italian unification Quintino took the leap, as provincial councilman of Novara and as member of Parliament for the district of Cossato (1860), towards pursuing a prestigious political career as future Minister of Finance of the new Italian State -- in the Rattazzi (1862), La Marmora (1864-1865) and Lanza-Sella governments (1869-1873) -- and as leader of the Destra after 1876. It was not without significance that his first bill promoted the organization of the first general industrial exhibition of the Kingdom of Italy in Florence. Nor was it casual that, of all the prominent politicians of the Destra, Quintino was the most dedicated sponsor of the first institutes of higher education and of the first measures of

social legislation, and that he had a contractualist vision of the relations between capital and labor.[204] He was also the most strenuous fighter, together with Minghetti, for the widening of the financial basis of the new Italian State, through an increase in revenues and the establishment of new financial institutions, such as the Postal Saving Banks and the Bank for Deposits and Loans. If Quintino's name is linked to the regressive milling-tax and to the ephimeral balancing of the budget in the mid 1870s, at the same time, it is linked to a stubborn and rigorous administrative style and to a scrupolous respect of public funds unique among the politicians of modern Italy.[205]

> Quintino Sella is one of the few bourgeois with the technical training of an industrialist to participate in the first rank in the formation of the modern State in Italy. He differentiates himself in a very remarkable way from the rest of the political personnel of his time and of his generation: he has a specialized culture (he is a great engineer and also a man of science); he knows the English language and the German besides the French; he has travelled a lot abroad and has immersed himself in the life of other countries to know their working and living habits (that is, he has not travelled as a tourist, visiting hotels and salons); he has a vast humanistic culture besides a technical one; he is a man of strong moral convictions, and more than that of a certain puritanism, and tries to keep himself independent from the court, which exercises a degrading function over the men of government (many men of State were pimps as D'Azeglio) up to the point of putting himself against the king because of his private life and requesting of him cuts in his appanage (we know how relevant the issue of the apannage and of occasional oblations was in the choice of the men of government) and thus leaving the **Destra** that was more a clique of bureaucrats, generals, land-owners, than a political party, getting closer to the other more progressive tendencies (Sella participated in **trasformismo**, which meant an attempt of creating a strong bourgeois party outside of the

personalistic and sectarian traditions of the groupings of the **Risorgimento**) (Gramsci 1949:159-160).

Quintino was authoritatively supported in his early parliamentary career by his uncle Gregorio (1815-1862), the son of Gio Giacomo of the third branch, whose character seems to provide the best synthesis of the qualities and limits of this generation of Sellas. A technical manager, a business organizer, a politician, Gregorio truly impersonated the average "type" of the group of modern entrepreneurs of the "woolen aristocracy". Overseer of the dyeing department of the **Gio Giacomo e Fratelli Sella** since 1832, he and his older brother, Giovanni Giacomo Antonio (1803-1864), inherited the firm in 1837, and he remained the sole owner of it in 1839/40. Gregorio turned the **Fratelli Sella** into the most important, modern and profitable woolen firm in the Kingdom of Sardinia in the 1850s, specializing in the production of high quality woolen fabrics as witnessed by the gold medals its products won at the industrial exhibitions of 1844, 1850, 1858, and 1861.[206] Exceptionally competent about dyeing techniques, he wrote several articles not only on this art, but on chemistry, technology, agronomics, and even on political-economy and sociology.[207] His "Practice in the art of wool dyeing", published in the monthly journal **Il Tecnico** (Turin 1858-61), and the editorship of a weekly, **L'Industria. Gazzetta Biellese**, were the most important achievements of his work as a technical writer, which was praised also by Cavour at a

session of Parliament (20 May 1858). As a member of the Board of Statistics for the Province of Biella (1839-1843) and then of the Royal Superior Commission of Statistics, he advocated the necessity of conducting vast field inquires in order to be able to design effective economic policies. In a series of articles in L'Industria, Gregorio elaborated the thesis that industry developed in the context of specific districts that, however, had to be endowed through the support of State action with the appropriate material aand cultural infrastructures (roads, railways, schools, etc.). For this reason, he strongly supported Cavour's policy aimed at the radical improvement of communications. While mayor of Croce Mosso, he built the road Mosso Santa Maria-Lessona and, together with Giovanni Piacenza, Gregorio fought in favor of the construction of the Santhià-Biella railroad in the Provincial Council of Biella and the Divisional Council of Vercelli. He became the chairman of the commission in charge of the works in 1852 and helped inaugurate the railroad in 1856.

Gregorio's social and political activity was also quite varied. He was among the promoters in 1838, and vice-presidents after 1853, of the philanthropic "Association for the advancement of the arts, trades and agriculture of Biella," established under the auspices of the bishop Losana. He was mayor of Croce Mosso from 1852 until 1862 and was elected to Parliament for the district of Bioglio in

1849, 1853 (he resigned in 1854 in protest against the free-trade policy inaugurated by Cavour), 1857, and 1860. He quickly became the leader of the Piedmontese industrialists in the anti-free-trade struggle and gave to their protectionist requests a doctrinaire sistematization and justification. In his tract "On free-trade and the protectionist system" (Turin 1848), in his articles published in **L'Opinione** and the **Mondo Illustrato**, in his parliamentary speeches, Gregorio harshly opposed Cavour's free-trade policies. He advocated an active model of protectionism as a means to spur the rapid modernization of the Piedmontese economy. For him, protectionism was necessary to ensure the constant updating of fixed capital, its rapid amortization and then, after the acquisition of the domestic market, the more decisive commercial expansion in the direction of central and southern Italy.

The Sella family continued to produce talented entrepreneurs, influential politicians and valuable intellectuals in the ninth generation too. The members of this generation received an education that was still strongly marked by sternness, austerity and sense of duty and responsibility. Love for studying and working was firmly inculcated. The educational curriculum was widened through recourse to private tutors who imparted lessons in foreign languages, music, painting and drawing. The program of family life encouraged habits, duties and precise

schedules. The atmosphere of great family unity continued to be pervasive as was the almost timorous respect shown toward the most authoritative members of the family. Many of the cousins grew up together since their families continued to reside in close proximity.

Among the most notable industrialists of the third branch, there were the owners/managers of the **Sella & Compagnia**, the three sons of the Senator Gio Battista -- Valentino (1816-1884), Albino (1820-1896), and Gio Battista "Titin" (1836-1902) -- and their first-degree cousin and brother-in-law, Secondino Sella (1819-1884). Gio Battista "Titin" continued his father's engagement in politics. He was elected to the Parliament in the district of Novara in 1886 and played an important role in the subsequent pressures of protectionist industrialists that brought about the adoption of the 1887 tariffs.

Pietro Paolo (1849-1887), son of Giovanni Domenico, devoted himself with passion to the study of chemistry and mathematics, receiving a specialized training at Swiss, Belgian and German schools. He became co-owner, together with his younger brother Giacomo (1854-1921), of the firm **Gio Domenico Sella** in 1870. After he had left the partnership with his brother in 1883,[208] however, the Sellas began to widen their business interests to include finance. Chairman of the Popular Bank of the District of Mosso, established in 1882 on the initiative of his cousin

Quintino, Pietro Paolo founded one of the first Italian banks designed to facilitate the flow of savings to industrial investment. This took place in Turin in 1884.

The family's new interest in finance was even more evident in the second branch. The four sons of Giuseppe Venanzio -- Carlo (1855-1936), Vittorio (1859-1943), Gaudenzio (1860-1934), and Erminio (1865-1948) -- together with the three sons of Quintino -- Alessandro (1857-1891), Corradino (1860-1933), and Alfonso (1865-1907) founded the commercial bank **Banca Gaudenzio Sella & Compagni** in 1886. This bank was managed by Gaudenzio according to the German model of deposit and investment banking and soon became **the** financial institution of the expanding Biellese woolen industry.[209]

Besides the new banking business, the seven Sella cousins also renewed the traditional engagement of the family in industry, politics, science, and other activities. Carlo, Alessandro, Vittorio, and Corradino, who managed the woolen firm **Fratelli Sella fu Maurizio**, began the production of finer carding and combing goods to avoid the fierce competition of the new generation of hard-nosed Biellese entrepreneurs, the "sons of work," who based their economic success on the production of ordinary low-cost carding goods for mass and military consumption. Corradino, in particular, joined severe scientific and humanistic studies and an intense engagement in politics to industrial

activity. He was the exponent of the ninth generation that followed more closely the example set by the most prominent members of the two previous generations. He was elected to Parliament in 1890 (and then again in 1904) and became the leader, as president of the Association of Italian Wool Manufacturers (1897-1909) and as councilman of the League of Biellese Manufacturers from 1901, of a class of industrialists that was by then strongly conditioned by the politically conservative orientation of the new groups of "sons of work" -- groups who were impatient with the moderation of the old "woolen aristocracy." Mayor of Biella from 1893 to 1898 (and from 1901 to 1909) and president of the Professional School of Biella, Corradino continued some of the typical initiatives of the Sellas like the promotion of public schools and charitable institutions and the support to an active policy of communications (with the sponsorship of the railway Novara-Biella).

His younger brother Alfonso, instead, continued his father's engagement in scientific research. He taught physics at the University of Rome and was the first Italian scientist to study radioactivity. Finally, Vittorio, after having spent several years working in the dyeing department of the family firm, dedicated himself to another of Quintino's great passions, mountain-climbing (See note 203). Vittorio became a well known alpinist, photographer, geographer, and explorer.[210] He also invested, together with

his brother, the engineer Erminio, and his cousin and brother-in-law Edoardo Mosca, in extensive land reclamation and improvement at the Baraggia of Roasio (in the Biellese) and around Alghero (in Sardinia), which led to the establishment of the wine-producing firm **Sella & Mosca** in 1899.

These short profiles of some of the most prominent members of the Sella family show that in only a few cases the equilibrium between entrepreneurial practice, cultural and scientific investigation and political engagement broke down. On the contrary, their rather balanced eclecticism underlined the family's élite status during the second long-wave.

The Sellas did not simply devote themselves to renew the technology and organization of the productive process from within their firms and factories; they also projected to the outside the most important issues emerging from the transformation of production. Above all, they were one of the most prominent examples of the north Italian industrial bourgeoisie that was engaged in capital accumulation and, at the same time, remained sensitive to the norms of social solidarity, or at least wanted to avoid being accused of violating them. This is proven by the channeling by many family members of conspicuous resources to assistance, education, charity, and to other philanthropic objectives. The Sellas remained faithful to the moderate political and economic program of Cavour and, as manufacturers, they

proceeded with an extreme caution in their strategies of transformation of the productive process.

* * *

Of particular interest in considering the dynastic family of the Sellas is the long period of time that elapsed before they mechanized the weaving phase with the introduction of the power-loom. Already by the 1850s they had centralized in the factory all of the various phases of the woolen production cycle. Certainly the delay was not the result of the Sellas' laziness and incompetence, but was due rather, to relevant economic motives and to a strong social conditioning.

One of the motives of this delay was exposed to the commission of the Parliamentary Inquiry on Industry in 1872 by Giuseppe Venanzio Sella, who in 1870-1871 had installed in the factory of the **Fratelli Sella fu Maurizio** 30 new power-looms in adition to the other older 108 hand-looms:

> I have 30 power-looms but I cannot increase their number, because there is a lack of motive power; if one wants to start them, it is necessary to resort to steam and then we have an expenditure that is much higher than that sustained abroad. Thus, even if the labor-force is more economical given the high price of coal, I fear that there would be no gain (cited in Castronovo 1964:232).

These conditions changed after 1874, however, when the price of coal began to drop substantially. Of course, the radical change, as far as the energy sources were concerned,

the radical change came only at the turn of the century with the exploitation of "white coal," that is with the transportation at a distance of hydro-electricity, which allowed the real emancipation of the Biellese factories from the water power of the local streams.

A second motive for the delay in the introduction of the power-loom had to do with the general insecurity regarding the position of the Biellese woolen industry on the national market. It is not casual, in fact, that the new machine was installed on a vast scale only after the introduction of the moderately protectionist tariffs of 1878 and that the hand-loom was definitively replaced by the power-loom only after the introduction of the highly protectionist tariffs of 1887.

Finally, a third motive had to do with the conditioning that came from the extremely viscious social terrain of the Biellese. In particular, they had to confront a proto-industrial labor-force, tightly linked to land ownership and to communitarian life conditions that were extraneous to capitalist relations, which proved capable of shaping the factory, preventing its separation fom the pre-capitalist conditions of subsistence. In other words, a tenacious resistance to industrial capitalism determined that all the advancements made toward specialization and transformation of the methods of production became dramatic steps in a struggle between two different forms of the organization of

production and society. First the centralization in the workshops of the hand-loom weavers working at home, and later the introduction of the power-loom, were accompanied by a series of social tensions resulting from the open and organized resistance of the laborers. The weavers, in fact, strongly opposed all initial limited innovations and proved capable of exercising an effective control over the labor supply, not only for work at the hand-loom, but also for that at the power-loom.[211]

The Sellas and the other manufacturers were able, not without a continuous confrontation with the autonomous organization of the labor-force, to expropriate the labor-force of its artisanal skill, but could do little about family land-ownership, which allowed their laborers to prolong strikes for months and months. The history of the establishment of the factory system in the Biellese is thus the history of the long and difficult coexistence of the variable requirements of industrial accumulation that the Sellas and the other manufacturers tried to impose, with pre-capitalist social relations that functioned for the laborers as a means of resistance and bargaining.

It was in the 1850s that the Sellas and the other major manufacturers intensified their fixed investments in the strategic sector of weaving. They endowed themselves with their own looms, creating the conditions for the crisis of domestic weaving and for the gathering together in the

workshops of hand-loom weavers. This orientation of wool entrepreneurs away from the domestic weaving sector was largely determined by the new requirements imposed upon the Biellese woolen industry when the policy of industrial protectionism of the three previous decades was abandoned. The new free-trade economic policy inaugurated by the Cavour government in 1853 proved a violent shock: the defense of market positions from foreign competition required an immediate effort of technical and organizational modernization of production. Besides the improvement of working methods -- already constantly pursued by the Sellas in the previous years -- it became absolutely necessary for them to achieve greater efficiency in the co-ordination of the various phases of the productive cycle, which was hindered by a labor process that in part was centralized (as for spinning and preliminary and final phases) and in part was dispersed (as for weaving). It is important to note also that one of the goals of Cavour's tariff reform was the qualitative improvement of national production, creating the conditions for an increase in the manufacturing of finer fabrics at the expense of ordinary ones. With these new perspectives, the need to exercise a rigorous and direct control over the quality of production at the looms became imperative for the Sellas: the centralization of weavers in the workshop was the necessary consequence of this need.

The pressures on the weavers prevailed over their

resistance and they went to work in the workshops. As Sellas and the other entrepreneurs reduced their orders at domicile, the outlook for domestic weaving became ever more difficult. In this situation, centralized work appeared to the weavers as the only practicable alternative since it ensured an income that, otherwise, was becoming more uncertain, at least for those who wanted to produce only for the market.

From the start, however, the involvement of hand-loom weavers with the factory regime provoked a state of acute tension. Among others, one of the reasons for their deep resentment was that, work being equal, earnings were lower in the workshops than those realized at home with the production made to order: this was a direct consequence of the new labor conditions.[212] In order to keep a level of earnings that, added to the products of the soil, was considered necessary for subsistence, the weavers were forced to increase the daily working hours and annual working days. They were compelled to dedicate more of their own time to industrial production.

One of the key problems faced by the Sellas since the installation of their spinning factories was the disciplining of a labor-force that had never known the factory and who took poorly to the requirements of a mode of production that demanded a constant rhythm in the course of the day and rigid daily and weekly schedules. With the

admittance of the weavers to the factory, this problem became more acute (1) because the completion of the centralization of production imposed new organizational requirements; and (2) because weavers were numerous and constituted the great majority of the adult male laborers employed in the woolen factories. Until weaving was a domestic activity, the labor-force in the factories was largely composed of women and children, while men were a minority, now this ratio was inverted.[213]

From the start, the weavers did not tolerate the discipline of the factory. They transferred to the workshop the extremely irregular working habits of the domestic mode of production in which work at the loom alternated with agricultural work and other activities in the course of the day, week and seasons, and in which periods of intense work were followed by long periods of idleness. The resulting behavior was in conflict with the imperatives of the regularity of factory production: time-tables were not respected, work was often interrupted, long absences were compensated by feverish activity. The **de facto** reduction of wages seemed to be the only effective means to compel the weavers to a more regular and continous schedule and thus to better observe the discipline of the factory.

The weavers considered this new condition a menace to their own way of life. The rigid rules to which the Sellas and the other entrepreneurs tried to subdue them, in fact,

were in open contradiction with the need to allocate part of their labor to the cultivation of family owned plots of land. The latter was the weavers' security system against the periodic crises of production in the woolen sector, for it, too had "seasons" -- phases of contraction and expansion of productive activity in the course of the same year. The weavers' continuous transgressions of factory discipline were in part provoked just by the requirements imposed by agriculture; for the agricultural and industrial cycles did not become integrated, but opposed themselves one against the other. The pressures of entrepreneurs on laborers were minimal when agricultural activities slowed down; conversely, especially during the summer, urgent work in the fields caused the entrepreneurs -- burdened by orders -- to obtain the maximum presence of their workers and working time was prolonged beyond measure.[214]

By the beginning of the 1860s, after the political unification, the process of centralizing hand-loom weavers in woolen workshops had reached considerable proportions in the Biellese (from the 800 in 1848 to the 2,200 in 1861), but the acute tension had not been subdued and soon the weavers' discontent against the fines and the disciplinary system erupted into the open. There were several weavers' strikes, above all in the Mosso Valley, and the conflict grew gradually until, in the summer of 1864, it exploded into an agitation led by the Association of the Weavers of

Croce Mosso and involving all of the laborers employed in the Biellese woolen factories.[215] The 1864 general strike lasted two and a half months and resulted in a substantial victory for the workers. With the mediation of the Minister of the Interiors Mancini, the parties reached a settlement and a new general factory regulation was drawn up. The regulation was valid for the entire region and replaced that "of the seven pains" introduced by Gio Giacomo Sella in 1826 (see Chapter 5). Fines were reduced for a long series of transgressions,[216] while some of the old norms that regulated the labor market were abolished -- such as the one that compelled the worker to make a deposit equal to 15 working days, that he would lose if he left the job before two years had elapsed. Hand-loom weavers, moreover, were able to keep a rigid control over the appointment of apprentices in the workshops, successfully defending their priviledge of teaching their skill only to their sons and nephews. This would be the basis of the hand-loom weavers' strength up to the introduction of the power-loom in the late 1870s.[217] Manufacturers had to give in also on the length of the working day: effective working-hours were reduced on the average from twelve to eleven in the course of the year.[218]

With the settlement, work resumed in the factories, but the situation did not improve for manufacturers in the following years: when, as often they were compelled to do, they renounced the enforcement of discipline, the life of

the factory was not disturbed by any serious incident, because production adapted itself -- although with evident disfunctions -- to the requirements of the workers. But when the manufacturers tried to force the levels of productivity that continued to remain too low in the weaving departments -- (in contrast with what was happening in other departments, thanks to the progressive improvement of machines) -- they encountered a strong opposition that often broke out into open conflict. Thus, violent strikes erupted in May 1870 when the Sellas and the other major manufacturers tried to introduce a new system of payment, not based anymore on the metric measure of the amount of fabric that was produced, but on the number of weft strokes in the loom. The new system for fixing piece-work tariffs permitted the exercise of a more direct control over the work at the loom, creating the conditions for an increase in productivity. The tension was such that the Association of Manufacturers decided on a lock out of all the factories in the region to elicit an energic intervention of the government in defense of their interests and against working-class violence. Other agitations broke out as a result of attempts made by some manufacturers to unilaterally lower piece-work tariffs for weaving -- a way to reduce costs and induce laborers to increase production.

In the face of a resistance that, even when it did not manifest itself openly, was obstinate and constant, all the

initiatives of the entrepreneurs seemed destined to fail and often the damages that these provoked were greater than the advantages. The productive engagement of weavers, in fact, continued to be irregular and to appear subordinate to times and rhythms that were expression of a culture in sharp conflict with the requirements of industrial production. Furthermore, the resulting endemic conflict, which from time to time exploded, was made acute by the fact that the defense of traditional habits was carried out with new forms and means of social action, such as the strike and the organization of resistance. That is, it was a source of social behavior that seemed uncontrollable. Nor did repressive interventions -- the arrests of "instigating" laborers, the prosecutions of strikers, the temporaneous dissolution of the Association of the Weavers of Croce Mosso imposed in 1873 -- produce any effect, other than intensifying the state of tension that periodically went beyond the breaking point.

* * *

The political unification of Italy and the consequent formation of a wider national market created the conditions for a constant development of the Biellese woolen industry in the 1860s. The fortune of industrial production became less subordinated to periodical regional agricultural

crises, overcoming the swings of prices of cereals on the local market. The volume and value of production progressively increased as did the number of spindles and centralized looms.[219]

After 1870, the Biellese woolen industry went through a short period of very intense activity that was favored by the Franco-Prussian war of 1870 and by the consequent reduction of the competition of French manufactures on the Italian market. French producers, however, aggressively regained their old market positions by 1874 when Biellese manufacturers were beginning to feel the first negative consequences of the international economic crisis.

The new economic difficulties made entrepreneurs more sensitive to the problems of productivity and spurred them to intensify the efforts to obtain rigour and discipline, particularly in the weaving departments. The scarce success of these efforts induced them to believe that the bad work habits of the laborers were worsening. They were alarmed by the fact that, besides the usual acts of indiscipline, the absences from the factories on Monday and even on Tuesday were becoming almost a general and regular practice among weavers.[220] The tendency of the weavers to reduce the number of days they were present at work severely damaged production, in particular in the months of greatest activity. Attempts by manufacturers to eliminate absenteeism was the main source of tension in all of the

factories in the second half of the 1870s. For the entrepreneurs, the phenomenon was a clamorous sign of the weak collaborative spirit of the workers and they foresaw the approaching of hard times and new strikes. As they saw it, absenteeism went hand in hand with requests for increased piece-work tariffs that manufacturers considered to be the direct consequence of other new bad habits contracted by the weavers, who abandoned themselves to "crapulence and dissipation" in the inns and in the innumerable wine-shops that had sprung up in the region.[221]

When, at the beginning of 1876, the manufacturers of the Mosso Valley -- which continued to be the area of greater working-class concentration in the Biellese -- established a local association, they stated that their first objective was to achieve the "eradication from the factories of the detestable vice of the Monday." Collaborating on a comprehensive and secret agreement, they intended to intervene decisively to put the brakes on labor's insuburdination. They believed that there was less need of new rules than of imposing respect for existing ones, by firmly enforcing the punitive measures already prescribed but usually not applied for fear of a reaction from weavers.[222] Notwithstanding the intentions of the manufacturers, things did not change for the better. In one factory, the owner, Edoardo Boggio (1836-1912), president of the association and son of Pietro Angelo (1806-1869) and

Maria Sella (1815-1895), posted up a notice announcing the dismissal of those workers who abstained from work without motive. The laborers immediately went on strike, soon followed by the workers of the major factories of the area. The agreement reached among the manufacturers produced no appreciable result: the weavers continued to behave as always at work.

In the summer of 1877, the manufacturers tested their strength again, and this also failed, but with consequences that proved to be a decisive turn in the relations between manufacturers and workers, closing an epoch. Entrepreneurs tried to introduce a new general factory regulation that eliminated most of the weavers' priviliges.[223] The resulting new general strike was characterized by serious disorders, the more so as some manufacturers recruited workers from outside of the Biellese to break the strike. The area was placed under a state of siege and there were many arrests, the menace of confinement for 70 weavers, and a new dissolution of the Weavers' Association by the authorities.[224] Finally, after three and a half months of agitation, manufacturers gave up and work resumed under the old conditions.

It was at this point (1877/78) that the Sellas and the other major entrepreneurs, forced to retract the new general factory regulation, changed tactics and began to introduce the power-loom on a vast scale. The previous thirty years witnessed a continous growth of the number of hand-loom

weavers in the workshops; the years that followed saw instead the progressive disappearance of these laborers from the factories.

The work with the power-loom, like that with the automated spindle, did not require particular skills and physical strength. A young woman of average height and with good eye sight could supervise the movement of the shuttle. For manufacturers this fact meant paying wages that were much lower than those paid to male laborers, and in particular to hand-loom weavers. All this made the new machine very competitive for it drastically lowered costs of production: the greater investment it required, thus the remarkable increase of the shares of amortization, and the sensible higher expenditures for maintenance and repair, were more than compensated by the lower expenditures on wages. Even from the point of view of productivity, the power-loom was superior to the old means of production: the daily average of strokes of the shuttle, that is of the insertions of the weft, was higher -- 12,500 against 7,500 on the hand-loom; with time and further improvements it would reach 18,000-20,000 daily strokes by the end of the century (Sella 1902:23-25). Most important, the power-loom rendered the hand-loom weavers superfluous, expelling them from production and emancipating the manufacturers from the "exorbitant pretences" of the older generation of laborers at the looms -- weavers who had dominated the field

throughout the centralization of the various phases of the woolen productive cycle in the factories.

The starting signal of the new phase that closed down the old hand-loom weaving departments in the Biellese woolen factories and finally completed the mechanization of the productive process after more than half a century since the installation by Pietro Sella of the first spinning machines, was given by the main factory of the district, the **Fratelli Sella fu Maurizio** of Biella. The events that led to the definitive closing of the hand-loom weaving department in the Sellas' factory allow us to get a glimpse of the dynamics that accelerated the decision of the manufacturers to get rid of hand-loom weavers.

In the modern woolen factory of the Sellas, the number of hand-looms remained the same (108) between 1870 and 1878 but power-looms increased from 30 to 61, securing for themselves 44% of the total output of fabrics of the factory (a piece of cloth required 8.3-8.4 working days of power-looming, compared with 10.5-10.9 working days on the power-loom). The progressive increase of the number of power-looms was received in a contradictory manner by the laborers, who showed distrust but did not create unsur-mountable opposition, at least until the new machines began to operate as an alternative to their hand-looms. The young women working at the power-looms came from the same families as the hand-loom weavers, having seized the opportunity that

was offered: the wages of the new mechanized weaving department were higher than those paid for the other jobs destined to female labor.

The distrust of the hand-loom weavers turned into alarm when in the Fall of 1877 there was a general contraction of production and the competition of the power-loom made itself felt very clearly. Hand-loom weavers obtained an equitable distribution of the little available work between the two types of loom, but it appeared clear to them that the lower costs of mechanized weaving were going to hurt them overall. The average daily wage paid in 1876 to female power-loom weavers was around 1.30 lire, while that of male hand-loom weavers was on the average 3.30 lire.

It was at this point that in order to confront the competition of the power-loom, hand-loom weavers used a new tactic: they tried to provoke an increase in the piece-work tariffs paid by the Sellas for mechanized weaving, requesting an exorbitant 50% increase of the piece-work tariffs for the young women working at the machines. The answer of the Sellas was naturally negative and all female weavers went on strike around mid-December.

A very interesting source of information on this agitation are the letters of Clementina Mosca (1835-1920), the wife of Giuseppe Venanzio Sella, to her son Vittorio (1859-1943), who was doing his military service in Turin at the time (Ramella 1983:251 ff). Although Clementina's main

duties had always been those of attending to the management of domestic activities, she was well informed about the most important issues relating to the business activities of the family.[225] In a letter of 18 December 1877 she explained the new situation to her son:

> ... we had to telegraph to Carlino and Alessandro [her son Carlino and her nephew Alessandro Sella had replaced Giuseppe Venanzio in the management of the firm] to come back home soon because female weavers have gone on strike. Now we do not know how it will end up; they request a wage increase but we are determined not to give up. The bad thing is that now we have a lot of orders. On the other hand, if we give up it is certain that the male weavers will go on strike in their turn... It is a shame to see how bad female weavers behave. Yesterday all 70 left together from our factory, around 2 p.m. singing, shouting and went to the Moro's wine-shop at Biella. Some of them left later drunk! What times go! ... tonight uncle Cesare [Cesare Mosca was Clementina's brother and the underprefect of Biella], who was absent, will be back to Biella. His presence will render them quiet. ... we have written and telegraphed to uncle Quintino [Sella, brother of her husband]. If there will be any novelty I will keep you informed (cited in Ramella 1983:253).

At Christmas the son Vittorio received a short leave and went back home. The day after he returned to the barracks, Clementina wrote to him:

> The holidays were over not only for you but also for all of us. Everyone again took up his usual occupations... Only the strikers continue to take a holiday and did not show up. Maybe they are dancing because since this morning a street-organ has filled our ears with music fit for dancing (cited in Ramella 1983:253).

A week later, while the strike of power-loom weavers continued, hand-loom weavers handed in a note to the director of the factory, Carlo Monticelli, which not only

requested a wage increase for the hand-loom weavers, but also, motivated by "the higher expenditures and life needs," claimed "a treatment equal to the power-loom," a vindication that was not referred to the wage -- much lower at the power-loom -- but to the work distribution. With the strike of female weavers, they had shown their capacity to suspend work at the power-loom; now they made clear that if they were not vindicated, they were going to stop the hand-looms as well, blocking the factory's cloth production all together. The negotitions went on for a few days and then failed. Since the 7th of January hand-loom weavers joined power-loom weavers in the strike. The reaction of the Sellas, however, was immediate and drastic: Quintino ran up from Rome and decided with his nephew Carlino and Monticelli to abolish hand-loom weaving, closing the department definitively.

The Sellas, however, did not make the announcement at once, taking other measures first. A group of female weavers had found work somewhere else and had given up their jobs, but among the others there had been some defections. The underprefect Cesare Mosca (a relative of the family) advised the Sellas to let their female weavers sleep in the factory for the first few weeks after that the announcement of the closing of the hand-loom weaving department had been made public. Furthermore, the Sellas started to organize the shipment of warp chains ready for weaving out of the

district: beside Desio in Lombardy, where they also sent some hand-looms, chains were sent to the area of Salerno, where a few weeks earlier the firm's agent had gone to make agreements with local manufacturers.

Once the decision to suspend the hand-looms was made public in the second half of January, the tension became very acute. Hand-loom weavers reacted by trying to extend the strike to other departments of the factory (dyeing, warping, etc.). But, part of the power-looms were now working, not only because some female weavers had ended their strike, but also because the Sellas had begun to hire young women from outside of the area (from the Canavese and the Serra). Clementina described the new situation to her son in a letter on 28 January 1878:

> The soldiers continue to come every night, from 30 to 50 in the factory and from 8 to 12 here at [the mansion of] San Gerolamo. We give a bottle of wine to each of them and from time to time they request some maize meal to make the **polenta**. ... Hand-loom weavers are angry, they cannot find work, the bakers do not want to give them bread on credit anymore, and they say that they could not had believed that we were speaking seriously otherwise they would not have done what they have done. However, we do not pity them. The way they treated us is unforgivable, now they must do penance. ... Every day young women arrive to demand to be admitted to work at the power-looms. All from outside of the area, of course, because we do not want those of the nearby villages anymore. Our intention is to make the power-looms work day and night and for this we need 140 young women. We lodge all of them in the factory. We have prepared many beds and we are preparing still others. We have transformed the halls of the hand-weavers into dormitories (cited in Ramella 1983:256).

The hand-loom weavers concentrated their efforts on the

female weavers. They could not intervene with those from outside the area who were sheltered inside the factory and who were surrounded day and night by soldiers in a state of siege. Rather, they took aim at whoever among the local female weavers had agreed to resume working, by exercising strong pressures on them and on their families. At the same time, they tried to organize the collection and distribution of a subsidy to allow those female weavers who had continued the strike not to give up.

None of the attempts of hand-loom weavers had any practical effects, however. On 9 February 1878, Clementina informed her son:

> Uncle Quintino ... regarding the strike is not withdrawing and he does not want to hear about the hand-loom weavers anymore. However, he made a nice decision in their favor. He decided to make a present of one hand-loom each to all the weavers who have worked in our factory for at least 15 years. With this he does not want to bind himself to give them work at domicile. We make this present and nothing more. The weavers who have this right are from 30 to 35. The weavers have not yet made up their mind whether to accept this gift because it seems that the general association is not consenting. Yesterday they held a big meeting but we do not know what they have decided. Until now only two came to tell us that they accepted. On the other hand, from our point of view, if they do not accept so much the better (cited in Ramella 1983:257).

In a short time the situation went back to normality. On 3 April 1878, the day on which the trial against the strikers began in Biella, Clementina wrote the last letter to her son dealing with the firm's situation:

> ... Now we do not have soldiers anymore at night in the factory and here at San Gerolamo. They come, however,

> from time to time to check. ... In the factory, work continues day and night ... and continuously we ship warp chains ready for weaving to Desio. ... The strikers are still almost all unemployed. Now and then some of them visit Carlino to implore him to give them some work, but in vain. It is good if they find themselves in this situation, because what they have done went beyond the limit (cited in Ramella 1983:258).

* * *

The negative conclusion of the strike at the Sella factory at Biella was a hard blow for the hand-loom weavers. It had demonstrated that under the new conditions, the course of frontal collision with the manufacturers could only lead to total defeat, with the result of accelerating, rather than slowing down, the process of replacing the hand-loom with the power-loom. Once again the Biellese hand-loom weavers changed their tactics, although soon they found themselves in a condition of further weakness, characterized by a widespread unemployment. They put a veto on their daughters working at the power-loom, and on their sisters and wives. This tactic, however, could not arrest the introduction of the power-loom, but only retard it and make it more gradual, and with time the hand-loom weavers were even compelled to lift their veto: the progressive fall of hand-loom weaving which drastically reduced their wages and overall earnings convinced them to do so.[226]

In 1882, the 250-300 power-looms counted by the

Commission of the Parliamentary Inquiry on Strikes in Italy in 1878 had risen to 1,000 and more than 1,800 in 1886, half of the about 3,600 working looms that were offically counted in the Biellese factories. At the beginning of the 1890s, of the 2,470 looms working in the vertically integrated woolen factories, only 432 were hand-looms (Castronovo 1964:242-243). In the factories the percent of women and children in relation to adult male laborers increased considerably, subverting the old parameters of the occupational structure of the Biellese woolen industry. It was for this reason that, when the phenomenon assumed massive proportions, the protest of hand-weavers took the form of a passionate denunciation of the serious menace of the disgregation of the working-class family.

While their daughters, sisters and wives went to work at the power-loom in the factories, hand-loom weavers resumed their work at domicile. Many of them formed co-operative societies of production that, however, had to close down one after the other in a short period of time.

Their decline was accompanied also by the loss of competitiveness of the sub-contracting segment of the Biellese woolen industry: its old position in the local market evaporated under the aggressive competition of the big modern woolen and cotton industrial firms and with the crisis of the peasant classes (traditional consumers of lower quality cloths) caused by the Great Depression of the

1880s. One of the resulting consequences of the new situation was the resumption of migration, which was now directed not only to France and Switzerland, but also across the Atlantic to Paterson, New Jersey, where work at the looms could be found in expanding silk factories.

The initiative shifted firmly to a new generation of aggressive manufacturers, who benifited from the 1887 protectionist tariffs. The impact of the power-loom in the Biellese was such that it hindered the appearance of forms of collective action like the strike for years. But when social conflict reappeared clamorously in the course of 1889 -- a year in which the new Penal Code was enacted, abolishing the pre-existing limitations to the right to strike and coalesce -- it showed some new characteristics that provided a glimpse of the transformations that the diffusion of the machine had set out and that would have developed in the following years in the Biellese. The strike, which soon became general, broke out in the Mosso Valley in the summer, taking manufacturers by surprise. The claims that were advanced reflected the new condition of factory work, which was now carried out predominantly by women and children, while adult male hand-loom weavers were disappearing. Besides the request for wage increases and a reduction of the length of the working day to 10 hours -- demands which were not novelties -- the new laborers took notice of the definitive decline of a cultural model of

labor by now undermined by the technological transformations and the affirmation of the new modalities of the factory system. The old pay system based on the quantity produced had transformed itself into an instrument for motivating workers so that they requested a piece-work tariff with a decreasing curve, forseeing, in other words, a reduction in earnings beyond a certain limit of strokes of the shuttle. The old defense of the irregularity at work was replaced with a demand for the recognition of the hours worked beyond the normal working time, that is of "overtime" (with a wage increase of one-third).

As for defects in the fabric, the laborers requested that these be considered part of the cost of production and thus be laid, at least partially, on the manufacturer. This demand provided an indication of the fact that in the manufacturing process the skill of the laborer always counted less than the automatic movement of the machine.

It was under these new conditions of labor relations, during the difficult years from the late 1880s to late 1890s, that a new generation of ruthless entrepreneurs -- the so called "sons of work" -- emerged alongside the more moderate and still dominant "woolen aristocracy" of the Sellas and Piacenzas. The Rivettis, Botto-Poalas, Ceruttis, Zegnas, and many other "new men," who had often been employed as laborers for decades in the factories owned by the Sellas or by the other dynasties of the "woolen

aristocracy," became the heroes of a vast hagiographic "will is power" literature and based their economic success on the production of ordinary low-cost goods for mass and military consumption.[227] They were able to lower costs through the self-exploitation of their large families, the utilization of recycled wool, the installation of often second-hand machines and power-looms, and the growing exploitation of a labor-force that was by now all centralized in mechanized factories. The attitudes of these "new men" were affectively described by Rinaldo Rigola (1930:27), the Biellese trade union organizer who later founded and led the General Confederation of Italian Labor:

> The creators of industry are individuals who have something of the owner and something of the laborer. They work day and night, working days and holidays, they work in a beastly way. It acts in the the spring of self-interest, maybe they obey to a need of their character, but they do not know it and, anyhow, they do not admit it.

These new entrepreneurs were impatient with the moderate attitude toward labor of the "woolen aristocracy." They, together with the new Socialist leaders of the labor movement, became the true protagonists of the next round of hard-fought labor conflicts -- the general strikes and lock-outs of 1897 and 1901 -- which underlined the definitive affirmation of the factory system in the Biellese woolen industry.[228]

* * *

Although slow, the process of transformation of the Biellese woolen industry in the second long-wave made its victims not only among the labor-force, but also among manufacturers. One has to consider, in fact, that among the families that formed the Biellese "woolen aristocracy," only the Sellas and Piacenzas continued to be actively engaged in the woolen industry at the end of the century. All the other dynasties had abandoned the scene, proving themselves inadequate to the requirements of the new industrial phase. Even several segments of the Sella family lost out in the process: only two woolen firms continued to operate -- the **Sella & Compagnia** and the **Fratelli Sella fu Maurizio** -- of the five controlled by the various sub-branches of the family in 1848. But, starting from the second half of the 1890s, the Sella family, and in particular the seven cousins who controlled the **Fratelli Sella fu Maurizio** and the **Banca Gaudenzio Sella & Compagni**, were re-organizing their entrepreneurial and financial resources in order to create solid new bases for capital accumulation.

The Sella Bank, established in 1886 (See note 209), had become by now a viable financial institution, able to support the two new productive initiatives controlled by the family: (1) the new large investments in machinery for a big factory at Tollegno for the production of combing yarns,

leading to the establishment, together with other local partners, of the joint-stock company **Filatura di Tollegno** in 1900;[229] and (2) the new large investments in the production and distribution of electricity, which will bring to the establishment, together with other local and national partners, of a big hydro-electrical company, the **Società Idroelettrica Italiana** in 1907.[230] The banking business, the industrial production of combing woolen goods and the production and distribution of hydro-electricity allowed this sub-branch of the Sella family to continue playing a very prominent role in the accumulation process in the following, expansive phase of the third long-wave.

> In a complex network of financial power (Sella Bank), of industrial strength (Piacenza, Sella, Bozzalla, Magni, etc.), of commercial experience and effectiveness (Augusto Halenke, Giuseppe Ottolenghi, Carlo Trossi), of social prestige and political control (Corradino Sella, mayor of Biella; Cesare Bozzalla, president of the Italian Association of Woollen Manufacturers and vice-president of the Chamber of Commerce of Turin), it reveals itself, in the first years of the new century, in an overall organizational tension, an innovative rush, which seems to be able to let the Biellese woolen industry come out of the narrow limits of a familial and very traditional management.
>
> ... Heading the biggest manufacturing companies, the most audacious initiatives, the associations and public institutions, we find always a restricted selection of names of what is, in these years, the undiscussed "group of command" of the Biellese and Italian woolen industry: Felice Piacenza, Corradino and Gaudenzio Sella, Cesare Bozzalla, Daniele Schneider, Giuseppe Ottolenghi, Augusto Halenke, Giuseppe Magni, Carlo Trossi (Ferraris 1972:41-42).

## Conclusions

The selected group of dynastic families studied in this chapter is representative of a north Italian industrial bourgeoisie that confronted rather successfully the negative consequences of the depressionary phase of the second long wave (1874/77-1896) through an intensification of its effort and a re-organization of its political-economic activities. I have analyzed the motivations, dynamics and results of the behavior of these élite families; now, I evaluate the impact that their behavior had on the wider Italian society in order to identify the constituent elements of the Italian social structure sustaining rapid accumulation in the expansionary phase of the third long wave (1896-1913).

Thanks to a micro-analysis on the performance of the selected group of northern Italian dynastic families, it was possible to ascertain that at the end of the century there existed a consistent nucleus of entrepreneurs who were lively, enterprising and technically prepared. In the next few pages, I synthesize the most important connotations of these entrepreneurs and their extended kinship networks.

First of all, they had achieved high cultural standards and were open to technical and organizational innovations without losing the sense of family solidarity and of the function of the extended kinship organization for capital accumulation. The process of intergenerational sucession to leadership positions in both business and family was still

regulated by rather rigidly enforced patrilineal rules of descent. By now these dynastic families formed an élite aware of its power and status, whose members had strongly polivalent and complex social roles: they were, at the same time, technicians, industrialists, scholars, local administrators, national politicians. Most of these highly technically qualified entrepreneurs had a training period abroad or at least made frequent contacts with the most industrialized countries in order to gather the best of production, managerial and marketing techniques so as to acquire decisive advantages over competitors. They accepted and promoted bourgeois values and their attitudes in social and political matters were very conservative: they were averse to class struggle and to any type of bargaining with organized labor. At the same time, they felt a strong personal attachment to their factories, their workers and the rural social environments of their family origins and of their production facilities.

Secondly, they had fought and won a long battle to impose the factory system as the paradigmatic form of productive organization: its affirmation was complete for the whole productive cycle in the textile sector, while it had different gradations in other sectors of industrial activity -- in the mechanical industry, for example, handicraft methods of production and skilled craftsmen were still predominant. In the textile industry, a wide area of

work at home survived, but was by now only an appendix of the vertically integrated factory, to which it guaranteed some flexibility. Among other reasons, this symbiotic relation was favored by the fact that textile factories continued to be located in rural pre-alpine districts or in the immediate rural outskirts of cities.

The manufacturers in question had demonstrated themselves sensitive to the issues regarding the training of technical and administrative cadres and they were willing to delegate the responsibility of the direct and daily management of the factory. For this objective, foreign technicians were still recruited, but many factories were now managed by young Italians, whose training consisted of studies at Italian and foreign professional schools or polytechnic institutes and often also of long periods of work-and-travel abroad.

Thirdly, the élite families had striven to find effective solutions for the problems arising from the growing financial requirements of industrial investment. First of all, they established private banks, savings banks and co-operative popular banks. As we have seen, the Gavazzis, Pontis, Cantonis, and Sellas had all participated in the foundation of banks or operated their own private bank. Moreover, Ponti, Cantoni, Rossi and the other major manufacturers were important actors in the capital market at least since the early 1870s, when they transformed some of

their family owned firms into joint-stock companies. They had a considerable experience with stock issues, mergers, acquisitions and, from the start, they became important business partners of the new commercial banks -- Comit (1894) and Credit (1895). These new credit institutes were established through the initiative of German bankers to provide a remedy to the weak Italian capital market, after the banking crisis that followed the collapse of the big speculative urban development projects of the 1880s and the flight of French capital due to the breaking off of economic relations between Italy and France provoked by Crispi in 1887-88. These banks mobilized Italian capital and operated after a German "mixed" model of deposit and investment, channeling depositors' money into large-scale enterprises, i.e. turning savings into industrial investments. These were the first truly national credit institutions with peninsula-wide perspective, organization and plans. The establishment of these banks was linked to a re-ordering of State finances by the Treasury Minister Sonnino (intended to sharply reduce the budget deficit from 174 million lire in 1893-94 to 36 million lire in 1896-97 -- and to run a surplus by 1898-99) and to the strengthening of the power of the Bank of Italy (allowing it to exercise a sound monetary policy).

Fourthly, the Gavazzis, Pontis, etc. had an international presence since they were actively engaged in foreign markets through trading companies for the import of

raw materials and for the export of semi-finished and finished products. While they had very little taste for the grandiose military and colonial schemes of the Crispi government, they supported strategies of peaceful commercial penetration in the Ottoman Empire, the Balkans, Eastern Europe, and especially in Latin America where a massive wave of Italian peasants was settling in these years.

At the same time, these manufacturers made remarkable progress in the direction of a complete unification and conquest of the domestic market, thanks to the victorious protectionist battle (the tariffs of 1878 and 1887), but also to the transformation of the State administration into a relevant market (e.g., defence contracts, quotas, awards, bounties, and subsidies). In order to achieve these objectives, they had established the first commercial organizations on a national scale, made possible by the completion of the railway network and by the effectiveness of the postal service, nurturing such specialists as salesmen, brokers, and wholesale dealers, and even starting the first department stores.

In order to lobby the government over fiscal and custom issues -- and this is the fifth consideration -- they had fostered the formation of national industrial associations. They had participated, at the same time, in the constitution of the first local associations of manufacturers to deal with, and struggle against, the first workers' organizations

of resistance. Individualism remained prevalent, however, because entrepreneurs refused to bargain with organized labor. In their view, in fact, any labor conflict that might arise was to be resolved privately between the individual worker and the owner of the factory, since their interests were essentially common. If the workers protested beyond "acceptable" limits, there was nothing to do but deal with the protest in terms of public order and police repression.

These manufacturers were able, however, to solve local labor problems, whether it was a question of expelling the craftsmen who actively resisted the factory regime, as in the case of the Sellas, or of creating the worker *ex novo*, as in the case of the Crespis. The stated objective, in any case, was to consciously manage the industrialization process in such a way as to avoid destabilizing the established social order, limiting social lacerations and conflicts and exploiting the backwardness of the rural society for purposes of accumulation: the cost of labor remained generally very low and the marked socio-political subordination of laborers to manufacturers was confirmed through the direct and personal relations and the various social forms of organic "corporate paternalism" (e.g., the construction of ruralistic company-towns).

The same elite families -- and this is a sixth point of consideration -- had set in motion processes of diversi-

fication of production, directly or indirectly, often financially supporting the initiatives of entrepreneurs, who were not necessarily members of their extended kinship organizations, but who were extremely competent in their field of industrial activity, such as experienced technicians, engineers and the "sons of work." In 1896, for the "traditional" manufacturing sectors, such as the textile and food-processing industries, there seemed still to be wide margins of possible growth before they could reach their full maturity, while for the "new" sectors, those that incorporated some of the basic technological and organizational features of the third long wave like the hydro-electrical industry, the potential margins of growth seemed enormous, because only the first concrete attempts had been made by a handful of pioneers and because many of the "new" sectors enjoyed a sort of political guarantee.

A few indications suffice to illustrate how and where the diversification of production had started to impose itself on the organizational characteristics of an industrial activity. In textiles, the production of garments, ready-made cloths, socks, hats, and buttons had achieved an industrial physiognomy. In food-processing, beside flour and pasta, the production of preserves, sugar, sweets, chocolate, vermouth, wine, and olive oil had achieved an industrial organization. Advances were also made in other "traditional" sectors where proto-industrial

work had only recently been predominant, for example, furniture, leather, shoes, gloves, and paper. Only small advances were made, instead, in the wholly unprotected chemical industry in areas like fertilizers, medical drugs, rubber, and dye-stuffs.

Little advances had been made in the highly protected iron-and-steel industry, which required heavy capital investments and a massive use of coal. The average prices for Italian iron and steel were about one-third higher than those in France and Germany and the productivity of the Italian iron-and-steel industry remained very low. The price of its existence was really paid for by the user sectors that were not protected or less protected, and chiefly by the mechanical industry. Beside the Terni iron-and-steel works, established for military purposes through government initiative in 1884, a few plants were in Liguria, connected with the naval shipyards and arms industries, and in Lombardy, deriving from the old iron industry of the valleys and connected with the developing Milanese mechanical industry. The latter formed a small market-oriented and rather innovative pole that owed its success to railway and tramway commissions, and also to the acquisition of shares of the domestic market for supplies and machinery for agriculture, food-processing, paper-making, printing, and building industries, and above all to the developing textile industry, where turbines and boilers

became essential as medium-scale factories expanded and moved to steam-driven machinery. A few pioneering initiatives were also started in the area of consumer goods destined to change the way of life, such as bicycles, motor-cars, and electric appliances.

Among the "new" sectors of industrial activity, it was the electrical industry that received the greatest attention by the northern Italian political-economic elite. Edison's first European power station was installed in Milan in 1883. The Milanese **Società Edison Italiana** (1884) acquired Edison's patents for the Italian market and, together with a few other companies, built the first thermic power stations and urban electric lighting networks in the late 1880s.

It was, however, the prospect of developing hydro-electric production, the **carbone bianco** ("white coal"), through the exploitation of the abundant hydraulic resources of the northern Italian Alps that had a great psychological effect in economic circles, giving a sense of release from the industrial impotence to which many still believed Italy was doomed because of her lack of coal. Indigenous technicians and engineers -- Colombo, Ferraris, Mengarini, and Semenza -- began to plan and install hydro-electric power stations after the early 1890s. The rapid growth of the hydro-electric industry began after 1895, as technical and legal obstacles to the transport of electric power from a distance were finally overcome and as German technology

and capital became readily available.

Finally, the widening of the industrial base had the effect of accentuating the diversification of interests between the Lombard-Piedmontese manufacturers, who, although protected, were market-oriented, and those of Genoa, whose sectors of activity -- iron-and-steel, shipping, ship-building, sugar, etc. -- were directly sponsored and heavily protected by the state. Military demand created markets without which the expansion of the metal and heavy-engineering firms controlled by the Genoese entrepreneurs would have been scarcely worth while. The Genoese manufacturers succeeded by virtue of their financial connections and political weight and they were the central component of the Italian military-industrial complex and of the national protectionist bloc: they shared a sort of "Jacobin nationalism," viewing industry as a sort of arsenal for the imperialist ambitions of the new Italian State. By now, only the Lombard-Piedmontese silk manufacturers, who still produced one-fourth of the world output of silk yarns, accounting for about one-third of the total value of Italian exports, continued to propound free trade doctrines and policies.

A "dual industrial economy" was growing up. On the one hand, there was a top-heavy, "quasi-state" sector, with a protected home market, guaranteed finance, and little capacity or interest in exporting, except possibly to the

under-developed south-east of Europe and Latin America; on the other hand, there was a "market" oriented sector, anxious to maintain trading links also with north-west Europe. This distinction is, of course, a crude one, and some of the most vital and important sectors like cotton spanned both camps, being firmly based in the market but, at the same time, able to exploit the opportunities offered, in the form of protectionist tariffs, by the state. Yet the distinction existed, and it was to be the basis of many political and economic conflicts in the years to come.

* * *

In synthesis, it is possible to say that the manufacturers of the north Italian "triangle" were incorporated into the core of the world economy: they had achieved international standards for productive technology and organization, for volume of investments, for the velocity of capital circulation, etc. Their points of strength were in "traditional" sectors like textiles, food-processing, and shoe-making. Sectorial limitations were due largely to the lack of coal and to the consequent limited development of iron-and-steel and chemical industries.

On the side of this industrial bourgeoisie, there was then a market oriented agrarian bourgeoisie that operated in

the lowlands with very similar entrepreneurial attitudes and behavior. Lombard-Piedmontese agriculture was one of the most advanced in the world for its fixed capital investments, land reclamation works, irrigation systems, rotations of crops, employment of wage-labor, use of chemical fertilizers, selected seeds, machines, livestock raising methods, and processing of milk, meat, rice, maize, wheat, fruits, sugar-beet, etc. This type of capitalist agriculture tended to extend beyond the Po river, forming an "agricultural quadrilateral" (southern Piedmont, Lombardy, southern Veneto, and Emilia Romagna) that overlapped the "industrial triangle" and encompassing the hills and highlands where the **contratto misto** arrangement was increasingly replaced by new lease agreements based on the payment of higher monetary rents.

The agrarian entrepreneurs of the Padania Valley were the greatest beneficiaries of the agricultural protectionism introduced with the tariffs of 1887. Some highly protected crops were, of necessity, cultivated almost exclusively in the north (e.g. sugar-beet, rice and hemp). Moreover, productivity in the northern plain was much higher than that achievable in the hills of the central regions or in the South and islands. This northern agrarian bourgeoisie invested in agriculture to modernize and diversify production, but also in banking, financial, commercial, and industrial activities, taking as its reference point the

industrial bourgeoisie, with which kinship relations were also often established.

* * *

If we consider, however, the same families and the same subjects as typological representatives of the whole Italian bourgeoisie, several limitations emerge. Analogously, if one looks at the whole country, Italy continues to be an agrarian semi-periphery with small industrial nuclei. The novelty, in respect of the middle of the century -- that is, in respect of the kind of incorporation into the world market upon which Cavour built the political and economic fortunes of Piedmont and that the governments of the **Destra** tried to perpetuate after the political unification of the country -- is only the massive export of an unskilled labor force. A few other realities, however, must also be pointed out: (1) traditional export goods had generally lost most of their former competitiveness; (2) cotton manufactures had started to be exported, although to poor consumer markets; and (3) there was a lesser dependency on foreign textile manufactures and financial resources as a result of Crispi's autarchical policy.

From the point of view of accumulation, the Italian situation was strongly limited by two major factors: (1) the political-economic élite tied to an industrial base was

numerically too small and territorially too concentrated in the country's three north-western regions -- Piedmont, Lombardy and Liguria; and (2) the domestic rhythm of accumulation depended in large measure upon the emigration abroad of poor and unskilled peasants because their remittances paid for the necessary importation of foodstuff, machines, coal, raw materials, and semi-finished products.

In fact, a key problem for capital accumulation in Italy was how to provide for the payment of the import bill once the Italian economy would have started to grow again at the rapid rhythms of the first half of the 1880s. The result of the situation of the 1880s had dramatically demonstrated the risks involved in relying upon the movements of capital to confront the large deficit of the balance of trade. In the first half of the 1890s, a solution had emerged from the deepening of the recession, which had imposed a sort of "automatic" equilibrium in the balance of trade. Since the mid 1890s, Italy had chosen to export its labor-force in mass, transforming into migrants producing an income abroad those who could have been workers/consumers on the internal market if a different path of political-economic development had been followed in the previous decades. Emigrants' savings constituted a peculiarly Italian form of workers' contribution to the process of industrialization and since the majority of these emigrant workers were poor peasants of the Veneto and the

**Mezzogiorno**, these savings constituted an essential financial contribution made by the poorest regions of the country to the industrial development of the richer north-western regions.

Besides the emigrants' remittances (and freights), there was the foreign money contribution made by international tourists. In these years, in fact, a new type of bourgeois tourism started to develop in Europe and the USA: leasure travels and sojourns abroad for health treatments. Even Italy was involved in this new phenomenon: thanks to her climate, geographical position and historical, artistic and natural patrimony.

* * *

A second essential problem for capital accumulation was still completely unresolved in Italy in 1896: what kind of politico-institutional regime could best preside over the expansionary phase? What kind of social compromise would have been necessary and suitable to sustain the phase of rapid accumulation?

After the extension of the suffrage in 1882, in order to govern, the northern bourgeoisie had to form alliances with the rentier capitalists who formed the southern oligarchy, through the conservative political formula of **trasformismo**. An industrial, but also an agrarian,

bourgeoisie with characteristics similar to the northern bourgeoisie did not exist in the **Mezzogiorno**. The class of southern small and medium landowners that cultivated specialized crops was very small, vulnerable to shifting markets, and anyhow isolated in a context of latifundia worked by peasants with precarious contracts and difficult subsistence conditions.

There were three major national political orientations at the end of the century: (1) Crispism, that is the authoritarian suppression of **trasformismo** in the Parliament combined with great-power politics, paternalist reforms and the harsh repression of all the "subversive" socio-political movements in the country (Anarchists, Socialists, Catholics, and peasants); (2) the conservative liberalism of Sonnino and of most of the **meridionalisti** (Villari, Fortunato, Franchetti, etc.), which envisaged a vast program of social reforms that were to be implemented by the "union of the national parties" in contraposition to the left-wing political forces and the Catholics: a sort of "state socialism" with strong paternalist connotations; and (3) the pragmatic left-wing liberalism of Zanardelli and Giolitti, which aimed to pursue a socially reformist political course founded on the support of the organized components of the working-classes, in the context of a new edition of **trasformismo** in the Parliament, this time including the participation of the more moderate leaders of the Socialist

and Catholic forces.

* * *

Finally, one last question remains to be answered: with regard to Italy, what was the weight of the industrial bourgeoisie and which kind of proposal was it able to make to the country?

Certainly, the industrial bourgeoisie made functional contributions: "to make Italy into a modern and industrial nation." During the Great Depression, with the agricultural crisis and the protectionist turn, a national industrial-agrarian protectionist bloc was formed and the industrial bourgeoisie, producing for the internal market, was precisely the core of this bloc. All the political leaders in and around the government agreed by now that the objective of state policies had to be the rapid modernization of the country along a course of industrial development, because they were all well aware that the long secular season of accumulation in agriculture was by now over. In order to try to keep the country afloat economically, all the major politicians believed that it was necessary to bet on the industrial bourgeoisie that existed in the north, and to create one *ex novo* in those industrial sectors in which it was not yet present: as soon as the state would have some resources to spend, these would end up

in the military-industrial complex, given the latter's politico-military weight and the close personal relationships that the businessmen-politicians of this complex had established with the political leaders in and around government, the military establishment and the Court.

But, at the same time, the industrial bourgeoisie, through its entrepreneurial behavior and accumulation strategies, contributed to accentuate the dualism between the north-western regions and the rest of the country, thus aggravating the overall weakness of the system because a dualistic, and consequently narrow, internal market constituted a serious limitation for capital accumulation. In this sense, the key problem with the north Italian bourgeoisie was that it concentrated its effort and attention almost exclusively on the moment of production, while the moments of consumption and income (re)distribution between different social classes and regions were still extraneous to it.

Among the major political leaders, only Giolitti seemed aware of the essentially contradictory and destabilizing -- that the entrepreneurial behavior of the north Italian industrial bourgeoisie, together with its pattern of accumulation, were having on Italian society as a whole. For Giolitti, in fact, the problem in Italy was not only that of increasing the production of manufactured goods, but also that of a more equitable distribution of surplus value

between the social classes -- between capital and labor and between the northern and southern regions -- that could be achieved only through an intensification of state regulation of the economy. The political proposal of Giolitti, based upon the implementation of gradual and limited social reforms, could lead the country from the first years of the 20th century to the eve of World War I (1901-1913). After that, a lengthy and dramatic political crisis at the end-of-the-century showed clearly that the conservatives' attempt of trying to supersede "transformism" by combining great-power politics, repression of the "subservives", and efforts to gag Parliament was not a viable solution.

## Notes

1. The description of Italian political-economy provided in this section and the subsequent one is based on the following authorities: Abrate 1961; Are 1962, 1965, 1969, 1974; Baglioni 1974; Berengo 1963; Berselli 1963-65; Berta 1978; Bollati 1983; Bonelli 1978; Borruso 1976; Bulferetti and Costantini 1966; Cafagna 1976, 1983, 1989; Caizzi 1962, 1965a, 1972; Candeloro 1968; Capone 1981; Caracciolo 1956, 1960, 1963; Carocci 1956, 1975; Castronovo 1964, 1965, 1977, 1980, 1987, 1988; Chabod 1951; Clark 1984; Clough 1964; Confalonieri 1979, 1980a, 1980b; Croce 1928; Da Pozzo and Felloni 1964; Della Peruta 1987a; De Rosa 1966; De Rosa 1973, 1985; Dewerpe 1985, 1991; Doria 1969, 1973; Fanfani 1961; Fiocca 1984; Fonzi 1953, 1972; Fossati 1951; Fuà 1974; Gerschenkron 1962; Giorgetti 1974; Gramsci 1950; Graziano 1980; Kemp 1985:149-67; Jemolo 1960; Lanaro 1979, 1984, 1988; Luzzatto 1961, 1968; Mack Smith 1958, 1966, 1972, 1975, 1989; Merli 1972; Milward and Saul 1977:215-270; Morandi 1944, 1961; Morandi 1931; Mori 1989, 1981; Orlando 1984; Procacci 1980; Prodi 1965-1966; Quazza 1961; Romanelli 1990; Romani 1957, 1960, 1982; Romano 1977, 1984, 1990; Romeo 1959, 1969, 1972, 1974, 1975, 1977, 1987; Rosselli 1946; Salvadori 1976; Sapori 1962; Sereni 1947; Seton-Watson 1967; Tilly 1992; Toniolo 1973, 1978; Trebilcock 1981:292-384; Tremelloni 1947; Valeri 1945; Villani 1978; Volpe 1958; Woolf 1979, 1986; Zamagni 1990; Zaninelli 1967.

2. A disastrous famine, caused by crops failures, coincided with the final phase of the crisis of industrial over-production, which was characterized by widespread bankruptcies, closures, and unemployment.

Economic distress went hand in hand with extreme political movements -- Chartism, Socialism, Republicanism, Luddism, and the "spectre of Communism" -- that terrified liberals and moderates. Behind the seething discontent of craftsmen, workers, and urban masses, loomed the shapeless menace of peasant revolts. The peasants, whether in Lombardy, southern Italy, Germany or Austria, were determined to obtain a diminuition of taxes, the abolition of feudal dues and labor services, and the legal title to the lands they cultivated.

3. Cesare Correnti could write in 1847:

> The country does not refuse to pay; it is not the financial sacrifices which frightens it, but the ignorance of the administrators, the stinginess over useful things, the penchant for damaging and harmful ones... thirty-tree millions are taken out of the country every year without it receiving anything in exchange except contempt and insults. These

> thirty-tree millions, together with the rich takings of the sister province of Venetia, sustain the dying credit of the empire (Correnti [1847] 1891:109).

4. In the early part of 1846 a bloody revolt broke out in Galicia (See Blum 1948). Its plotters intended it to be a mass nationalist uprising of Poles. Instead, it turned out to be a jacquerie in which the noble Polish leaders were slain by the very Polish peasant masses they had planned to lead. The intent of the revolt was to separate Galicia from the Austrian Monarchy. Actually it made the bonds between the Hapsburg regime and the peasantry closer and stronger.

The Galician massacres deeply impressed the Lombard élite, who accused the Austrian government of having deliberatly incited the peasantry against the lords. Many believed that the lack of a prompt repression of the peasant uprisings in Lombardy in 1847 demonstrated that the Austrian government was trying to use the same tactics to check Italian nationalism.

> ... In the meantime the peasants were left alone for several days; and if the strength and prudence of villagers and landowners had been weaker maybe there could have been some terrible event; because atrocious suspicions and atrocious thoughts were not lacking and the dreadful word of Galicia was on the mouth of the rich and the poor (Correnti [1847] 1891:548).

Worried by the Galician massacres, the Lombard landowning nobility actively organized charity for peasants during the famine of 1847, winning their partial support against the Austrians (See Della Peruta 1953).

5. Revolution broke out with the uprisings of Palermo (12 January) and Paris (22 February) and spread like wildfire throughout Europe, taking everyone by surprise. Within weeks absolutist rulers were forced into granting constitutions. The rising of Vienna (12 March), the dismissal of Metternich (14 March) and a disastrous financial state led to the instant collapse of authority in what had been a highly centralized empire. Milan (18 March), Venice (22 March), Prague, and Budapest simultaneously shook off the centralizing bonds of Vienna.

6. The nationalist democrats were more sensitive than the moderates to the discontent of the masses, but their views about resolving the "social question" were generally not so different. Mazzini and his followers had an organic conception of society, typical of pre-marxian socialism. The bulk of the democrats consisted of relatively small groups of the lower-middle class -- lawyers, doctors, engineers, shopkeepers, and officers -- together with smaller

landowners, craftsmen, and a few new manufacturers, who lived in a world apart from the poor but viewed themselves as the "natural" leaders of the "multitudes." In urban centers, much of the democratic popular support derived from craftsmen's mutual-aid societies that had developed since about 1840 in northern Italy. The democrats identified the working-class with the artisan and totally ignored the peasant masses. They believed that the support of the poor was to be won by proposing material advantages, such as lower taxes, "fair" wages and state intervention to ensure public works. But these proposals were consistently subordinated to the higher aims of national independence and a republic, and conceived as a means for avoiding the divisive effects of class conflict. As Cavour stated confidently in 1846, given the basically middle-class character of the democrats, many of them would flock into the conservative camp if a social revolution had broken out.

> In Italy a democratic revolution has no chance of success. To prove this, it is enough to analyze the elements which form the party favorable to political novelties. This party does not attract great sympathy among the masses which, with the exception of a few urban poor, are in general strongly attached to the old institutions of the country. Its strength lies almost exclusively in the middle class and in part of the upper class. Now both of these have very conservative interests to defend... If social order were truly threatened, if the great principles on which it rests were subjected to a real danger, we are convinced that one would see a fair number of the most determined **frondeurs**, of the most extravagant republicans, in the front ranks of the conservative party (Cavour 1962:245).

On the other hand, the moderates engaged in intense and frequent discussions of pauperism and almsgiving, prison conditions and poor laws, elementary education and savings banks, petty rural theft and **pellagra**, unemployement and mutual aid societies, popular morality and charitable institutions. They were determined to safeguard social peace through the formula "charity and reforms." Their champions were Giuseppe Cottolengo and Giovanni Bosco, who were creating institutional homes for society's more hapless members; Ferrante Aporti and Lorenzo Valerio, who were propagating popular education and publishing popular readings. The moderates worried about the dangers of industrialism and feared the proletariat and pauperism created by the factory system. They strongly opposed the substitution of factories for domestic silk cultivation,

> ... because it would break the ties of sympathy and affection which exist between those who own and those who cultivate the land; ties which, in this century more than ever, we must strive to maintain and strengthen, even at the cost of some sacrifices (Cavour 1962:49).

7. Constitutions were granted by Ferdinand of the Two Sicilies on 29 January, Leopold of Tuscany on 15 February, Charles Albert on 4-5 March, Pius IX on 14 March. They were all based on the French constitution of 1830. Their concession reflected the princes' determination to give way as little as possible to democratic pressure. Nomination to the upper chamber and full executive power remained in the hands of the prince; the lower chamber was restricted by wealth. Catholicism was confirmed as the religion of the state. In Piedmont limited concessions were made on freedom of association and the press, and moderate ministers were appointed -- Balbo and Pareto.

8. Charles Albert, not without hesitation, sent his troops (25 March). The Savoyard king was forced into identifying himself with the Italian national cause by his fear of a French intervention, a republican victory in Lombardy, and the possibility that democratic agitation in Piedmont and Genoa might take on an anti-dynastic character. Charles Albert nominally ruled all northern Italy for the first three weeks of July. The indecisive Piedmontese military campaign, however, ended with the defeat by the Austrians at Custoza (25 July) that sparked off the crisis of the moderates and demoralized the troops. An armistice was hastily signed (7 August), confirming the withdrawal of the Piedmontese army behind its former frontiers. Faith in Charles Albert collapsed and he abdicated in favor of Victor Emanuel II with the final victory of the Austrians at Novara (23 March 1849).

9. The revolt of Genoa was put down by the Piedmontese army, Mazzini's Roman Republic was smashed by the French expedition of Luis Napoleon, and Manin's Venetian Republic was suppressed by the Austrian army.

10. There was an apparent consolidation of a second restoration, symbolized by Metternich's return to Vienna in 1851. The emperor Francis Joseph rapidly established a personal autocracy. Military control, relatively efficient if heavy-handed bureaucracy, censorship, police-spying, a concordat with the Church, were the charactristics of this decade of Austrian absolutism, which was only to collapse under the weight of financial indebtedness and military defeat in 1859.

11. The failure of the political revolutions of 1848-49, marked above all the defeat of the republican programs throughout the European continent, that is of those political groups striving to divide the nascent bourgeoisie from the aristocracy in favor of the development of a genuine bourgeois initiative toward urban working-classes and the peasantry backed by universal suffrage. The bourgeoisie, frightened by the possibility that behind democracy there could be socialism, shut itself up everywhere around monarchic institutions and looked for an alliance with the aristocracy in the name of the defense of common interests, that is of private property against the working-class and peasant movements, socialism and the untrustworthy lower middle-class that had become radicalized in the republican and democratic direction. The new conservative alliance found widespread support also among rural notables (See Hobsbawm 1975).

In Italy, whereas Mazzini continued to advocate dogmatically his old program of unity, insurrection and republic, his leadership was challenged and the democratic movement fragmented in a variety of groups. Many critics Ferrari, Cattaneo, Montanelli, Pisacane, De Boni, and Maestri -- denounced the political formalism of the Mazzinian program, its restriction to the purely political issue of national independence, and its dismissal of social and economic reform, as outdated and destined to failure because of its inability to arouse popular support. Furthermore, they opposed republican federalism to Mazzini's unitarian republicanism, or demanded that the prerequisite of the republic be abandoned in favor of unity with the moderates. Finally, the repeated and disastrous failures of all the insurrections organized by Mazzini's Action Party between 1853 and 1857, by demonstrating the ineffectiveness of his tactics, brought to the definitive decline of his influence in Italy and accelerated the defections from the democratic side.

12. The Italian National Society, established by La Farina and Pallavicino the 1st of August 1857, became the political organization through which the moderates absorbed disillusioned Mazzinian democrats such as Garibaldi and Manin. Many of the members of the Society were Italian political exiles that had found employment and other professional opportunities in Piedmont. The objectives of the Society were to support Piedmontese moderatism and to insulate the war for independence from revolutionary developments. Its structure was that of an organized network of friends. It relied on local notables, whose social status attracted the support of merchants and officials in the small towns. It looked to the educated middle classes the industrialists, the traders, the landowners -- rejecting both aristocratic claims to social

privilege and the threat implicit in an appeal to the masses. It was the restriction of the Society's message to the urban bourgeoisie and country gentry that enabled it to attract so many of the former Mazzinians, tired of their master's dogmatism and ineffectiveness.

13. The new king, Victor Emanuel II (1849-1878), the son and husband of Austrian archduchesses, was authoritarian in character and despised the democrats. But Novara left him with a defeated army, a hostile nobility and senate, Genoa in revolt and a strongly patriotic democratic majority in the lower chamber. The revocation of the Statute would have led to civil war. The king's main hopes of regaining prestige and authority for the dynasty lay with D'Azeglio and the moderates.

Victor Emanuel II's powers, however, remained strong, and his exercise of them often dubiously constitutional. He collected taxes without parliamentary consent in 1848, imposed his ministers of war on all governments, and dabbled in secret diplomacy with disastrous results. He rid himself of D'Azeglio and later tried to rid himself of Cavour by extra-parliamentary intrigues. He was surrounded by army officers who were intolerant and contemptuous of the delicate balances of civilian governments (See Mack Smith 1972).

14. Cavour was a cadet of a great aristocratic-military family of Savoy that had chosen to get into bourgeois habits during the Napoleonic regime. By the end of the Restoration period, the Cavours were among the most advanced agrarian capitalists of northern Italy. The Cavour family had actively collaborated with the Napoleonic regime after 1802: Filippina, Camillo Benso's grandmother, had been the lady-in-waiting of Princess Paolina Borghese, the sister of Napoleon and wife of Prince Camillo Borghese, the Governor General of Turin after 1808; Michele, Camillo Benso's father, had been the first chamberlain of the Prince; Princess Paolina stood as a godmother to Camillo Benso, who was named after the Prince. This **ralliement** with the Napoleonic regime allowed the Cavour family to engage successfully in several land and financial speculations and manufacturing initiatives. Michele, for example, acquired a large estate at Leri that was part of the confiscated properties of the abbey of Lucedio. Michele had married Adele, a member of a wealthy Calvinist family of Ginevre, and continued to operate as a businessman also in the years of the Restoration while, at the same time, serving as chief of police in Turin until 1847.

In the 1830s and 1840s, Camillo Benso devoted himself to an intensive and sympathetic study of French and British political and economic developments and to wide-ranging -- and sometimes imprudent -- agricultural, commercial and

banking activities. He introduced in the family estate at Leri modern accounting methods, the rotation of crops, new techniques for irrigation and stock-raising, machines for the extraction of sugar from sugar-beets and for the hulling of rice. But, he also promoted railways, speculated on the Paris Bourse, was one of the founders of the Bank of Turin, a leading figure in the Agrarian Association, and the promoter of the journal **Il Risorgimento** (1847 ff). He emerged as the most widely read and travelled of the moderates of his day, less tied to Italian political-cultural traditions than his contemporaries, and more attentive to the structural changes of western economies and the post-Ricardian developments of economic theory (See Prato 1920; Mack Smith 1958; Romeo 1969, 1974, 1977, 1987).

15. The **connubio** aroused much resentment at the time and has since frequently been indicted as the first step towards the later parliamentary system of "transformism," however, it was based on a clear program of internal reforms and commitment to an independent Italy. It became a useful means to weaken the threats from revolutionary democrats, the clerical-conservative amalgam and the Court. The threat from the left was largely imaginary in Piedmont, while that of the right was more real and continuous. The conservatives' strength lay in the enormous influence of the Church. The 1850s witnessed a hard fought struggle to pass legislation restricting the power of the Church in Piedmont -- abolition of ecclesiastical jurisdictional privileges, civil marriage, abolition of the monasteries, state stipends for priests, and state control of education.

16. Cavour was clear about the need to concentrate on agriculture, for economic as well as political reasons. As he had written in 1845:

> The opening of the richest market in the world [England] to foodstuffs will favor growth of production, the main aim of agricultural industries, which are among our most important industries... As trade becomes an essential element of prosperity for the agricultural classes, they will be driven naturally to join with the supporters of the liberal system. Producers of raw materials will then be in the same position **vis-à-vis** privileged manufacturers as are the industrial classes in England at this moment **vis-à-vis** landed proprietors and colonial plantation owners (Cavour 1962:171).

17. Cavour begun to open up Piedmontese markets to western trade while still serving as minister for the navy, agriculture, industry and commerce, and then also finance, in the D'Azeglio government. In 1850-51, he drove through a

series of bilateral trade treaties with England, Austria, France, Belgium, Portugal, Greece, Switzerland, Holland, and the **Zollverein** that lowered customs duties substantially. He introduced a general tariff reduction in 1851, lowered the duty on the import of grain and, after the riots during the 1853 famine, completely abolished it.

18. Between 1850 and 1858 imports increased from 130 to 321 million lire, while exports rose from 73 to 236 million lire. State income rose from 91 to 164 million lire between 1850 and 1859, and the public debt rose from 120 million lire in 1847 to 725 million lire in 1859, requiring a yearly interest payment of 36 million lire -- over one-fifth of total state revenue. Most of Piedmont's financial problems were the result of its wars: the war against Austria in 1848-49 cost around 200 million lire, the Crimean war another 50, that of 1859 250. In order to cover the growing budget deficits and pay for Piedmont's wars and infra-structures -- railway construction absorbed 86 million lire and another 50 million lire went into the improvement of roads and others means of communication -- Cavour relied on ever larger loans from the Rothschilds, Hambros, Barings, Foulds, and Pereires.

19. The Genoese financial, commercial and manufacturing establishment had emerged as one of the great losers from the post-French Revolution order. The few great Genoese families that had accumulated enormous wealth between the 11th and 16th centuries -- Doria, Spinola, Durazzo, Brignole, Cattaneo, Pallavicini, Balbi, Centurione, Imperiale, Negrone, Pinelli, Raggi, Sauli -- with the decadende of commerce, had recycled it in international finance, acquiring bonds of European states and making loans to European Courts and aristocracies. Most of this capital -- over 200 million lire with interest -- was destroyed with the collapse of the European **ancien regime** (See Da Pozzo and Felloni 1964; Felloni 1971). Also the traditional Genoese commercial and manufacturing activities based on luxury items -- silk cloths, jewels, paper, soap, etc. -- were seriously damaged as markets for these products evaporated almost overnight. With the establishment of the Napoleonic order, Genoa lost also its political independence as the Genoese Republic was annexed to the French Empire. This aggravated the local economic crisis because Genoa came in direct competition with the politically powerful Marseilles while, at the same time, facing the negative effects of the Continental Blockade.

The economic situation did not improve with the Restoration when Genoa was annexed to the relatively backward and rural Kingdom of Sardinia and thus remained cut off from most of the profitable commercial traffic with Milan and Lombardy. The local economy stagnated until the

mid 1830s and then commerce and shipping received a new impulse whith the Savoyard regime's inauguration of a policy of prudent opening to international trade. Most of the Kingdom's growing imports -- cotton, wool, tobacco, spices, coal, cereals, and industrial products -- and exports -- raw and spun silk, olive oil, rice, wine, and emigrants -- passed through the port of Genoa. The founding of the **Banca di Genova** in 1844-45 demonstrated the great dynamism of the Genoese commercial bourgeiosie in these years, even if manufacturing activities continued to decline as a result of increased foreign and Piedmontese competition (Bulferetti and Constantini 1966).

It was with Cavour's drastic liberalization of international trade between 1850 and 1853, however, that Genoa underwent an economic boom (Doria 1969). In these years, 35 joint-stock companies and **societa' in accomandita** were established with a total capital of 84 million lire. Shipping was the basic source of accumulation for most of the emerging local bourgeoisie -- Piaggio, Danovaro, Frassinetti, Croce, Lavarello, Musso, Montebruno, Pratolongo, Vignolo, Stallo, Rocca, Dufour, etc. In order to mobilize capital and diversify the risk, these entrepreneurs subdivided the ownership of a vessel and its cargo in 24 shares. They were also shareholders of insurance companies, while many operated as **negozianti** and bankers, providing credit at high interest to small traders and shippers. Several fortunes were made with the transportation of migrants to Argentina and of supplies and troops for the Crimean war (1853-55) and the war of Independence (1859). In these years there was also an expansion of the textile industry, particularly of cotton and silk, but even the other traditional Genoese industries grew. Furthermore, foreign entrepreneurs -- British, French, German and Swiss -- settled in the city and set up trading and credit operations, insurance companies, and manufacturing activities such as sugar refining, metallurgy, cotton and wool spinning and weaving.

Cavour cultivated the aspiration of transforming Genoa in the most important Mediterranean port. He favored the improvement of the harbor's infrastructure and of the roads connecting the city with the rest of the country. In February 1854 the Genoa-Turin railroad was inaugurated and Cavour intended to link this line with the French and Swiss-German networks -- Parliament approved the project for the Frejus tunnel in 1857.

Cavour's ambitious plans for Genoa were based on two important political considerations. On the one hand, he wanted to contrast Austria's expansionary strategy in the Mediterranean, which was based on the building up of the Adriatic port of Trieste. On the other hand, he wanted to contrast Mazzini's democratic party in its stronghold. Genoa was essentially hostile to the House of Savoy and to the

moderates: Mazzini was Genoese; the city had revolted against the House of Savoy and had been taken over **manu militari** by Lamarmora's Piedmontese **bersaglieri** in 1849; and, finally, while Turin had become the center of moderate exiles after 1850, Genoa had attracted the most influential democratic leaders -- Crispi, the Orlando brothers, Pilo, Bertani, Cosenz, Cironi, Nicotera, Medici, Mordini, Mario, Pisacane, Sacchi, Acerbi, etc.

Cavour, however, was able to find a loyal force that supported his moderate policies. He formed an alliance with a group of aristocratic and bourgeois businessmen that had established the moderate **Society of Order** in 1847 and had opposed the revolt of 1849. Members of the Society were: Raffaele Rubattino, Tito Orsini, Giacomo Filippo Penco, Sebastiano Balduino, Carlo Bombrini, Paolo Farina, Marquis Francesco Pallavicini, Marquis Orso Serra, Marquis Giacomo Balbi, Marquis Antonio Rovereto, Cesare Cabella. Many of them had participated -- together with Baron Giuliano Cataldi, Giacomo Oneto, Pellegro Rocca, Marco Massone, Francesco Pavese, Giuseppe Carignani, Marquis Raffaele De Ferrari Duke of Galliera, Luigi Ricci, Lorenzo Berlingeri, Antonio Quartara, Carlo Alberti, and Bartolomeo Parodi to the creation of the **Banca di Genova** in 1844-45. When the bank was merged with the **Banca di Torino** to create the **Banca Nazionale degli Stati Sardi** in 1848, these Genoese businessmen retained 40% of the capital of the new national bank and the director of the Genoese bank, Carlo Bombrini, became its director.

All the above mentioned businessmen became the leading figures of the joint-stock companies established in the 1850s and with the support of Cavour expanded their business operations in three main directions (See Felloni and Da Pozzo 1964; Bulferetti and Costantini 1966; Doria 1969):

(1) investments in the island of Sardinia: tunny-fishing grounds, mining (lead, copper, and zinc), subsidized shipping, salterns, and public works in the Sardic ports;
(2) subsidized shipping: the companies of Rubattino, Penco, Rebizzo, and Gavino (Codignola 1938; Doria 1990);
(3) heavy mechanical industry: the workshops and shipyards of the Orlando brothers (**Cantieri della Pila e della Foce**), the **Ansaldo** and the Robertson workshops at Sampierdarena. These workshops and shipyards produced and repaired all sorts of metal products, simple machinery, vessels, railroad stock, and fire-arms (Doria 1989).

20. The Austrian menace of resolving the agrarian question in favor of the peasantry, as in Galicia, induced the Lombard landed aristocracy to hesitate between the alliance with Piedmont and the loyalty to Austria. This hesitation ended only with the consolidation of Cavour's political initiative in the second half of the 1850s, which offered a valid alternative to Austrian dominion in a context of

regional autonomy, but with the guarantee of a conservative social and political result (i.e. independence from the Austrians without a social revolution).

21. Traditional financial investments took the lion's share. There was a steep increase in the acquisition of imperial treasury bonds and an exceptional growth of deposits at the the Savings Bank of the Lombard Provinces (**Cariplo**) -- an increase of 385% between 1850 and 1860 although the interest rate decreased from 4% to 3.5% in 1851.

22. The Society for the Promotion of the Sciences, Literature and Arts of Milan announced a competition in 1851 on the following theme:

> Discuss the economic and moral conditions of the rural people of Lombardy in their relations with land ownership and the various cultivations, examining in particular the influx of lease contracts (**contratti di affittanza e di colonia parziaria**) in use in its various parts; point at the most suitable means that could be of profit to land ownership and bring relief to peasants, suggesting those legislative and economic improvements that are thought to be more effective, and examining if the institutions of rural credit are immediatly applicable in our country (cited in Romani 1982:149).

The competition was won by Stefano Jacini, a young landowner and one of the future great leaders of the **Destra**. His winning work, **Landownership and rural populations in Lombardy**, was published in 1857. Jacini described the negative socio-economic consequences of the crisis of the mulberry-silkworm-cocoon complex in the pre-alpine areas. He thought that the "mixed contract" had two injurious effects: (1) it tended to reduce the peasant-tenant to a serf; (2) it led to a pressure cropping of wheat and maize in alternation, which tended to exhaust the soil and at the same time to increase the scarcity of meadows and herds.

> The indescribable efforts of the peasants are not letting the strength of the soil exhaust at the moment, but very rarely are able to increase it. The struggle of man against the laws of nature, however, is becoming always more difficult; every barrel (**quartaro**) with which the landowner raises the share of the rent paid in wheat (increase that in the last years the heavy [fiscal] impositions easily explain also on the land-tenements of more humane landowners) is a portion of land-tenment subtracted not only to the peasant's feeding, but also to the live stock's fodder. The vicious circle becomes very clear; a growing dispersion

> of strength is required from the land-tenement and at the same time the means to restore it are taken away (Jacini 1857:242- 243).

To break this viciuos circle, Jacini proposed to alter the "mixed contract" arrangement as following:

> Let us substitute ... to the original contract: half of the cocoons, half of the grapes, two bushels of wheat or other cereal, for each square perch; this other one: half of the cocoons, half of the grapes, one bushel of wheat (or that variety of cereals that better adapts to the nature of the soil) and lire 4.50 for each square perch (here we are calculating in accordance with the ordinary price of wheat). In exchange the landowner would not lose under any circumstance. Because, the more abundant peasant's live stock in the meanwhile would offer him more guarantee, a higher probability of being satisfied. Furthermore, the fertility of the soil would certainly increase (Jacini 1857:242).

These and other similar suggestions, however, were not implemented by landowners and the viciuos circle created by the "mixed contract" arrangement continued to operate for almost another century.

23. The Society for the Promotion of the Sciences, Literature and Arts of Milan announced a competition in 1854 on the following theme:

> After a premise on the history of the manufacturing industry of Lombardy, and an illustration of its present condition in the various territories, demonstrate which of its branches can best prosper in relation to the conditions of each locality, and if a damage could derive to agricultural activity as a result of a diversion of man-power and capital (cited in Romani 1982:175-76).

The competition was won by the works of Frattini (1856) and Merlini (1857), which are the best contemporary sources on proto-industrial and industrial activities in Lombardy.

24. The agreement of Plombie'res of July 1858 and the subsequent treaty of 19 January 1859 between Cavour and Napoleon III, prescribed that the Kingdom of Sardinia was to receive upper Italy, but to cede Savoy and Nice to France; a new kingdom was to be created in central Italy; the Papal States were to lose the Legations, but otherwise remain independent; the Two Sicilies were to remain intact. Among the things that were agreed upon there was also the marriage

of Jerome Napoleon, a cousin of the emperor, with Clotilde, the daughter of Victor Emanuel II.

25. Garibaldi's initial Mille were actually 1,100 men. About half of them were middle class, mainly sons of professional men and intellectuals, and half craftsmen workers; nearly three-quarters came from Lombardy, Venetia and Liguria, with small contingents from Tuscany and Sicily; they included the leading Sicilian democratic exiles -- Crispi and the Orlandos -- and many who had fought with Garibaldi in the war of the previous year (Miani Calabrese 1960). During the campaign, however, Garibaldi received reinforcements for a total of 20,000 volunteers.

26. On the incapacity of the Action Party to work through its political initiative in a coherent Jacobin fashion, by including also peasants' aspirations and problems, particularly those of southern Italian peasantry See Gramsci 1950; Sereni 1947; Romeo 1959.

27. Napoleon III adopted a policy of benevolent neutrality during Garibaldi's expedition and even during Cavour's invasion of the Papal States. Rome alone was not to be touched, because of fear of arousing the hostility of the French clerical party.

The British government adopted a similar policy. It viewed favorably the formation of a larger Italian state able to confront France in the Mediterranean.

28. In the first decade of unity, the traditional antagonism between the moderates and the democrats over the form the new state should take -- monarchy or republic, unity or federation -- was compounded by opposing visions of how to gain Venetia and Rome. The moderates had been won over to Mazzini's idea that Rome should be the capital of Italy. But the diplomatic caution of Cavour's successors, conscious of their dependence on the great powers and especially on France, clashed with the impatience of the democratic patriots, ever ready under the leadership of the national hero Garibaldi to force the peace by revolutionary initiatives. The de'bacles of Mentana (1862) and Aspromonte (1867) that frustrated Garibaldi's attempts to repeat the Sicilian exploit and liberate Venetia and Rome by military force increased the resentment of the democrats; the humiliating manner in which Italy acquired Venetia and Rome -- despite military and naval defeat at Austrian hands -- through Prussian victory over Austria (1866) and then France (1870) did little to re-establish the prestige of the moderate governments. Irredentism, the patriotic desire to free the "unredeemed" lands of the Trentino and Trieste, remained an undercurrent -- like republicanism, decentralization and regionalism, which derived directly

from federalism -- incapable of achieving its aims on its own, but a source of division and potentially dangerous at moments of crisis.

29. Cavour's moderate party of the "historic Right" (**Destra storica**) was its ruling class until 1876 and former Piedmontese functionaries filled most of the upper posts in the bureaucracy, diplomatic corp and army. In its upper reaches the civil service was highly politicized. Men moved easily from political to bureaucratic careers, and back again. The country was run by a liberal Piedmontese establishment: ministers, deputies, civil servants, judges, army officers, and academics were the same people.

The extension to the entire nation in uniform manner of the Piedmontese pattern of centralized government created the perception that national unification had been the outcome of the virtual conquest by one region of the others and contributed to isolate the new state and its ruling class from the great mass of the Italian population. The remoteness of the numerically minute moderate ruling class from broad sectors of Italian society was accentuated by its elitist attitude towards the problems of government and participation. Italy's rulers believed firmly that they alone were qualified to determine what was in the general interest of the country, and that it was their duty to protect and enforce it.

30. The economic cost of unification was very high for the limited finances of the new state, which inherited all the deficits and debts of previous Italian states (Arena 1961; Repaci 1961, Izzo 1962; Pedone 1967; Brosio and Marchese 1986). In 1861 the state revenue covered only about 60% of current expenditures. More than one-fourth of the revenue was absorbed by the armed forces and one-third by the interest on the public debt. The latter amounted to 2,450 million lire in 1861 -- 45% of the GNP -- aand had more than doubled four years later -- 78% of the GNP -- when the government was forced to sell the railways to Franco-Italian financial groups.

The chronic public debt gave to French banking circles a powerful hold over government economic policy, because it was only through their intermediary operations on the Paris **Bourse** that foreign loans could be secured to sustain these high levels of government expenditure. The amount of Italian national debt in foreign hands was 1,700 million lire in 1865, the year in which reached its peak of 4,800 million lire. The bonds were offered at 70% of their value and had a guaranteed interest rate of 7%, much higher than the French **rente** (Sachs 1885; Gille 1968; Milza 1976).

One of the great obstacles to the resolution of the financial crisis of the new state was that the main beneficiaries of the **Risorgimento** refused to pay for its

costs. For the wealthy that controlled politics it was easy to lay most of the weight of taxation on the peasants and poor that least had benefited from national unification. Italy had among the lowest wages in Europe and, at the same time, one of the highest percentages of indirect taxes on foodstuff. Taxes fell in disproportional measure on consumption (over 50%), rather than on income and property.

The financial situation worsened in 1866 with the war against Austria that cost 800 million lire. Sella, Scialoja and Minghetti, the three financial ministers of these years, enacted a series of measures to avoid bankruptcy: they resorted to internal credit on a large scale; imposed the inconvertibility of paper money of the banks of issue into gold and silver -- the **corso forzoso**; committed for 15 years the state monopoly of tobacco to a private company for an advance of 180 million lire (1868); introduced the tax on milling (**macinato**; 1869); sold confiscated ecclesiastical properties, state demesne and commonlands (1864-1875); and, finally, established a network of Postal Savings Banks (1875) that directed small savings toward the **Cassa Depositi e Prestiti** for investments in public works and loans to local administrations. As a result of these measures, the current part of state finances recovered by 1872 and the budget was balanced in 1876. The cost of this achievement, however, was an impoverishment of the nation and a sharp increase in the disproportion between north and south, state and local administrations, and social classes.

The sale of ecclesiastical and public lands, in particular, turned out to be a colossal privatization, which drained a huge amount of southern capital that could have been invested otherwise in land improvement: it involved more than 3 million hectares of land, equal to 12% of the total cultivable land of the country, of which 2.5 million hectares were in the south, equal to 25% of the total cultivable land of the region. The land was sold without regard to smallholders and land-hungry peasants, but rather with the explicit intention of gaining political support and reducing the public debt by sales to the wealthy. As a result, land sales did not create a solid class of peasant owners, but benefited southern bourgeois landowners and speculators aspiring to consolidate and enlarge their power, through the creation of the **latifondo** (Villani 1968; Petrusewicz 1989; Lupo 1990).

However, this was an exhausted bourgeoisie far different from the thrusting capitalist type of the north. It had grown up in the interstices of an older social order -- as lawyers, notaries, money lenders, estate managers, bailiffs. With the dissolution of feudal tenure and common-land rights and the decay of the old spendthrift, mortgage-ridden noble houses, this middle class emerged as a legally full-fledged bourgeoisie. For the members of this class the overthrow of the old regime and its land system

meant the chance to become landlords. But their resources were entirely consumed in the acquisition of land; they disposed of no further surplus with which to finance land improvement; they could survive only by exploitation of landless peasants through iniquitous contractual terms (**colonia** and **miglioria**).

31. Overt manifestations of state activities were the vast powers of the prefects (centrally appointed officials responsible for maintaining public order and informing the government about local political developments) at the provincial level; the heavy land and consumption taxes, which underlay the civil war in the south and sparked off the riots of the Emilian peasantry against the grist-tax in 1869-70; conscription which caused an insurrection in Palermo in 1866; and the state's aggressive support for private property, which encouraged the legal and illegal appropriation of the commonlands. But in an infinite number of ways, through its regulation of local government, its appointment of mayors and communal secretaries, doctors, and primary school teachers, its choice of location for railway lines and administrative offices, its dispatch of the **carabinieri** as representatives of the law to remote towns and villages, the state made its presence felt at the level of the community, the family and the individual.

32. Neither the army nor the nobility were able to substitute for the weakness of the political class, as the former was too dominantly Piedmontese and the latter, merging increasingly into bourgeois financial circles especially in the north and center, remained fragmented through regional loyalties. The monarchy, although able to exert considerable political influence because of the isolation of the political system, remained too remote to act as a unifying catalyst at the level of the population.

Even the village school teachers proved incapable in transmitting the values of the state to the mass of the rural population, although the **Destra** placed strong emphasis on education as an essential means of unifying the nation and "making Italians" -- like railways were to unify the country. Of a population of some 25 million in 1861, more than 20 million were illiterate -- 78% of the total population, but in the north was only 54%, while in the south 90%; and in a country where dialect accuratly reflected deep-rooted regionalism and particularism, only 2.5% of the population could confidently speak the national language -- Italian (De Mauro 1963:43).

Education remained the only area, together with banking, in which the **Destra** did not impose a centralized system. Casati's education law, implemented in Piedmont after 1859 and extended to the entire nation after 1861, made the first two years of primary school compulsory, but

left to local municipalities the coverage of the relative expenditure. Under these circumstances, the appointment of primary school teachers depended upon the availability of communal funds, always insufficient and even less adequate in the south, where the need was greatest. The teachers themselves, for the most part without proper qualifications, were badly paid and easily subjected to dismissal. This situation, as much as the continuing active presence of the Church and the absence of a substantial stratum of independent peasant landowners, explains the lack of political involvement among the Italian rural population.

33. All major politicians of the **Destra** were either urban intellectuals or large (often aristocratic) landowners, with the exception of the minister of finances Quintino Sella, who was a member of the industrial dynasty of Biella. Among the dominant political figures Cavour, D'Azeglio, Rattazzi, Lamarmora, Sella, Menabrea, and Lanza were Piedmonteses; Ricasoli, Bastogi, Ridolfi, Cambray-Digny and Peruzzi were Tuscans; Jacini, Visconti Venosta and Correnti were Lombards; Minghetti and Farini were Bologneses. De Sanctis, Massari, Bonghi, Amari, Mancini, Spaventa, Ferrara, and Scialoja were influential politicians born in the south, but they had been cut off from their provinces of origin by the long years of exile in Turin and had learned to despise their fellow-countrymen.

The absolute primacy of politics in the final drive for unification, by its deliberate exclusion of social issues, had led in practice to an acceptance of existing social relations. In the north and center, the Catholic humanitarianism of the landowners, who operated as intermediaries between state and rural population, offered a viable safeguard against social disruption in the countryside. The inclusion of Sicily and Naples within the new Kingdom of Italy, however, created far greater threats of social disorder. Cavour's belief that severe but free and honest government would be sufficient to restore a naturally fertile south to its former prosperity was based upon the false assumption that its unfortunate condition resulted purely from the inefficient and corrupt rule of the Bourbons. But the class hatred betwen the poor and the **signori**, the desperate land famine of the peasantry, the absence of a capitalist-oriented urban middle class such as it existed in the north, would have undermined Cavour's proposed method of government, even if his successors had seriously tried to implement it.

The civil war that raged through the south between 1861 and 1865 -- described as brigandage (**brigantaggio**) by the authorities -- was a mass social protest against the new state more than a demonstration of loyalty for the deposed Bourbon ruler. Despite the 120,000 soldiers employed to repress these peasant brigands, the moderate leaders were

forced to turn to the network of intermediaries, the **gabellotti**, **mafia** and **camorra** leaders, the landowners with their private retinues, who alone were able to buy off the bandit leaders, terrorize and patronize the peasant poor, recruiting them to their own bands.

The price paid by the state for this co-operation was acceptance of the authority and privileges of these local landowning notables. The sale of ecclesiastical property after 1866 to these same groups, rather than to the landless peasantry, consolidated the loyalty of the southern **galantuomini** to the new state, but also guaranteed the survival of the system of clientelism. The propertied classes controlled local government, charities and justice, and manipulated taxation and electoral lists in their own interests. The continuous alien presence of the state obliged the peasants to seek some form of mediation. The notables and intermediaries, landowners, **gabellotti** and **galantuomini**, possessed the personal contacts and legal skills to obtain "favors" from the state authorities for the peasants they protected. It was not accidental that the heaviest concentration of lawyers was to be found in the south: a legal qualification gave the necessary status and skill to operate the system of clientelism and patronage, which acted as the main channel of communication between a distant and hostile state and the abject peasant citizens of the south.

34. Papal intransigence obliged the secular rulers to proclaim the authority of the state in assertive fashion through persistent fear of the deep and potentially subversive influence of the Church among the Italian people. The papal encyclic **Quanta cura** and the **Sillabo** issued in 1864 condemned all the essential principles of liberalism, socialism and modernism as "errors" that were incompatible with the teachings of the Church; the Vatican Council proclaimed the infallibility of the pope in 1870; the Vatican declared the **non expedit** in 1874 -- the "inopportunity" for Catholics to take part as voters and candidates in parliamentary elections (but not in municipal and provincial elections) -- finally, the Vatican refused to recognize the existence of the Italian state until the Concordat of 1929.

This refusal prevented the rise of any "national conservative" party with mass Catholic support, but led to a greater effort on the part of the Church to identify itself with the Italian people (the **paese reale**). Through their pastoral, educational and welfare activities, the parish priests -- the majority of the 130,000 clergy in the 1860s -- acted as intermediaries between the state and the peasants, upholding the values of family, locality and religion against the encroaching threat of a liberal and urban society. As a result, practicing Catholics remained

estranged from the rest of the nation, with separate schools, a distinct social life and without the full exercise of their rights and duties of Italian citizens.

35. Between 1860 and 1876, the railway network increased from about 1,800 km. to about 8,000 km.; roads from 22,500 km. to 35,500 km.; telegraph lines from 9,900 km. to 21,500 km.; tramways with mechanical traction from 8 km. to 700 km., post offices from 2,220 to 2,907; and, finally, considerable public resources went into the reorganization of harbors and the construction of river banks and irrigation canals. This fervor of activities and their eminently political motivation are well illustrated by the minister of Public Works Stefano Jacini in his report to the Parliament of 1867.

> In the past years we had with urgency, and we could say almost headlong, to redress the inertia of past governments regarding public works: to open new roads, dig and protect with new works the interred and unsecured harbors, extend and fortify the defenses against rivers, canalize the waters to double the fertility of vast tracts of land, reach the remotest parts of the peninsula with that admirable instrument of civilization, progress and power that is the locomotive, make the distances disappear by linking with telegraphic lines the thousand cities of Italy, bring to perfection, extend and make more rapid and at the same time more simple the postal service, create a national steam-powered navy... And all these works, which in other times would have fed for many years the activities of a great nation, Italy had to accomplish them, one can say, in a few months, not so much in order to favor an increase of the national industry or wealth, as to ensure its own independence, consolidate its internal constitution, erase rapidly the traces of ancient divisions and establish on solid foundations its own unity and the power of its government (Jacini 1867:1).

The circuit of businesses induced by these considerable state expenditures provided a wide spectrum of opportunities for capital accumulation for the emerging Italian bourgeoisie, even if often it operated only as a junior partner of foreign capitalists. Many businessmen destined to play major roles in the following decades achieved their "primary accumulation" in the era of the **Destra** through the placement, buying and selling of state and railway bonds; the building of railroads and of military and civil spaces; the speculative-building opportunities provided by the transfer of two capitals -- Florence (1864) and Rome (1870); military contracts, including those for the construction of

vessels; and, finally, the commercial and financial opportunities created by the emergence of new import needs and of new geographical dimensions of internal markets.

36. Italian railways before unification had been constructed piecemeal within the separate states and by 1860 there were about 1,800 km. of unconnected systems in existence. Cavour's faith in the railways is revealed by the fact that Piedmont had over one-third of these lines (850 km.). Another 520 km. had been built by the Austrian government in Lombardy and Venetia. Most of the remainder were in Tuscany (257 km.) and in the Papal States (101 km.); south of Rome there were still only 99 km. of track.

Plans for an Italian network were esposed already before 1848 by the Piedmontese moderate Ilarione Petitti (**Of Italian Railroads and their best organization**, 1845) and after unification the task of linking together the small separate systems of the different states and extending them into southern Italy was seen as the primary task of a truly national government, whatever cost involved. The minister of Public Works Stefano Jacini, emphasized this political imperative in his report to the Parliament of 1867, which illustrated the railway policy of his administration from 1860 to 1867.

> ... Could have we postponed for 10 years, and even more, in order to reach a more perfect drawing of our network, the completion of the main lines, this material affirmation of the unity of Italy, which if it was in the desires of the vast majority of Italians was then however threatened by many and so powerful enemies? Until the various parts of the Kingdom remained dismembered and unconnected, separated by mountains, rivers, wide plains, through which communications were done slowly by few and not always comfortable roads, the action of the government suffered an inevitable material weakness, from which the forces destined to the internal and external defense of the Kingdom remained largely paralized... The best way, the only one, we would say, that was surely possible to follow was thus that which allowed to make haste, knock again in short months the far-away provinces of the south to the other parts of Italy, connect existing lines with the rapid construction of intermediate branches, construct a network which, even if not perfect in all its own parts, could weld however with indissoluble knots **the scattered limbs of the ancient mother**, and constitute to the eyes of the world a proof and a guarantee of our unity... Such was the general concept, more political than technical or economic, from which Parliament and goverment took their decisions regarding railways... (Jacini

1867:74-75;emp. in the orig.).

There was no possibility, however, that this could be done from the state's own resources. The state, therefore, resorted to private capital, of which a high proportion was foreign, by attracting it with the provision of long-term guarantees, guaranteed interest rates and minimum yearly revenues. These policies made Italy a recipient on a massive scale of foreign investments, particularly from France, orchestrated by Rothschild, Talabot and Pereire's Credit Mobilier (Sachs 1885; Gille 1968; Milza 1976).

About 4,000 km. of track were completed between 1860 and 1870, most of it before the end of 1868, and the system reached 9,000 km. by 1880 -- an average of 376 km. a year of tracks were added between 1860 and 1880, and the main network of Italian railway was completed. With the inauguration of the Frejus tunnel (13,363 meters of length) in 1871, whose construction was paid by the state, Italian raylways were connected with the French network (Fenoaltea 1983).

All things considered, the construction of the national railway system turned out to be an expensive and possibly harmful investment, even if it reduced transport costs. It diverted domestic funds away from other industries and from agriculture where they might have been placed to greater purpose, although foreign capital would not, perhaps, have been so available for other tasks. It obsessed government thinking and policy, built up severe balance of payments problems and, because the lines were mostly unprofitable due to the scarce commercial traffic -- the only exception were northern lines -- committed the government to paying for them in the future. The **Destra**, in fact, was forced to redeem the Roman railways (November 1873), the southern railways (April 1874) and those inherited after 1866 from Austria in Venetia (November 1875).

37. Italy had a steady supply of high quality iron ore from the island of Elba, as well as even higher-grade but costly deposits in the Piedmontese and Lombard Alpine areas. However, only a fraction of this iron ore was transformed in Italy because of the lack of coke, the fuel for blast furnaces, as well as certain alloy minerals. Imported coke was too expensive between 1860 and 1873 to allow for the development of a viable full-cycle metallurgical industry in Italy. One ton of coke cost 7 lire to British industries located on the coal mines, 13 lire to the French, 9 lire at British export ports, 40-55 lire at Italian ports, finally it cost up to 80 lire when it reached the industries, calculating in 7 lire the transport cost for each 100 km. The price of coke at Italian ports began to drop only after 1874, reaching 30 lire per ton in 1880 (See Sapori 1961). Under these conditions, the iron ore of the state-owned

mines of Elba was exported to France and England by the private concessionaire company (1851-1881) of the Tuscan moderate politician-financier Pietro Bastogi.

38. As a result, in these industries there were little changes and developments between 1860 and 1876 (Abrate 1961; Frumento 1962; De Rosa 1973; Mori 1978). In the iron industry, the uneconomic production of pig-iron by means of charcoal-firing remained a problem; but foundries in Lombardy, Liguria and Tuscany -- **Migliavacca** at Vobarno, **Rubini** and **Scalini** at Dongo, **Gregorini** at Castro Lovere, **Glisenti** at Brescia, **Badoni** at Lecco, **Tardy and Benech** at Savona, **Ratto** at Prà, **Tassara** at Voltri, and the **Società per l'industria del ferro** at San Giovanni Valdarno -- replaced in their manufacture the archaic domestically-produced pig-iron by using instead imported pig-iron or scrap, which was becoming increasingly available on international markets at this time as a consequence of the large-scale replacement on the railways of iron rails by steel. Consequently iron production increased around threefold between 1860 and 1880; but it was mainly an incomplete cycle of production -- lacking the link of pig-iron production, and much of it was makeshift and of inferior quality, typical of the re-use of scrap.

The component steel, which in these years was becoming the dominant characteristic of Western European metallurgical industry, was completely absent.

The growth of the engineering branch remained modest, still confined to workshops carrying out marginal work for military commissions or railways. In 1876, about 20,000 workers of the 35,000 employed in the mechanical sector, worked in the state-run workshops, arsenals and shipyards of Taranto, Venice, La Spezia, Castellammare di Stabia, Torre Annunziata, Turin, Naples, Brescia, and Terni. Against the 602 locomotives bought abroad by the **Alta Italia Railway Company** until 1878, only 39 were supplied by Italian industries -- by the **Ansaldo** of Genoa, the **Elvetica** and the **Grondona** of Milan, and the **Pietrarsa** workshop of Naples (Merger 1986). The **Ansaldo** built only 80 locomotives between 1853 and 1870 and abandoned this production for lack of orders after 1871. Small attempts were made only in Lombardy to provide machinery for agriculture or for other industries, for example for the textile industry.

39. There are two contrasting positions among Italian historians on this issue, although the arguments of both sides suffer from the lack of reliable official statistics on agricultural production during the two decades after unification (Federico 1982).

On the one hand, Romeo (1959; 1972:29-34) provides an optimistic evaluation of the policies of the **Destra** and of the evolution of Italian agriculture. The policies of the

**Destra** were enlightened for two reasons:
(1) they allowed sustained capital accumulation to take place by favoring agriculture through a free trade policy and by containing consumption through a strong fiscal pressure. Thus, the two decades 1860-1880 were "undoubtedly one of the periods of more rapid progress that Italian agriculture has ever known" (Romeo 1959:120-21), with an increase in agricultural production, technical progress, productivity, and landowners' profits;
(2) they drained the capital accumulated in agriculture through taxation, state bonds, sales of public lands, public works and infrastructures, etc. -- and directed it towards objectives that enabled industrial take-off to take place in the 1880s (Romeo 1972:35-37). The **Destra** according to Romeo -- used the state machinery as an instrument to brake up the existing agro-commercial equilibrium and modernize the country (See also Bonelli 1978).

On the other hand, Luzzatto (1968) and Romani (1982), offer a pessimistic evaluation of the economic policies of the **Destra** and of the response of Italian agriculture. To support their negative judgement they rely on the testimonies of contemporary observers and, in particular, on Jacini's **Parliamentary Inquiry on Agriculture** of 1877-1884 (Jacini 1926 [1884]; See Caracciolo 1958, Nenci 1976). They maintain that after 1866 the policies of the **Destra** spurred on capital investment and specialization only in restricted areas of the countryside -- the Po Valley, the north-central hills, areas of Puglia, and the surroundings of Reggio Calabria and Palermo -- which were able to produce export goods -- wine, silk, rice, oil, citrus fruits, milk products. For the most part, however, Italian agriculture remained stationary, characterized by an outmoted, low-productivity, low-capital cereal cultivation able only of slow increases in overall production. This stasis of the bulk of Italian agriculture -- according to these authors -- was a direct consequence of the fiscal policies of the **Destra**, which drained resources that were indespensable for agricultural renewal. That is, the **Destra** was killing the hen that lay the golden eggs. Most of southern regions, in particular, remained extraneous to the diffusion of more updated rotations and to the transformation of the old contractual terms, also as a consequence of the lack of a governmental policy aimed at encouraging productive investments, agricultural credit and land reclamation works.

Finally, both sides agree, on the basis of the results of Grimaldi's Inquiry on the evolution of agricultural leases between 1860 and 1880, that the conditions of the rural population worsened as a consequence of the aggravation of taxes and contractual terms -- leases, **contratti misti** and **mezzadria**.

As Pescosolido (1983) notes, it was probably through an intensification of the exploitation of the peasantry, rather than through a generalized agricultural modernization and an overall increase in the level of production, that the landowners' sustained capital accumulation and the state's drainage of financial resources from rural Italy -- described by Romeo -- took place in the years of the **Destra**.

40. The Italian balance of payments was always in deficit in the years between 1862 and 1876, with the only exception of 1871 (in million of lire -- Source ISTAT 1958):

**Table 10.** *The Italian balance of payments between 1862 and 1876*

| Years | Imports | Exports | Excess of Imports |
|---|---|---|---|
| 1862 | 830 | 577 | 253 |
| 1863 | 902 | 634 | 268 |
| 1864 | 984 | 573 | 411 |
| 1865 | 965 | 558 | 407 |
| 1866 | 870 | 618 | 252 |
| 1867 | 886 | 740 | 146 |
| 1868 | 897 | 787 | 110 |
| 1869 | 937 | 792 | 145 |
| 1870 | 896 | 756 | 140 |
| 1871 | 961 | 1,075 | -114 |
| 1872 | 1,182 | 1,162 | 20 |
| 1873 | 1,261 | 1,131 | 130 |
| 1874 | 1,295 | 978 | 317 |
| 1875 | 1,207 | 1,022 | 185 |
| 1876 | 1,307 | 1,208 | 99 |

These severe balance of payments problems illustrate how the basis of the free-trade economic policy pursued by the **Destra** in those years remained fragile. Exports of agricultural products, raw materials and semi-finished products were not able to compensate for the expanding demand of imported cereals and other foodstuffs, raw materials, machinery, and industrial products that arose from a rapidly growing population and the intense infrastructural programs of the **Destra**. Far from paying with its surplus the price of the country's modernization, agriculture could not even conveniently support the growing indigenous population. Only the influx of large amounts of foreign capital -- in banking, transportation, mining, public services, and the **rendita** -- allowed the re-equilibrium of the balance of payments. Under these conditions, the Italian economy remained not only highly dependent on the oscillations in world market prices of the primary and semi-finished goods it exported, but also on international financial swings (See Stringher 1911; Tagliacarne 1961; Federico 1979, 1984).

41. Ellena (1880:40-48) provides some statistical data on the silk industry at the end of the 1870s. More than 111,000 workers, mostly women and children, were employed by

reeling-mills. The number of wood-fired boilers had decreased to 30,000 in 1876 and that of steam-heated boilers had increased from 20,000 in 1865 to over 50,000 in 1876; 13,000 of the former and 42,000 of the latter were in Lombardy and Piedmont. More than 74,000 workers were employed in twisting-mills, of which 59,000 in Lombardy and 11,000 in Piedmont. Finally, the silk waste branch of the industry came into being and the first power-looms were put to work after 1870 by the Gavazzi family. Overall the silk industry employed more than 200,000 workers, 120,000 of them were women and 64,000 children (See Federico 1988; Fenoaltea 1988).

42. Ellena (1880) provides statistical data for the cotton and woollen sectors at the end of the 1870s (See also Castronovo 1964, 1965; Romano 1990). Estimated annual consumption of raw cotton by Italian spinning mills increased from around 100,000 quintals in 1860 to nearly 200,000 quintals a year in 1871-75. The number of spindles in the cotton industry, reckoned at 400,000-450,000 in 1860-61, reached 900,000 in 1876. The number of looms was about 86,000 in 1860 and they were mostly hand-looms. In 1876 there were 56,000 hand-looms and 12,500 power-looms. More than 65,000 workers, half of them women and one-fifth children, were employed in the factories and over 100,000 were engaged in related proto-industrial activities.

Between 1860 and 1880, the entrepreneurs of Busto Arsizio and Gallarate consolidated their position of leadership in the cotton industry. A new generation of entrepreneurs -- Andrea Ponti jr., Eugenio Cantoni, Pio and Fedele Borghi, Francesco Turati, Alberto and Edoardo Amman, Federico Mylius, and Cristoforo Benigno Crespi -- enlarged and transformed their family firms. They were often linked together by kin relations and together entered in share-holding combinations in order to modernize old factories and create new ones in Lombardy, Venetia and Piedmont. As a result of the ever-increasing shortage of hydraulic power in the areas of traditional localization, these entrepreneurs began to diffuse their factories around Bergamo, Brescia and Novara. Together with silk businessmen and landed aristocracy, they became a powerful financial force that favored the establishment of banking and financial activities and invested in other manufacturing sectors -- **Cantoni, Krumm & C.** (mechanical industry); **Pirelli & C.** (rubber); **Rossi S.A.** (wool), **Linificio e Canapificio Nazionale** (linen and hemp).

The woollen industry had less than 100,000 spindles in 1861, 200,000 in 1867, 284,000 in 1876, while looms increased from about 7,000 to over 8,300, with power-looms rising from 250 to 2,571. About 25,000 workers were employed in the workshops and factories, one-third of them women and almost one-fith children. The leadership of the

Biella district was strenghtened by military contracts for the war-fighting armies of Piedmont and the new Kingdom of Italy. However, united Italy had two other industrial woollen districts besides Biella, one close to Florence at Prato, and another in the province of Vicenza at Schio and Valdagno. Alessandro Rossi, the leading entrepreneur of the latter district, created the most modern Italian woollen firm, which was able to produce both carding and combing fabrics. In the early 1870s, he transformed his family firm into the largest industrial joint-stock company of the country.

43. In January 1863, Italy signed a new commercial treaty with France, the most important foreign trading partner of Italy. The treaty lowered customs duties on the yarns and fabrics made of linen, hemp, wool, and cotton. In particular, there were reductions of 50-63% on cotton yarns, 25-67% on cotton fabrics, and over 25% on woollen products. The only averse voices in Parliament during the discussion over the ratification of the treaty were those of the deputies Giuseppe Polsinelli, a woollen entrepreneur of Arpino, and Ercole Lualdi, a cotton industrialist of Busto Arsizio elected to the Chamber in June 1863 in the ranks of the Left. On the other hand, the moderate southern deputy Carlo De Cesare, an influential member of the Preparatory Commission, expressed his full support for the treaty in the following manner:

> The Chamber will remember well that Italy is an agricultural nation... I don't believe that the climate, the air, the sun, the countryside of Italy will ever allow us to become eminently an industrial country as England and France. Against the laws of nature one fights in vain (Atti Parlamentari, Camera dei Deputati, Legislatura VIII, sess. 1863, Discussioni:1866).

44. Marxist critics point out that this was in large measure a consequence of the failure of the leaders of the **Risorgimento** and of the new state to create a class of solid peasant proprietors, especially in the south, that could have ensured a larger market for industrial goods (See Sereni 1947).

45. A high interest rate on government borrowing -- between 5% and 7% -- encouraged high interest rates elsewhere in the economy. Quintino Sella was the only influential member of the **Destra** that fought strenously as Minister of Finances for several years in several governments -- Rattazzi's, 1862; Lamarmora's, 1864-65; Lanza's, 1869-73 -- to impose a policy of reductions "to the bone" of state expenditures in order to lower the huge government borrowing and thus set

free financial resources for private productive investments. Sella admonished his colleagues of the Chamber in the following manner (13 December 1865).

> ... everyone perceives that public credit is damaged, let me say this word, if we continue with deficits of this nature ... you can see what the price of capital is becoming. How can those great works that you rightly have wanted be completed? How can agriculture be restored, how can industry, commerce, the country rise again if we continue with these borrowings, if we continue in this way? (cited in Izzo 1962:248).

Capital was difficult to obtain and discounts markets were rudimentary, although there were already several banking institutions at the time of unification. The **Destra** was unable to overcome regional interests and the issue of currency was shared by the six banks of issue of the former Italian states -- the **Banca Nazionale** (of Sardinia), the **Banca Nazionale Toscana**, the **Banca del Credito Toscano**, the **Banca Romana**, the **Banco di Napoli**, and the **Banco di Sicilia** -- although the **Banca Nazionale** had a pre-eminent position with two-thirds of total capital and 60% of the total currency in circulation.

There was also an extensive network of 130 local savings banks -- 15 in Lombardy, 22 in the Kingdom of Sardinia, 9 in Venetia, 5 in the Duchies of Parma and Modena, 27 in Tuscany, 51 in the Papal States, and only 1 in the south where the credit system was based on the **monti frumentari** (grain and seed stores which lent seed-sowing grain to the peasants at the beginning of the season, at low interest rates). The savings banks were involved mainly in the concession of mortgage loans and in the buying and selling of state bonds as they were not allowed extensive commercial and industrial discount or investment. Only in the early 1870s their credit services began to be used by industrialists.

Finally, there were numerous private bankers who provided some medium and long-term credit to industrialsists, although they continued to concentrate their activities on foreign trade and the manipulation of public debt, foreign lending and railway financing. The major private bankers were based in Genoa -- Parodi, Oneto, Rossi; Leghorn -- Bastogi; Milan -- Belinzaghi, Amman, Weill-Schott, Vonwiller, Pisa, Brambilla, Gavazzi; Turin -- Cotta, Nigra, Ceriana, Stallo, Geisser, Long, De Fernex, Montu', Fontana, Genero, Bolmida, Barbaroux; and most of them had links with the main French and English bankers -- Rothschilds, Pereires, Hambros, etc.

In 1863 two important credit institutions were established in Turin: the **Credito Mobiliare Italiano**, which

was organized by the Genoese Domenico Balduino on the model of the Cre'dit Mobilier of the Pereire brothers, who were seated on its board together with the Genoese and Milanese financiers Bixio, Belinzaghi and Weill-Weiss; and the **Banca di Sconto e Sete**, established largely with capital of silk bankers, merchants and industrialists. These two banks provided financing for industry, railway, building industry, and the Royal Tobacco Company.

To these banking institutions was added in northern Italy the secondary network of co-operative banks (**banche popolari**) that followed the German model of Schulze-Dalitzsch. These banks were promoted by former followers of Mazzini and Garibaldi and by Jewish businessmen under the leadership of the Venetian economist Luigi Luzzatti, who advocated a program of collaboration among social classes and theorized that proletarians could legitimately improve their conditions only through their labor (Luzzatti 1929, 1933; Catalano 1965; Pecorari 1983). Co-operative banks provided medium and long-term financing also for industrial enterprises.

46. Once again, it was Quintino Sella the only moderate politician that saw favorably an expansion of productive activities (Are 1962, 1965, 1969, 1974). As he explained in a speech in the Parliament (27 March 1868):

> If you look, oh misters!, to the general character of our people, you will find (and it is a great evil) that, when one has five, six, ten thousand lire of state bonds (**rendita**), then everybody tells him: but you are a lord (**signore**), you must not work anymore; it seems rather that he does no good if he tries to work, if he tries to give work, and if he has that **quid** that spurs to new enterprises. I deplore a general inactivity, not only in the economic field, I deplore this inactivity in all fields. I would like, if my words could have any efficacy, to spend all of them to stimulate the activity of everybody in everything, and to end a quietism that, in my opinion, is the death of the nation (cited in Castronovo 1980:35).

The first demonstration of political interest for the problems of industrial enterprises was the **Parliamentary Inquiry on Industry**, which began its work in the winter of 1870 and presented its findings in 1874. The objective of the Inquiry was to examine the effects of the free trade policy on industrial activities through questionnaires -- about 7,000 were sent out of which 1,227 were filled -- followed by visits on the spot by a commission composed by among others: the former Minister of Finances Antonio Scialoja, the deputy and woollen industrialist Alessandro Rossi, the economist Luigi Luzzatti, the Inspector of Mines

Felice Giordano, and the economist Vittorio Ellena. The Inquiry gave the possibility to the industrialists, particularly of the cotton and woollen sectors, to express and motivate their request of a protectionist policy (See Are 1974; Romano 1977).

The immediate result of the Inquiry was the opening of a relentless debate among Italian economists. After 1874 the Association of Political-Economy split in two branches: the Adam Smith Association, led by Ferrara, which through its journal **L'Economista** of Florence pursued an orthodox liberist line; and the Association for the Progress of Economic Studies, established by the two "arm-chair socialists" Fedele Lampertico and Luigi Luzzatti, which through its journal **Il Giornale degli Economisti** of Padova pursued a line favourable to state intervention, social paternalism, nationalism, and protectionism that was closely influenced by the economic nationalist theories of the German political-economist Friederich List. Sympathizers of the latter group were Sella, Scialoja, Cossa, Sclopis, Messedaglia, De Vincenzi, Villari, Fortunato, and many other exponents of the government and of circles that exercised real power after the fall of the **Destra** in 1876 (Pecorari 1983, Zalin 1985).

47. The fear of the negative social consequences of rapid and massive industrialization, however, was shared also by the industrialists of all sectors (Are 1965, 1974; Hunecke 1977; Romano 1977; Dewerpe 1985; Lacaita 1985). The latter consciously attempted to limit and control the social dynamics produced by the industrialization process. They considered the stability of the institutional orders and of the existing power and social relations as a pre-requisite for industrialization. Even Milanese entrepreneurs of the mechanical and chemical sectors, industrialists and engineers such as Giuseppe Colombo and Giovan Battista Pirelli, augured a process of industrialization decentralized in the rural areas of the province and based on small and medium size workshops and factories, a sort of harmonious agro-industrial society that would have allowed to develop manufacturing production in the most favorable environmental conditions -- given the availability of hydraulic energy and the abundant supply of cheap labor in these areas -- and without sudden social ruptures. The experiences of 1848-49 and of the Paris Commune of 1871 had showed clearly the dangers latent in the growth of big cities and confirmed the north Italian bourgeoisie in its fear of the Manchesterian model of industrialization. For Milan, a city that had over 320,000 inhabitants in 1881 and that was laying at the center of a vast region where the rich agriculture of the southern wetlands grew next to the flourishing silk and cotton manufactures of the highlands, these entrepreneurs advocated a strengthening of its

commercial activities and consumer industries rather than its transformation into a manufacturing city with a large proletariat -- such as Manchester, Sheffield, Rouen, or Mulhouse.

> Is it necessary, is it desirable for Milan to become the seat of a complex of big industries? We do not think so. Big industry has great resources, but has its own crises; and when these occur, they are a great misfortune for the Country that is hit by them. To concentrate in a city a huge mass of workers, engaged, in few large factories, in a limited series of industries exercised on a large scale, offers dangers, which the small size industry, applied to a larger number of productions of lesser importance, less liable to crises, with a more scattered and subdivided working-class population, does not present. Domestic work, through which a part of the working-class engaged in such minor industries contributes to the public wealth, even if remaining at home, even if escaping in this manner from the influence of factory work, which looses and fades away the family ties, is a form of industrial work, which avails to favor because is a guarantee of morality and peace: two elements of which a populous city has a strong need in this epoch of economic and social revolution. And besides, as we have tried to demonstrate from the beginning, it is not to the big industry that the environment of a city is more favorable, but instead to that series of special industries which are directed to satisfy the needs of the wealthy, rather than those of ordinary life.
>
> One can never forget, however, that a city can be great with commerce as well as with industry. To try at all costs to turn a city into a manufacturing center, in a different sense from that which its own tendencies and its natural conditions prescribe, would not be wise. Big industry has narrower limits than commerce. At present the traditions of our market, its geographical position, its wealth, concur together to make it a commercial center of first order, as it is demonstrated by the exceptional activity of the traffic of its railroad station, whose income is superior to that of all the others of the Kingdom; and would not be convenient to deviate from this objective the intelligence, money, and the economic forces that Milan has at its disposal.
>
> But, the Milanese commerce can avail as much of a group of big industries exercised on a large scale, as of the innumerable and small manufactures. To the latter it is necessary that the local authorities and the people of the town turn their attention. They are for the most part ... manufactures whose products

> require more or less the contribution of art, which must follow the vicissitudes of fashion. Thus it is necessary to promote the sense and the intelligence of beauty... Now these results cannot be achieved without creating a strong nucleus of institutions aimed at educating the hand skill and the taste of the working-classes (Colombo 1881:47-48).

As we shall see in the following sections, the few entrepreneurs that developed large scale industrial organizations in these years -- like Alessandro Rossi, whose wool company in 1876 had 24 million lire of share capital, 2,000 looms, 5,000 workers, and 8 factories scattered around Schio and Vicenza -- maintained the initiative, avoiding the formation of an autonomously organized working-class. These entrepreneurs believed that capital had to take care of labor and, thus, they elaborated a social philosophy, an ideological apparatus and, at the same time, a master plan for productive organization aimed at mediating, controlling and re-absorbing the contradictions most deeply inherent in the industrialization process by proposing a delicate equilibrium between industrialization and defence of the rural community, between **etica del dovere e del lavoro** (the ethics of duty and work), Catholic solidarism and some of the traditional values of rural society. They engaged themselves into consciously socializing a new generation of workers to industrial work through the establishment of paternalist social organizations around the factories, which were based upon planning and rationalizing every aspect of the worker's life, including his/her moral behavior and religious life.

> The workers here are so to speak a new generation. Their fathers did not know the discipline of the organized factory, because for the most part they worked in their homes, without a regular schedule or regular pay. Their organization cost an immense fatigue, all the more so as it had to be done with Belgian overseers, who not always used adequate manners to form them morally as they did technically. Another obstacle was the neglected education in the families so that with the young apprentices it was necessary to be their school teacher and from which derived the abominable practice that the children once they received a wage bargained with their parents how much they had to give for food, wasting the rest in parties -- this family unbinding insanely tolerated by fathers that have their share of fault conduces the children to seek in the marriage the abandonment of the parental house (Rossi in 1863, cited in Castronovo 1980:40).

Following French and German models -- Schneider at

Creusot, Dolfuss at Mulhouse, and Krupp at Essen -- larger companies began to create artificial country villages and to provide kindergartens, housing, boardinghouses, schools of arts and crafts, health services, workers' savings books, and social and recrational activities -- such as workers' theatres, music bands and festivals. By developing these carefully and socially controlled communities around the new factories, their founders sought to avoid the horrors and squalors associated with industrialism in Britain, to inhibit the explosion of social conflict and, at the same time, to attract sufficient desirable, docile and loyal workers -- particularly women and children -- to fill their factories.

> When the minister Zanardelli visited the factories of Senator Rossi at Schio, moved he exclaimed: here is the best solution to the social problem. The youth passes from the kindergarten to the school, from the school to the factory, from the factory to the ownership of the little and clean home bought by the small and gradual instalments (Luzzatti 1876, cited in Castronovo 1980:41).

The most common feature of paternalism was its concentration on the family as the base of morality and stability, and on the family unit as the linchpin of the industrial order. The founders of industries justified the factory's role as carrying on the family's work in a broader social center. The family model was incorporated into the industrial system, with the owner filling the father's role. The same model was also expressed in the hierarchical management structure. The overseer was the "father" of his workroom and was expected to treat the workers as children. Many of the corporate paternalist policies were family oriented and used the workers' traditional reliance on kin and family members to serve the purposes of the enterprise. Workers were recruited largely through family and kinship ties and often placed in the workrooms in family clusters. Furthermore, relatives were made responsible of the socialization, training and discipline of family members in the factory setting.

The philosophy of paternalism viewed the owner as a responsible but strict parent and the workers as obedient and diligent children. The relationship involved reciprocity but not equality. In return for minimal pay, workers were expected to provide their labor and their obedience and loyalty to the company. Owners were expected to provide protection and adequate working and living conditions as well as moral supervision. The relationship between entrepreneurs and workers was thus not strictly defined around an exchange of labor for pay. It was enmeshed in a network of services and obligations that

transcended their work relationship in a narrow sense. As a result workers hardly experienced any separation between work and private life, the owner's benevolent control engulfed the workers' lives.

48. The completion of the Suez canal (1857-1869) and the opening of the Frejus tunnel (1857-1871) -- that connected the Calais-Modane railway line with that of Bardonecchia-Brindisi and, thus, allowed the transit for more than 1,300 km. on Italian territory of the more rapid communication between England, Egypt and India -- raised expectations far higher than subsequent reality justified (See Doria 1969; Spadoni 1970). The opening of the Suez canal spurred Italy to take a new look at her maritime prospects, notwithstanding the naval disasters of the 1866 war. Enthusiastic contemporary observers saw the possibility that Italy might become the barycenter of trade relations between Europe and Asia, as it had been from the 11th to the 16th centuries. Why should not Venice and Genoa, situated squarely athwart the new lines between East and West, regain their lost leadership on the sea?

> Once the isthmus of Suez is cut, all the Italian ports: Genoa, Leghorn, Naples, Palermo, Brindisi, Ancona, Venice, Trieste, etc., clearly become the depositaries of all the other ports of the world. The railways that cross by now our country in all its length and width, will allow to inter-connect these terminals. The navigation of the Red Sea, will revive the navigation of the Adriatic, which as soon as it will resound of the enthusiastic cries of freed Venetians, will rise to a new expansion so that in Venice freedom rendered more effective by the completion of the portentous enterprise that we are here discussing about, will regain the name and pride of queen of the seas (Vimercati 1864:269-270).

As a result, new subsidized lines from Italy to Mediterranean ports and the Indies were opened. Politicians became increasingly concerned about the difficulties that the Italian merchant marine encountered in shifting from wooden sailboats to steam-powered metal vessels, while Italian seaborne trade was falling largely in foreign hands. The Suez canal forced Italy, because of its status and central involvement in the Mediterranean, to participate more actively than it might otherwise have wished in an international scene soon characterized by growing tension.

49. The financial boom that began in 1869 lasted until the end of 1873. At this date there were 392 joint-stock companies with a total capital of 1,605 million lire -- banking companies absorbed 57% of this capital,

transportation companies (railways, tramways, etc.) about 16%, while industrial companies **strictu sensu** only 25.5%. The proliferation of joint-stock companies was favored by a law (5 September 1869) that relaxed the system of controls. The inspectors and the local delegates of the syndacate were suppressed and provincial offices were charged with powers of authorization and inspection of companies. Joint-stock companies were obliged to publish their balance sheets, but inspections could be carried out only if they were formally solicited by interested parties -- partners, shareholders, ensured or depositing clients (See Da Pozzo e Felloni 1969:58).

Speculation was intense in the stock-exchanges of Milan, Turin and Genoa: exceptional profits were made by promoters with new issues of shares, false news of high dividend distributions were artfully diffused to attract into the speculative game naive under-writers and small savers, secret agreements linked together many of the major financiers, and all sorts of irregularities were committed by administrators.

> Foolish things were done. Banks, commercial and industrial companies were created beyond the needs of the market. The vertigo of banking and stock-jobbing gained all minds... The ample room of the stock-exchange was not sufficient to contain the people that came to buy and sell stocks of industrial banks. Every class of the citizenship gave its contingent. Persons that were completely extraneous to commercial activities such as big and small capitalists, professors, lawyers, civil servants, artisans, were seen crowding and intermixing with merchants, bankers, stock-brokers. Many big and small merchants that had never made stock-market deals threw themselves totally into it neglecting, some even abandoning, those burdersome commercial activities that even if had not procured them sudden wealth had rendered them respectable and respected persons (**Corriere Mercantile** of Genoa of the 10th of November 1874, cited in Da Pozzo e Felloni 1964:115-116).

The Genoese market was the most involved in the speculative fever over banking shares. The capital of Genoese banks represented more than one-third of all the nominal capital of the new banks established in Italy in 1871-72. In 1873 there were 40 banking institutions in Liguria, 36 of which were in the province of Genoa, with a total capital of 182.5 million lire, 90 of which paid -- equal to one and a half times the capital invested between 1869 and 1880 in the steam-powered fleet and 4-5 times that invested in cotton manufacturing (Doria 1969:339-54). These new banks created and financed relatively few initiatives in

relation to the enormity of their capital. They invested in sugar refining, international trade ventures, shipping, banking and commercial agencies in the countries and ports where Genoese shippers and traders operated. Above all, however, these banks channeled funds in real estate operations in and outside Genoa -- Turin, Naples, Rome, and Milan. Genoese capital provided most of the capital of the **Società dell'Esquilino** (1872), which became heavily involved in the real estate speculation of Rome. There were conspicuous losses between 1874 and 1876. The collapse of the market provoked a chain of failures, reductions of capital, flights of bank directors after they had emptied the safes, sales at very low prices, and headlines of panic in the newspapers. Twenty banking institutions had disappeared by the end of 1875 and those still existing had only 48.5 million lire of capital left. Over 100 million lire were squandered at Genoa in the speculative fever and subsequent crash. As a result, not even a single relevant industrial, public sevice or shipping company was established in Liguria until 1880.

Several new joint-stock companies were established also in Milan, some operated in industry but most of them were banks -- the Lombard Bank of Deposits and Current Accounts (1871), the Industrial and Commercial Bank of Milan (1871-1876), the Milanese Credit (1872-1875), the Lombard Silk Bank (1872-1876), the St. Ambrose Bank, the Import and Export Commerce Company, the Italo-German Bank (Dotti 1962; Titta 1962; Luzzatto 1968:76-80). These companies and banks were created by foreign capital and by Milanese, Genoese and Turinese silk and cotton businessmen, landed nobility and private bankers. Some of the banks made loans to industrial firms on the security of state bonds, but most of them entered in too many speculative ventures and did not survive the subsequent crash.

One of the few banks that survived after 1874 was the **Banca Generale** established in Rome in 1871 by a group of bankers of Milan -- Belinzaghi, Cagnola, Pisa, Weill-Schott; of Venice and Trieste -- Angelo Levi, Morpurgo and Parente; of Vienna -- Strauss, Lippman, Lissingen; of Switzerland -- Credit Suisse, Bank of Winterthur; and of London -- Bischoffsheim and Goldschmidt; and, finally, by some wealthy members of the Roman nobility -- Prince Massimo, Prince Doria, Count Cerato, Alessandro Spada. The bank had a capital of 30 million lire of which only half had been paid and its director was Antonio Allievi, a former prefect of Verona and a leading figure of the Milanese moderate establishment. The General Bank, as the **Credito Mobiliare** established in 1863 (See note 45), operated like a modern financial corporation. Both banks did not develop branch office networks and worked largely with funds borrowed from other banks, particularly foreign. They quickly became leading forces of Italian finance and launched themselves

into under-writing syndacates of public loans, international emissions, railway bonds, banking and industrial stocks, however, they also became heavily involved in the real estate speculation of Rome and other major cities (Caracciolo 1956).

50. European powers during the Great Depression of 1874/77-1896 tripled their territorial acquisitions abroad in Africa, Asia, and the Pacific, while European capital, taking advantage of the new means of transportation available, entered into the development on a large scale of "tropical" agricultural products and raw materials for European markets -- wheat, rice, meat, sugar, tea, coffee, cocoa, banana, vegatable oils, opium, cotton, silk, wool, leather, rubber, oil, diamonds, tin, copper, gold, and other metals (See Wolf 1982:310-353; Hobsbawm 1987).

51. The moderate government of Minghetti fell on the grist-tax and on its project for the nationalization of railroads. The Tuscan moderate group, unhappy with the government's project, sided with the Left. After 1870 the moderate **Right** had fragmented into several regional groups. One group was the Piedmontese **Permanente** that was formed in opposition to the transfer of the capital from Turin to Florence (1864). A Tuscan group led by Peruzzi was formed in opposition to the transfer of the capital from Florence to Rome (1870), to the centralization of the banking system and to the nationalization of railways. A Lombard group was led by Jacini and Correnti. All these groups represented antagonist banking and industrial interests that financed also influential newspapers -- **L'Opinione**, **La Nazione** and **La Perseveranza**, respectively. Finally, another larger and more unhappy group was represented by southern deputies led by Pisanelli and Scialoja. The south, however, turned increasingly to the democratic Left and the elections of 1874 brought to the surface the political dissension between the center-north and the south: the **Destra** received 116,129 votes against 100,350 of the **Sinistra**, however, 220 deputies of the **Destra** were elected in the center-north and only 56 in the south, while 71 deputies of the **Sinistra** were elected in the center-north and 146 in the south. Once in power as a result of the "parliamentary revolution" of March 1876, the democratic Left of Depretis, by carefully managing the November elections, obtained a solid majority of 380 deputies against 130 of the **Destra**.

52. The reforms introduced in the Depretis era (1876-1887) reflected the twofold exigency of widening the basis of social consensus and of promoting civil progress (Morandi 1944, Carocci 1956; Rizzo 1988). Their aims, however, were only partially achieved. The Coppino education law was passed in 1877, fixing the compulsoriness and free-tuition

of four years of primary school for children (6 to 9 years old). About 70% of the Italian population was still illiterate, but the application of the law was defective and the south received less funding than the north. The grist-tax was abolished in 1879, but taxes continued to fall in a disproportional measure on popular consumption, rather than on income and property. A new Commercial Code was introduced in 1882 to facilitate mobile property and commerce, and it eliminated the government's control over joint-stock companies. Finally, the suffrage was extended in 1882, however, due to the fear of providing a wide base to the opposition forces of the left -- republicans, radicals and socialists -- and of the right -- to a potential Catholic party -- the politicians of the **Sinistra** rejected the request of universal suffrage, advanced not only by the extreme-left, but also by conservatives such as Sonnino, who was convinced that the peasant vote would have reinforced the conservative bases of the state. The new electoral law granted voting rights to all male citizens over 21 (instead of 25) that were literate or paid 19.80 (instead of 40) lire of taxes. The result was that the lower-middle classes -- including the southern **galantuomini** -- increased their influence on public life and state administration, even if a part of northern working classes and artisans acquired the right to vote. The electorate passed from 621,826 to 2,112.563, that is from 2.2% of the population to 6.9%, bringing the percentage on the total adult males to 25%. Peasant masses, either southeners or northeners, remained excluded since they were illiterate. The first socialist deputy, Andrea Costa, however, was elected in October 1882 at Ravenna.

The reforms introduced in the Crispi era (1887-1896) reflected Crispi's admiration for Bismarck's conservative and authoritarian state-paternalism and tended to increase the powers of the executive branch of government. The powers of the premier over the council of ministers were increased. A law was passed in 1888 that enlarged the suffrage at local elections to all male citizens over 21 who were literate or paid 5 lire of taxes (the local electorate therefore rose from about 1.5 million to nearly 3.5 million), and made eligible mayors and presidents of provincial councils, but it put them under the direct control of the prefect. This was a real revolution in government. The two measures together did much to strengthen Catholic and Socialist positions at local level, and -- in the long run -- to undermine the liberal regime. A new penal code the Zanardelli Code, destined to be in force until the 1930s -- issued in 1889, abolished capital punishment, granted only a limited right to strike, and punished the offenses to the state made by Catholic priests. A police law put under tight control public meetings and political rallies. Finally, a public health law (1888) and

a reform of the prison system were passed.

53. The international order was profoundly changing during the last two decades of the century. The European political system, already shaken by the birth of Germany and the possibility of a French **revanche**, was now engaged whether in containing or in accelerating the disintegration of the Ottoman Empire, which created the conditions for a re-drawing of the boundaries of the Balkanic and North African areas. The equilibria were at times recomposed through a complex mechanism of diplomatic relations, congresses and secret agreements carried out in an atmosphere of **realpolitik**, resulting from the acceptance of the assumption that political strength was a direct function of national productive and commercial power.

The same year of the extension of the suffrage a new course of foreign policy was set by the **Sinistra**, designed to ensure Italy the status of great power: Italy became a member of the Triple Alliance together with Germany and Austria (20 May 1882) and, at the same time, inaugurated a colonial policy in East Africa by acquiring the bay of Assab from the shipping company **Rubattino**. For Italy the premises of the Triple Alliance were already in the alliance with Prussia in 1866, in the hostility with France over the Italian seizure of Rome (1870) and over the French occupation of Tunis (1881), in Italy's emergence from the Congress of Berlin (1878) "with clean but empty hands," and in the inauguration of the Gothard tunnel (1882) that connected Italian and German railroad networks. The Triple Alliance had an anti-French character that was accentuated by Crispi after 1887. The resulting exacerbation of relations between monarchical Italy and republican France brought in 1888 to an open commercial war, which damaged greatly the export of silk and agricultural products, particularly of the south.

The Triple Alliance remained the keystone of Italian foreign policy until 1915 and had considerable repercussions on the internal politics of the country. Italy was linking itself with the two great conservative central-European empires. Bismarck was highly admired by large sectors of the Italian ruling class and at the Court, the king Umberto I (1878-1900), who had succeeded his father Victor Emanuel II, and his generals felt proud of connecting the fortunes of the country with two empires characterized by a strong military tradition and a marked internal conservatorism. The alliance with Austria, however, required that irredentism, that is the patriotic movement to free the Italian territories still in Austrian hands -- Trento, Trieste and Istria -- should be controlled and even suffocated at the most delicate moments. By linking itself to Germany and Austria, Italy hoped to find political and military backing for its East African colonial policy. The allies, however,

provided little concrete help and the imperialist quest for territory in Africa ended disastrously in a series of military defeats at the hands of the Ethiopians -- Dogali (20 January 1887), Amba Alagi (7 December 1895), and Adowa (1 March 1896). The Italian colonial policy in Africa was not -- as for Britain, France or Germany -- the expression of a powerful financial and industrial capitalism seeking the conquest of colonial territories to ensure an outlet for investments or an access to new markets and resources. Italian industry was still weak and Italian financial capitalism was not yet in the condition of exporting capital. Furthermore, Italy did not dispose of a powerful fleet or army, although military expenditures weighted heavily on the weak resources of the state budget. Italian colonialism was the product of a combination of sectorial interests of strata of the ruling class that found in Crispi and a few **Africanisti** intellectuals -- Turiello, Carpi and De Zerbi -- their main political spokesmen. After the French occupation of Tunis in 1881, the frustration of certain political and military sectors -- that watched the great French and British colonial expansions -- grew very high. They began to state that a great nation had to have an empire. Hence, matters of prestige weighted heavily on the colonial plans. Furthermore, they maintained that colonialism could be a solution to Italy's tragic over-population by providing for peasant settlements in the highlands of East Africa. Finally, colonial conquests and wars were viewed favorably by a small group of capitalists that operated in the nascent heavy-industry and in shipping -- Florio, Rubattino, Orlando, Odero, Breda, Bombrini, Piaggio, and a few others, mainly Genoese -- who were very influential politically and sought to increase their business activities through military contracts, the transportation of the troops, and protectionist legislation.

The main opposition to the imperial schemes of Crispi came from the radicals, republicans, socialists, and the Milanese economic establishment. The latter opposed the high military and colonial expenditures and found little interest in Crispi' demographic imperialism in Africa's "burning sands." Colombo, Prinetti, Ponti, Gavazzi, and the other deputies representing the Milanese business community, contributed actively to determine Crispi's final fall.

54. The following was the state of market prices for some of the most important Italian agricultural products between 1873 and 1887 (1,000 lire for quintal -- Source Ercolani 1974):

Table 11. Prices of the most important Italian agricultural products between 1873 and 1887

| Years | Wheat Durum | Wheat Bread | Rice | Corn | Wine (hl) |
|---|---|---|---|---|---|
| 1873-75 | 32.6 | 32.9 | 20.0 | 21.7 | 41.9 |
| 1876-78 | 28.6 | 31.3 | 20.1 | 20.2 | 35.7 |
| 1879-81 | 30.6 | 30.0 | 18.3 | 21.3 | 36.3 |
| 1882-84 | 23.8 | 23.4 | 16.8 | 17.6 | 36.3 |
| 1885-87 | 22.4 | 21.3 | 15.9 | 14.3 | 41.3 |

| Years | Olive Oil | Beef | Lamb | Milk | Raw Wool | Raw Silk |
|---|---|---|---|---|---|---|
| 1873-75 | 118.6 | 66.7 | 83.5 | 12.5 | 292.4 | 71.3 |
| 1876-78 | 123.0 | 67.2 | 73.4 | 13.4 | 279.0 | 74.3 |
| 1879-81 | 115.1 | 69.2 | 75.6 | 13.8 | 301.2 | 59.5 |
| 1882-84 | 110.5 | 66.8 | 76.2 | 13.7 | 238.4 | 52.2 |
| 1885-87 | 103.0 | 61.2 | 67.1 | 13.3 | 223.4 | 50.0 |

55. An independent working-class movement emerged in Italy later than in other European countries as a consequence of the less intense industrial development and of the hegemony of Mazzini's nationalist ideology. Only after 1865, the Socialist International extended its influence in Italy and above all in the south thanks to Bakunin. Hence, it was anarchism, with its gospel of immediate social rebellion, and not socialism, the first ideology of the movement. Counting on the misery of the peasantry and on its hostility toward the fiscalism and authoritarianism of the Italian state, the anarchists attempted a series of uprisings in central and southern Italy that failed and caused many arrests (1874 and 1877).

These failures spurred Andrea Costa (1851-1910) to brake with the anarchist orthodoxy and to found the Revolutionary Socialist Party of Romagna (PSRR) in 1881. In 1882 Costa was elected to the Chamber of Deputies. The same year the Italian Workers' Party (POI) was established in Milan with the goal of giving an impulse to syndacal and vindicative struggles. The Milanese party provided the leadership for the peasant protest movement of **la boje!** that spread throughout the Padania valley in 1884-85. The Milanese party was dissolved by Depretis in 1886.

Notwithstanding the governative repression between 1887 and 1891, the movement made rapid and intense progress, particularly in its organization. In correspondence with the great occupational problems created by the economic crisis of those years, there were agitations and strikes at Como, Varese, Biella, and in the lower Po valley, where day-laborers (**braccianti**) took a leading position. It was in this period that a group of charismatic organizers emerged -- Prampolini, Lazzari, Rigola, Masserenti, Baldini, and Bissolati. The first Chamber of Labor, modeled on the French **Bourses du travail**, was founded in Milan by Osvaldo Gnocchi-Viani in 1891 and others followed quickly in main northern cities. These Chambers performed tasks of placement and syndacal tutelage.

At the same time, a Socialist League was created in Milan in 1889. It was led by the lawyer Filippo Turati (1857-1932) and Anna Kuliscioff (1857-1925), who contributed with their journal **Critica Sociale** (1891 ff) to orient the socialist and working-class forces toward an organizational unity on the basis of the separation from anarchists. The socialism of Turati, who was in contact with Engels, had an humanitarian back-ground and was tinged of positivism and gradualistic evolutionism. He conceived the idea of an autonomous socialist party as the encounter of the working-class movement with a new levy of "sympathizing" intellectuals inclined to individuate in the working-class the only force able to undertake an energic struggle for political, civil and syndacal liberties, with the aim of democratizing bourgeois society and prepare the material bases for a slow approach to the realization of socialism.

With the encounter of the socialist groups of Milan and Emilia-Romagna (co-operatives and "leagues of resistance"), and of part of the former Mazzinian working-class organizations (mutual-aid societies) that had turned to socialism, and with the separation from the anarchists, at the Congress of Genoa (August 1892) the Party of Italian Workers -- renamed Italian Socialist Party in 1895 -- was created on the basis of a program generically inspired by marxism. Indeed, its program of basic political and economic reforms was mainly the standard progressive bourgeois package -- universal suffrage, abolition of censorship, legal and political emancipation of women, progressive income tax, and the eight-hour day. By 1897 it had over 27,000 members. There were 5 socialists deputies in the Chamber in 1892, 15 in 1895, and 33 in 1900 (216,000 votes). Leonida Bissolati became the first editor of the party's daily newspaper **Avanti!** (25 Dicember 1896).

56. Between 1874 and 1896, the Catholic movement, organized around the **Opera dei Congressi** (1874-1904), created a series of social, economic and educational organisms, among which stood out mutual-aid societies, co-operatives and banks -- **Banco San Paolo** of Brescia (1888), **Piccolo Credito Bergamasco** (1891), **Banco Ambrosiano** of Milan (1896), **Piccolo Credito Romagnolo** (1896), and a network of rural savings banks (1883 ff). By 1897 the **Opera** claimed 3,982 parish committies, 708 youth sections, 17 university circles, 688 workers' associations, 588 rural banks, 24 daily newspapers, 155 periodicals, and many other activities and organizations. Most of these initiatives were in Lombardy, Venetia and Romagna, had charitable or religious aims, and were established in accordance with a "corporative" ideology averse to class struggle and favorable to the conciliation between workers and employers. In particular, the purpose of rural savings banks was defined as following:

> To redeem the farmer from usury; to give him the means by which to cultivate his land rationally, to offer him capital at reasonable conditions, to enable him to avoid selling his crop precipitately; and at the same time to draw him out of his isolation, bring him closer to the proprietors and persuade him to improve himself morally (De Rosa 1966:188).

The rapid growth of the Catholic movement was favored by the new strategy of "Catholic reconquest" adopted by Pope Leone XIII (1878-1903). Pio IX (1846-1878) had confronted the dramatic problems put to the Catholic Church by liberalism, socialism and by the end of the temporal power of the Popes as a result of Italian unification, with an attitude of clear intransigence. Such a policy responded to exigencies of internal concentration in an historic period that witnessed political liberalism, positivistic scientism and ideological laicism taking root among the bourgeoisie, while socialism was spreading rapidly among the urban working-class masses. An intransigent course, however, had the dangerous effect of increasing the isolation of the Church from social and political reality. The attempt, crowned by considerable success, to bridge the gulf and reinstate the Church into "modern society" was undertaken by the successor of Pio IX.

Leone XIII tried to offer a Catholic answer to the "working-class question" and more in general to the "social question," and to establish on new bases the relations between Church and states. He was aware, on the one hand, that socialist penetration would have been favored if the Church continued to appear to the workers as a reactionary or too conservative political and social force; on the other hand, that if the Church would have not created the conditions for the insertion of Catholics in the national political life, unpredictable conflicts would have emerged between state and Church, but also between Catholics and laics, with the conseguence of weakening the struggle against socialism, the destroyer of religion and property. In Italy, for example, the decade 1880-1890 was dominated by Catholic attacks to Freemasonry and by relentless demonstrations of anti-clericalism -- there was an assault to the remains of Pio IX (1881), political authorities sponsored the inauguration of a monument to Giordano Bruno in Rome (1888), and grand national festivities were celebrated for Arnaldo da Brescia, Galilei and all the great men of the past persecuted by the Church.

The strategy devised by Leone XIII contemplated a shift from contraposition and isolation to a "Catholic reconquest" founded on the widening of influence in society and on the insertion in social and political struggles, however, without renouncing to the theoretical-doctrinary contraposition with the averse currents. The new

qualitative element introduced by Leone XIII in relation to his predecessor was his consent to the untilization by Catholics for their own ends of the political and civil liberties introduced by liberalism. While the **non expedit** continued to disallow Italian Catholics from voting in the general political elections, now they were invited to participate actively to all the other spheres of public life, particularly at the local level. All this laid the premises for a Catholic social doctrine having as its direct object the problems of capitalist development and the relations between capital and labor, and for a concept of a "christian democracy" that linked social intervention with political initiative, at least at the level of local adminstration.

The new Catholic strategy received full systematization in the encyclic **Rerum novarum** "on the condition of the working-classes" (20 May 1891), in which Leone XIII intended to affirm not only the Church's social doctrine for the Catholic world, but also to establish a platform for the action of Catholic social movements. The encyclic had an immense echo in the Catholic movement and established the bases for a new and larger type of social intervention of its organizations. The **Rerum novarum** evidenced that the Church was no longer inclined to sustain indiscriminatly the established social order. The Church was making a choice in favor of private property and capitalism; but, at the same time, was condemning the "excesses" of liberalism and liberism by indicating that the latter were creating a de-huminized society and thus opening the doors to socialism. Leone XIII assigned to the Church and to the Catholic movement the task of providing an answer to socialism by fighting these "excesses." He viewed as necessary to oppose the effects whether of increasing wealth concentration in fewer hands or of proletarianization through an enlargement of the sphere of small and medium property. He considered generalized property as a "right of nature," and condemned social equality as a dangerous and unrealizable utopia. The new Catholic course in the relations between capitalists and workers was to be inspired by respect and "concord." Capitalists had to offer a "just wage" to workers (enough to permit them to save and acquire property), while the latter had to work and respect property. Furthermore, the wealthy were to provide charity. The state was to be "an harmonious unity, embracing low and high classes at the same time," so that it might legitimately intervene to provide limited forms of welfare to the workers, to safeguard their rights and prevent blatant exploitation, and to favor their access to small property.

Catholics were invited to mobilize and organize the masses for the correction of the "excesses" of capitalism and for the defeat of socialism. The Pope indicated the

"arts and crafts guilds" as the best organizational form for social intervention, because it responded to the Catholic ideal of "conciliation" among the classes. Leone XIII, however, left undetermined if these "corporative" organizations were to be simple -- of only workers -- or mixed -- of both workers and employers. Thus, in the following years an open confrontation ensued inside the Catholic world, between the progressive elements that viewed the simple unions as the means to form Catholic trade unions and the conservatives that favored the mixed form because it ensured a greater paternalistic control of workers. The common spirit of both, however, was to be the aversion to class struggle and socialism.

57. The political practice of "transformism" did not simply derive from a decline in the standards of public morality, following the assumption of power by the Left in 1876. Rather, it was a direct consequence of the social constraints of political change, once the various ranks of the bourgeoisie had achieved a basic consensus over the institutional order of public life. The exclusion of the vast majority of the population from the political process and the deep division between the propertied classes, peasantry and urban poor, created the essential basis for transformism and an archaic social structure, carefully conserved in the south, provided the necessary framework for the practice of clientelism. Hence, the practice of transformism can be viewed as an attempt to fuse all liberal parliamentary forces and their clienteles in order to confront not so much the opposition inside the Parliament of the Radicals and Republicans as the one that was growing in the country -- Catholic, peasant and Socialist movements. This development was facilitated also by the fact that the social composition of the Chamber changed with the 1882 electoral reform. The great majority of the Chamber was now composed by a class of professional politicians, formed largely by lawyers (40%), civil servants or former civil servants. It was this class of professional politicians that constituted the point of junction, confrontation and compromise between the main interest groups of the country, in accordance with clientelistic practices that accentuated the constant character of fluidity and uncertainity.

The worst side of transformism was election making or, in extreme cases, election fixing. It characteristically took the form of cyclical action between deputy, ministry, and prefect. A deputy supported a given ministry, which in turn instructed its prefect and police to insure the re-election of the loyal deputy. In some constituencies public works and similar favors -- roads, canals, railroad lines, military barracks, sewerages, acqueducts, and so on turned the trick, but in others -- particularly south of Rome -- the prefect had to resort to corruption or police

methods to get the government candidate elected. In 1886, Crispi described these practices in the following manner.

> Often a sort of bilateral contract is struck in the Parliament. The ministry puts the people at the mercy of the deputy so that the deputy can secure its vote to the former. The appointments of the prefect, the judge of first instance, the superintendent of police, are made in the interest of the deputy, in order to preserve his local influence. One should see the pandemonium of **Montecitorio** [the palace where the Chamber is headquatered], when the moment of an important deliberation draws near. The agents of the ministry run up and down the stairs and halls, in order to forestall votes. Subsidies, decorations, canals, bridges, roads -- everything is promised; and at times an act of justice, long due, is the price of a parliamentary vote (cited in Mack Smith 1969, Vol. I:309-10).

58. The polemics against "transformism" quickly turned into a conservative critique of "parliamentarism," that is against the real or presumed degenerations of the parliamentary regime (Turiello 1882; Mosca 1884). The targets of this critique were the **Sinistra** and its limited electoral reform of 1882, which was considered the cause of a dangerous process based on the democratization of public life and on the predominance of the legislative power -- considered largely incompetent, corrupt and unstable -- over the executive branch of government. These conservative critics maintained that either this process was halted or the political system would irreversibly degenerate into the government of the "worst" people, founded on the number rather than on qualities.

59. The infrastructural engagement was reinforced: major ports were re-organized, the telegraphic, postal and road networks were expanded, and public and private telephone systems were established after 1881. Most of the effort, however, was still concentrated in railway construction. When the **Sinistra** took control of the government persisted in the determination to use railway construction as an instrument of public policy. The railway seemed to bbe vital for the integration of southern Italy into the nation and the **Sinistra** launched a large project for the construction of 6,000 km. of secondary lines (1879), financed with a new emission of public debt at 5% interest (1880-1900). The railway network passed from 8,422 km. in 1876 to 12,277 km in 1887, and to 16,000 km. by 1890. The number of passengers rose from 25.5 million in 1872 to 50.9 milliom in 1890; goods traffic increased from 678 million "kilometers-tonnes" in 1872 to 1,120 million in 1880 and to

1,854 million in 1890 -- most of it agricultural products, moving from south to north.

A new law instituted a mixed sistem in 1885, combining state ownership of the entire network with private operation of the lines by three private concessionaire companies for 20 years -- the **Società per le strade ferrate meridionali** (180 million lire of share capital), in charge of the lines on the Adriatic side; the **Società per le strade ferrate del Mediterraneo** (180 million lire), in charge of those on the Tyrrenic side; and the **Società per le strade ferrate della Sicilia** (30 million lire), in charge of those on the island. Much of the capital of these companies was held by big Italian banks -- such as the **Banca Generale, Credito Mobiliare, Banca di Sconto e Sete, Banca Subalpina** but there was an increasing involvement of German banks such as the **Diskonto Bank**. The state received 27.5% of the gross income and the companies 62.5%, while the remaining 10% was destined to reserve funds for maintenance and renewal of the tracks and rolling stock. The law also instituted privileged quotas for Italian industry in orders for railway supplies, provided that their bid was not more than 5% over the lowest foreign offer.

60. Following the pattern of other European countries, all major Italian cities, and especially Rome and Naples, were remodelled by uncontrolled and massive private speculation supported by special legislation providing conspicuous state and local public funding for infrastructural works and services. The speculative building boom of the Depretis era revealed two aspects of the future path of Italian capitalism: the close links between capitalists and the public administration, regarded almost as a necessary condition for entrepreneurial success; and the deep involvement of banks in speculative activities, which was to lead to a spectacular bank crash between 1887 and 1894. Haussmann's Paris became the model for the remodelling of Florence, Milan, Turin, Genoa, Rome, and Naples. The medioeval dwellings of the city center and outer walls were demolished to make way for broad avenues and heavy, austere and large middle-class apartment houses, administrative offices, hospitals, and military buildings, plastered in sombre ochre color in imitation of Savoyard Turin. The railway stations often formed the starting point for this development of new urban topography. Within the cities the new speculative wave rapidly confirmed the leading role of the bourgeoisie, whether of industry, commerce, or the professions, over that of the old aristocracy (See Caracciolo 1956; Insolera 1962; Doria 1969; Adami and Ago 1984).

61. The military budget absorbed 19-21% of total state expenditure between 1876 and 1882, but there was a

conspicuous increase after 1883 and it reached 28% in 1887 and 33% in 1889. In relation to state revenue, military expenditure came to absorbe gradually about 23% between 1883 and 1886, 25% in 1886, 28% in 1887, 33% in 1888, about 38% in 1889, and decreased thereafter to reach 23% in 1896 (See De Rosa 1973:129-130).

62. The abolition of the *corso forzoso* and the return of the lira to the gold standard was one of the points in Depretis' 1876 electoral program. This change was motivated by reasons of national prestige, but also by the necessity of turning to foreign capital to finance the new wave of state expenditure. The entire operation was managed by Agostino Magliani (1824-1891) between 1881 and 1883, who as minister of Finance from 1878 to 1889 was criticized for resorting to "cheerful" accounting expedients to mask the growing public deficit. The government borrowed 650 million lire in gold at 5% interest from the Hambros, Barings and the Caisse d'Escompte de Paris and then authorized the banks of issue to resume payments in gold and silver. The successful conclusion of the operation spurred Magliani into abolishing some of the legal restrictions on bank credit (1883-1884). The banks of issue expanded monetary circulation, credit became easier to obtain, the discount rate dropped to 3-4%, and foreign capital continued to flow in the country. The result was an inflationary boom led by the construction industry in the bigger cities, although the re-allignment of internal prices to the international level caused a rapid fall in the prices of major crops with the consequent worsening of the agricultural crisis.

63. There was still no properly functioning central bank and no attempt at sound monetary management. The note-issuing banks (See note 39), authorized by law and theoretically under ministerial supervision, had the great advantage of having their notes credited as legal tender -- indeed, for many years acceptance was compulsory. However, the banks dependence on the state was not just a matter of law; they were really subjected to the wishes of the government. A bank director could profit from a minister's willingness to close one or both eyes, allowing his bank to engage in risky credit operations and print more notes than assets would justify or the law permit. Likewise, a minister needing election funds, favors for friendly newspapermen, and other forms of fast credit could find it convenient to turn to a banker with flexible standards.

A truly national investment banking institution, with peninsular-wide perspectives and plans, was also lacking. Mobile-credit and investment banks, engaging in medium- and long-term loans, remained regionally based and led an unhealthy and often feverish existence, like note-isssuing banks. They were competing fiercely for depositors through

high interest rates that were possible only with fast, speculative gains. Italy was still fundamentally an agrarian country and opportunities for profitable and low-risk industrial investments remained scarce. The biggest investment bank, **Credito Mobiliare**, found it expedient to tie up bond money and personnel in undertaking tax collection for big Italian municipalities. This kind of contract was good for the bank's prestige, giving it a notable position among merchants and landlords, but net profits were slow and unimpressive. Investment capital needed higher returns. As a result, in the early 1880s investment banks -- the **Credito Mobiliare**, the **Banca Generale**, the **Banca Sconto e Seta**, and scores of lesser ones -- became heavily involved in real estate speculations and urban development projects in Rome, Naples and other major Italian cities, which offered returns that were not to be found in the still lagging industrial world of the north. These paper-credit castles, however, blew away in the bad times between 1887 and 1894. Much of the money that was threatened or lost belonged to Milanese, Turinese, and Genoese private depositors, some of them influential, and the government was impelled to engage in "salvage."

The healthier part of the Italian banking system was the secondary network of Savings Banks, Catholic Banks and Popular Banks -- the latter increased from 140 in 1880 to 738 in 1890. These banks were tightly inserted in their local economic environment and remained extraneous to the urban building speculation. Especially in the north, they financed land improvement, commerce and the expansion of industry.

64. In the 1880s, the politicians of the **Sinistra** enacted a series of measures that were coherent with the decision of developing a heavy-industrial sector for national security reasons. The military technology was rapidly changing with the introduction of the steel-made and steam-powered battleship, heavy artillery, mass-produced fire-arms such as the Gatling machine-gun (1861), and explosives such as the dynamite (1866). Concern over Italian military prestige and firepower led Italy's rulers to force the tempo and direction of industrial growth. In this fashion the future of heavy-industry became tied to the future of the whole political system. Laws, sectorial plans and administrative policies instituted privileged quotas for the domestic engineering industry in orders for: (1) rolling stock materials (law of 1885); (2) the navy; and (3) the merchant marine (law of 1885 -- 53 million lire). To the subsidies for regular shipping services the government added special bounties and subsidies for home built metal steamers and encouraged the formation of a big subsidized shipping monopoly (the **Navigazione Generale**). Finally, the government promoted the development of the iron-and-steel

industry through its direct financial participation in the **Terni** (See note 67), but also by requiring that the subsidized engineering, shipbuilding and shipping industries use Italian steel. These measures, together with the financial intervention of big investment banks, contributed to create close ties between the metal, engineering, shipbuilding, and shipping industries, which were consolidated under the banners of the national interest, state support and protectionism.

The measures taken by the government aimed at producing an Italian merchant fleet, however, were not very successful in terms of international comparisons as only a fraction of the Italian merchant fleet in operation was built in Italy by the end of the century. As freight rates continued to drop, Italian shypyards worked almost exclusively on orders from the Italian navy and their nonmilitary work was largely commissioned by the subsidized sector of the Italian merchant marine, most notably the **Navigazione Generale**. The free merchant marine, which consisted mostly of freighters and tramps in the hands of small and medium- sized operators, either clung to sailing vessels long after the rest of the world had switched to steam or preferred to get foreign-made steamers, often second-hand. But in terms of Italian industry this aid and support was not so negligible, especially for the enterprises based in area of Genoa, which received about 75% of the subsidies given by the government under various forms.

The best results were obtained for the navy, which was always the more efficient of the Italian armed forces. Its development plan was devised by the admiral Benedetto Brin (1833-1898), the minister of the navy for several years (1876-78; 1884-91; 1896-98), and made the Italian navy into the third of the world for tonnage by the end of the 1880s. In 1885 Brin began to have the engines for Italian warships made in Italy by the **Ansaldo** of Genoa and the **Guppy** of Naples, instead of importing them from Britain. Brin's autarkic naval program fostered the growth of a military-industrial complex, which was formed by the state-owned arsenals, private metal and heavy engineering companies, and a few foreign-owned enterprises -- the **Armstrong** of Newcastle set up a cannon factory at Pozzuoli (Naples) in 1885; the **Schwartzkopff** a torpedo factory at Venice; and the **Hawthorn** of Newcastle formed a joint-venture with the **Guppy** of Naples for an engine factory (De Rosa 1968).

One of the keystones of the industrialization programs of these years was the development of a modern metallurgical production, with the final abandonment of the traditional method of production (using characoal for pig-iron) and the beginning of steel production. The basic technological choice was the decision to adopt the Martin furnace in preference to the Thomas convertor (Scagnetti 1923;

Sinigaglia 1946; Frumento 1952; Bonelli 1975; Lungonelli 1976; Mori 1978). This choice was influenced by two elements: (1) the iron-and-steel industry was closely connected with commissions for the navy and with the protection accorded to the shipbuilding industry; (2) steel production started with the use of scrap and imported pig-iron and a characteristic of the Martin process was that it afforded the possibility of using scrap, in the proportion of fifty-fifty with pig-iron, in the production of steel. The Martin process had been chosen by the steel industry in England, where the importance of the shipping industry, with its demand for iron and steel plates, had played a part, while French and German steel-makers had adopted different methods. The Thomas process permitted quicker and therefore more economical production, despite the higher cost of the plant (the Thomas plant called for an investment at least ten times higher, and for a minimum size five or six times greater, than the Martin plant); but at the same time the Thomas process, because of its greater speed, called for greater skill and technical care and in general gave less homogeneous product, less adaptable -- in particular, less suitable for use in sheet form -- and leaving more slag. Lastly, the Martin process was more fungible and it allowed for greater elasticity in production. It was thus better suited to the uncertainities of the market in which Italian production operated.

65. The reduction of freight-charges brought down the price of imported coal, which fell from an annual average of 370 lire a ton in 1871-1880 to 260 lire in 1881-1890. The maximum price was 500 lire in 1872-73, the minimum 230 lire in 1886-88. Coal imports therefore rose considerably: in 1877-1878 they were around 1.3 million tons a year, but from then onwards they increased progressively to reach over 3 million tons at the end of the 1880s. Also the price of imported pig-iron dropped considerably, passing from 150 lire per ton in 1861 to 70 lire per ton in 1891.

66. Of all sectors of Italian industry, shipping became the most directly involved with the state and its foreign and colonial policy. The Italian subsidized steamship lines were in fact the oldest and best established part of the forming military-industrial complex, antedating unification itself.

The first of them was founded by Raffaele Rubattino (1809-1881) of Genoa in 1838 (Codignola 1938; Doria 1969; 1990). Rubattino was a pioneer of steam navigation in Italy; Italian shippers generally clung to sails until the opening of the Suez Canal made steamers a necessity. Politically he began as a Mazzini adherent and after 1850 became a supporter of Cavour, who rewarded him with postal subsidies (See note 19). Rubattino also made ships

available to Pisacane and Garibaldi for their revolutionary expeditions, though without compromising himself directly. The most notable of Rubattino's supporters in the Parliament was Garibaldi's great lieutenant, Nino Bixio, who already envisioned Italy's future as a great sea power. Though the **Destra** was concerned about saving public resources, Rubattino's line was voted subsidies in 1862 and again in 1868.

Rubattino's success was partly due to the opening of the Suez Canal (1869), which spurred Italy to take a new look at its maritime prospects (See note 48). In 1868, on the eve of of the canal's grand opening, the Italian naval minister called on the nation's shippers to prepare to meet and eventually overcome foreign competition on the new sea routes. Rubattino promptly opened, on his own, a new service from Genoa to Alexandria and signed a contract with the government for operating lines from Italy to the Indies. The 5 new steamers for the Indies line were of a sort that could easily be turned into transports for troops and horses and were acquired with an interest-free loan of 4 million lire provided by the state. In March 1870 one of Rubattino's steamers paid a visit to Assab, on the Red Sea coast and bought the bay from the local powerholders. The Rubattino line used the bay as a coaling station, but was clearly acting at the behest of a timid and hesitant Italian government, which bought the bay from the company in 1882.

It was with the **Sinistra**, however, that Rubattino got a new role. He was elected to the Chamber as a Depretis-Left deputy in 1876 and soon entered into a partnership with the Italian government in Tunisia. Rubattino had always run a subsidized service between Tunis and Italian ports; in 1879 he bought the country's only railway from a London firm. In this he risked very little as his financial returns were guaranteed by the state treasury. As the **Sinistra** saw it, the time was ripe for establishing an Italian overlordship in Tunisia, where the 9,000 Italian settlers far outnumbered other European groups. Neither Rubattino nor his political sponsors foresaw the sudden showdown in the summer of 1881 that turned Tunisia into a French protectorate and wiped out all chances for Italian penetration there.

The Tunisian disaster was part of a generally depressing picture and Italy's prospects as a great sea power faded. The shipyards had little work to do; the situation of steam navigation was not much better, thanks to the international slump in shipping rates. The French responded in 1880 with lavish subsidies for their merchant shipping, and the Italian government immediately followed suit. It sponsored the formation of a single steamship line, representing most of the Italian capital investment in shipping, which would operate the state-subsidized lines in the Mediterranean and the East. Called the **Società della Navigazione Generale Italiana** (1881), the line was a merger

of the two main subsidized steamship lines in Italy, **Rubattino** of Genoa and **Florio** of Palermo. The company had a share capital of 100 million lire, 90 steamers totaling 67,000 tons (mostly foreign-made), and operated 80% of the subsidized lines.

The Florios were multimillionaires who, like Rubattino, had come up from petty beginnings (Candela 1986; Giuffrida 1986; Pomar 1986). They had started as small dealers in spices and other imports in Palermo in the early 19th century. In the 1820s Vincenzo Florio (1799-1868), founder of the dynasty, entered the tuna fish business and became rich. His fishing fleet was the nucleus of the family's other shipping enterprises, which involved transporting sulphur, Sicily's principal natural resource. The family then got into fruit growing, Marsala wine production and credit banking to finance sulphur exports. By 1881 Senator Ignazio Florio (1838-1891), Vincenzo's heir, owned 45 steamships and an even larger number of sailing vessels. He was not only a power in Sicily, but had excellent connections in Rome, especially with Crispi.

After unification, Bixio and the Orlandos had suggested a merger between the Palermitan and the Genoese steamer lines, and Rubattino and Florio did begin to share agencies and services, but matters dragged on until the French maritime subsidies of 1880. At that time Rubattino turned his line into a joint-stock company to make the merger with Florio possible. Parliament authorized the formation of the **Navigazione Generale** in 1881. The ties between the new line and the state became stronger in the course of the colonial venture as it was one of the chief beneficiaries of the **Sinistra**'s East African empire building. In both 1887 and 1896 the line transported the army's African expeditionary forces, while maintaining its own regular postal and commercial services. The **Navigazione Generale** went on to become an essential component of the military-industrial complex.

67. The **Società degli Altiforni, Acciaierie e Fonderie di Terni** was founded in 1884 with a share capital of six million lire to build and manage a plant with Martin-Siemens furnaces able to produce steel armored plates for the navy (Guaita 1970; Bonelli 1975). The founder of this steel mill was the **Società Veneta per le imprese e costruzioni pubbliche** (1872), a sort of holding company that, under the energetic presidency of the engineer-politician Vincenzo Stefano Breda (1825-1903), had invested in the rail industry, various branches of the building industry and banks, while at the same time undertaking all kinds of public works -- government buildings, bridges, aqueducts, railroads. Whatever purely economic and technical difficulties stood in the way to the realization of a steel mill, Breda's political backing could not have been better.

A Garibaldian background and years of public subcontracting gave to Breda a political inside track, further smoothed for him by his 1876 election to the Chamber in the ranks of the **Sinistra**. The naval ministry, under admiral Brin, really put the new steel mill at Terni in business with big armor plate orders and generous advances without interest.

Breda'a original plan was a daring project to build up the first complete cycle of steel production in Italy. To achieve this target he asked the government to give to the Veneta the monopoly of the use of the ferrous mineral of Elba island which was exported. Breda planned to build blast furnaces to manufacture cast iron in Civitavecchia (a town located on the Tyrrhenian coast not far from Rome and Terni) while concentrating war and commercial productions in the Terni plant. But Breda underrated the technical, financial and organizational complexity of his project and the government pressured by other lobbies refused his plan for a monopoly of the Elban ore.

With the failure of the original plan, the part that was actually carried out at Terni was truncate and anti-economical from the start, since the plant was located in an inland town in central Italy far from its sources of supply. The only real advantage Terni offered was its military security. The productive capacity of the plant (130-140,000 tons) exceeded by far the actual needs of the Italian war and navy departments, but the prospects for nonmilitary production at a profit (besides tracks) were slight as Genoese competitors located on the coast of Liguria -- **Raggio, Bruzzo, Tassara, Ratto, Tardy and Benech** enjoyed the advantage of a much lower cost for the transportation of supply.

The result was that in 1887 the Terni was on the brink of bankruptcy, unable to maintain the contracts signed with the navy for the supply of battleship armor. The government, however, was committed to a policy aimed at self-sufficiency in steel production and, therefore, intervened by increasing the duties on metals (see below) and rescued the company. Brin, instead of applying the prescribed fines, gave new orders and advances, secured only by a second mortgage on properties evaluated at no more than 10% of the sum advanced to Terni. At the same time, the Banca Nazionale through the issuing of new paper money, granted additional loans, while some of the major technical and organizational errors were corrected with the assistance of the French steel-makers Schneiders.

All criticisms were met by the argument that national security and self-sufficiency dictated the building of a great steel mill, whatever the risks and losses.

> The great steel mill of Terni was not erected as a result of private initiative, that is private industrialists or capitalists did not conceive the

> creation of this plant as a bargain. It was the government that applied to several persons, initially with no result, until it found some, among whom there were some veterans of 1848, who ... answered to the call for metallurgical independence, as if it represnted a continuation of the war for the political independence of their own country. And the government told to these people: I will anticipate to you several millions, I will insure to you enough orders so as to amortize the capital invested, only if you have the courage of helping us in this noble aim. And the great steel mill of Terni was done; and between stocks, bonds and debts, unfortunetely also the latter, 44,000,000 lire were put together, to which have to be added another 12 that were anticipated by the government, since 56,000,000 lire were employed in the Terni steel mill (Breda in 1895 cited in Romeo 1987:296).

Breda's enemies were far from convinced by his patriotic self-justification. In 1899 they actually tried to bring him to trial in the Senate (Breda was apponted Senator in 1890) with all kinds of sensational charges. They alleged that he had falsified company balance sheets for years, showing nonexistent profits to protect stock prices. Even worse, he was accused of having launched Terni with fictitious capital, funds that never actually materialized, and of having then made an enormous profit out of the speculative boom in the steel company's stock during the late 1890s, a boom largely engineered by him and his associates. The Senate found that the accusations of fraud, stock manipulations, and profiteering directed against Breda's management of the Societa' Veneta were all covered by the statue of limitations, since the company had collapsed in 1893 and Breda had not been put under pretrial investigation until 1898. In fact, Breda appears to have been one of the victims of the 1893 crash and as far as the charges against his launching of Terni, the Senate committee found that they were not proven and that the extraordinary fluctuations in Terni stock were due to the market's giddiness rather than to any long-range manipulations on Breda's part. Therefore, the old Senator never had to stand trial, though a cloud afterwards rested over him and his enterprises.

68. The new tariffs, introduced the 1st of July 1878, provided selected products with the following levels of protection (See Caizzi 1965; Prodi 1966): 10% for paper and porcelain; 15% for fine majolica; 12-17% for jute yarns and wovens; 16% for woollen wovens; 20% for window panes; 53 lire per quintal for raw sugar and 66.25 lire per quintal for refined sugar; 1.4 lire per quintal for wheat. For cotton products the tariffs were as following: 10-16% for

raw yarns; 19% for dyed yarns; 20% and over for twisted yarns; 21-26% for bleached wowens; 25-29% for dyed wovens; 30% for printed wovens. Besides these tariffs, however, the Italian market remained a relatively open one and with the end of the **corso forzoso** in 1881-83 some element of protection was actually removed from Italian industry, while tariffs elsewhere in Europe were being increased.

69. Woollen enterprises were still operating in accordance with the old scheme of vertical productive integration and factory work was still integrated with domestic work. A sigle enterprise carried out on its own all the operations from the raw wool to the woven, however, without disposing of an adequate industrial and financial organization. The aim of the entrepreneurs was that of controlling and keeping as close as possible the phases of spinning and weaving, although they encountered many technical inconveniences. Rare were the enterprises whose internal structure, management and financial resources were such that they allowed to follow rationally a productive cycle so rich in steps. Only the Rossi woollen manufacture of Schio had achieved the dimension and organization of a big industry with its 14 million lire of earnings and 5,000 workers in 1879. In the Biellese, on the other hand, in 1880 there were 84 woollen manufactures with 60,000 spindles, 164 power looms, 2,330 hand-looms, 6,135 workers, and 22 million lire of earnings. Industrialists laid most of the blame for this situation on the high cost of coal, which inhibited mechanization:

> I have 30 power-looms but I cannot increase their number, because there is a lack of motive power; if one wants to start them, it is necessary to resort to steam and then we have an expenditure that is much higher than that sustained abroad. Thus, even if the laborforce would be more economized, however, given the high price for coal, I fear that there would be no gain (Giuseppe Sella cited in Castronovo 1964:232).

Furthermore, a series of long strikes erupted in the Biellese exactly when some of the industrialist were on the verge of making new massive investments to enlarge and modernize their productive plants. As the Parliamentary Inquiry on Strikes of 1878 made clear, the workers were determined to resist changes, especially the mechanization of weaving. Industrialists were hesitant because they considered as too dangerous the creation of bigger factories given the existence of an already organized and hostile working-class. Some entrepreneurs even emigrated to South America or changed activity.

70. The import of wheat jumped from 1.5 million quintals in

1880 to about 10 million quintals in 1887. The price of wheat fell from 33.11 lire per quintal in 1878-80 to 22.80 lire in 1887. The Italian wheat production fell from 51 million quintals in 1876-80 to 43 million quintals in 1885-87.

71. In his final report, Jacini maintained that the agricultural sector had been subjected to a massive fiscal drainage in order to support grandiose national policies:

> Political Italy, while it has made more felt the desire of the contry's agricultural revival, it has not yet become aware that it has contrasted the latter by hoarding all the savings of agriculture under the form of war tithes on the land-tax, of provincial and municipal taxes required by new obligatory expenditures that agricultural production is principally called to sustain, of income-tax, of stamp duty, not even excluding permutations, of increase of the duty on salt, of municipal overtaxes on the livestock and hearth. The ruling classes, intellectual and political, impatient of realizing the national greatness that they had in their minds and hearts pursued a great politics, but exceedingly costly. Italy was almost exclusively an agricultural country, susceptible of becoming rich, but poor in the meantime... and in order to prosper it needed, as indespensable means, exactly of that capital that politics was taking away. Italy a poor country and yesterday still a geographic name, was able to create a powerful army, worthy of a primary power, a formidable navy, with ships that cost 25 million lire each, in order to be able to play a decent role in the European Concert; it wanted to be covered by a network of railways, some even useless and costly, and win with the steam-driven locomotive the obstacles of the Alps and Appennins; keep a forest of Universities and scientific Institutions; provide every small city with a prefecture and a court, and every village with a cort of first instance. It did more. It was able to balance its own finances and abolish the **corso forzoso** that was obliged to introduce provisionally... (Jacini 1926 [1884]:230-31).

According to Jacini, however, the crisis of most Italian agriculture was also the result of the investment policy of the bourgeoise. The latter had siphoned all its capital into a land acquisition spree rather than improving the land it already owned.

> In Italy the capital accumulated through commercial and industrial activities was certainly not abundant; the largest part [of the existing capital]

was due to the slow savings of private individuals. This available capital, already allured by the very lucrative interest paid by state bonds that for many years was about 7-8.5%, opened to the perspective of the acquisition at very good terms of public and ecclesiastical lands sold in large and small lots, that is accessible to all pockets. The temptation was irresistible. Possible improvements of already owned lands were left aside and there was a rash to the acquisitions that could have been achieved at a magnificent interest. "Lets profit of today," said the wealthy, either landowners, or not yet landowners; "we will execute the improvements at comfort, when there will be no more properties to buy at a good price." How because of these circumstances, agricultural activity was to suffer of some abandonment, for some time, and did not improve at the same rate, as in other countries where such conditions did not happen, can be understood without any intellectiual effort (Jacini 1926 [1884]:22).

72. Land reclamation in the Padania valley -- especially around Ravenna, Ferrara, Modena, and Rovigo -- received a powerful impulse after the issuing of the "Baccarini law" of 1882, which guaranteed state financial support up to 75% of total expenditure for land reclamation projects (Isenburg 1971; Roveri 1972). The Villoresi Canal (1884-1892) provided 45,000 hectares of the dry plain north of Milan with irrigation, thus allowing for an extension of the area of capitalist agriculture (Sapori 1962). Between 1862 abd 1897, 267 million lire were spent on land reclamation in the north, 188 million in the central regions, 3 million in the south.

73. With the fall in the price of agricultural exports the justification for a free-trade policy became less clear, the more so as the government's need for revenue was now urgent. Italian agriculture could offer no effective competition; not only did agricultural exports fall but grain imports increased almost ten times between 1881 and 1887 (See note 64). The state of the Italian balance of payments between 1876 and 1887 continued to worsen and was as following (in million of lire -- Source ISTAT 1958):

**Table 12. The Italian balance of payments between 1876 and 1887**

| Years | Imports | Exports | Excess of Imports |
|---|---|---|---|
| 1876 | 1,307 | 1,208 | 99 |
| 1877 | 1,142 | 934 | 208 |
| 1878 | 1,062 | 1,021 | 41 |
| 1879 | 1,252 | 1,072 | 180 |
| 1880 | 1,187 | 1,104 | 83 |
| 1881 | 1,240 | 1,165 | 75 |

| Years | Imports | Exports | Excess of Imports |
|---|---|---|---|
| 1882 | 1,227 | 1,152 | 75 |
| 1883 | 1,288 | 1,188 | 100 |
| 1884 | 1,319 | 1,071 | 248 |
| 1885 | 1,460 | 951 | 509 |
| 1886 | 1,458 | 1,028 | 430 |
| 1887 | 1,605 | 1,002 | 603 |

74. The enactment of the 1887 tariff system represented the definitive victory of agro-industrial protectionism in Italy, although the general tariff level remained lower than that of France. Import duties were imposed on the following products: yarns and wovens of all textile branches; pig-iron and unfinished or semi-finished steel; majolica and terracotta; glass; paper; raw and refined sugar-beet; explosives; rifles; rice; hemp; and wheat. (For critical evaluations of the 1887 tariff system See Stringher 1911; Gerschenkron 1962; Coppa 1970; Federico 1984).

The cotton industry was the main beneficiary of the new tariff system. The duty on import increased for both yarns and wovens: it was about 35% for thicker yarns and about 12% for thinner yarns; it was about 40% for low quality wovens, 20-30% for medium quality wovens, and 22-25% for high quality wovens.

The **filandieri** were one of the main losers because duties were set upon the export of raw silk and waste (at least until 1892), in order to give an impulse to the modernization of silk weaving, especially around Como. Another group of losers were engineering and chemical operators, who were politically weaker than steel-makers and textile entrepreneurs and thus did not receive any protection (besides those producing explosives and rifles). Engineering industries were actually put at a disadvantage because of the high tariffs on iron and steel, but they were compensated through the concession of rolling stock orders and military contracts. Two were the main reasons for the lack of protection of the engineering and chemical sectors: (1) the textile sectors still needed to import foreign-made machinery and dyeing chemicals; (2) the government needed to offer a bargaining chip in the negotiations for the new commercial treaties with industrialized European countries (especially Germany), in order to obtain favorable terms for Italian foodstuffs and semi-finished products.

The duty on wheat was increased from 1.4 lire per quintal to 3 lire. However, it was increased to 5 lire already in 1888 and reached 7 lire in February 1894, and 7.5 lire by the end of 1894. Italian wheat production became the most protected in Europe.

75. The Sicilian Francesco Crispi (1818-1901) dominated the Italian political scene from 1887 to 1896, the worst years of economic crisis. He incarnated with his political

evolution the transformation of many **Risorgimento** democrats into supporters of the monarchy. Crispi was a former Mazzinian revolutionary, a former hero of Garibaldi's "Thousand" expedition, and a former democrat favoring universal suffrage, but he had converted to the monarchy and had become an admirer of Bismarck's power politics, an ardent nationalist desirous to prove the military strength of the nation, a colonialist who was convinced that Italy had to expand in East Africa, a conservative who considered the socialists as internal enemies and the peasant and working class struggles as an attempt to the unity and steadiness of the nation-state, and a laic anti-clerical liberal.

Crispi had learned politics in the revolutionary broils of the 1840s and 1850s, and he never outgrew that background. He saw politics as a tangle of plots and conspiracies. In his eyes any serious opposition harbored the seeds of treason, and he made no distinction between respectable, middle-class socialists and anarchist bomb-throwers. As he saw it, what was legitimate in the new-Left claims could be satisfied by improvements granted from above; independent, far-Left mass parties were intolerable. Coherently with his paternalistic and conservative attitude toward the masses, he conceived of a working-class without any militant organizations of its own: Italian workers would go on entrusting their future interests to outstanding figures in the parliamentary establishment.

76. Crispi made clear the terms of his hostility toward the French Republic in a speech at Palermo (October 1889):

> Commercial activities, credit, railways, politics, everything depended before, among us, from France. Our government was a satellite of the Napoleonic empire. And when, proclaimed the republic, we tried to disengage ourselves from the state of economic and political subordination, which treaties and conveniences had imposed upon us, it derived naturally a discomfort, it rose a conflict, which still lasts, and which will end when we will have wholly acquired our autonomy. Our policy must be Italian and our market must be the world. Placed as we are at the center of Europe, between the sea and the old continent, at a short distance from Africa, at the gates of the Ocean and Red Sea, there where our ancestors opened the way to the new civilization, we would be guilty of a crime of lese-fatherland if we would not enlarge the field of our economic activity (Crispi 1920:728).

Crispi was convinced that whatever the tariff system

between Italy and France, the latter could have not done without Italian exports, which consisted largely of raw and spun silk and wines that were indispensable for France's more prosperous industries. This evaluation, however, turned out to be an illusion: France bought silk directly in Asia and wines from Algeria and Tunisia. The result was a collapse of trade between Italy and France, which damaged more Italy than France: Italian export dropped from 500 million lire in 1887 to to 167 million lire in 1888, while import from 366 million lire in 1887 to 164 million lire in 1888.

77. Crispi's last program rested on an appeal to patriotism, social order, and repression of popular protest and socialism. In Sicily violent agitations broke out in 1892, as the agricultural crisis and the crisis of the sulphur industry had determined a very strong social tension (Romano 1959). The protest was led by intellectuals of socialist orientation such as De Felice-Giuffrida, Barbato, Verro, and Bosco and was organized in the movement of the **Fasci** -- unions of workers, artisans and peasants. It was a great protest movement, in which were flowing together the revolt against the excessive fiscalism, that against the tyranny of the **galantuomini** over local administrations and the vindication of lands to cultivate. The premier Giolitti, considered too weak in confronting the agitations of the **Fasci** and swept away by the scandal of the **Banca Romana** (see note 79), was replaced by Crispi (December 1893). The involvement of Crispi in the bank scandal was much deeper than Giolitti's, but he was considered the "strong man" required by the moment. His first acts were the imposition of martial law in Sicily (3 January 1894) and the sending of 50,000 troops to the island. The military repression of the movement provoked around one hundred deaths. A contemporaneous attempt of anarchic insurrection in Lunigiana by marble miners was promptly repressed and contributed to create a climate of "motherland in danger." Crispi maintained that, rather than social movements, the nation was facing a general conspiracy directed to subvert the nation-state and its unity. He believed and made believe that the **Fasci** wanted to detach Sicily from Italy and deliver it to a foreign power. Thus, military courts sentenced the leaders of the movement to extremely long jail terms and 2,000 arrests were made. Crispi then widened his repressive initiative to include working-class and socialist organizations throughout Italy. He dissolved the Socialist Party and all syndacal organizations in October 1894. He also kept the Chamber of Deputies shut for six months and then called new elections in 1895 to widen his parliamentary majority. Crispi's repressive policy was firmly opposed by the Radicals and Republicans of Cavallotti, Colajanni and Bovio. These parties formed a political-electoral alliance

with the Socialists the League for the Defense of Liberty (1895) -- to resist to the reactionary wave.

78. In the **Banca Tiberina** were heavily committed the noted industrialist and financier Senator Vincenzo Stefano Breda (See note 67), the Turinese **Banca di Sconto e Seta**, and also the funds of the Savoy dynasty, which the influential minister of the royal house, Urbano Rattazzi Jr., had invested at Turin in these enterprises. Giovanni Giolitti, the treasury minister of the Crispi government, worked out a salvage scheme whereby the leading note-issuing bank, the **Banca Nazionale**, would be permitted to print an extra 50 million lire in legal-tender notes as a credit to the hard-pressed **Banca Tiberina**. In this way the public would pay for the salvaging by inflation and Rattazzi and the others would be let off the hook (Confalonieri 1979). Rattazzi, in turn, became Giolitti's patron at court and seems to have been instrumental in hoisting him into the premiership in 1892, at the moment when even bigger salvage operations were the order of the day.

79. The weakest of the Italian note-issuing institutions, the **Banca Romana** had a bank-note circulation vastly exceeding any legal coverage, and its situation became critical after the real estate slump of the late 1880s. The scandal, momentarily deferred by scared ministers, finally broke early in 1893. Some of the **Banca Romana**'s notes were actually fraudolent -- duplicates secretely ordered from London and put into circulation by the president in clandestine midnight operations. Although government and journalistic circles knew all about the **Banca Romana**'s desperate situation, no one wanted to break the charmed circle of complicity that surrounded it. Too many had received favors, discounts, and instant credit from the bank's president, Bernardo Tanlongo, who seems to have been unable to say no to any political figure or newspaperman with money problems. Premiers had found the **Banca Romana** especially useful at election time, and Giolitti seems to have been no exception (Vitale 1972; Confalonieri 1979).

80. Giolitti, as premier this time (May 1892-December 1893), brought order into the note-issuing banks by finally establishing a cental bank of emission (law of 10 August 1893). The new central bank -- the **Banca d'Italia** -- was established with the merger of the **Banca Nazionale** with the **Banca Nazionale Toscana** and the **Banca Toscana di Credito**, while the **Banco di Napoli** and the **Banco di Sicilia** managed to keep their privileges as note-issuing banks, although they were put under the direct supervision of the new central bank. The **Bank of Italy** took on all the dubious debts and real estate holdings of the **Banca Romana** and, in the following years, it managed to make the best of them as

depreciated but still genuine assets, while residual losses were indirectly absorbed by the Italian public (Dell'Amore 1961). The government authorized a circulation break down (23 January 1894) and suspended the convertibility of bank notes into gold and silver (21 february 1894).

81. The **Banca Commerciale Italiana (Comit)**, founded in Milan (1 October 1894) and the **Credito Italiano (Credit)**, founded at Genoa (6 February 1895), were the most enduring fruit of the Triple Alliance and they inherited the assets and liabilities of the **Credito Mobiliare** and the **Banca Generale**, the two big, ambitious north Italian institutions of industrial credit that had fallen in 1893 (Pantaleoni 1895). These two new banks became the pacesetting institutions in the basic branches of industrial credit, the guiding and mediating agents in the period of corporate expansion that lasted from 1896 to 1907. Both banks were founded at Crispi's behest by a group in which Berlin and Vienna houses predominated (Gerschenkron 1962; Hertner 1984; Confalonieri 1979, 1980a, 1980b; Leonardi 1983).

The foreign sponsors of the **Comit** were: (1) German banks with the 78.86% of share capital -- the **Bleichröder Bank** of Berlin (which was tied to Bismarck), the **Berliner Handels-Gesellschaft**, the **Deutsche Bank**, the **Bank für Handels und Industrie**, the **Diskonto Gesellschaft**, the **Dresdner Bank**; (2) the **Österreichische Credit-Anstalt** (Rothschild) of Vienna with 13.4% of share capital; (3) Swiss banks with 7.5% of share capital -- the **Basler Bankverein**, the **Union Financière de Geneve**, and the **Schweizerische Kreditanstalt** of Zurich. The only Italian was the Count Sanseverino Vimercati, who held stock for 100,000 on a total initial capital of 20 million lire, and he was elected chairman of the new bank.

The **Credito Italiano** was established as a result of a re-organization of the **Banca di Genova** (1870), headed by Erasmo Piaggio, which was carried out with the participation of Italian capital and a group foreign banks: the Milanese-Swiss private bank **Vonwiller & C.**, which ceded its business and personnel to the new bank; the house **Robert Warschauer & Co.** of Berlin; the house **Manzi & C.** of Rome; the **Nationalbank für Deutschland** of Berlin; and the **Basler Handelsbank** of Basel.

These new banks followed the German practice of "mixed banking," which combined the business of commercial banking with the granting of credit against collateral and the holding of industrial investments. The **Comit** managers themselves were all acclimatized foreigners: the two most important executives were Otto Joel and Federico Weil, two German Jews. Joel, general manager (**direttore**) of the **Commerciale**, was of an old Danzig family, but had lived in Italy since 1878 and had risen to become a high officer of the old **Banca Generale**'s Milan offices. Weil too had

resided in Italy for some years and had risen to become a high officer of the old **Credito Mobiliare's** Palermo offices.

82. For an overall assessment of the complex issues concerning the wave of Italian emigration between 1876 and 1896 See Macdonald 1963; Cosoli 1978; Franzina 1979; Sori 1979.

83. The state seemed incapable to guarantee the economical pursuit of the initiatives it controlled or subsidized. State commissions were intermittent, payments and definitions of the technical specifications of ordered products were often delayed. Enterprises, on the other hand, in order not to lose any order, proceded often blindly and made mistaken evaluations of production costs. As a result of the converging action of these factors, the work organization inside the heavy-industries remained often primitive and only low levels of productive standardization were achieved.

Furthermore, the vast business circuit created by state intervention in the context of a transformist political system was also characterized by degenerations and clientelism. The ministers were rarely personal profiteers, but they needed the support of special interests and their political repre-sentatives to get and keep public office. Special-interest groups tended to coalesce into single coalitions or blocs: the big bank, the nationwide industry, the newspaper, and the parliamentary group all took the same cues when it came to protectionist legislation and special-interest measures in the military, transport, and shipping sectors. The interlacing of relations between heavy-industrialists, some of the figures of the military establishment and of the political class was becoming inextricable and a source of privileges that had little to do with the necessities of a modern process of industrial development. With great insight Pareto had detected this danger already in 1887 when he wrote:

> L'Etat devenant règulateur de la vie économique du pays, l'industriel est conduit à nègliger le dur labeur, au prix duquel on obtient le progrès et l'economie dans la fabrication, pour accourir dans la capitale et intriguer auprès des pouvoirs publics dans le but d'attraper qualques bribes des largesses qui pleuvent de tous côtès. Que l'on songe qu'un trait de plume d'un ministre, ou même d'un simple rapporteur d'une commission parlementaire, peût donner à une industrie des avantages que des annèes entières du travail le plus intelligent et le plus persèverant ne suraient lui procurer (Pareto 1965:16).

84. This is not, however, the impression that one receives

from most of Italian economic historiography on this period, either liberal or marxist, which has assumed the development of the heavy-industries composing the military-industrial complex as synonimous with the development of Italian industrial capitalism as a whole. Until recently, in fact, historical analysis has focused overwhelmingly on this pole, while paying only marginal attention to the role and development of other industrial poles, especially of textile. This came largely as a result of the following equation: industrialization=the development of big capital-intensive industries and of an organized working-class movement=heavy-industry=military-industrial complex. This bias has had several relevant analytic implications as it has contributed to over-emphasize the role of direct state intervention in Italian industrial development, obscuring the peculiarity of the "Italian road" to capitalism and the long-term dynamics involved in the formation of the capitalist and working classes in Italy. As I have tried to show, for industrial sectors other than the military-industrial complex, this process was largely based on the strong continuity and close interrelation between agriculture, proto-industry and industry, at least until 1896. For discussion of these issues by economic historians See Bonelli 1978; Cafagna 1983; Dewerpe 1985; Segreto 1988; Mori 1989.

85. The formation of a Milanese urban and suburban tramway and rail network was particularly consistent (Sapori 1962). Milan was the city that benefited the most from railroad construction as it became the principal junction of national and international lines -- Frejus (1871)-Turin-Milan-Venice; Gothard (1882)-Milan-Genoa; Milan-Bologna. At the same time, however, a dense network of secondary lines had been developed after the 1860s, connecting the city with many of the Lombard rural centers of agricultural and industrial production. The network of suburban tramways included 15 lines for a total of about 400 km. -- Milan-Monza-Como-Varese; Milan-Erba; Milan-Saronno; Milan-Rho-Ticino, Milan-Gallarate; Bergamo-Lecco; Milan-Pavia-Voghera; Milan-Lodi-Crema-Soncino; Milan-Magenta-Castano; Milan-Vaprio-Vimercate-Treviglio; Milan-Tradate; Lodi-Bergamo. These infrastructural networks reinforced Milan's position as the main financial and commercial center in northern Italy.

86. On the development of the Milanese-Lombard metal-mechanical industry in this period See Frumento 1952; De Rosa 1968; Bigazzi 1972; Davite 1972; Hunecke 1978; Macchione 1987.

87. Some statistics demonstrate this situation (Caizzi 1965; Castronovo 1965; Cafagna 1976; Cristofoli and Pozzobon 1981). In 1876 the cotton industry had 627 factories with

65,000 workers; in 1900 there were 727 factories with 135,000 workers. The average size of factories grew larger. The 900,000 spindles of 1876 had become 1,050,000 in 1883, 1,200,000 in 1887; 1,720,000 in 1896; 1,910,000 in 1898, 45% of which in Lombardy. Looms, numbering 68,500 in 1876, only 12,500 of which mechanical, had become over 70,000 in 1896, 65,000 of which mechanical -- 46,900 of the latter were in Lombardy, mostly in the province of Milan. The value of cotton manufactures, estimated at 51 million lire in 1876, rose, despite the intervening fall in prices, to 304 million lire. Productivity consequently showed a considerable increase, from a production value of 940 lire per worker to 2,250 lire. The import of raw cotton quadrupled between 1881 and 1890, slowed down modestly in 1891-92 and regained its up-stroke thereafter. This increase was favored also by the price's fall of raw cotton: 240 lire per quintal in 1871, 165 lire in 1881, and 100 lire in 1891. The share of Italian cotton in world cotton production also increased: in 1880 Italy consumed 1-1.25% of the world's cotton, whereas in 1900-01 it consumed 3.51%. Production still consisted mainly of crude-quality goods, but indigenous producers took over the domestic market with the help of the new tariffs and imports of cotton wovens decreased at the following rate: 1887=100 (50 million lire); 1888=45; 1895=22; 1900=9.

The development of mechanized weaving, which represents the greatest productive innovation in these years, came about on the basis of the striking expansion in the number of spinning-mills and self-actings that had taken place after 1878. As the productivity of spinning increased, weaving and other phases of production were re-organized in accordance with more rapid rythms and more uniform criteria. The final affirmation of the power-loom was also facilitated by the drop in the price of coal (See note 59).

Silvio Crespi, the president of the Cotton Association, wrote in 1896 that the "cotton fever" was creating the conditions for a crisis of overproduction:

> That production has extraordinarily increased is something known to everyone. Several and important new companies were established, existing factories were enlarged of a fourth, of a third and often of a double; everywhere steam engines were added to the hydraulic power, the speed of machines was increased. Burnt factories were replaced by more powerful plants; and the statistics of the Cotton Association that counted about 1,400,000 spindles in 1893 ... extimate the spindles at 1,720,000 and the power-looms at 70,000 on 30 June 1896... Furthermore, we can assure that the productivity of spindles is 10% higher than a few years ago. These numbers are enough to show that in Italy there has been an extraordinary and hasty increase in production... In Italy everyone wants to become a

> cotton industrialist; the government is only concerned to shear [with taxes], the solidarity among the industrialists is simply at the state of theory. For the industry and the country it has become necessary, however, that the cotton industrialists reduce, if not the number, at least the intensity ... that they become solidary (cited in Romano 1984:54-56).

Internal consumption was not keeping pace with the "extraordinary and hasty increase in production," especially for yarn, and export could not yet represent the solution to the problem. Thus, Crespi and other larger cotton industrialists that until then had always been in favor of the unceasing functioning of their factories, proposed a reduction of activity through the introduction of the short-time and the abolition of night-work.

88. The export of woven cotton goods began in 1891 and by 1895 amounted to 21 million lire, while that of yarn reached 2 million lire, a value superior to that of import. Cotton industrialists cultivated the ambition of transforming Italian emigration in the Americas into a commercial opportunity. To Crispi's military colonialism in East Africa, they counteropposed an Italian road to commercial colonialism based on the German example. Trading companies and networks of sale agents were established in receiving areas. The most celebrated case was that of "the merchant prince" Enrico Dell'Acqua, an entrepreneur of Busto Arsizio, who created a commercial network in Argentina, Uruguay and Brasil after the late 1880s. His activity was financed by the main Italian cotton industrialists and in 1895 the **Società Italiana per l'Esportazione Dell'Acqua** was transformed into a joint-stock company with the financial support of the **Banca Commerciale** (Einaudi 1900).

The main limit to this strategy of commercial penetration abroad, however, rested on the "proletarian" character of Italian emigration. The consumption needs of emigrants were and remained low as only a fraction of them were middle-class families. Furthemore, commercial organizations required high starting costs, the competition of local and international producers was often strong, while there was a lack of efficient Italian consular and shipping organizations.

89. Hemp and flax continued to be cultivated in the Padania Valley (around Milan, Treviso, and Bologna). While spinning was mechanized and under the control of a small group of entreprises, the labor intensive and complex preliminary phases, together with weaving, were carried out at a level of proto-industrial organization by peasants and artisans. Hand-looms were 68,000 in 1876 and moved to 110,600 in 1903. In 1895 the value of exports of hemp yarns was 13 million

lire, that of hemp wovens 4 million lire. Hemp exports were largely absorbed by the English market, where yarns were used largely to manufacture ropes, canvas and sacks (Cristofoli and Pozzobon 1981:61 ff).

90. In the woollen sector spindles increased from 284,000 in 1876 to 345,000 in 1893. Looms increased from 8,300 in 1876, 2,571 of which power-looms, to 10,267 in 1893, 6,507 of which power-looms (Castronovo 1964; Caizzi 1965).

91. Between 1874 and 1896, the silkworm desease (pebrine) was completely overcome and there was an expansion of silkworm raising, even if the price of cocoons dropped throughout the entire period, passing from 6.85 lire per kg. of 1872-73 to 2 lire per kg. of 1894. The export of raw and twisted silk increased from the 35-44,000 q. of 1880-881 to the 54,000 q. of 1891, but export duties and the Franco-Italian commercial war inhibited even a possible faster growth. The French market absorbed over 60% of the total raw silk exported from Italy in 1887. Thus, the **filandieri** were the hardest hit when the value of total silk exports to France collapsed from 200 million lire in 1887, to 80 in 1888, and to 60 in 1889. The loss of the French market, however, was compensated by gains on the German and Swiss markets (150 million lire).

Besides these developments, profit margins were also reduced in reeling and spinning by the first act of Italian social legislation -- the law of 1886 that regulated the work of children by raising the minimum working age to 9 years and by forbidding the engagement in unhealthy and dangerous work of children under 15. Children had always been the bulk of the laborforce of the **filande** and **filatoi**, thus the new regulation contributed to raise the labor cost (although wages continued to be relatively low) in an industry that was facing already the strong competition of cheaper Oriental producers. Many of the smaller **filandieri** and **filatoieri** closed down, while larger ones improved their organization throughout the year by processing also ever increasing quantities of imported cocoons and raw silk in their factories. They also increased productivity by adopting new processes that replaced aqueous vapor with hot air and by substituting the old rounded wooden twisting machines with new metal rectilinear and oval ones. Most of the larger spinning factories were powered by coal-burning steam boilers by the early 1890s.

92. In the silk branch, there were only 250 mechanical looms and 12,000 hand-looms in 1876. In 1898 the power-looms had become 2,500 (mostly Swiss-made), while the hand-looms were still 12,000 (Caizzi 1952; 1957). Exports of woven silk as a percentage of total silk exports moved from 6% in 1885 to over 10% by the mid 1890s. Silk weaving was concentrated

around Como amd the Lower Brianza. The introduction of power-looms went hand in hand with the decentralization of production out the urban center of Como into the surrounding countryside and with the replacement of skilled male weavers with a cheaper and unskilled female laborforce in the new factories. The old de luxe production (diapered, damasked and velvet cloth) continued to be carried out only at the hand-loom, while the cheaper, easier and smoother cloth (for lining and umbrella) was produced at the power-loom. The increase in the latter production was facilitated also by the lowering of the price of raw and spun silk.

93. Most of the raw silk exported by Italy was not dyed, and much of the silk that needed to be dyed had to be temporarily exported to France, Switzerland or Germany for treatment. There was a similar situation in the cotton industry with regard to both mercerization and dyeing, which were largely done in Germany.

94. The Italian system of higher education remained for more than a century faithful to the orientation introduced by the Casati education law of 1859, which was fashioned on the Napoleonic model (Ricuperati 1973; Barbagli 1974; Lacaita 1974, 1981; Canestri and Recuperati 1976; Maiocchi 1980). Literary and classical humanistic courses were by far predominant in the eight years of higher schooling -- in the five years of **ginnasio** the courses were: history, ancient Greek, Latin, Italian, literature and arithmetics; in the three years of **liceo** in addition to the former courses there were also philosophy, physics and natural history. These schools were the cradle of the new governing class as only by going through the **ginnasio-liceo** it was possible to gain access to the University. Technical schools were considered of a second rank as widespread was the conviction that technics had little to do with intellectual culture. The University system was based on four keystones: Literature, Law, Medicine, and Theology (abolished in 1872). When University degrees in Engineering, Economics and Architecture were established, they did not enjoy the same status of the others. Compounded with the basic economic difference between north and south, the system of higher education contributed to the development of an anomaly: the country was directed economically by the northern industrial bourgeoisie, which had its cultural technical institutions such as the Polytechnic of Milan, but the state bureaucracy was increasingly made of, and managed by, a stratum of largely southern lower-middle class, which had only a literary and classical humanistic training.

95. Giuseppe Colombo (1836-1921) was one of the leading figures of the Milanese moderate establishment (Cambria 1984; Lacaita 1981, 1985). Colombo was a polyhedric

personality: a professor of mechanical engineering at the Polytechnics of Milan (although he had received his degree in mathematics at the University of Pavia in 1853), where he trained generations of industrialists -- G. B. Pirelli, G. Prinetti, A. Salmoiraghi, Egidio and Pio Gavazzi, A. Riva, P. Borghi, A. Rubini, E. Conti, G. Gadda, and many others; a pioneer of the mechanical and electrical industries; one of the leading politicians of the Milanese conservative "New Right" -- municipal councilman at Milan (1881-1889), deputy in the Parliament (1886-1900), Minister of Finance (Di Rudinì, 1891-92), Minister of the Treasury (Di Rudinì, 1896), and Senator after 1900; an enthusistic promoter of the Lombard model of capitalist development founded on the spatial division of labor between rural areas, where agricultural, proto-industrial and industrial activities were decentralized, and the city of Milan, where commercial, financial and technical functions were concentrated (See note 47).

Colombo played an important role in the development of the Italian electrical industry (Bisazza 1934; Mortara 1934; Giannetti 1985; Bezza 1986; Pavese 1986). After visiting the International Exhibit on Electricity at Paris in 1881, Colombo formed a "Committee for the application of the Edison electrical system in Italy" with the participation of: Enrico Rava (chairman of the Banca Generale), Giuseppe Crespi (chairman of the Credito Lombardo), Pacifico Cavaliere (a banker of Ferrara), Filippo Buzzi (a wealthy landowner), Carlo Erba (a pharmaceutical industrialist), and the representatives of the Banca di Milano, Banca del Credito Italiano, and Banca Villa. The Committee paid for a thermic power station (which was also the first in Europe and the second in the world), which was made at Menlo Park and assembled by Edison's assistant, J. W. Lieb, in the former theather of St. Redegonda of Milan in the summer of 1883. The power was used to light up the Galleria and the main theaters -- La Scala, Manzoni and Dal Verme.

As a consequence of the success of this initiative, the Committee was transformed into a joint-stock company in 1884 -- the **Società Generale di Elettricità Sistema Edison** (3 million lire of share capital), which acquired Edison's patents for the Italian market. Colombo became the chairman of the company (1884-1891 and 1896-1921) and was able to obtain the contract for Milan's public lighting in 1887 after a bitter struggle with the Union des Gaz, which had provided public gas lighting from 1865.

The possibility of building a network allowed the company to establish another thermic power station in 1889 and plan the first hydroelectric power station of Paderno d'Adda (32 km. from Milan), whose completion was retarded, however, by technical and legal obstacles to the transport of power from a distance. Already by the early 1890s, Colombo had intuited the strategic potential of hydro-

electric energy for the economic development for a country like Italy that lacked coal, but had abundant hydraulic resources in the north.

> The application of electricity to the transport of power from a great distance represents for Italy a fact of such an extraordinary importance that the most fervid imagination could hardly forsee the consequences. It is a fact that can completely alter the aspect of the country, that can lift it to the rank of the most favored nations one day (Colombo in Lacaita 1985:356).

96. The rapid growth of the electrical industry after 1895 was favored by the converging action of various technical, legal nd financial factors. At the technical level, German technology allowed to overcome the obstacles to the transport of power from a distance and thus to multiply the number of hydroelectric power stations based in the alpine river basins. To this aim, for example, the **Società Edison** of Milan stroke an agreement with the **Allgemaine Deutsche Electrictät Gesellschaft** of Berlin and with the **Oerlikon** of Zurich. At the legal level, the law of 7 June 1894 on power lines, integrated by the subsequent regulation of 25 October 1895, introduced dispositions for the establishment of power lines that were analogous to those that the civil code foresaw for the right of passage of acqueducts and thus eliminated the legal basis for the landowners' and gas companies' opposition to power lines. At the financial level, the new industry enjoyed the support of the new "mixed banks" set up largely by German capital, while a wave of private investment was attracted to the industry by the prospect of high profits. The newly established **Banca Commerciale** participated to the increase of capital of the **Società Edison** on 3 December 1895 and also the **Credito Italiano** invested in the industry in the following years. These big banks evolved a positive strategy of intervention in relation to this particular opportunity for investment, resting as it did on the solid foundation of a patrimony of natural resources to be exploited in the big Alpine river basins. This strategy combined Italian industrial development with the export interests of German industry, first for electric industry, then for machinery in general, and finally for all kinds of industrial products, and it therefore tended in a certain sense to give Italian industrialization a complementary character.

Between 1895 and 1898, the number of power stations moved from 1,243 to 2,264, with a corresponding increase in the total power installed from 36,021 to 86,175 kw. Furthermore, already in 1898 about half of the power was produced by hydroelectric power stations. The regional distribution of electrical production reinforced the

economic divarication between north (61,391 kw.), center (15,808 kw.), south (7,771 kw.), and the islands (1,205 kw.).

97. Giovanni Giolitti (1842-1928), a Piedmontese native of Mondov_ (Cuneo), entered politics after a long forming period in the public administration, where he worked in close contact with Sella, Minghetti and Depretis. He made a brilliant bureaucratic career between 1862 and 1882: an attorney while still very young, he started as a Treasury official, spent five years as secretary of the Court of Accounts (the supreme organ of control over state financial affairs), then was appointed Councillor of State and **commendatore**. In 1882, Giolitti was elected to the Chamber in the Piedmontese district of Dronero (Cuneo) and supported Depretis until 1886, when he took position against transformism, which he accused of hindering the development of distinctive political programs and the recovery of state finances. In November 1886, in one of his electoral speeches he showed seemingly that he had developed a more modern and dynamic liberal conception than those of Depretis and Crispi.

> Two are the systems to which the political behavior of a nation can conform to: the imperial politics and the democratic politics. It is impossible to follow the first without destining most of the national reserves to the army and navy and without a constantly uniform political direction. Thus, it requires a strong government enjoing the support of a powerful aristocracy that in turn cannot exist without the large property. Its necessary consequences are little internal freedom and the sacrifice of the private to the public interest... Democratic politics, instead, tends to insure the welfare of the largest number of citizens; hence, it must favor public education, industry, agriculture, reduce to the minimum taxation, provide for the working-class, guarantee freedom (cited in Salvadori 1976:367).

According to Giolitti, Italy had to follow decisively the second alternative. In perfect transformistic style, however, in 1889 he became the Treasury minister of the Crispi government (1889-1891) and in 1890 he took also the Finance ministry. His main achievement was the working out of a salvage scheme for the **Banca Tiberina** (See note 78) and then he resigned to protest against the sharp increase of military and colonial expenditure imposed by Crispi.

With the resignation of Di Rudinì, Giolitti became prime minister (May 1892-December 1893), after having promised to the king that he would have not reduced military expenditures. As premier he worked out the salvage and

reorganization of the entire banking system by establishing a central bank of emission (See note 80). As all his predecessors, he relied on prefects and transformistic methods to win the political elections in November 1892, however, in other respects he proved somewhat different from the others: he expressed the intention to reorganize the fiscal system by fighting tax evasion and introducing some form of progressive income-tax that would have decreased the weight on the lower classes; at the same time, he established a less repressive climate for the oppositions, particularly for the socialists, and he refused to confront the social agitations of the Sicilian **Fasci** with state of siege measures.

What brought Giolitti down in December 1893 was a moral issue. During the confusion, the arrests, and the house searchings of the **Banca Romana** scandal (See note 79), Giolitti seems to have set aside for private use a certain number of documents that incriminated the Crispi family, while Crispi got from the former bank president's son evidence that tended to implicate Giolitti as one of the politicians that had milked the Banca Romana to meet election costs. Giolitti's papers damaged the whole Crispi menage, while Crispi's counter merely tarnished the premier's public credibility -- in his personal and family life Giolitti was unassailable. The resulting uproar worked to discredit both men eventually, though Giolitti, who, unlike Crispi, had no background of **Risorgimento** battles, was harder hit. It took him eight years to reach the top again.

98. The internal solidarity of the national protectionist bloc cracked over the fiscal measures introduced to alleviate the dramatic financial crisis of the state, which was worsened also by the new impulse given to the drive for empire in East Africa. A point of rupture was reached in 1893-94, when the Crispi ministry not only increased the compression of popular consumption -- the prices of salt and of other state monopoly goods were increased and the duty on wheat was raised from 5 lire per q. to 7 lire and then 7.5 lire -- but also laid most of the new fiscal burden on commerce and market-oriented industries, especially on the cotton pole -- the tax on mobile wealth was increased from 13.20% to 20% and taxes on imported raw cotton and on electric consumption were introduced.

Cotton industrialists supported Crispi's internal repressive policy, but reacted immediately against the new fiscal measures, as now they were attempting to become exporters, after having taken over most of the domestic market. The increase in the fiscal load jeopardized their commercial expansion abroad as it raised production costs, and the increase in the duty on wheat had a similar effect since it created the conditions for a wage increase. The

open and peremptory opposition to Crispi's fiscal policies of cotton and other market-oriented industrialists turned into a political struggle against Crispi.

Lombardy, and especially the "State of Milan," became the epicenter of the opposition to Crispi and had a decisive role in determining his final fall after Adowa on 5 March 1896 (Fonzi 1965; D'Angiolini 1972; Belardinelli 1976; Aquarone 1981; Lacaita 1985). Milanese deputies-entrepreneurs of the "New Right" -- Colombo, Ponti, Prinetti, Beltrami, Gabba, Gavazzi, and a few others -- took the leadership of the liberal opposition in the Parliament and their action was supported by the Milanese liberal press -- **Il Corriere della Sera**, the **Idea Liberale** and **Il Sole** -- which was largely controlled by Lombard cotton and silk entrepreneurs. They envisaged the formation of a "modern conservative party" of market-oriented industrialists, agrarians and technicians backed by internal and foreign policies of peace and gathering.

> The modern conservative is not the reactionary, the **laudator temporis aiti**. Whoever had such an antiquated and mean idea would show of not having followed at all the progress that has been accomplished in the spirits of modern civil societies. The modern conservative is instead the real enlightened progressist, who studies social problems with scientific method, in oder to lead society without shocks through the evolutions that the continous change of material conditions requires (Colombo in Lacaita 1985:329).

These Milanese conservative liberals called for the abandonment of Crispi's aggressive Triplicism and demographic imperialism in East Africa in favor of a normalization of relations with France and a drive for the commercial penetration of those foreign markets where more relevant was Italian emigration. They called for an end of the autarchic policy in favor of a progressive opening to international trade by lowering all tariffs, especially those on iron, steel and wheat. They proposed a drastic reduction of public expenditure, starting from that for the army and navy, and denounced the parasitic and uncompetitive nature of the military-industrial complex, underlining that the exhorbitant state expenditures required by these heavy-industries weighted heavily on all taxpayers and were prejudicial to an adequate development of other productive sectors.

But Milan was also the main base of the political forces that had always opposed Crispi's authoritarian and imperialistic policies: the Radicals of Cavallotti and **Il Secolo**, the Socialists of Turati and **Critica Sociale**, the Republicans of De Andreis and the **Italia del Popolo**, and the

Catholics of Meda and the **Osservatore Cattolico**. The converging action of these political forces with the liberal conservatives turned the drive against Crispi into an overall political and ideological critique of transformism and "Crispism" that tended to affirm Milan's primacy in Italian politics and economy. Crispism was depicted as a corrupt and authoritarian power system that exploited Milan and Lombardy to the advantage of southern **latifondisti** and the military-industrial complex. Milan was described as the nation's real propulsive center of progress, economy and culture -- the "moral capital" -- fighting against a parasitic and clerically tinged bureaucratic Rome -- the "legal capital" -- and against the encroaching power of the Sicilian Crispi and the other southern transformist politicians.

99. The following sources provide information on the Gavazzis and their activities for this period: Angeli 1982; Ballestrero and Levrero 1979; Brusadelloro 1979; Caizzi 1952; Cantù 1857, 1859; Cappellini 1972; Cattaneo 1982; Dotti 1962; Fonzi 1965; Frattini 1856; Mariani and Pozzoli 1978-79; Merlini 1857; Romani 1982; Romano 1977; Sala 1976; Sapori 1962; Treccani 1950.

100. The total annual cocoon output of the Italian peninsula was estimated to be around 50 million kilos in the early 1850s, 30% of which was produced in Lombardy, 25% in Venetia, 20% in the Kingdom of Sardinia, 15% in the Kingdom of the Two Sicilies, and a 5% each in the Grand Duchy of Tuscany and in the Papal States (Galli 1967:188-89). There are two estimates of the evolution of Italian cocoon output for the following years:

Table 13. Estimates of the evolution of the Italian cocoon output between 1861 and 1894

| Annual Average | Fresh cocoons (000 kg) | |
|---|---|---|
| | ISTAT | Fenoaltea |
| 1861 | 16,250* | 27,669* |
| 1870-74 | 48,504 | 45,529 |
| 1880-83 | 38,658 | 46,450 |
| 1890-94 | 51,155 | 54,836 |

*Venetia not included
Source: Zamagni 1990:80.

101. Four were the major deadly silkworm epidemics that struck the silkworm during these years: the muscardine (**calcino**), the pebrine, the obesity (**giallume**), and the wiltdisease (**flaccidezza**).

The pebrine was the most deadly disease and devasted silkworm breeding throughout Europe between 1853 and 1866. It arrived in northern Italy from France in 1854 and was brought under control only after 1866 with the identification of the pathogenous protozoon by Louis

Pasteur, who published the results of his research in the book **Études sur la maladie des vers à soie** (Paris, 1870). Pasteur introduced as new preventive methods the cellular isolation of female butterflies and their selection with the microscope.

The pebrine, by destroying most of the indigenous silkworm varieties, caused the drastic collapse of total and unitary production. In Lombardy, the latter fell from 30-40 kilos of fresh cocoons per ounce of egg in the early 1850s to 8-10 kilos in 1863 (Galli 1967:213). The price of silkworm egg rose 15 times in a few years as breeders tried to contain the loss of total production by making an enormous use of it. Silkworm eggs were imported from other European, Middle Eastern and Asian producing areas. The best results were achieved with Japanese varieties (imported every year after 1863), because they proved more resistent to the disease and gave high quality cocoons.

Mulberry leaf crops were not only affected by periodic frosts and droughts, but also by the infestation of destructive parasites, such as the **Diaspis pentagona**, a cochineal originally introduced from Japan and identified around Como in 1885.

102. Cocoon prices peaked in 1872-73 reaching 6.75/6.85 lire per kilo, then dropped around 4 lire in 1874-78. Prices momentarily increased in 1879, but then began to fall once again reaching 3.53 lire in 1883 and the lowest level of 2 lire in 1894.

103. Pietro Gavazzi provided some information on the standard of living of the laborforce of his **filande** and **filatoi** in his written deposition to the Parliamentary Commission for the Inquiry on Industry in 1871.

> ... Reelers receive in all my reeling mills 1 lira a day, young girls between 40 and 90 cents, according to their age and ability. Men, according to the relevance of their work, between 1.30 and 3 lire. Here it is important to note that of the men, part are in charge of the transportation of materials, part feed the central boilers and steam engines; others work in the repair workshops as carpenters, blacksmiths, plumbers. These are naturally better paid.
>
> The laborforce is sought after, but wages to not ordinarily increase...
>
> The daily work is of 12 hours, except for the months of June, July and August, when it is of 14 hours. The **filande** and **filatoi** are active throughout the year, except for May, when the personnel looks after its own silkworms or those of others (Pietro Gavazzi in 1871, cited in Romano 1977:53-54).

To have an idea of the low level of wages, one has to consider that one kilo of bread cost 50 cents, one kilo of corn flour 30 cents and one kilo of rice 42 cents.

104. A good indicator of the process of concentration in the reeling industry is the decrease of wood-fired boilers and the increase of steam-heated boilers. Frattini (1856:57 ff) estimated that a wood-fired boiler required an initial investment of 80 lire while a steam-heated boiler over 200 lire and that the latter gave a decisive competitive advantage only if a reeling mill had more than 20 boilers. Furthemore, a steam-heated boiler consumed about 8 kilos of coal per day (to achieve an average temperature of the water around 55-65 C.) when the cost of a quintal of coal ranged between 4 and 5 lire.

The number of reeling mills with wood-fired boilers fell from 4,167 in 1863 to 3,560 in 1864 and to 2,587 in 1865; while the number of wood-fired boilers in activity decreased from 50,000 to 44,000 in these years. Also the number of reeling mills with steam-heated boilers fell from 320 in 1863 to 308 in 1865, but the number of boilers remained stationary around 20,000 (Romani 1982:255). In the province of Milan the number of reeling mills decreased from 208 to 107 between 1855 and 1868, but the number of steam-heated boilers increased from 2,240 to 6,141, while the number of wood-fired boilers decreased from 1,689 to 594 (Frattini 1856; Ellena 1880:40 ff). By 1876 wood-fired boilers had fallen (from 50,000 in 1863) to 30,000, while steam-heated boilers had increased (from 20,000 in 1863) to over 50,000; 13,000 of the former and 42,000 of the latter were in reeling mills located in Lombardy and Piedmont.

105. The raw silk produced by the **filandine** was often characterized by a great variation in its color, grade and reeling composition, and by hard sides, bad winding (**incannaggio**), dirt and imperfections. These were all elements that contributed to reduce the commercial value of raw silk because determined high costs in subsequent twisting and weaving operations. An irregular and un-cohesive raw silk, in fact, called for frequent stoppages of twisting machines to correct or eliminate imperfections and to repair ruptures of the thread.

106. After the 1840s, as a result of the increasing mechanization of weaving and of new dyeing methods, only the small fraction of the finest raw silk of a medium grade (13 to 22 **denari**) could be used directly at the loom (loom silks or **sete telaio**). In the raw state, the filaments that formed the thread remained tied by the sericin and were able to undergo the rubbing of the loom's comb without getting untied and breaking.

The bulk of raw silks had to be worked at the **filatoio**

(pairing or **binatura** and twisting or **torcitura**) to obtain different types of yarns (**trame**, **organzini**, **marabouts**, **crespi**, **cucirine**, etc.) prepared to be able to undergo dyeing and weaving processes. These raw silks were generally of a thin grade (9 to 13 **denari**), because by pairing them it was possible to correct their defects of grade regularity, thickness and strength. In order to better bind together the paired threads, they were subjected to a twist, which varied in intensity according to the desired type of yarn. The twist had also the purpose of binding more tightly the filaments to each other, otherwise with the purge (**decreusage**) that preceded dyeing, by losing their sericin, and hence their cohesion, they became enervated and less resistent. In the course of the twisting process, the silk lost some of its brightness and elasticity, but acquired tenacity.

107. By 1871 the firm **Pietro Gavazzi e Fratelli** owned thre major plants (See Pietro Gavazzi in Romano 1977:52): Bellano (province of Como): a reeling mill with 188 steam-heated boilers; a twisting mill with 6,600 spindles; Valmadrera (province of Como): a reeling mill with 56 steam-heated reeling boilers and 56 steam-heated brushing boilers; a twisting mill with 12,672 spindles; Cernusco on the Naviglio (province of Milan): a reeling mill with 80 steam-heated reeling boilers and 80 steam-heated brushing boilers; a twisting mill with 1,152 spindles.

The first and the second employed about 700 operatives each, the third about 400, almost all of them women. Two-thirds of the personnel was adult, the rest children between 9 and 15 years of age. The plants were powered: Bellano by a turbine, Valmadrera by an hydraulic wheel and Cernusco by a steam engine of 3 HP.

The Gavazzis continued to modernize and enlarge these three plants also in the following decades and added other smaller plants at Desio, Orio and Vendrogno (all with about 100 operatives each in the 1880s and 1890s).

108. The following is the account of the advantages of the new method given by Pietro Gavazzi in a letter published on the **Gazzetta Ufficiale** (9 December 1855):

> Since 1825 we made several studies in our reeling mill of Valmadrera to solve a problem of great importance for the silk industry, that of wintry reeling. We made several attempts, sparing no trouble and expenditure and only in 1849, with the enclosure of reels in heated containers, we achieved the desired aim. This method is different from that of mister Bonnet, which consists in two longitudinal partitions with glass windows that divide the reeling mill in three long compartments, one in the center where the

> reelers and the vats are located and the two lateral ones, sort of tunnels where reels are placed. Many heaters warm and dry these two ample spaces (it is necessary a constant temperature between 18 and 20 degrees) especially when the outside temperature is below zero or there is a high degree of humidity. With our system, instead, by which only the reels are enclosed inside the most narrow possible space, the increase in the temperature and the drying up are quickly achieved. The Bonnet method found more imitators in Lombardy than in France. The most illustrious French reeling entrepreneur, mister Chevalier of industry Louis Blaichu, to whom the Bonnet process must have been known because it was in use since 1846, asked to one of the members of our family visiting him in 1852, to send him our models in order to honor these with the importation in that country, utilizing them in his well-known mill of Saint-Julien (Pietro Gavazzi cited in Brusadelloro 1979:101).

Pietro's method of wintry reeling was received initially with some distrust in Lombardy, but his heated containers became the standard feature of all new reeling machinery after the 1860s.

109. The reeling mill at Cornaredo (less than 15 km. from Milan) was located on the estate of 552 hectares of the Dukes Serbelloni and had 50 steam-heated reeling boilers, porticos and ample warehouses. The **filanda** had been restructured by the Dukes in 1820 and was always leased to specialized silk entrepreneurs -- to Vincenzo Sormani of Canzo, a relative of the Gavazzis, after 1840; to the Swiss Albert Keller in the early 1850s; and then to the Gavazzis in the mid 1850s. The lease-holder bought the entire cocoon crop of the Dukes' estate and employed members of local **coloni** families (Angeli 1982: 37 ff; Cantu' 1857:141).

110. The **filanda** at Cernusco on the Naviglio (about 10 km. from Milan) was probably the one owned by the wholesale firm **Gavazzi e Quinterio** in the late 1840s (Angeli 1982:153). The Gavazzis acquired the full ownership of the mill in the 1860s probably as a result of the dissolution of their partnership with Quinterio. By 1871 the mill had 80 steam-heated reeling boilers, 80 steam-heated scrubbing boilers and was integrated with a **filatoio** for the production of **trame** (wefts) that had 1,152 spindles. Both mills were powered by water and by a steam-engine of 3 HP and employed about 400 operatives (Pietro Gavazzi cited in Romano 1977:52).

111. The import of cocoons began in the early 1860s during the pebrine epidemic. The cocoons worked by Italian reeling

mills were about 21 million kilos in 1863, 12.5 million kilos in 1864 and 11.5 million kilos in 1865, of which imported 700, 470 and 520 thousand kilos respectively (Romani 1982:255-56). The growth of the import, however, was halted in the following years by the commercial monopoly exercised by the traders of Marseilles.

> The provinces of Milan and Como produce sufficent cocoons for their reeling mills. Cocoons arrive in the winter and spring via Marseilles, and they come from Greece, the Arcipelagus and Asia Minor. These cocoons, however, provide a very scarce benefit, because their price is too high in relation to their second-rate quality; we buy them sometimes in order to fill the gaps of the indigenous output and thus provide work for our laborforce, so that it does not look for work somewhere else. Of secondary importance is hence the imported aumount, while this import could be very large if these cocoons arrived via Brindisi, Ancona or even better via Genoa, instead of Marseilles.
>
> ... The commerce either of cocoons or of silks should be left completely free. The government could favor that of the former, by promoting at Genoa all the improvements that were introduced by the rival Marseilles, which has, one can say, the monopoly of a commodity, whose true deposit center should be northern Italy (Pietro Gavazzi in 1871, cited in Romano 1977:50, 55).

The forecast of Pietro Gavazzi came true after the 1870s, when Milan and Genoa began to erode the monopolistic position of Marseilles and Lyon in the silk trade. At the beginning of the new century, 25 million kilos of the 75 million kilos of cocoons that were worked by Italian reeling mills, were imported (from Greece, Bulgaria, the Caucasus, Turkestan, and the Middle East).

112. The mechanized system of air ventilation drew out the hot fumes (**fiumana**) originating from the steam-heated water of reeling and scrubbing boilers. Hot fumes were harmful for the health of operatives and did not allow the threads to dry.

113. The introduction of this new procedure provides an indication of the close integration between reeling and twisting operations achieved by the Gavazzis. By the early 1870s, one-third of the reeling mill of Cernusco and the totality of those of Bellano and Valmadrera were organized in such a manner that the raw silk was wound directly on the small reels (**rocchetti**). In this manner the Gavazzis saved on the expenditure of the **incannaggio** (the winding of the raw silk from the big reels on the small reels) and avoided

the loss in weight that resulted from carrying on that operation after the preliminary reeling stage. Furthermore, the workers benefited from the introduction of the new system since, as Pietro Gavazzi noted, the working conditions in the **incannaggio** were usually very unhealthful.

> ... the **incannaggio** or the winding of the hanks on the small reels, in which young girls, often too young, are employed. A prejudice established among the laborforce spurs adult women to avoid this work; owners feed it without being aware, by believing that they can save money by paying less a laborforce of little value. Maybe it is not all prejudice, because winding machines are of such sizes that the girls of a certain stature would not be able to work without bending throughout the day. It would be very easy to build more comfortable machines; this would result in an operation that would cost a little more, but that would be much better executed, and in a population that would escape the danger of becoming deformed... (Pietro Gavazzi in 1871, cited in Romano 1977:56).

The introduction of the new less cumbersome twisting machinery in the **filatoio** of Bellano, allowed the Gavazzis to push a step further the integration of reeling and twisting operations. The two were now carried on at different floors of the same building (the old **filatoio**), while the old reeling mill was rented by the Gavazzis after 1868 to the cotton firm Cantoni for an annual rent of 11,470 lire (Romano 1981:321).

114. In 1866, in conjunction with the introduction of new reeling and twisting machinery in the **filanda** and **filatoio** of Valmadrera, the Gavazzis gained total control of the water of the river Luera. They reached an agreement with the municipal administration whereby in exchange for the full ownership of the water of the river, they were to sustain all the expenses for canalization works, the construction of two fountains and a trough in the town and the enlargement of the town's main square (Cattaneo 1982:96).

115. The thickness of a silk filament, thread or yarn is indicated by the **titolo** or grade, expressed in **denari** and represented by the number of half decigrams weighting one of its string of 450 meters of length. Thus, with a grade of 10 **denari** it is indicated a silk filament of such a thickness that its string of 450 meters weights 10x0.05=0.5 grams. While there are no differences from start to finish in the diameter of a cocoon filament, the weight of a filament (and thus its grade) decreases slowly in passing from the external to the internal strata of the cocoon

(there can be a difference of more than 50%). Moreover, the grade of cocoons' filaments varies according to silkworm varieties, methods and geographical location of silkworm husbandry, and the size of cocoons.

It was thus necessary to find out in advance the average grade of cocoons' filaments that had to be reeled, in order to determine the number of filaments that had to be put together to form a thread of a desired grade. Before the reeling operation began a supervisor indicated to the reeler with how many new cocoons or partially wound ones the thread had to be formed, in accordance to preliminary tests conducted on the filaments. Except at the start of her work, when the reeler had all new cocoons, or at the end when she had all partially wound ones, the reeler used a mixture of cocoons at various stages of winding, in order to obtain a silk thread of uniform grade and color.

116. A skillful reeler was usually an unmarried adult woman between 18 and 25 years of age, who had gone through several years of apprenticeship.

> The laborforce is taken in at an early age (9 years old). It begins by working at the brushes and then, little by little, learns the reeling of silk. By turns the young girls work in the **incannatoio** and in the **filanda**, thus learning both operations (Pietro Gavazzi in 1871, cited in Romano 1977:53).

117. One has to consider the following facts: (1) a thread is formed by combining together three or more winding filaments (**rosa**); (2) a winding filament has an average length of about 700 meters (**carta**); (3) the grade of a filament gradually decreases (up to 50%) from external strata of the cocoon to internal ones; (4) a filament and a thread can break suddenly and rather easily. Furthermore, besides the uniformity of the grade, a reeler had to ensure the cleaness, purity and cohesion of the thread, and avoid the formation of entanglements and small flocks.

118. The automatic filament-sticker (**attaccabave automatico**) replaced a button through which the filaments that formed a thread passed first. This machine was originally introduced by Sasaki in Japan in 1890 and was later perfected by others. With this machine the adding of a filament on the winding thread -- a delicate operation that required a long and difficult training -- was not done anymore with the fore-finger of the reeler's right hand, but was done through a grooved diskette making 250 turns per minute. The diskette seized the filament and tied it to the winding thread.

119. Attempts to completely mechanize the reeling process

(**trattura meccanica**) were made since the early 1880s by Serrel, an American engineer living in France. Serrel and his followers tried to build a machine that could automatically substitute an exhausted filament with a new one. The machinery that was introduced, however, proved unsatisfactory since could not evaluate the grades of filaments and threads and thus could not ensure the latter's uniformity.

120. The following table provides an indication of the evolution of world production of raw silk between 1871 and 1900 (Enciclopedia Treccani 1936:527):

**Table 14. World output of raw silk between 1871 and 1900**

| | Annual Average (tons) | | |
|---|---|---|---|
| | 1871-80 | 1881-90 | 1891-900 |
| Italy | 2,390 | 3,035 | 4,321 |
| France | 584 | 661 | 698 |
| Spain | 101 | 79 | 85 |
| Hungary | --- | 209 | 315 |
| Turkey | 355 | 550 | 942 |
| Balkans | -- | -- | 30 |
| Greece-Salonika-Crete | 29 | 20 | 40 |
| Caucasus-Turkestan-Persia | 273 | 149 | 318 |
| China (export) | 4,058 | 3,688 | 5,660 |
| Japan (export) | 862 | 1,708 | 3,232 |
| India (export) | 547 | 419 | 277 |
| World Output | 9,200 | 10,519 | 16,174 |

Two are the elements of interest in this table: (1) after China, Italy remained the largest world producing area of raw silk, but this was largely due to the growing importation of cocoons (See note 111); (2) more than half of the world output was produced in Asia by China and Japan.

The spectacular growth of Japanese raw silk production came as a result of several factors: (a) the direct intervention of the Japanese government through the establishment of specialized schools, research laboratories and experimental centers, the promotion of cooperatives for silkworm breeding, and the enforcement of strict quality controls on export products; (b) the intensification of mulberry cultivation (141,000 hectares in 1886; 289,000 hectares in 1892); (c) the possibility of making three annual cocoon harvests; (d) the introductin of European reeling methods (the first reeling mill established at Tamioka in 1870 was modeled on the most modern north Italian **filande**); (d) the development of Yokohama and Kobe as powerful financial and commercial centers of the silk business with solid nuclei of specialized firms (**tonyas**) that financed reeling mills and operated in international trade. After the opening of Japanese ports to international trade in 1859, the activity of Italian raw silk importers was favored by the fact that the Italian government was among the first ones to sign a treaty of friendship, commerce and navigation with the Japanese government in

1866.

In his written deposition to the Parliamentary Commission for the Inquiry on Industry in 1871, Pietro Gavazzi expressed his belief that the future of the north Italian silken industry was linked to the possibility of transforming into yarns a growing share of the raw silk produced in Asia. He thought that the north Italian industry was capable of filling such a role, but he also considered necessary the intervention of the Italian government to remove some major obstacles.

> ... the twisting industry goes for its supply as far as the Far East. It aspires to draw in the country the commerce of Asiatic silks, from which England benefited greatly and which France tried to deviate toward Marseilles, being able to do so also in part. We could have obtained and we could obtain this goal if our ports, and Genoa above all, would be provided with those comfortable structures for unloading and storing, which are not lacking in the sea towns of the more civilized nations.
>
> Another obstacle is the fact that the Italian currency is unknown and thus un-negotiable on the Chinese and Japanese markets. For this reason we have to depend on bankers of other nations, being subjected to usurious commissions. If it is the duty of commerce to make its way, it is the responsibility of the government to provide the only kind of protection that [commerce] has the right to enjoy, that is freedom and defense inside and outside of the country. And we would have made some progress in this direction if it had not been for the unconvertibility of the lira into gold (**corso forzoso**). As a result of this, eliminated the stability of the Italian currency, the latter cannot but offer severe risks for buyers, especially if operating at very long maturities as it is the custom in overseas markets. And until this state of things will persist, it is very difficult that we would be able to emancipate ourselves from foreigners for this plight.
>
> I do not know how to insist enough, in order that a better railway service is provided, since it seems to me something truly indicent that the goods sent especially to France undergo delays of up to ten days and at times even greater. And it is discomforting to see that after the opening of the Frejus, the slowness is now greatly increased... Since [the government] has the power of surveillance over railway companies, it should make sure that their stock is sufficient to the needs of the country. The deplorable scarcity of wagons does not allow to load goods and above all coal when it would be necessary.

> ... The government should provide a more effective support to the attempts that are presently made to open to our trade new regions and especially in Central Asia, by jealously defending, through its own consular agents, the well-being and the properties of its own citizens... The duty of the government should be that of making the most possible ways and preserving them secure... (Pietro Gavazzi in 1871, cited in Romano 1977:49-53).

Notwithstanding that of the obstacles indicated by Pietro Gavazzi in 1871 only the incovertibility of the lira into gold was eliminated (with the abolition of the **corso forzoso** between 1881 and 1883), the north Italian twisting industry was able to undergo a rapid expansion in the following decades largely as a result of the growing import of Asiatic raw silks. By 1876 the north Italian twisting industry employed 74,000 operatives (59,000 in Lombardy and 11,000 in Piedmont) and had a little less than 2 million spindles. It worked the 2.3 million kilos of national raw silk plus another 1 million kilos that were imported (200,000 kilos from the rest of Europe and the Middle East; and 800,000 kilos from Japan and China). The growing import of Asiatic raw silk allowed to export annually over 3 million kilos of twisted yarns after 1871, to reach 4 million kilos between 1881 and 1882 and 5.4 million kilos in 1891.

> This is a very comforting fact and almost unique in our industries, of importing such a great deal of raw materials from far away countries, in order to re-export them after, when the national labor has increased their value of a 40%. The value of the raw silk that is imported annually reaches about 80 million lire; that of the twisted silk that is exported is not far from 300 million lire (Ellena 1880:54).

121. The north Italian twisting industry was able to acquire this important international position also thanks to the fact that only France had a vertically integrated industry (from cocoon production to the finished silken cloth), while Germany and Switzerland, lacking an indigenous sericulture, were specialized only in dyeing and weaving processes. The importance of German and Swiss industries grew rapidly after the 1860s with the definitive decline of the English industry and the introduction of new dyeing methods and power-looms. They imported about 80% of the yarn supply from northern Italy and their importance as an outlet for the north Italian twisting industry grew even more after 1887 when the commercial war between Italy and France closed the French market to Italian yarns throughout most of the 1890s.

122. The old machinery was difficult to work and was easily subjected to damages and to wear and tear. Its efficiency depended more on the ability of the operatives than on its intrinsic qualities. It occupied a lot of space and made an inefficient use of available power.

> If we consider these machines [the old twisters] we cannot do without noting two relevant inconviniences: primarily a great waste of space, because of the very much that is occupied little is utilized for big and small reels (**naspi** and **rocchetti**), since the space is invaded for the most part by the voluminous frame that constitutes the mobile part; secondly, because only to move the weight of the enormous reel (**arcolajo**), requires most of the available power (Merlini 1857:45).

123. The mechanical engineer Cesare Saldini described with a sense of pride the new twisting machinery made of cast-iron and iron that was produced by national firms and was presented at the National Industrial Exposition of Milan in 1881.

> We find true improvements also in the machines that are used to transform raw silk into yarns. Excellent machines for winding (**incannatura**), cleaning (**stracannatura**), pairing (**binatura**), twisting, and for preparing hanks (**aspatura**) are present at our Exposition; finally even these sets have become true machines.
>
> If one thinks again of the colossal and primitive wooden constructions that only a few years ago encumbered our spinning mills, one feels a sense of sincere satisfaction for the progresses that the present Exposition has made us know.
>
> Cast-ron and iron by becoming part of these machines have given them that mechanical character of which they greatly defected, and the foregneirs will envy our reeling and twisting machinery, because it is by far superior to anything that they have for the exercise of this industry (Saldini 1881:161-62).

124. Pietro Gavazzi recalled the episode in his written deposition to the Parliamentary Commission for the Inquiry on Industry in 1871.

> At Cernusco and Bellano there were never strikes or attempts to strike. At Valmadrera there were many among the workers of the twisting mill who were affiliated to the ill-famed association of Lecco. I decided to fire all of them in April 1869 replacing them with girls of other villages. The example proved

very useful.

> ... In many twisting mills men work at the machines, in others women. I prefer the latter, since it seems to me that their hands are better suited for the work with silk. I introduced them after the many strikes carried on by male operatives in the plant of Valmadrera (Pietro Gavazzi in 1871, cited in Romano 1977:54, 56-57).

125. The Gavazzis had been among the first north Italian entrepreneurs to elaborate and implement a paternalistic policy toward the laborforce. We have already seen (See Chapter 5) how since the 1820s they had begun to build at Valmadrera a sort of "social town" centered around their palace and mills. The masses in the chapel of St. Gaetano, the boardinghouse for the young female orphans and non-residents working in the mills, the school classes tought by nuns of the order of the Daughters of Charity to all the workers under 15 years of age, were all elements of a coherent plan aimed at creating favorable living conditions for their workers in relation to those prevailing among the rest of the population. At the same time, however, these institutions allowed the Gavazzis to exercise a sort of benevolent control over their laborforce.

The paternalistic policy was reinforced after the mid 1860s through the institution of a kindergarten (for more than 100 children) for the children of the workers in 1867 and a home for the poor in 1879, and through conspicuous monetary gifts made by the family to the local administration and parish. Furthermore, some of the privileges enjoyed by the workers of Valmadrera were spontaneously extended also to those of other mills.

> I voluntarily raised daily wages at Cernusco and Bellano. I decided to do so either to put the personnel of those mills at the same level of that of Valmadrera, or to allure the largest possible number of workers in attending my mills, and it seemed to me justified by the general rise in prices, and wise doing it to prevent with spontaneous generosity the grudges that could have emerged subsequently (Pietro Gavazzi in 1871, cited in Romano 1977:53-54).

In his written deposition to the Parliamentary Commission for the Inquiry on Industry in 1871, Pietro Gavazzi provided a coherent summary of his views on capital-labor relations. He expressed a peculiar propensity to reforms urging to improve workers' material and moral conditions and introduce an age limit for the admission of young girls in the factories. Pietro did not hesitate to call for governamental controls over factories to place entrepreneurs "all at the same level." Paternalistic

provisions, in fact, were useful means of labor control, but too expensive if competitors "do not want them."

> Not always the owners of silk mills find locally a laborforce sufficient to their needs. Thus they make it come from other villages. In many plants these women, called guests (**forestiere**), are ill lodged. They are made to sleep in groups of three and four, and certain dormitories either have little ventilation, or are ill sheltered, or are not kept clean. The agglomeration of all these people has very negative effects on their health and morale. Where the **forestiere** are more numerous, there are greater dangers of disorders since they are not properly watched over; girls far away from their families and left by themselves easily sink into evil. Thus the owners must be considered strictly responsible for all this, and obliged to procure a material and moral advantage to their workers.
>
> Unfortunately most [entrepreneurs] own several plants in scattered localities. They have the office for the general administration in Milan. They thus entrust employees with the management of their mills. Very often these persons have a an elementary cultural level and a peasant-like education. Nor are lacking owners who elevate themselves intellectually and morally very little above their employees. All this inhibits the improvement of the working-class that avails itself of a good example. The working-class, ignorant, lets itself easily persuade by people with no faith who preach all virtues, undermining the necessary religious base; and forgetting the consolations that it could draw from the latter, welcomes fanatically all that these charlatans make believe. Thus, hate towards the owners who are not at all known, and whose comfortable and happy living is compared with grudge to one's own deprivation and suffering. The hours of work do not leave time to young girls for schooling and to everyone else for something more than a simple animal life.
>
> The government should with wise and well thought laws provide that these disorders are eliminated or at least limited, by making inspect, for example, the mills from time to time, not only by ordering, but also by making implement the order of not allowing children below a given age to work, and making sure either that they are left with the time to get a school education, or that this is provided in the mill itself. And it should keep in mind also this truth, that it is impossible to obtain from everyone, and especially from the lower classes, order and discipline without the promotion of the religious sentiment of the masses. And

> I can attest this since I have attended many facts and I have diligently examined and compared them.
>
> The intervention of the government in these things, by placing all at the same level, would allow the many who want to introduce these provisions to avoid the hard alternative either of renouncing to these or of putting themselves in a worst condition compared to competitors who do not want them.
>
> Nor will I be silent on the coalition of owners in many places, to keep stationary the wages of the laborforce, excluding competition that is the more necessary for this than for any other commodity. And free competition would certainly be a very good remedy against the prevailing of the doctrines of the International (Pietro Gavazzi in 1871, in Romano 1977: 57-58).

The request of Pietro Gavazzi for a regulation of the labor market by the goverment, however, remained unheard as other industrialists and mine owners opposed all attempts of reform in this field. The labor market continued to remain completely free until Parliament issued a law on child labor in 1886. This law prohibited to employ the labor of children below 9 years of age in factories, quarries and mines; it limited to 8 hours the working-day for children below 12 years of age and to 6 hours the night work of children between 12 and 15 years of age; it prohibited to employ the labor of children below 15 years of age in dangerous and unhealthful works. This was the most weak and incomplete law for the tutelage of labor in Europe. It did not prohibit the festive work of children; it introduced an age limit of 9 instead of 14; it allowed night labor of children of 12 years of age; and, finally, it did not regulate the labor of women. Furthermore, the law was only intended for productive units that had more than 10 workers. Thus, firms could easily turn around the law by decentralizing their production in workshops with less than 10 workers, even though the lack of a special corp of inspectors made this measure unnecessary.

126. Until the late 1850s, the Savings Bank of the Lombard Provinces (the **Cariplo**, established in 1823 and supplying only real estate credit) and the small group of Milanese private merchant-bankers were the only sources of credit in Lombardy. The lack of credit institutions was largely the result of the monetary and credit policy of the Austrian regime. Either to defend the privileges acquired by the National Austrian Bank throughout the Empire, or to ensure that the growing financial needs of the public debt would not be put in jeopardy by profitable alternative outlets, Austrian authorities tried always to discourage, if not to inhibit, the formation of modern (joint-stock) banking

institutions capable of mobilizing the abundant capital of the Lombard élite, of issuing fiduciary currency and thus of creating a more elastic supply of commercial credit.

The most serious defect of a credit system formed entirely by private merchant-bankers, in fact, was the inelasticity of the credit supply since these bankers had to base their credit activity primarily on their own capital (they could not issue bank currencies or collect deposits). This inelasticity was bitterly felt in the silken industry and trade. In summer and early fall, when the silk crop was being harvested, reeled, twisted, and put into trade, money could not be obtained except at very onerous rates. The system was periodically stretched beyond its capacity and the Lombard silk trade was placed at the mercy of the advances and commissions of foreign capitalists. The simple and obvious remedy was a silk deposit bank, issuing loans on receipts for deposits of silk made in its warehouse. Such a **Monte delle Sete** had existed in Milan before the Napoleonic regime, as a branch of the **Monte di Santa Teresa**, and had demonstrated its benefits. It had disappeared, however, with the old Austrian regime. Between the 1820s and the 1840s, several projects were discussed and presented for the establishment of a Discount Bank specialized in the silk business, but the Austrian government disapproved and permissions were deemed.

The turning-point came in 1857, when the entire Lombard financial system was on the verge of collapse. The international financial crisis, in fact, caused a sudden stranding of the silk trade in foreign markets and an interruption in the flow of foreign commissions and advances to the Milanese merchant-bankers. Most of Lombard silk operators were technically bankrupt since they were unable to repay loans and to fulfil obligations of payment that they had previously contracted. Loans and obligations were superior to the liquid reserves held by most individual firms. Under these conditions the Austrian government allowed the constitution of a silk deposit bank (**Cassa Interinale di Sovvenzione dietro Pegno di Sete**) and its capital of 3 million lire was underwritten with great enthusiasm by the entire Milanese business community. Furthermore, the Cariplo began to discount commercial notes of recognized private merchant-bankers in 1858.

It was only after the Italian unification, however, that the Lombard credit system was finally transformed, acquiring a phisiognomy that was more adequate to the needs of existing industrial and commercial activities. The Gavazzis and the other **negozianti** underwrote an increase of capital of the **Banca Nazionale** of Turin in 1859. The bank opened a branch office in Milan (and other branch-offices at Como, Bergamo and Brescia in 1861) and began to discount commercial notes and provide advances. The **Banca Popolare** of Milan was founded in 1865, while the Cariplo began to

issue loans on receipts for deposits of silk made in its warehouse in 1870. Finally, several banking institutions were established in the early 1870s, although not all of them survived the international financial crash of 1873. The Gavazzis, for example, participated to the formation of the **Banco Sete Lombardo** (1872), a bank with a share capital of 6 million lire specialized in the silk business, which over-extended its credit and went bankrupt in 1876.

127. A duty on the export of crude and twisted silk of 35 lire was introduced in 1866, when the Italian state was on the verge of financial collapse. The duty was raised to 38.50 lire with the introduction of a new general tariff in 1887 and was abolished in 1892 (law number 302 of 28 June 1892).

128. The Gavazzis were among the most prestigious representatives of the Lombard **Destra** and were active in all kinds of political arenas: in local administrations (Valmadrera, Bellano, Cernusco, Desio, Lecco, and Milan); in social clubs (**Circolo dell'Unione**, **Società del Giardino**, etc.); in economic associations (the Chamber of Commerce of Milan, the Italian Industrial Association, the Industrial and Commercial Club of Milan, etc.). After 1892, they were represented directly in Parliament by Lodovico Gavazzi (1854-1941), who was elected to the Chamber of Deputies for the district of Lecco.

Besides a social conservatorism and a Catholic moderatism that was typical of most Lombard moderates, one of the key elements of the political activity of the Gavazzis was their unconditional support for free-trade theories and policies. On this issue the position of the family was articulated once for all by Pietro Gavazzi in his written deposition to the Parliamentary Commission for the Inquiry on Industry in 1871.

> Who is writing propounds frankly free-trade theories and in comformity with these dictates would like commercial treaties with other nations to be based on the principle of absolute reciprocity. And more than that he considers commercial treties only as a means to achieve the ultimate and supreme aim of free-trade.
>
> He rejects thus any idea that favors his own industry as that of others, his own country as that of others, because by favoring some, the others fall into disfavor, offending justice that is equally due to all.
>
> ... [The government] must leave the trade of cocoons and silks entirely free... (Pietro Gavazzi in 1871, cited in Romano 1977:50,55)

The free-trade position of the Gavazzis was in perfect

syntony with the Italian government until 1876, when the **Destra** was replaced by the **Sinistra**, although the protectionist offensive of cotton and woolen entrepreneurs had started during the Parliamentery Inquiry on Industry (1870-74). The governments of the Left progressively abandoned free-trade adopting two general tariffs in 1878 and 1887 that consolidated the formation of an agro-industrial protectionist bloc. Furthermore, in 1887 Crispi inaugurated an anti-French course that led to the development of an all-out tariff war against France, which resulted in the breaking off of trade relations between the two countries at the beginning of 1888. The break lasted until 1898 and had immediate disastrous consequences for the north Italian silk sector since France was one of its major export markets, although the loss was partially compensated by an expansion of export to Central Europe after the early 1890s.

The Gavazzis, together with most of the Milanese economic establishment, were among the most vocal opponents of protectionism, "transformism" and "Crispism." In 1891, Riccardo Gavazzi (1836-1903), together with the journalist of the **Corriere della Sera** Giacomo Raimondi, established in Milan the Association for Economic Freedom that, besides being very active in local politics on the side of moderate and conservative politicians, made an intense propaganda in favor of free-trade and conservative liberalism for several years, organizing public debates and publishing pamphlets. Among its most active members, besides the Gavazzi family and Raimondi, there were the engineer Francesco Nicola and Ambrogio Carnelli. The ideas propounded by the Association were supported by the aggressive journal **L'Idea Liberale**, published in Milan under the editorship first of Sormani, then of Guido Martinelli and finally of Giovanni Borrelli. The journal published articles of the most well known free-trade intellectuals and propagandists like Vilfredo Pareto, Count F. Papafava and Edoardo Giretti (Zanotti Bianco 1945:378).

Lodovico Gavazzi (1857-1941), elected to the Chamber of Deputies in 1892, supported the Di Rudini' governments, together with the other Milanese deputies-entrepreneurs of the "New Right" -- Colombo, Ponti, Prinetti, Beltrami, Gabba, and a few others. He became part of the leadership of the conservative liberal opposition to Crispi, calling for the abandonment of Crispi's agressive Triplicism and grandiose demographic imperialism in East Africa's "burning sands" in favor of a normalization of relations with France. Gavazzi and his friends called for an end of the autarchic policy in favor of a progressive opening of the internal market to international trade by lowering all tariffs, especially those on iron, steel and wheat. They denounced the parasitic and uncompetitive nature of the military-industrial complex and proposed a drastic reduction

of public expenditure, starting from that for the army and navy. With their loud opposition, Lodovico Gavazzi and the other deputies representing the Milanese business community, were instrumental in causing Crispi's final fall after the military defeat of Adua in 1896.

129. In 1898 there were about 14,500 looms in Italy, 8,000 (54%) in the province of Como and 4,700 (32%) in the province of Milan. The hand-looms were still 12,000 and the power-looms 2,500. The latter were equally divided among the provinces of Milan and Como and were owned by a small group of firms (See Caizzi 1952, 1957).

130. The volume of the export business of the **Egidio e Pio Gavazzi**, which until 1873 was none, grew in the next years:

**Table 15. Export business of the firm Egidio and Pio Gavazzi**

| Years | Export business (in lire) |
|---|---|
| 1873-74 | 9,800 |
| 1874-75 | 7,300 |
| 1875-76 | 355,000 |
| 1876-77 | 488,000 |
| 1877-78 | 500,000 |
| 1878-79 | 795,500 |
| 1879-80 | 721,800 |
| 1880-81 | 1,031,500 |

Also investments in machinery increased:

**Table 16. Investments in machinery of the firm Egidio and Pio Gavazzi**

| Year | Machinery (in lire) |
|---|---|
| 1870 | 32,182 |
| 1872 | 42,000 |
| 1873 | 44,000 |
| 1874 | 53,500 |
| 1875 | 64,400 |
| 1876 | 78,080 |
| 1877 | 91,970 |
| 1878 | 87,650 |
| 1879 | 92,345 |
| 1880 | 89,080 |
| 1881 | 208,655 |

The numeric increase of looms was the following:

| Year | Hand-looms | Power-looms |
|---|---|---|
| 1870 | 20 | 31 |
| 1874 | 41 | 35 |
| 1876 | 58 | 42 |
| 1881 | 260 | 100 |
| 1896 | 250 | 1,000 |

131. The firm received prestigious acknowledgements at several Industrial Exhibitions:

Industrial Exhibition of Como, 1872 - Silver medal
Universal " " Paris, 1878 - " "
National " " Milan, 1881 - Gold "
General " " Turin, 1884 - Diploma of honor
Universal " " Antwerp 1885 - " " "

132. The liquidation of Egidio and Pio by their three siblings -- Giuseppe, Adele and Riccardo -- was paid out in several yearly instalments. To raise part of the cash the three siblings sold the Gavazzi palace in Milan and some marginal productive outlets, such as an old **filatoio** in Valmadrera in 1889.

133. Two siblings of the 6th generation of the Desio branch married two siblings of the 7th generation of the Valmadrera branch: Giovanni Gavazzi (1913), the 3rd offspring of Giovanni Battista (1882-1935) and Rosa Pirelli (1884-1962), married his 3rd degree cousin Elena Gavazzi (1914), the 2nd offspring of Pio (1888-1970) and Virginia Beltrami (1892-1916); Giovanni's younger sister, Amalia (1918), married Elena's older brother, Lodovico (1913). Giovanni Battista Gavazzi (1882-1935) was the 8th offspring of Egidio (1846-1910) and Giuseppina Biella (1849-1933); Pio Gavazzi (1888-1970) was the 4th offspring of Lodovico (1857-1941) and Vittoria Stabilini (1859-1944).

Close and cordial relations between the two branches of the Gavazzi family were also favored by seven marriages celebrated with descendents of two branches of the Dubini family (another Milanese family of silken entrepreneurs): Angela Gavazzi (1882-1968), the 1st offspring of Lodovico (1857-1941) and Vittoria Stabilini (1859-1944), married Angelo Dubini (1876-1943), the 4th offspring of Francesco and Carolina Gnecchi.

Franca "Fanny" Gavazzi (1885-1979), the 10th offspring of Egidio (1846-1910) and Giuseppina Biella (1849-1933), married Angelo Dubini's younger brother Carlo (1878-1917).

Angela Gavazzi's sister, Carla (1883-1978), married Antonio Dubini (1877-1931), the 3rd offspring of Giuseppe (1847-1922) and Amalia Giobba (1836-1908). Antonio Dubini was a 1st degree cousin of Angelo and Carlo Dubini.

Roberto Gavazzi (1953), the 6th offspring of Egidio (1907-1987) and Ippolita Cicogna Mozzoni and a grandson of Giovanni Battista (1882-1935) and Rosa Pirelli (1884-1962), married Francesca Dubini (1952), the daughter of Franco (1911) and Giulia Magistretti (1915) and a grand-daughter of Angelo (1876-1943) and Angela Gavazzi (1882-1968).

Piero Gavazzi (1916), the 5th offspring of Giuseppe (1883-1957) and Elena Viola (1993-1935) and a grandson of Piero (1854-1932) and Orsola Stabilini (1855-1929), married his 2nd degree cousin Giulia Dubini (1926), the 10th offspring of Antonio (1877-1931) and Carla Gavazzi (1883-1978).

Virginia Gavazzi (1938), the 1st offspring of Giovanni (1913) and Elena Gavazzi (1914), married Antonio Bozzi (1938), the 2nd offspring of Enrico (1907-1984) and Luisa Dubini (1909-1982), Giulia Dubini's (1926) older sister.

Vittoria Gavazzi (1910), the daughter of Angela's and Carla's younger brother Emanuele (1885-1950) and Adele

Sangregorio (1887-1974), married Giancarlo Dubini (1905-1982), the 4th offspring of Antonio's older brother Giuseppe (1874-1935) and Silvia Cora (1874-1910).

134. Pio Gavazzi was elected to the municipal council of Milan in the early 1880s when members of the industrial bourgeoisie replaced those of the old landed aristocracy in the leadership of the Milanese **Destra (Consorteria)**, the political party that ruled city for 40 years (1860-1899). Together with Pio Gavazzi several other industrialists were elected to the municipal council -- Carlo Erba, Felice Grondona, Giovanni Battista Pirelli, Giulio Prinetti, Ettore Ponti, Pio Borghi, Luigi Bocconi, Ernesto De Angeli, Palamede Guzzi, Cesare Saldini, Stefano Branca, Giuseppe Sessa, Cesare Binda, Pietro Bosisio, Guglielmo Miani, and Giuseppe Colombo. These men were determined to turn Milan into a bourgeois metropolis and their choices deeply conditioned the ways in which the urban center developed in the following decades. They drew a new city plan (1884), strengthened public services (acqueduct and sewer networks, hospitals, schools, roads, and tramway lines), promoted the restructuring of the urban landscape by promoting the demolition of popular quarters and the construction of new residential areas (Adami and Ago 1984:291-363).

135. The nomination of Egidio Gavazzi to the mayoral office came as a result of the victory of moderate clericals over anti-clericals in the town council in 1883. The town had been without a mayor since 1876 because of the struggle between these two factions. The great sponsors of Egidio Gavazzi were his brother Pio, who was in close contacts with the Milanese **Destra**, the local vicar Don Mossolini, the Count Francesco Belgioioso, and the noble Agostino Casati (Cappellini 1972:429).

136. The town of Desio, only 18 kilometers north of Milan, was connected by railway with Milan and Como already by the late 1850s. A new goods station was built by the **Societa' della Strada Ferrata del Mediterraneo** in 1889. The tramway line for the transportation of passangers and goods between Desio and Milan was built and managed by the British company Tramways aand General Works.

137. The Gavazzis were able to reconcile the rapid development of their factory with the modernization of the urban structure of the town. Here are some instances of this process as they are illustrated by a local historian.

> The Gavazzis had installed in their factory an electric power system [1889-1890] and their workshop for gas production became available. Thus the Gavazzis established a gas company with an initial capital of

> 70,000 lire. They gave up their workshop to the new company and obtained the permit for laying free of charge gas pipe-lines beneath the town's streets. The number of gas lamps was increased to 60 and lighting was extended to a group of new streets [1890]... In the following years gas- lighting was extended to many other streets of the town.
>
> Also the acqueduct originated from the fruitful encounter of the interests of the Gavazzi company and those of the community. The silk factory of the Gavazzis needed a large supply of water and for this reason they had built their own acqueduct with an iron-tower 45 meters tall and a tank of 80 cubic meters. Once they had satisfied their needs, the Gavazzis offered the water in excess to the population. They established a cooperative company for drinkable water and Egidio Gavazzi became its chairman. The mayor [Egidio Gavazzi] gave to the company the permit to lay the pipes beneath the streets. Work proceeded quickly and already by June 1894 it was decided to serve private buildings. The immediate result was a steep decline of the victims of typhus that before made havoc of citizens (Cappellini 1972:429-30).

138. Egidio Gavazzi was named churchwarden in 1886 and with his help it was possible for the local vicar Don Cesare Mossolini, one of Egidio's great sponsors to the mayoral office, to win the battle for the enlargement of the main church. The vicar considered such an enlargement necessary because the population of Desio was growing quickly and the church could no longer contain all those willing to attend mass. The project obtained the support of the local administration in 1888. As mayor, Egidio Gavazzi, granted the land and a 12 year contribution of 20,000 lire. But, the entire population was mobilized to carry out the project from 1888 to 1895 (Cappellini 1972:427-28).

> The workers bound themselves to work 5 holidays a year for 3/4 of the day in favor of the enterprise. The Gavazzis and the other local companies undertook to pay to the council of churchwardens the wages of the workers together with their own earnings. This continued for seven years, while the population, as a single mass of organized ants, did the rest. Twelve square perches of land were bought next to the train station and here a large sand quarry was opened. The town was divided in six teams that received instructions on Saturday night: some worked at the sand quarry, some transported materials to the yard and others went to collect stones at the furnaces of Seveso and Briosco. For five years, without repentances and wearinesses, up to 90 people worked in the quarry and

80 carriages were used for transports...

The marvelous fact was that participation was spontaneous and that the entire population carried out manual work. And besides the work, the population underwrote also shares of 15 lire each. One worker donated all his savings: 20,000 lire; provided that he could receive the usufruct. Then the Gavazzis took the burden of the usufruct and added other 20,000 lire. Also the nobles Buttafava Francesco and Ernesto donated a total of 7,000 lire...

The first stone was layed on 19 April 1991, at the presence of the archbishop Ballerini of Seregno. The godfater was Giuseppe Gavazzi and the godmother Adele Gavazzi Mazza...

The works were over at the beginning of 1895 and there was a great feast for the consacration of the church in August. Over 30,000 people participated to the ceremonies and the archbishop of Milan, Ferrari, arrived by tramway on a special wagon. The feast was also an occasion for the people of Desio to show off with pride the new condition of modernity of their town.

A great triumphal door made of green branches was erected at the entrance from Milan, while the triumphal door at the entrance from Seregno was all made of wood.... The large square was transformed into a garden with plants, bushes and flowers; in the middle a great pool with a jet of water nine meters tall, a marvel of the new acqueduct. The facade of the church was lighted by 3,000 gas-flames contained in glass balls. The tramway and railway granted special rebates for tickets from Como, Varese, Milan, and Monza, thus favoring the arrival of over 30,000 people.

The festivities lasted from the 23 to the 26 of August. A newspaper wrote that "the large village was proud of the new cupola that crowning the enlarged church sat as on a throne in the middle of the Lombard countryside." At night electric searchlights projected pencils of multicolored rays of light on the cupola.

The archbishop visited the Gavazzi factory, and the carriages of the two Gavazzi brothers accompanied him around town to visit the male and female oratories (Cappellini 1972:433-34).

139. The population of the town of Desio grew as following:

| | |
|---|---|
| 1861 | 5,431 |
| 1871 | 5,874 |
| 1881 | 6,347 |
| 1883 | 6,570 |
| 1887 | 7,483 |
| 1890 | 8,003 |
| 1898 | 10,305 |

Between 1870 and 1896, Desio changed from the condition of a small rural village that was one of the favorite resort of the Milanese nobility and bourgeoisie into a small agro-industrial town. About 3,000 people (mostly women) worked in local industries by 1896: 2,000 at the **Egidio e Pio Gavazzi**; 150 at the **filande-filatoi** of the **Pietro Gavazzi e Fratelli** and the **Battista e Cesare Bozzotti**; 350 at the wool spinning and weaving mills of **Rezia e Trezzi Ercole** and **Trezzi Pompeo**; 50 at a large joinery; and over 100 worked in small carpentries (Cappellini 1972:433).

140. In this respect it is indicative the spirit of a parchment signed by the royal couple on occasion of their visit to the Gavazzi factory (cited in Cappellini 1972:437).

> On 9 November 1895 -- Our August Sovereigns -- Umberto I and Margherita of Savoy -- Lofty supporters of every useful enterprise, with their gracious intervention to the inauguration of the new engine, which marks the happy progress achieved by the silken industry of the firm **Egidio e Pio Gavazzi**, are the most glad omen of a prosperous and secure future to the factory of Desio.
>
> After the propitiatory prayers Her Majesty the Queen gave the first impulse to the new engine of the enlarged which marks the happy progress achieved by the silken industry of the firm **Egidio e Pio Gavazzi**, are the most glad omen of a prosperous and secure future to the factory of Desio.
>
> After the propitiatory prayers Her Majesty the Queen gave the first impulse to the new engine of the enlarged factory, which, with renewed energies intends to promote the national industry and assure the benefit of a profitable work to this good,indulgent and active population. Umberto -- Margherita.

141. The following sources provide information on the Pontis, Cantonis, Crespis, and the other dynasties of the cotton industry for this period: Frattini 1856; Merlini 1857; Pasolini 1876; Luzzatti 1919; Cotonificio di Solbiate 1923; Tonelli 1930; Enciclopedia Italiana 1931; Treccani 1931a, 1931b, 1936; Macchi 1933; Bondioli 1936, 1937, 1954; Tremelloni 1936; Riccardi 1953; Rossi 1954; Sapori 1962; Caizzi 1965, 1972; Castronovo 1965, 1966; Zaninelli 1967; Luzzatto 1968; Lodigiani 1969; Dagradi 1971; Rogora 1971-72; Cotonificio Cantoni 1972; Crespi 1972; Romano 1975, 1977, 1980, 1981, 1983, 1985, 1990; Borruso 1976; Deichmann and Origgi 1976; Abriani and Testa 1981; Cristofoli and Pozzobon 1981; Bernard 1982; Testa 1983; Levi 1984; Macchione 1987; Riva 1990; Zaninelli and Cafaro 1992.

142. Frattini (1856) and Merlini (1857) provide data on the

state of Lombard cotton industry in the 1850s. In 1845 there were 28 spinneries with 102,000 spindles and 3,200 workers, producing 29,000 q of yarns. In 1857 there were 32 spinneries with 121,052 spindles and 3,810 workers (1,176 young girls, 1,152 women and 1,482 men), producing 33,000 q of yarns. The largest spinnery was that of the Pontis at Solbiate with 14,500 spindles (in 1842 these were 10,500) and 450 workers. Lombard spinneries and spindles were distributed as following in 1857:

| Province | Number of Spinneries | Number of Spindles |
|---|---|---|
| Brescia | 2 | 4,360 |
| Bergamo | 2 | 8,504 |
| Sondrio | 1 | 8,568 |
| Como | 10 | 30,524 |
| Milan | 17 | 69,096 |

There was a new wave of investment in spinning machinery between 1857 and 1859, and the number of spindles increased to 100,000 in the province of Milan and to 50,000 in that of Como. The spindles of the firm **Antonio and Andrea Ponti** became 18,500 at Solbiate and most of the spinneries acquired steam engines to provide auxiliary power.

Even the number of looms increased: from 14,500 in 1847 to 17,000 in 1854 (but there were only 98 Jacquard-looms and 270 power-looms) and to over 20,000 in 1859. The entrepreneurs, however, did not strive to transform the weaving phase into an industrial activity. The economic advantages obtainable with the introduction of power-looms, appeared much less relevant of those achieved with the industrialization of the spinning phase. In 1856 the Chamber of Commerce of Milan argued that three major factors inhibited the mechanization of weaving: (1) the high cost of the new machinery; (2) the scarcity of disposable capital; and (3) the insufficient availability of motive power since the best spots along the rivers already provided hydraulic power to the spinneries and the adoption of steam-power was rendered problematic by the too high price of wood and coal. Hand-loom weaving, excercised by low cost rural weavers, showed a strong capacity to survive. The progresses made in the spinning phase seemed to serve only the purpose of overcoming the old bottleneck of manual spinning and thus to align the slower sector to the less slower one, to finally put at the disposal of rural weavers an adequate quantity of yarns, and to lower final costs for the profit of entrepreneurs and, at least in part, of consumers.

143. Merlini (1857:88 ff) estimated the value of the Lombard cotton manufacturing cycle to be as following:

| | Lire |
|---|---|
| Cost of 4,000 t of raw cotton at 1,780 lire (*) | 7,120,000 |
| Cost of 2,800 q of imported yarns | 1,166,400 |
| | 8,286,400 |
| Wages for workers in spinning, weaving, etc. | 6,942,800 |
| Expenditures for dyeing the yarns | 4,419,400 |
| " " administration | 750,612 |
| Interest on capital and amortization | 492,000 |
| Total expenditures | 20,891,212 |
| Proceeds from q 15,520 of raw cloth and fustians sold at 450 lire | 6,984,000 |
| Proceeds from q 15,520 of dyed cloth and fustians sold at 750 lire | 11,640,000 |
| Proceeds from q 7,760 of dyed draperies at 1,050 lire | 8,148,000 |
| Proceeds from the increase of the weight of cloth as a result of dyeing | 1,581,750 |
| Total proceeds | 28,353,750 |

(*) The cost of raw cotton was as following: Indian cotton 120/150 lire per q; cotton of the Levant 150/180 lire per q; American and Egyptian cotton 169/180 lire per q. Lombard cotton spinneries transformed predominantly cotton imported from New Orleans (See Frattini 1856:93 ff).

144. The Lombard cotton industry produced low quality yarns and cloths. Over 95% of the spinning machinery did not go beyond grade 24 in the mid 1850s. The thick yarns that were produced were suited only for the production of heavy cotton fabrics for the consumption of peasants and urban poor. The importation of medium-high quality products -- such as shirtings, modapolams, organzines, muslins, tulles, calicoes, velvets, percales, printed cloths, etc. -- from other areas of the Habsburg Empire, Switzerland, England, and France was estimated to reach a yearly value of 10 million lire. Contraband from Switzerland by land and the lakes Maggiore and Ticno was rampant and many of the Lombard cotton entrepreneurs were actively involved in it (Frattini 1856:109 ff; Caizzi 1972:141-44).

145. The Cantonis, for example, bought arable and wood land around Castellanza, participated actively to the life of the Milan and Vienna stock-exchanges and attempted to obtain from the Austrian government the concession for the railroad Milan-Gallarate. They were able to carry out the latter project only in 1860, after Italian unification (Romano 1981:319-21; Macchione 1987:117 ff).

146. The cases of the Pontis and Cantonis exemplify the rather smooth linear fashion through which the process of generational succession took place among the Lombard cotton dynasties in these years.

As we have seen in Chapter 5, the generation of the "pioneers" of the Ponti family was formed by the three sons of Andrea Sr. (1752-1819) -- Bartolomeo (1785-1860), Giuseppe (1786-1853) and Francesco (1794-1874) -- each of them assuming the responsibility for a specific business area. Bartolomeo was in charge of the figorm's overall

administration and banking business in Milan. Giuseppe remained in Gallarate where he managed productive operations. Francesco, after traveling to the United States and other countries to purchase raw cotton, settled in Trieste, the fast growing commercial free-port on the Adriatic sea, where he traded raw cotton and other goods.

Only Giuseppe married and had two sons -- Antonio (1818-1862) and Andrea Jr. (1821-1888) -- who married descendants of prominent cotton dynasties of Busto Arsizio: Antonio married Erminia Turati and Andrea Jr. married Virginia Pigna. The two brothers were the designate inheritors of the **Andrea Ponti** and when Giuseppe died in 1853, the name of the firm was changed to that of **Antonio and Andrea Ponti**. In the intentions of the older generation, Antonio was to perform the functions of his uncles Bartolomeo and Francesco, while Andrea Jr. those of his father Giuseppe. Thus, Antonio went to work very young with his uncle Bartolomeo at the firm's headquaters in Milan and traveled to the United States to purchase raw cotton. Andrea Jr., instead, went to supervise with his father Giuseppe the spinneries of Gallarate and Solbiate, after receiving a Law School degree at the University of Pavia in 1845 and technical training at a cotton firm in Alsace, and after visiting England and other European industrial regions with his brother-in-law Luigi Borghi (1812-1859), a member of another prominent cotton dynasty of Gallarate. Andrea Jr. took an active part also to the **Risorgimento** movement together with Borghi, who had joined the Young Italy of Mazzini in 1831, receiving a death sentence from the Austrians in 1833 and spending in exile in England the years after 1840. Andrea Jr. became one of the leaders of the armed insurrection against the Austrians at Gallarate and Varese in 1848 and was municipal councilman and commander-in-chief of the National Guard at Gallarate during the war of independence in 1859. Andrea Jr. was an admirer of Garibaldi and with the latter was among the founders of the Milanese Society for Target Shooting in 1862.

Bartolomeo died in 1860 and the ownership of the **Antonio and Andrea Ponti** was divided among Francesco (40/94), Antonio (27/94) and Andrea Jr. (27/94). But, Francesco was old and ill, while Antonio died in 1862, leaving his wife Erminia Turati and four little children -- Emilio, Amerigo, Elvira, and Angelica. Thus, Andrea Jr. had to take charge of the overall administration of the family business, which was estimated to be over 10 million lire in 1867. Besides cotton trade and industry, a large part of the firm's activity involved the concession of loans at interest to other cotton entrepreneurs, merchants and landholding aristocrats, such as Count Federico Borromeo (for 604,938 lire) and the inheritors of Duke Uberto Visconti di Modrone (for 260,000 lire).

Generational succession in the Cantoni family of

Gallarate was even less problematic. Costanzo Sr. (1800-1876), the family leader in the generation of the "pioneers," and his wife Giulia Magnaghi had only two offsprings: Eugenio (1824-1888) and Virginia. Eugenio, as the only male offspring, was raised as the designate heir. After participating as a volunteer to the **Risorgimento** war of 1848, he spent most of the early 1850s traveling in England, Switzerland and Germany. Eugenio married the Viennese Baroness Amalia Gennotte von Markenfeld de Sauvignj in 1857. She was the daughter of the private secretary of the Cabinet of the Austrian Emperor and this marriage enabled Eugenio to have access to the more exclusive business and political circles at Vienna and Milan. It was also in coincidence of this marriage that Costanzo Sr. left the active management of the family business to Eugenio, limiting his involvement to the supervision of the family's vast landholdings.

147. There were only three cotton producing regions in Italy at the moment of unification in 1861. The most important was the Lombard belt that descended from Varese to the highland of Gallarate, Busto Arsizio and Legnano, continued into the lower Brianza (Monza), wedged itself into the entrance of the valleys of Bergamo, and descended in the Bresciano. Piedmontese manufacturing activities were less numerous and more dispersed, but with the tendency of composing themselves into a few strong aggregates -- at Chieri, in the Canavese, in the Pellice valley, in the district of Alessandria up to the border with Liguria, and above all in the area between Novara and Lake Maggiore. The third area of settlement of the cotton industry was in the south, around Naples and Salerno, where a few large firms had been established in the 1830s by Swiss entrepreneurs -- Egg, Vonwiller, Meyer, Schlaepfer, Wenner, etc. -- attracted by the high protectionist tariffs existing in the Kingdom of the Two Sicilies and by the availability of raw cotton, which was cultivated in Sicily and Apulia since the Continental Blockade. While the Lombard and Piedmontese cotton producing regions continued to prosper also after Italian unification, the southern region was unable to survive largely as a result of the free-trade policy implemented by Cavour and the **Destra**.

148. Cavour drove through a general tariff reduction on 18 August 1860. Customs duties on cotton yarns were reduced to 3% and those on cotton fabrics to 10%. Mr. Brown, the British counsul at Genoa, described the difficulties encountered by indigenous cotton producers when the Italian market was flooded by inexpensive English manufactures.

> The present moment is extremely critical and difficult for all those engaged in the cotton industry:

> the difficulties of entrepreneurs are aggravated greatly by the fact that as a consequence of the closure of the American market English producers are obliged to sell their goods on the market even at a loss. Under these exceptional circumstances the flux of English products introduced on the Italian market has been so great and prices so low generally, that local producers have been cut out of the market and, it is said, they have in storage the production of many months (cited in Bolchini 1969:55-56).

149. On 17 January 1863, the Italian government signed a new bilateral trade treaty with France, the most important trading partner of Italy. The treaty was ratified by Parliament on 24 January 1864, went into effect on 15 February 1864 and became the basis for subsequent bilateral trade treaties signed by Italy with other European countries. In exchange for French lower customs duties on Italian agricultural products, raw materials and spun silk, the Italian government cut down customs duties on French yarns and fabrics of cotton, linen, hemp, and wool, and on other manufactures (chemicals, leather products, white porcelains, sheets of glass, etc.). In particular, there were reductions of 50-63% on cotton yarns and of 25-67% on cotton fabrics (Parravicini 1958:330-31).

The only opponents in Parliament to the ratification of the treaty were the deputies Giuseppe Polsinelli, a woolen entrepreneur of Arpino, and Ercole Lualdi, a cotton industrialist of Busto Arsizio, who was elected to the Chamber in June 1863 in the ranks of the moderate Left. Lualdi was the political representative of the Lombard cotton industry in Parliament throughout the 1860s and openly opposed the free-trade policy of the **Destra**. Furthermore, the treaty with France was opposed openly in Lombardy by the Chambers of Commerce of all the manufacturing provinces (Milan, Bergamo, Como, and Brescia), while it was supported by those of the agricultural provinces (Pavia and Cremona).

150. The Lombard cotton industry was hit hard by the "cotton famine" as imported raw cotton fell from 124,000 q in 1861 to 38,000 q in 1862, 43,000 q in 1863, 32,000 q in 1864, and 28,000 q in 1865. The supply of imported raw cotton returned to the levels of 1861 only in 1866 and than continued to grow, reaching 200,000 q in the early 1870s.

Ponti, Cantoni and the other Lombard cotton entrepreneurs supported the expansion of cotton cultivation in southern Italy, in Sicily and Apulia, where cotton had been planted since the Continental Blockade. They promoted the establishment of a Royal Commission for the Cultivation of Cotton in Italy in 1863 that conducted a series of studies and experimentations at the Botanic Garden of

Palermo, organized exhibits and sponsored several publications. As a result of these efforts, the land cultivated with cotton increased to over 30,000 hectares in the provinces of Caltanisetta, Agrigento, Taranto, Foggia, and Bari. Only a fraction of this land, however, was irrigated and thus crops were poor and the fibre was short and rough. Only one-third of the raw cotton consumed by Lombard spinneries came from southern Italy by the early 1870s and this proportion fell drastically thereafter.

151. One of the more clamorous case was the bankruptcy of the cotton firm owned by Count Luigi Archinto in 1863-64. The **National Manufacture Archinto** had a large factory at Vaprio d'Adda (established by the firm **Sioli Dell'Acqua** in 1838) with over 300 workers, 11,000 spinning spindles, 1,300 twisting spindles, 250 power-looms, and a dyeing workshop. The factory produced cotton yarns, fustians and velvets of good quality. Cristoforo Benigno Crespi (1833-1920), with the financial support of his father Antonio and of the cotton industrialist-politician Ercole Lualdi, rented the plant from the Consortium of Creditors of the **National Manufacture Archinto** between 1864 and 1865. The Consortium, however, chose to sell the plant at an auction and Duke Raimondo Visconti di Modrone acquired it for 1.6 million lire in December 11865.

152. The introduction of night-work and the substitution of mule-jennies with self-actings allowed to increase both production and productivity. Night-work became a standard feature in the labor organization of cotton factories and remained completely unregulated until the issuing of the law on child and female labor of 1902. The substitution of mule-jennies with self-actings proceded slowly and was fully accomplished only after the implementation of the protectionist tariff of 1878, although self-actings allowed to achieve a superior level of productivity. Only spindles were mechanically activated with mule-jennies, while all the other movements were done by hand, so that a mule-jenny of 400 spindles required the work of 1 adult spinner and 3-4 boys, while the work of 2 spinners fed 1 weaver with the necessary yarn. All movements were done mechanically with self-actings, although in two distinct phases, and the work of 1 spinner fed 1 weaver with the necessary yarn.

153. The **Cantoni** had about 500 rural hand-weavers and four water/steam-powered mills in the Olona district of the upper Milanese in 1867: a spinning and weaving mill at Legnano with 1,000 spindles and 112 power-looms; a spinning and weaving mill at Castellanza with 8,000 spindles and 124 power-looms; a dressing and dyeing mill at Legnano; and a bleaching mill at Castellanza. Cantoni introduced night-work in his spinning and weaving mills during 1868. The same

year, he leased a water-powered **filanda** from the Gavazzis at Bellano and turned it into a spinnery with 6,800 English-made self-actings. By expanding yarn production, Cantoni was able to increase to over 1,000 the number of rural hand-weavers working for his firm. Finally, in 1869 he mechanized the dyeing and bleaching mills and acquired a printing mill at the Maddalena in Milan and began to mechanize it.

154. The complete heading of this Milanese technical periodical was **The Industrialist; Periodical Dedicated to the Development and Improvement of National Industries** (1871-77). Until 1874, it was owned by the firm **Colombo-Cantoni-MacKenzie & C.**, founded by the engineer and professor at the Milan Polytechnics Giuseppe Colombo (See note 95), the cotton entrepreneur Eugenio Cantoni and the English commissioner MacKenzie. The **Colombo-Cantoni-MacKenzie & C.** was an engineering company specialized in planning industrial plants (spinneries, weaving-mills, flour-mills, paper-mills, hydraulic-power and steam-power systems, metallurgic mills, etc.). It functioned also as an agency for the most important European firms producing machinery. After 1874 (with the dissolution of the engineering firm) the periodical was owned by Cantoni, Colombo and the publisher Bartolomeo Saldini.

**L'Industriale** aspired to become a means of communication and aggregation of Italian industrialists. The editors believed that if until 1870 the economy had been subordinated to politics, after the proclamation of Rome as capital of the Italian Kingdom industrialization and economic development were to become the central issues in the national political and intellectual debate. For this reason the periodical hoped to become the forum in which entrepreneurs could organize themselves, debate together common problems, exchange informations and experiences, and clarify their orientations and needs. The response of entrepreneurs to this invitation, however, was very unsatisfactory (Lacaita 1985:42-43).

155. The Milanese economic newspaper **Il Sole** was founded by the silken businessmen Gaetano Semenza in 1865. Semenza was a follower of Mazzini who had spent years in exile in London. Initially, **Il Sole** was a Mazzinian democratic newspaper supporting the ideology of collaboration among social classes. This editorial line, however, was watered down after that Eugenio Cantoni became co-owner of the newspaper in 1867. **Il Sole** became a strong supporter of industrialization envisaging the substitution of the old land-holding ruling class with a new class of industrialists. According to the newspaper, however, this substitution was supposed to take place without the political mobilization of the lower classes, that is

agrarians were not supposed to resist this change (See Baglioni 1974).

156. Eugenio Cantoni transformed his family firm into the **Cantoni Cotton Manufacture** (11 February 1872), a joint-stock company with a capital of 7 million lire. Stock-ownership was as following: Eugenio Cantoni with 2.75 million lire, his father Costanzo Cantoni with 1 million lire, the **Banca Industriale e Commerciale** of Milan (Eugenio Cantoni was one of its founders and its first president) with 500,000 lire, the **Banca Italo-Germanica** with 500,000 lire, other 22 stock-holders with shares that ranged between 200,000 and 20,000 lire: Andrea Ponti Jr., Counts Ernesto and Ercole Turati, Alberto Amman, Luigi Krumm, Napoleone Borghi, Giuseppe Colombo, A. Thomas, Eugenio Bauer, Costantino Garavaglia, L. Terruggia, Emilio Noseda, Count Gabrio Sormani, Angelo Faletti, etc. The Cantonis retained control of the company since they held over half of the capital and Eugenio was appointed general director with the right to receive 10% of total profits. Andrea Ponti Jr. was the first president of the company (1872-73) and was replaced by Napoleone Borghi (1873-76) and then by Luigi Krumm (1876-77).

157. The **National Linen and Hemp Manufacture** (1873) was established as a joint-stock company with a capital of 8 million lire. Its formation was a result of the fusion of the firm **Ceriani & C.** that had a spinnery at Fara d'Adda with 3,000 spindles and hydraulic-power to move up to 20,000 spindles, with the firm **Cusani & C.** that had a plant at Cassano d'Adda with 6,000 spindles and 50 power-looms. In the course of 1873 the company incorporated a spinnery with 1,000 spindles at Crema for the spinning of jute imported from India. New investments brought the number of spindles at Fara d'Adda to 16,000 and the total labor-force of the company to over 2,000 people by 1876. The company spun hemp produced in the provinces of Ferrara, Bologna and Naples, flax produced in Lombardy and Venetia, and jute imported from India. Its production of yarns, threads, ropes, cords, and cloths was sold mostly on the domestic market. Andrea Ponti Jr., who had provided conspicuous financial resources to the **Ceriani & C.**, was the major financial and managerial force behind the formation of the **National Linen and Hemp Manufacture**. He became the first president of the company (1873-1888), while the other members of the board were: Napoleone Borghi (vice-president), Carlo Servolini (vice-president), Eugenio Cantoni, Giuseppe Ceriani, Marquis Luigi Cusani, Luigi Krumm, Costantino Garavaglia, Count Ernesto Turati, Francesco Restelli, and Count Gabrio Sormani.

158. Alessandro Rossi of Schio transformed his woolen family firm, the **Francesco Rossi & C.**, into the **Rossi Woollen**

**Manufacture** (9 January 1873), a joint-stock company with a capital of 30 million lire, 7 industrial plants in the province of Vicenza and headquaters in Milan. Eugenio Cantoni was the largest single share-holder (with 36.70%) and with his relatives, Ponti, other friends, and Milanese banks he controlled 52% of the company's capital. Stock-ownership was as following (See Marchesini 1985:330):

| Share-holders | Shares | % |
|---|---|---|
| Eugenio Cantoni (vice-pres.) | 44,050 | 36.70 |
| Alessandro Rossi (president) | 30,000 | 25.00 |
| Francesco Rossi (vice-pres. and son of Aless.) | 4,000 | 3.33 |
| Andrea Ponti Jr. | 2,000 | 1.66 |
| Eugenio Colorni | 1,000 | 0.83 |
| Gabrio Sormani | 1,000 | 0.83 |
| Arturo Cantoni (son of Eugenio) | 1,000 | 0.83 |
| Luigi and Pietro Krumm | 1,000 | 0.83 |
| Costanzo Cantoni Sr. (father of Eugenio) | 500 | 0.41 |
| Michele Saporiti | 500 | 0.41 |
| Other 46 minor share-holders | 12,050 | 9.23 |
| Banca Industriale e Commerciale (Milan) | 8,200 | 6.83 |
| Banca del Credito Veneto (Venice) | 2,700 | 2.25 |
| Banca Lombarda (Milan) | 2,000 | 1.66 |
| Credito Milanese (Milan) | 3,000 | 2.50 |
| Banca Generale (Rome) | 2,000 | 1.66 |
| Banca di Torino (Turin) | 1,500 | 1.25 |
| Banco Italo-Germanico | 1,500 | 1.25 |
| Banco Italo-Austriaco | 1,500 | 1.25 |
| Banca Industriale e Commerciale (Bologna) | 500 | 0.41 |
| Total of 66 share-holders | 120,000 | 100.00 |

159. The **Richard Ceramic Manufacture** (23 February 1873) was established with the fusion of the Milanese ceramic firm of Giulio Richard (1812-1880) with two others at Palosco and Sovere. The new joint-stock company had a capital of 8 million lire that was underwritten by Giulio Richard and his family, Alberto Amman, Federico Mylius, Gaetano Buttafava, Finzi, Sessa, Vimercati and others.

160. The young engineer Giovan Battista Pirelli founded the **G. B. Pirelli & C.** for the production of caoutchouc goods in 1872. The Milanese firm was a **società in accomandita semplice** with a capital of 250,000 lire. Pirelli invested 5,000 lire and became the **gerente** of the firm. The rest of the capital was underwritten by other 24 Milanese share-holders: Eugenio Cantoni, Abramo Vita-Sforni (55,000 lire), Onorato Zucchi (20,000 lire), Lorenzo Prinetti, Count Alfonso Sanseverino, Marquis Ermes Visconti, Alfonso Garovaglio, Secondo Cremonesi, Giuseppe Colombo, Gaetano Buttafava, Emilio Broglio, Senator Francesco Brioschi, Teresa Kramer-Berra, A. Bosoni and a few others.

161. The **Filatura Cascami Seta** was established at Novara in 1872 by the Swiss-Italian cotton entrepreneur Alessandro Poss, the silk industrialist Clerici of Como, Eugenio Cantoni, and a few other cotton and silken entrepreneurs.

The company managed the first Italian spinning plant for silk waste. It was transformed into a joint-stock company in 1888.

162. Like the firm **Reiser Cattoretti & C.** of Gallarate, specialized in embroideries produced with sewing machines and the firm **Bonincalzi & C.** of Gallarate, producing combs and other spare parts for hand- and power-looms, but also the **Joint-Stock Company for the Export of Sugar Cane** (April 1871) or the **Joint-Stock Company of Grand Hotels** (9 January 1873).

163. The vicissitudes of the **Cantoni Cotton Manufacture** are exemplary of the difficulties encountered by the new companies and by the "captains of industry" (Romano 1975, 1981). Between 1872 and 1874, Eugenio Cantoni had implemented an expensive policy of plant acquisition -- the spinnery at Besozzo (Varese) and the twisting mill at Porta Romana (Milan) owned by Giuseppe Ferrario -- and plant modernization -- new spinning machinery and steam-engines at Castellanza, a new hydraulic-turbine at Bellano, new steam-engines at Legnano, new twisting machines at Porta Romana, new twisting machines and steam-engines at Besozzo, new printing machines at the Maddalena. Cantoni tried to finance this policy through an increase of the company's capital (from 7 million lire to 15 million lire) that fomented the discontent of small share-holders. The capital increase was first approved by the board, but then was declared illegal since the intial capital had not been totally paid. Thus, the company's expansion was largely financed with funds borrowed at high interests from banks and private bankers, and it became impossible to make further investments with the collapse of the stock market and most of the credit system.

Relations between Cantoni and his allies and small share-holders became even more tense after 1874. The position of Cantoni was weakened by a disposition in the company's statute that set a limit of 5 votes for each share-holder, regardless of the number of shares owned. Cantoni had to menace repeatedly to resign in order to regain his authority, but he carried out a policy that went beyond the powers assigned by the statute to the general director: he sold the twisting mill at Porta Romana to the firm **Sheller & C.**, of which he was a partner, without the full approval of the board of directors, and he gave credit to people that were subsequently unable to repay the debt, causing a considerable loss to the company. The board of directors was compelled to promote two law-suits against him under the pressure of disgruntled small share-holders. Cantoni stepped down from the office of general director in mid 1877 and thus was able to free those shares that according to the statute he had to keep blocked as long as

he occupied that office. He distributed the shares to his trusted retainers (100 shares each) and the latter gave him an overwhelming majority at share-holders' meetings: thus, notwithstanding the tenacious opposition, the losses caused by Cantoni were largely absorbed in the company's budget.

Between 1873 and 1878, the company's income diminished constantly and progressively, while the value of the inventory increased in the same proportion, indicating that storehouses were stuffed with unsold goods. The swerve between production and sale shows that Cantoni had underestimated the negative consequences of the end of the speculative phase. Cantoni considered the crisis only as a due to a temporary state of overproduction.

> Every 2 or 3 years one notes a kind of jam in our industry that creates a difficult situation, but which then finds its outlet naturally. Our goods, while they have a large market, because are consumed by the more numerous lower classes, feel directly the consequences of the economic difficulties experienced by these classes (**Cotonificio Cantoni** in 1877, cited in Romano 1981:326).

The **Cantoni** did not distribute dividends from 1877 to 1879 and Cantoni and his associates had to sell the printing mill at the Maddalena to improve the company's finances in 1878. The mill was sold to its director Ernesto De Angeli, one of the favorites of Cantoni who invested 60,000 lire in the new firm **De Angeli & C.**, an **accomandita semplice**. The capital of the **Cantoni** was reduced to 5.75 million lire after the sale of the printing mill, but the inventory returned to an acceptable level in 1879, improving the company's financial state and allowing the distribution of a modest dividend in 1880 (8.50 lire per share). It was not mere chance that the recovery followed the new protectionist tariff of 1878. A new expansionary cycle began for the **Cantoni** and lasted practically uninterrupted until 1896.

164. Indicative of this progress was the volume of imported raw cotton that increased from less than 100,000 q in 1866 to 309,000 q in 1874. Moreover, besides the expansion of existing large firms such as the **Cantoni**, several new plants engaged in complex and specialized productions were set up between 1866 and 1873. In 1866 Bernardo Caprotti opened a mechanized weaving mill with Honegger power-looms at Ponte Albiate. In 1867 the Crespis founded a new spinning mill at Vigevano; Rovelli and Sironi established a weaving mill at Monza (which later became part of the firm **Rovelli & Marelli**). In 1868 Roberto Bernocchi created the first nucleus of a large bleaching plant at Legnano. In 1869 Zopfi opened a spinning and twisting mill at Ranica (Bergamo). In 1870 the Crespis activated a new spinning

mill at Ghemme (Novara); Milani opened a spinnery at Busto Arsizio; Redaelli established a weaving mill with Jacquard power-looms at Monza; in Liguria the **Delle Piane Cotton Manufacture** and the **Caviglia Cotton Manufacture** began their production. Venzaghi opened a spinning mill at Busto Arsizio in 1871. The cousins Fossati established a spinnery at Monza in 1872 (Romano 1977:15).

165. In their depositions to the Parliamentary Commission in 1872, Lombard cotton entrepreneurs argued in favor of the introduction of higher tariffs on foreign yarns, particularly on finer yarns. They considered this as a necessary measure to allow the further development of the cotton industry. Thus, for example, Giuseppe Ferrario, the owner of a spinnery at Milan and a twisting mill at Besozzo that were absorbed by the **Cantoni Cotton Manufacture** the following year, stated in his interview with the member of the Commission Alessandro Rossi (cited in Romano 1977:119-20):

> **Ferrario.** I would like that it could be fixed a higher custom duty on twisted, raw and dyed cotton yarns: nay I note that no one produces reels of thread for sewing machines in Italy, of which there is now a vast consumption. But naturally these will never be produced in Italy until the custom duty will not be increased...
> **Rossi.** Hence, you think that it is necessary to increase the custom duty on finer yarns so that the industry of finer yarns may prosper.
> **Ferrario.** It is certain that if the tariff on finer yarns would be increased, we will have also Italian industrialists spinning finer grades, because today nobody spins beyond number 40. If there are some mills that spin beyond number 40, they do so to grant special requests, but there is no profit.

Eraldo Krumm, the owner of two spinneries at Busto Arsizio and Legnano, called for an increase of tarriffs also on low grade yarns (cited in Romano 1977:121-22):

> **Krumm.** We would need an increase of tariffs from number 16 up, because these [yarns] are not protected enough.
> **Rossi.** Do you think that the defect of our tariff is rather in the categories, than in itself, and that it could stay as it is up to number 16 at least?
> **Krumm.** Our conditions are such that we need protection also from number 6 to number 16; but where there is a strong disproportion for us is from number 22 up.
> **Rossi.** Is it profitable to produce yarns up to number 40?
> **Krumm.** No: in general, speaking of cotton yarns, the

maximum number that we are able to sell are numbers 26 and 28.
**Rossi.** For what reason our spinneries cannot compete in finer grades?
**Krumm.** Exactly because from that grade up we have a strong [foreign] competition. Nobody has a mill capable of producing these yarns in our country.
**Rossi.** For what reason it is not possible to produce them here?
**Krumm.** First of all it would be necessary to establish a mill just for the production of these grades; this would require the engagement of a large capital, and this capital in its production would be fought by foreign competition as a result of present tariffs.

Duke Guido Visconti di Modrone, owner of a firm that produced cotton velvet in a large industrial plant at Vaprio d'Adda, agreed with Eraldo Krumm (cited in Romano 1977:127):

> I agree with what mister Krumm said, that is that we would need an increase of the tariff from 5 kg down [finer fabrics], because everybody knows that in Italy ... fine goods are not produced. We have tried to work with number 40, but we have seen that we were losing money. It is an illusion to believe that we can work with fine grades in our country and make a profit.
> ... We are obliged to produce the most ordinary qualities of velvet articles. With existing customs duties we cannot manufacture finer fashionable and luxury items; because these tariffs are equal both for fine and ordinary grades, we are obliged by compulsion to produce the ordinary ones, because on the fine ones we cannot compete with England. England has a lot of capital, is satisfied with earning little, 3%, and maybe is satisfied with earning nothing, provided that sends ships loaded with goods in our harbors.

166. In his deposition to the Parliamentary Commission in 1872, Eugenio Cantoni stated that the tariffs of Italian railroads were too high in respect of abroad (cited in Romano 1977:112):

> I consider that the costs of internal transportation are too heavy for us. To cite one example, we pay 4 francs per 100 kg from Bari to our plant, while Switwerland pays 6 francs per 100 kg for the shipment that arrives from New Orleans to Liverpool; hence I reccomend the Committee to make railway companies understand the necessity of modifying the present tariffs... I calculated that we pay more to send our goods to Catanzaro, than to Buenos Aires.

Eraldo Krumm argued that the existing railroad tariff

> ... represents a difficulty for the transmission of our products to other Italian provinces. To cite one example, I will say only that from Busto to Naples the cost for the transportation of goods is 2%; while from Busto to Rome, which is nearer, it costs 3%.

167. Machinery, spare parts, raw cotton, coal, deying products, etc. had to be imported from abroad. Thus Italian cotton entrepreneurs had to face the additional burden of costs of transportation, exchange rate and customs duties.

168. In his deposition to the Parliamentary Commission in 1872, Eraldo Krumm argued that coal and steam-power were still too expensive for the Italian cotton industry (cited in Romano 1977:125):

> **Rossi.** ...You have said at the beginning that [the lack of] capital and also the cost of motive-power do not allow to establish big plants: it is on this matter that the Committee would like to be enlightened.
> **Krumm.** In fact, steam-power is one of the greatest difficulties, because 1 HP does not cost less than 800 lire a year, for fuel and maintenance.
> The cost of its establishment can be also over 800 lire. Then, the establishment of an hydraulic-engine, with the water- right, does not cost less than 1,200 lire per HP. I say this to prove how expensive is the motive power in our country compared to England.

Eraldo Krumm lamented also that hydraulic-power was becoming inadequate to the new requirements of industrial production (cited in Romano 1977:122):

> **Rossi.** Regarding motive-power do you believe that we are in an advantageous condition?
> **Krumm.** I don't think so. I think that before, when the first spinning mills were established on the Olona, Lambro and in some other place, in these localities there was above all a poor population that found manufacturing work more profitable than agriculture; mills were established at Legnano and Solbiate 40 or 50 years ago, and since then the water of the Olona has diminished. Over there one finds the labor-force, but the motive-power is insufficient.
> We have one-third of the hydraulic-power that would be needed. In the localities where hydraulic-power could be very powerful, the labor-force finds land cultivation more profitable.

169. In his deposition to the Parliamentary Commission in

1872, Eraldo Krumm described the lack of specialization in production of his firm (cited in Romano 1977:124-125):

> **Krumm.** ...We don't have the division of labor. An industrialist here, my firm, for example, makes 80 cotton articles over a production of 60,000 or 70,000 pieces; the establishment of a mechanized mill to make all these articles is impossible; and my firm would not be able to do it.
> **Rossi.** If instead of 80 articles you would make four?
> **Krumm.** No, we cannot do this because of necessity.
> **Rossi.** Couldn't you make only 4 articles instead of 80, since these 80 are produced also by many other industrialists? Legislation could do nothing on this matter, because it is not the market that lacks consumption, since foreign cloths arrive to cover the gaps left by national production.
> **Krumm.** ... The spinner, if he wants to be a manufacturer of fabrics, has to be also a dyer and a bleacher; while in England I have seen that who makes fustian and velvet, sends his fabrics where they are dyed, where they are cut; and from there they are taken and sold by commercial houses; and this is not done in Italy.

Eugenio Cantoni lamented the great difference of productivity that existed between Italian and English cotton spinning firms:

> ...Our spinneries employ 24 people per 1,000 spindles, while in England the spinnery of Shaw and Butterworth, according to what I have learned from the French Inquiry, employs only 3.40 (cited in Romano 1977:113).

Eraldo Krumm provided a similar evaluation of the situation (cited in Romano 1977:122-23):

> **Rossi.** Regarding production, it has been noted that we employ too much labor-force in comparison to English spinneries. In fact, it has been ascertained that, in the work necessary for 100 spindles, we employ almost four times as much labor-force than abroad. Do you think that the introduction of automation in substitution of hand-work could improve our conditions? Couldn't we have the same machines that the English have and thus save labor? Or this depends on the lower intelligence, on the minor training of the workers?
> **Krumm.** Maybe our workers are not as skilful as the English and the Swiss; but I believe that many circumstances provide an advantage to foreigners, for example, to the English and Swiss. They have

> introduced in the last few years machines of such a power [self-actings and rings] that each of these produces 4 to 6 times as much as ours. From an industrial point of view, maybe we have never made such profits allowing us to introduce these machines, which would cost us 50-60% more than what they cost abroad.

170. In his deposition to the Parliamentary Commission in 1872, Eugenio Cantoni described the proto-industrial conditions of cotton weaving (cited in Romano 1977:113):

> **Rossi**. Speaking of weaving, are we able to produce a type of cloth that can compete with foreign products?
> **Cantoni**. In low grade cloths we compete, and nice manufactures are already produced in our country, but we would need to introduce the power-loom on a grand scale.
> **Rossi**. In what proportion is the power-loom found?
> **Cantoni**. One against ten. It hurts to see those primitive machines!
> **Rossi**. Are you convinced that in time, the power-loom will replace the hand-loom?
> **Cantoni**. We must abolish the hand-loom completely.

It is interesting to note that, notwithstanding Cantoni's condemnation of the hand-loom, the **Cantoni Cotton Manufacture** had only 236 power-looms, while over 1,000 hand-loom weavers worked for it in 1872.

Eraldo Krumm illustrated some of the social and economic reasons for the persistence of the wooden hand-loom (cited in Romano 1977:123-124):

> **Rossi**. ...Somebody gave a very unfavorable opinion over wooden-looms and has declared the necessity of power-looms. What is your opinion on the matter?
> **Krumm**. Although somebody has said that desires a law abolishing the wooden-loom, this is not my opinion, neither I believe that this is the opinion of none of our industrialists.
> **Chairman**. Mister Cantoni expressed an idea in a little energetic manner, but he never pretended the issuing of a law.
> **Krumm**. But I pose this question: if there was this necessity, if the power-loom was, I would say, the life of the industry, why is the power-loom employed in a ratio of one over ten hand- looms in Lombardy, while it should be the contrary? We see that only a few mechanical weaving mills are established, and why? Because it is calculated that for a power-loom for heavy cotton cloth one has to spend very much, and that our worker, who works at the hand-loom, is a peasant, a person that in the morning goes to the countryside and

after noon goes to the loom and works.
**Rossi.** The loom in the home is owned by the weaver as in Como?
**Krumm.** Yes, sir.
**Rossi.** What would be the difference between the cost of a wooden loom, including all the expenses, in respect of the power-loom?
**Krumm.** The establishment of a power-loom for heavy articles that we produce here, including the building and its hydraulic engine, costs 2,000 lire. A hand-loom placed in the workshop can cost 200 lire, including the building.

Hence, a worker that cultivates the land and at the same time works at the loom, costs less than the one that has to earn his livelihood only with his work at the loom. Moreover, we see a considerable number of workshops for hand-looms in those towns where the land is more sterile, where cultivation is less profitable; if we go in the towns were the peasant is well-off, there we don't see certainly looms for cotton cloth; but maybe we will see those for silk and wool.
**Rossi.** Do they prefer to work the land even with some minor earning?
**Krumm.** Yes; all the more so as in the summer there is a lack of workers, and for this reason it is not always easy to establish a workshop.

Beyond economic motivations, however, the persistence of the wooden hand-loom was also the result of the entrepreneurs' adhesion to a model of economic development based on the exploitation of the conditions of weakness of agriculture. This model called for the conscious avoidance of traumatic alterations in the existing social equilibrium of the countryside. The great agglomerations of workers in factories were accepted only as a necessity to bridge the gap with the conditions of foreign industries. Thus factory production was considered inevitable for the manufacture of yarns and heavy and smooth fabrics: but where it was possible to guarantee the survival of more specialized proto-industrial productions, factory work was considered socially inopportune and harmful. This perspective explains why even a cotton industrialist such as Ercole Lualdi made an eulogy of the wooden hand-loom at the general assembly of the Milan Chamber of Commerce on 21 January 1872 (cited in Decleva 1982:185-86):

> It is thanks to it [the wooden hand-loom] that the worker, after having spent the first years in the workshops, can estsablish his own autonomous household, yet continuing his work; it is thanks to it that the woman can work without being diverted from her maternal duties. It is thanks to wooden looms that the numerous

> and important class of peasants dispersed throughout Italy has, when agricultural work is impeded, the opportunity, escaping idleness, to increase its earnings, to the advantage of agriculture, which thus can be carried out with greater means, and of industry itself, to which work is given at a low cost.

171. In his deposition to the Parliamentary Commission in 1872, Eugenio Cantoni argued that taxation on industries was higher in Italy than in England.

> **Rossi.** Could you tell us how much do 10,000 spindles pay in municipal, provincial and royal taxes?
> **Cantoni.** 10,000 spindles pay between 9,000 and 10,000 lire; it is a calculation that I have made: we are in a proportion of 1 to 5 with England. In England 38,000 spindles pay 7,000 lire, and we pay for 38,000 spindles 35,000 lire (cited in Romano 1977:115).

172. The consumers of yarns and fabrics produced by Italian cotton firms were peasants and urban poor, while upper and middle classes bought higher quality fabrics made abroad. The Italian industry produced low grade yarns (up to number 26-28 and exceptionally to number 40) and heavy fabrics. In his deposition to the Parliamentary Commission in 1872, Ernesto De Angeli, the director of the mechanized printing mill for cotton fabrics of the **Cantoni Cotton Manufacture**, pointed out the lack of a qualitative production in Italy (cited in Romano 1977:131-32):

> In general, we are tributary from abroad, whether for yarns or fabrics, to feed our printing and dyeing mill. It is possible to calculate that for 4/5 we work with foreign yarns and fabrics; in fabrics, especially, we consume a large quantity of Swiss cloth, woven with fine yarns from number 36 to 50, that are not produced in our country. It would be desirable the establishment of an industry of these cloths made with fine yarns in our country, because now, having to depend from abroad, we find ourselves often in critical circumstances because of increases in price or in exchange rate or in the engagements of foreign manufacturers that do not deliver to us the goods on time, hence the uncertainty of our work damages us. If we had an industry in our country, there would be an advantage from all points of view.

173. In his deposition to the Parliamentary Commission in 1872, Eugenio Cantoni lamented that the lack of an adequate commercial organization constrained him to perform too many tasks besides production:

> **Rossi**. The commerce of cotton cloth is organized? Mister Bressi lamented precisely the lack of a commercial organization in our country, so that every manufacturers is forced, after he has produced, to send his goods here and there.
> **Cantoni**. We don't have big commissioners and intermediaries in Italy, so that we are obliged to be the speculator, the manufacturer, the seller and every other thing relating to our industry and commerce. The English is only a spinner or a weaver; the English weaver produces only one type of cloth, and he doesn't have to think to sell it. There, there are big intermediaries and commissionairies, who buy and sell, one can say, for the manufacturer, who doesn't want to deal with no one else other than the commissioner. Instead, we have to do everything (cited in Romano 1977:114).

Having "to do everything," however, meant that the profitability of a firm did not depend on industrial production alone:

> We make 10% [of amortization] on the machinery and 4% on the building; but there are spinners that are not able to make even 2%. In order to make 10% we must do everything well: the speculator, the industrialist, the seller (Cantoni, cited in Romano 1977:114).

Eraldo Krumm provided a similar evaluation of the situation, pointing out that the turn-over time of capital was extended enormously as a result of the lack of a diversification of economic roles (cited in Romano 1977:123;125-26):

> **Rossi**. How much is the yearly amortization of your fixed capital?
> **Krumm**. I must point out that sometimes I buy raw cotton also to speculate, and this gives me a higher earning than the one I would have as mere spinner; in my condition I can amortize 6-7% on the value of machines. I know, however, that some of my other colleagues amortize less...
> ... In our country we must be capitalists, we must be everything: we have very high general expenses compared to abroad; we must keep travelling agents that absorb a share of profits that yet would be necessary to make our industry grow.
> In England, in Switzerland, at Zurich, there are spinners that go on the market and pledge their production for several months. The buyer provides the spinner with the capital for the acquisition of the raw material required to satisfy the pledge. We cannot do this; and compared to England we are 100 miles away.

> At Manchester a spinner buys the supply of cotton for a week from Liverpool; here in our country we must do this for 3-4 months.
> **Rossi**. How much time passes from the moment in which one buys the raw cotton to that in which the money advanced returns as a result of the final sale?
> **Krumm**. It takes 6 months only for fabrics, and from 9 to 10 months for the production of yarns and fabrics together.
> There are here some spinners who have 4,000 spindles, and who, for the stock of cotton to feed the plant, for the credits that they have with the consumers of yarns, engage the double of the capital that is absorbed by the plant itself; this is something that in England or in Switzerland does not happen. These are true facts and nobody can contradict them.
> I have tried to be merely an industrialist, because my father was a simple mechanics; with the help of the industry alone we wouldn't have been able to establish another auxiliary plant and enlarge our production. It was with speculation that we have been able to do this. And it is for this reason that many times we have had profits that were completely independent from the practice of our industry.

174. Cantoni and Rossi reached the conclusion that the cheapness of labor was the only real advantage of Italian cotton industries in respect of northern Europeans (cited in Romano 1977:115):

> **Rossi**. ... It means that if, notwithstanding the difference due to higher taxes [See note 29], our cotton industrial firms are in a relatively florid state and prosper, this depends on the labor-force and the motive-power.
> **Cantoni**. As for the motive-power, our plants have been located for many years on small rivers that provide between 20 and 200 HP. For example, my tables indicate that in my cotton manufacture I spend for steam-power between 7 and 15 cents per kg and 22-23 cents for the labor-force.

175. Most of the technical cadres of the Lombard cotton industry were still foreigners, especially Swiss, who received much higher salaries than Italian workers. In their depositions to the Parliamentary Commission in 1872, Lombard cotton entrepreneurs argued that the lack of indigenous skilled personnel was one of the factors that hindered the further development of the industry and they requested the establishment of efficient technical schools for the training of technical cadres. For example, Ernesto De Angeli maintaned that the Italian printing industry for

cotton fabrics was underdeveloped because of the lack of personnel trained in applied chemistry (cited in Romano 1977:129):

> **De Angeli.** ...If our industry has not developed until now, this depends primarily on the labor-force. We do not have trained workers in our country, neither technical cadres able to manage dyeing and printing, in which chemistry is the most important thing. The deep knowledge of chemistry applied to industry would represent a very essential part of the progress of printing, and for this reason everybody feels the need for the establishment of a professional school of chemistry applied to printing in the main centers, especially in Milan.
> **Chairman.** Aren't there schools of chemistry at the Society for the Encouragement of Arts and Crafts?
> **De Angeli.** There was a school of chemistry, but now it has been closed; and was more theoretical than practical. It should be presided by an in dustrialist, who besides having a deep theoretical knowledge, would be able to explain all the applications, so that industrialists, cadres and workers would all be able to profit. I have heard somebody say that maybe this kind of training would not be useful for workers: instead I am of a different opinion.

Also Eugenio Cantoni called for the establishment of more efficient technical schools and at the same time he was convinced that long periods of apprenticenship abroad were always necessary for the adequate training of technical cadres (cited in Romano 1977:115-16):

> **Rossi.** How long do you think it will take still for our technical institutions to keep step with practical progress and viceversa? You have several industrial plants and know many others in Lombardy, do you believe that industry is beginning to profit from these young men that graduate from technical schools?
> **Cantoni.** Yes, because we have already seen several of these young men, who after graduating from the Polytechnic and spending some years abroad, have proven to be very able.
> **Rossi.** Is it, however, always necessary for them to go abroad after graduation?
> **Cantoni.** Always, for the necessary practical training; but it would be also very useful if a school of cotton spinning was established at the Polytechnic, where young men, after the completion of technical studies, could make a preliminary practice of at least a year, then they would spend some time abroad, and at their return they would be tested in order to receive the

licence of directors of spinnery.

176. The new tariff, introduced on 1 July 1878, provided the following level of protection for cotton products: 10-16% for raw yarns; 19% for dyed yarns; 20% and over for twisted yarns; 21-26% for bleached wowens; 25-29% for dyed wovens; 30% for printed wovens. Protection was provided also for other selected goods: 10% for paper and porcelain; 15% for fine majolica; 12-17% for jute yarns and wovens; 16% for woolen wovens; 20% for window panes; 53 lire per quintal for raw sugar and 66.25 lire per quintal for refined sugar; 1.4 lire per quintal for wheat (See Caizzi 1965; Prodi 1966).

Besides these customs duties, however, the Italian market remained a relatively open one and with the drawing up of new bilateral commercial treaties and with the end of the **corso forzoso** in 1881-83 some element of protection was actually removed from Italian industry in the following years, while tariffs elsewhere in Europe were being increased.

177. Imported raw cotton increased as following: 278,000 q in 1878, 371,000 q in 1879, 473,000 q in 1880, 629,000 q in 1882, and than remained at this level until 1887. At the same time, imported yarns fell from an index of 100 to one of 53 between 1878 and 1887. Spindles increased from 900,000 in 1876 to 1,050,000 in 1883 and to 1,200,000 in 1887 (half of them in Lombardy). The number of total looms remained stable around 70,000, but the number of power-looms increased from 12,500 in 1876 to 26,800 in 1883, to about 30,000 in 1887, and over half of them were in Lombardy (See Caizzi 1965; Castronovo 1965; Cafagna 1976; Cristofoli and Pozzobon 1981).

178. Between 1878 and 1887, new industrial plants were established by the Leglers at Ponte San Pietro, the Blumers at Nembro, the Zopfis at Ranica, the Venzaghis at Busto Arsizio, the Leumanns at Collegno, the Mazzonis in the Pellice Valley, the Pomas in the Biellese, the Figaris and Bixios at Rivarolo, Teglia, Masone and Varazze, the Raggios at Novi Ligure and Pegli, and the Bassettis at Rescaldina.

179. For the reduction in price of imported coal See note 65. The price of imported raw cotton fell from 240 lire per quintal in 1871 to 165 lire per quintal in 1881 and continued to fall in the following years, reaching 100 lire per quintal in 1891.

180. The progresses made by the mechanical industry, especially in Lombardy, became apparent at the Milan Industrial Exhibit of 1881, where 534 exhibitors presented their productions, which included: steam engines and

boilers; railway and tramway carriages; machinery for silk spinning and twisting; power-looms for cotton; suction pumps and other hydraulic machinery; typographic machinery; machines for the manufacturing of rice, wood, iron, and stones; wine and oil presses; and spare parts, transmissions and fittings for all kinds of machines. Giuseppe Colombo, professor at the Milan Polytechnic, was convinced that the progresses made by the indigenous mechanical industry proved that the era of "vulgar empiricism" was finally over.

> ... Our exhibit of machinery is ... the clearest proof, the factual demonstration, that scientific and technical culture has diffused itself among producing classes and has inspired and guided the main productions presented here in the various branches of mechanics (Colombo [1881] 1934:55).

Colombo noted with great personal satisfaction that the positive results were due to the small group of young men who had graduated from technical schools.

> And to me, that I have spent my life teaching, it is a subject of great satisfaction to be able to ascertain and declare that not small part of the progresses manifested at the present Exhibit of machinery are due to our students... (Colombo [1881] 1934:71).

181. A class of solid wholesale dealers, retailers/ manufacturers of ready made clothes came into being in Italy in these years (Caizzi 1975; Amatori 1989). The most important enterprise was that of two Milanese brothers, Ferdinando and Luigi Bocconi. In 1881, their retailing firm **Alle Città d'Italia** had six department stores in some of the main Italian cities -- Milan, Genoa, Turin, Rome, Trieste, and Palermo. The stores sold fabrics, ready made clothes for men and women, linen, curtains, hats, foot-gears, toys, and furniture to a middle and lower-middle class clientele that seeked to dress with decorum, provide its daughters with dignified trousseaus, present toys to its children, and decorate its home in a manner that could distinguish it from that of a proletarian. Over 900 workers were employed in the company's workshops for the manufacturing of ready made clothes at Milan and Turin, while every store employed from 100 to 150 workers for the production of clothes made to measure. By 1890 the firm had over 3,000 employees. But, the Bocconi brothers were not only interested in the major Italian cities. Through mail sales they tried to reach the entire country, including the most internal localities of the south and the islands. To achieve this objective the firm acquired in 1879 a printing-house capable of printing more than 30,000 catalogues a year. The Bocconis, however,

were not the only ones engaged in mail sales. There were at least other 15 Milanese commercial firms that sold fabrics and ready made clothes by mail in the decade 1877-1887.

182. The most important new initiatives were carried out by the Crespi family (See below in the text) and by Eugenio Cantoni. Cantoni assembled a vast and powerful group of Lombard and Venetian capitalists -- the **Banca Veneta**, Alessandto Rossi, Achille Villa, Vincenzo Stefano Breda, Nicolo' and Angelo Papadopoli, Eugenio Forti, Jacob Levi, Moise' Vita Jacur, Moise' Errera, Carlo Moschini, Gustavo Stamm, Giuseppe Robecchi, Giuseppe Colombo, Gaetano Vimercati, Elia Todros, and B. V. Suppiey -- that, together with the **Banca Generale** of Rome, provided the financial resources to establish the **Venetian Cotton Manufacture** (**Cotonificio Veneziano**) in 1882, a joint-stock company with a nominal capital of 10 million lire (but only 6 million lire had been paid by 1900). The company was established with the deliberate intent of seeking to gain a share of the market for cotton goods in the Balkans and Ottoman Empire. Industrial production was carried out in three different locations: (1) spinning at Venice (with 25,000 spindles for low grade yarns that became 40,000 by 1900); (2) dyeing and spinning at Torre di Pordenone (with 25,000 spindles for low grade yarns by 1900); and (3) weaving at Rorai, near Pordenone (with 560 English made power-looms by 1900). The firm was never an economic success, producing only modest profits even in good economic years because of its too high initial fixed costs. A technical report of the **Banca Commerciale** in 1900 maintained that the firm's negative economic performance was due to two serious initial mistakes: (1) the enormous cost sustained to build the building that hosted the large spinnery at Venice (1,342,000 lire); and (2) the too high cost of the first 25,000 spindles (2,197,000 lire). The cost of each spindle had been 140 lire, while throughout the industry was only 75 lire (Confalonieri 1980:370-79).

183. The promoters of the Milan Industrial Exhibit of 1881 pursued three main ambitious objectives (See Decleva 1982; Rosa 1982). Firstly, they wanted to document the great technical progresses made by cotton, silken and mechanical industries (above all in Lombardy) in the last twenty years.

Secondly, they wanted to affirm the positive value of industrialization for Italy. For this reason, the **Manifesto** of the Exhibit had a highly political content. It maintained that "every uncertainty over the course of economic issues" had to cease and that "at least on the main points, a dominant position" had to be formed. The **Manifesto** suggested which position this ought to be,

> Keep work in honor, remove obstacles, support industry with a friendly hand, and do things in such a manner that it [industry] is surrounded by a fecund influx that can push it on the way of progress and perfection .... (**Manifesto** cited in Decleva 1982:195).

Thirdly, the promoters of the Industrial Exhibit wanted to celebrate the progressive economic role played by Milan and its bourgeoisie in the new Italian nation-state. Such a celebration, however, took from the beginning the taste of a vindication in respect of Rome, the "legal capital," and the political class, which were considered guilty of not fulfilling their obligations by not paying the necessary attention to the initiatives of Milan and its bourgeoisie. Milanese newspapers emphasized that local businessmen, aristocrats, companies, public institutions, etc. had provided 4/5 (2 million lire) of the funding for the organization of the Exhibit, while the Italian state had contributed a mere 1/5 (500,000 lire) of the total, and only after Milanese congressmen and senators had exercised open pressures in both branches of Parliament. Notwithstanding the lack of support of the Italian government to the Industrial Exhibit, Milan had overcome the trial triumphantly and, as the the Milanese newspaper **Il Pungolo** noted (**Oggi**, 5-6 May 1881), its efforts had revealed an Italy that was not the "political Italy," precociously decrepit, but "another Italy," an Italy

> ... that does not make crises, nor political rallies, nor demonstrations, nor interpellations -- that hates emphatic rhetorics, idle political talk and does not understand anything and nothing wants to understand of the combinations and little games of petty politicians -- an Italy that, as soon as the fatherland was united, put its rifle of volunteer away and put its foolish political aspirations away in the wardrobes, and put itself to work, work, work, work seriously, thoughtfully, without boasting of, without obstentations ...

Milanese "ethics," defined by a lifestyle of assiduous and tenacious work (synthetized by the Exhibit's motto **labor omnia vincit**), was put in antithesis with Roman "politics," defined by the dimensions of deception, subterfuge and procrastination. It was on this basis that Milan seeked a contact with "another Italy," with an Italy "that makes, ... that thinks, ... that works," very different from the "Italy that talks idly," with which there was no desire to deal. In this manner, the myth of Milan as the "moral capital" of Italy began to take shape: the myth of an enterprising city and a hard-nosed political-economic élite conscious of the problems and obstacles that hindered further expansion, but

with an already well defined vocation to play a leading role in Italian political-economy (See also Colombo's position on Milan in note 47).

184. Lombard cotton entrepreneurs created a network of small local banks: the **Banca di Busto Arsizio** (1880), the **Banca di Gallarate** (1882) and the **Banca di Legnano** (1887). These banks remained immune from the crisis that hit the bigger banks in the late 1880s/early 1890s. They facilitated industrial investments and functioned as a financial and organizational support to dispatch normal commercial transactions.

These local banks played an important role in the further development of the Lombard cotton industry since they provided Lombard cotton dynasties, whose leaders sat on the boards, with a stronger and wider financial base. With the active financial support of these local banks, which they dominated, cotton dynasties were able to remain largely autonomous from other interest groups and continued to manage industrial firms on the basis of their own priorities.

185. Lombard cotton entrepreneurs supported three of the main enterprises operating in the mechanical industry: the **Pomini & C.**, the **Cantoni Krumm & C.** and the **Franco Tosi e C.** (See Cristofoli and Pozzobon 1981; Garcia 1985; Macchione 1987).

Andrea Ponti Jr. was the financing capitalist of Luigi Pomini (1866-1947), a young mechanics of Ponti's spinnery at Solbiate, who established a firm to produce transmission shafts of motive power at Castellanza. The **Pomini** went on to become one of the most important Italian firms producing machinery for industry.

The **Cantoni Krumm & C.** was established on 11 August 1875 to continue in part the activities of the engineering firm **Cantoni-Colombo-MacKenzie & C.** (See note 14) that had functioned as an agency for the most important European firms producing machinery until the end of 1874. The **Cantoni Krumm & C.** was supposed to build, repair and sell industrial and agricultural machinery. The ultimate goal of its promoters was to transform it into the most important Italian firm producing power-looms and other textile machinery, but at its foundation it did not control any patent or project and it did not have a real technical management, specialized personnel or adequate labor organization. The company's plant, however, was built in an ideal locality, on a piece of land bought by Cantoni in 1873-74 near the railway station of Legnano, at the center of the Lombard cotton industrial area. Furthermore, the company could count on large orders from some of the most important Lombard industrial cotton firms, such as the **Cantoni** and **Ponti**. The **Cantoni Krumm & C.** was an

**accomandita semplice** with Eugenio Cantoni and Luigi Krumm as managing directors (**accomandatari**) and a capital of 240,000 lire (24 shares of 10,000 lire each), which was divided as following:

| Shareholders | Shares |
|---|---|
| Eugenio Cantoni | 7 |
| Arturo Cantoni | 1 |
| Costanzo Cantoni Jr. | 1 |
| Costanzo Cantoni Sr. | 3 |
| Cantoni Cotton Manufacture | 3 |
| Luigi Krumm | 1 |
| Attilio Krumm | 1 |
| Andrea Ponti Jr. | 2 |
| Luigi Riboldi | 2 |
| Carlo Maffioli | 3 |

In March 1876, the young engineer Franco Tosi (1850-1898) became the company's technical director and then one of its largest shareholders, with 6 shares (Tosi acquired the 3 shares of Costanzo Cantoni Sr., who died on 14 February 1876, and the 3 shares of Carlo Maffioli). Franco Tosi was the offspring of a prominent family of the mercantile bourgeoisie of Busto Arsizio. His father's sister, Amalia, had married Carlo Turati, while his father Eugenio (1815-1896), after receiving a Law School degree from the University of Pavia in 1838, had married Antonietta Corbetta in 1847, the daughter of Francesco and Maddalena Tenca. The Corbettas and the Tencas were two of the most prestigious families of the Milanese liberal bourgeoisie. Eugenio Tosi lived in Milan, but owned large tracts of land in the Upper Milanese and had established a cotton weaving plant with 170 hand-looms at Villa Cortese in the 1850s. Franco Tosi, before becoming a new partner of the **Cantoni Krumm & C.**, had received a degree in mechanical engineering from the Polytechnic of Zurich in 1872, had spent a few months in Great Britain and then had worked at the Decker, a mechanical firm specialized in the production of steam-engine's boilers at Schladen and Kannstadt in Germany. Franco Tosi married in 1881 Luigia "Gina" Schoch (1860-1899), who was the daughter of Giovanni and Giulia Bernacchi. Giovanni Schoch (1830-1888) was the owner of a cotton spinnery at Castiglione Olona and provided his daughter with a dowry of 60,000 lire, which she loaned to her husband's firm at a 5% interest.

The capital of the **Cantoni Krumm & C.**, which had 60 employees by 1876, was raised to 340,000 in 1878 and its shareholders were:

| Shareholders | Shares |
|---|---|
| Eugenio Cantoni | 16 |
| Franco Tosi | 6 |
| Luigi Krumm | 4 |
| Luigi Riboldi | 3 |
| Cantoni Cotton Manufacture | 3 |
| Andrea Ponti Jr. | 2 |

The additional capital was used for the establishement of a foundry, which employed 44 workers by 1879, and for strenghtening the mechanical workshop, which employed 133

workers by 1879. The company, however, was not profitable, lacked a clear product specialization and deeply felt the crisis of the cotton industry that lasted until the early 1880s. Its debt became larger than its capital in 1881.

That same year, the **Cantoni Krumm & C.** was liquidated and its plant and machinery was sold to the newly established **Franco Tosi & C.**, an **accomandita semplice** with Franco Tosi as managing director (**accomandatario**) and a capital of 400,000 lire. Franco Tosi invested 100,000 lire in the company and Eugenio Cantoni 300,000 lire, but profits were to be shared equally and shareholders' capital and credits were to receive a 5% interest. The company continued to produce textile machinery until 1885, but Tosi aimed to transform it into the most important Italian producer of steam engines and cylindrical boilers. Foreign models, such as those of **Sulzer and Corliss**, were copied and perfectioned with the goal of producing products of similar quality, but less expensive and customized. The company began to produce profits after 1882, but these were all re-invested in the acquisition of new American- and German-made machine tools, lathes, drills, and countersink bits. Additional land was also acquired and new buildings were built (a workshop for the production of boilers), while Swiss and German skilled workers were hired. By the early 1890s, the **Franco Tosi & C.** had a plant of 95,000 square meters (12,000 of which were sheltered); it produced a yearly average of 100-120 steam-engines and 150 boilers; it had a motive power of over 250 HP; it had 300 machine tools, 5 cranes of 10-20 tons and 20 hand-cranes; it employed 700 workers (who worked 11 hours a day), 12 supervisors (half of them were German), 10 white collar employees (6 of them were German), 5 engineers, and 11 designers. In 1888, the company began to produce thermoelectric power-plants for municipalities and factories that encountered a great commercial success and were exported also to Spain and South America. Finally, the **Franco Tosi & C.** became one of the great suppliers of boilers, steam-engines, electrical materials, suction pumps, and other machinery to the Italian Royal Navy.

The Cantonis continued to be the most important shareholders of the **Franco Tosi & C.** even after the death of Eugenio Cantoni (15 March 1888), although the relationship with Tosi became tense. The Cantonis opposed Tosi's requests for a capital increase. Tosi wanted to rationalize and modernize the firm's technical organization and he considered the mere practice of the re-investment of profits as inadequate to achieve this aim, also because the 5% interest paid by the firm on shareholders' capital and credits was too onerous (it formed half of the firm's debt). The dispute between Tosi and the Cantonis came finally to an end between February and March of 1894, when the Cantonis decided to get out of the firm. They needed cash to settle

outstanding family debts and were liquidated with 605,524 lire by Franco Tosi. He became the sole owner of an industrial firm with an income of almost 4 million lire in 1895 and was able to produce one boiler and one engine every two days by 1898.

186. The Pontis, Borghis, Cantonis and most of the other Lombard cotton entrepreneurs owned large tracts of agricultural land by the early 1880s. The Pontis, for example, owned vineyards at Travedona (near Varese) and extensive land properties around Cornaredo (near Milan) and Pontepossero (in the Veronese, at the border with the Mantovano). Andrea Ponti Jr. was considered an innovative agricultural entrepreneur and he introduced new systems for the rational and intensive cultivation of mulberries, rice, flax, and irrigated grass land. He made use of chemical fertilizers and agricultural machinery, produced Emmenthal cheese and condensated milk, promoted pisciculture in the lake of Varese, and built rather comfortable houses with drinkable water for his agricultural laborers (Luzzatti 1919:227). Finally, Andrea Ponti Jr. was the principal promoter and financing capitalist of the Villoresi canal that provided irrigation to 45,000 hectares of land in the Upper Milanese between 1884 and 1892. Irrigation accelerated the transformation of the social relations of production in this area: **mezzadria** and **fitto misto** were rapidly replaced by wage-labor. Many were expelled from agriculture in the following years and went on to form the new working-class of the new Milanese mechanical industry.

187. Andrea Ponti Jr., for example, used a part of his funds to finance a number of activities that were not directly related to his business activity and that contributed to create his public image of generous and educated patron. He hired the painters Bertini and Cavenaghi to restore the frescos in the Taverna Palace; he hired the architect Camillo Boito to build the family mausoleum and the hospital of Gallarate; he hired the architect Giuseppe Balzaretto to build the summer villa at Biumo (Varese), the painter Bertini to paint it with frescos glorifying Italian genius and the sculptors Cremona, Focosi and Tabacchi to decorate the garden and the villa with marble statues. He patronized several scholars and inventors, including the researches of engineer Forlanini, who tried to produce the first flying helicopter, and professor Regazzoni, who established a prehistoric museum at the Isola Virginia of lake Varese. Ponti financed also journals -- such as **Il Politecnico** (since 1865) and **La Nuova Antologia** (since 1879) -- and medical research centers -- such as the Ophtalmic, Anti-rabic and Pneumotherapic Institutes of Milan. He was one of the great providers of funds to organize the Milan Industrial Exhibit of 1881. Finally, Andrea Ponti Jr. used

part of his personal funds to implement his own social policy in the localities where he or his companies owned land, industrial plants or other resources, since, as his son Ettore maintained,

> ... He would not have considered the entrepreneur's luck as propitious, if the solidary benefit of the worker was lacking; nor would he have considered agricultural crops blessed, if these were disjoined from the honest comfort of who was breaking them up ... (Ettore Ponti cited in Luzzatti 1919:229).

Andrea Ponti Jr. gave funds for the duomo, theater, hospital, social club, technical school, and workers' association of Gallarate. He financed infant schools, cooperative stores, infirmeries, and housing projects for workers at Gallarate, Solbiate, Cornaredo, Biumo, Fara d'Adda, Segrate, and Robecco.

188. Ettore Ponti (1855-1919) was elected to the Milan municipal council several times since 1881. He was elected twice to the Chamber of Deputies in 1890 and 1892, was appointed Senator in 1900, and finally was Major of Milan from 1905 to 1909. Besides politics, however, Ettore Ponti was engaged also in the active management of his family patrimony after the death of his father Andrea Jr. He administered the vast landholdings, the **National Linen and Hemp Manufacture** (he was its president from 1888 until his death in 1919), and the cotton firm **Antonio and Andrea Ponti** (until he sold it to the **Cotonificio Val di Susa** of Abegg and Wild in 1902).

Ernesto De Angeli (1849-1907) was elected to the Milan municipal council several times since the early 1880s and was appointed Senator in 1896. He was, together with Giovan Battista Pirelli, the most successful Lombard self-made man of the 19th Century. He had begun as a laborer in a Milanese cotton printing mill at the Maddalena. When the mill was acquired by Eugenio Cantoni in 1869, De Angeli became the new director and oversaw its mechanization. Then, he became a co-owner of the mill in 1878, together with Eugenio Cantoni and other prominent share-holders of the **Cantoni**, when the latter sold the printing mill to the **Ernesto De Angeli & C.** to try to solve its own financial problems. The development of the printing mill underwent an acceleration between 1884 and 1893, as De Angeli installed new printing machinery and steam-power engines. After 1893, De Angeli engaged himself in the formation of a large vertically integrated cotton firm. Together with the cotton firm **Delle Piane** of Novi Ligure and two silk industrialists of Legnano, the brothers Bernardo and Lorenzo Banfi, he sponsored the installment of a spinnery and 800 looms (in part hand-looms) by the firm **Frua & Banfi** at Legnano. This

firm was managed by Giuseppe Frua (1857-1937), who was the attorney of De Angeli and married Ernesto's sister Ida in 1900. The **Frua & Banfi** was incorporated into the **De Angeli** in 1905, when it had 60,000 spindles and 2,500 power-looms (500 Northrop automatic). Before this incorporation, however, De Angeli had already transformed, with the support of the **Banca Commerciale**, his firm into a joint-stock company with 15 million lire of capital in 1899, the highest of all cotton joint-stock companies. The company had acquired also: the firm **Blumer & C.** of Agliè (Turin) in 1899, which had a spinnery, 400 power-looms (1,000 in 1901), and 4 printing machines; and the firm **Ackermann & C.** at Omegna in 1901, which had 400 power-looms and 6 printing machines. The **De Angeli** was at this point one of the biggest and most modern cotton firms in Italy, with a large printing factory located in Milan, three spinning and weaving factories decentralized in rural areas of northern Italy.

Ponti and De Angeli were among the founders of the Milanese Industrial, Agricultural and Commercial Association (1882), the Milanese Cooperative Bank (1883) and the weekly protectionist journal **L'Industria** (1887 ff). De Angeli was one of the great champions of corporate paternalism and established the Association among Italian Industrialists for the Prevention of Labor Accidents in 1894, which promoted the voluntary insurance of workers against the consequences of labor accidents. He became president of the Milan Chamber of Commerce and a member of the Higher Council of the Economy and Commerce. De Angeli acquired a share of the influential Milanese newspaper **Il Corriere della Sera** in 1895 and inspired the reactionary editorial line of the editor in chief Domenico Oliva, supporting the state of siege and the military repression of popular protest between 1898 and 1900. De Angeli went on to become an outspoken opponent of Giolitti.

Ponti and De Angeli became -- together with Giuseppe Colombo, Giovanni Battista Pirelli, Giulio Prinetti, Pio and Lodovico Gavazzi, and other entrepreneurs -- the most prominent political representatives of the Lombard bourgeoisie. They articulated politically the latter's sense of deep delusion (in the 1880s) and hostility (in the 1890s) toward the unitary Italian state. These men wanted a more determined government in the area of protectionism, opposed parliamentary transformism, and were in favor of a "thin" state that limited its fiscal pressure, spending and regulating action of the economy. They considered politics above all as administration and militated in the Milanese moderate party, which ruled the city for 40 years (1859-1899). These industrialists were very active in local politics also to oppose the pressure at the level of the municipal council of those forces that were excluded from the national liberal political order, but that had a

powerful base in Milan -- such as the Radicals, Republicans, Catholics, and Socialists. Through their efficient administrative and philanthropic activity these businessmen were able to promote a sense of municipal "community" and gain the electoral consensus of Milanese lower-middle classes. They were determined to transform Milan into a bourgeois metropolis on the model of Paris and their choices deeply conditioned the ways in which the city developed in the following decades. They drew a new city plan (1884), strengthened public services (acquduct and sewer systems, hospitals, schools, roads, and tramway lines), promoted the restructuring of the urban landscape by deciding the demolition of popular quarters and the construction of new bourgeois residential areas.

189. The duty on import increased for both yarns (of 10-20% in respect of 1878) and wovens (of 9-37% in respect of 1878): it was about 35% on lower grade yarns and about 12% on finer ones; it was about 40% on lower quality wovens, 20-30% on medium quality wovens and 22-25% on high quality wovens (See Caizzi 1965; Prodi 1966).

The implementation of these protectionist measures spurred an acceleration in the development of the cotton industry (See Caizzi 1965; Castronovo 1965; Cafagna 1976; Cristofoli and Pozzobon 1981). There were 997 cotton factories in Italy by the end of the century and 367 of these were concentrated in the province of Milan (in the belt comprised by the towns of Legnano, Busto Arsizio, Gallarate, and Monza). Imported raw cotton increased as following: 506,000 q in 1886, 836,000 q in 1890, and a yearly average of 1,135,000 q in the decade 1891-1900. The share of Italian cotton in world cotton production also increased: Italy consumed 1-1.25% of the world's cotton in 1880, whereas it consumed 3.51% in 1900-01. At the same time, imports of cotton wovens decreased at the following rate: 1887=100 (50 million lire); 1888=45; 1895=22; 1900=9. The value of cotton goods, estimated at 51 million lire in 1876, rose to 304 million lire in 1896, despite an intervining fall in prices. Productivity consequently showed a considerable increase, from a production value of 940 lire per worker to 2,250 lire. This progress was the result of an acceleration in the mechanization of production in all phases of the cotton cycle that was made possible by the replacement of hydraulic energy, which had become inadequate to the new requirements of industrial development, with steam-power and electricity.

There was a striking expansion in the number of spinning factories and the number of spindles increased as following: 1,200,000 in 1887, 1,720,000 in 1896, 1,910,000 in 1898, and 2,111,000 in 1900 (half of them in Lombardy). The production of yarns increased as following: 67,000 t in 1885, 89,000 t in 1890, 105,000 t in 1895, and 199,000 in

1900. Moreover, productivity began to increase in spinning with the first introduction of rings that operated with a continuous system: the spinning machine performed the operations of feeding, pulling, twisting, and reeling contemporaneously, thus without any loss of time, while self-actings operated with an intermittent system so that the time lost for reeling was lost for production. Furthermore, rings occupied much less space then self-actings and their maintenance cost was lower. Finally, rings spun finer (from grade 30 to 100) and combing yarns that had not been produced until then in Italy and that allowed to weave lighter and softer cloths.

The greatest productive innovation, however, was the development of mechanized weaving. The number of power-looms increased as following: about 30,000 in 1887, 39,000 in 1893, 65,000 in 1896 (out of a total of little more than 70,000), and 70,000 in 1897 (47,000 in Lombardy). Productivity increased with the massive replacement of hand-looms with semi-automatic and automatic power-looms (also furnished with the Jacquard mechanism), capable of producing more regular wovens with 150/180 strokes of weft per minute, while with the hand-loom the number of strokes varied according to the ability of the weaver and the quality of the cloth produced. In practice, however, a weaver at the hand-loom could not produce more than 10 meters of cloth a day, while the weaver at the power-loom reached 20 meters a day.

The new heavier iron- and steel-made spinning and weaving machinery began to be hosted in new factories built with new materials according to new archtectural typologies. The traditional tall building of several storeys with a balcony as roof began to be replaced by the large shed of a single storey that had skylights facing north on its roof. The new factories were built with bricks, iron beams and pig-iron columns, while floors were covered with cement tiles, all materials that gave to the building a rigid and stable shape and that were fire-proof. The new type of factory had several advantages in respect of the old: (1) it allowed to distribute the machinery in such a way that the various stages of production followed consecutively, thus avoiding useless transports of raw materials and semi-finished products; (2) it provided machines with a greater stability; (3) it allowed to utilize day-light completely; (4) it enabled to increase the control over labor; (5) it lowered the risks of large damages in case of fire; (6) it made enlargements easier since it was enough to continue the construction of bays. The new type of factory, however, had also two major disadvantages in respect of the old: (1) it required a larger expenditure for land since the extent of a new spinnery was 3-5 times greater than that of an old one containing the same number of spindles; (2) its installment costs were higher as a result of the greater extension of

shaftings and pipings and of the greater number of heating, ventilation and moistening sets.

Notwithstanding all the progresses made, however, most of the Italian cotton industry continued to produce low quality yarns and cloths in respect of other European industries. Most of the blame for this situation was laid on the protectionist tariff of 1887, which had not stimulated the upgrading of the industry since it provided low quality goods with a much higher level of protection than high quality goods. This choice had been made to defend the existing industry (and in particular the large firms of the Pontis and Cantonis), which generally produced low quality goods. In practice the strategic decision upon which the tariff of 1887 had been drafted was that the Italian cotton industry had to continue producing its mediocre goods exploiting the favorable existing conditions the low labor cost, the low amount of capital required for technological modernization, the possibility of conquering the domestic mass-market -- and those set in motion by the victory of protectionism -- an industrial expansion with a consequent proletarianization and urbanization of always larger human masses and the progressive extinction of domestic production. Thus, to the great expansion of productive capacity it did not correspond an increase in product quality. Only a handful of producers -- such as the Crespis, Mazzonis, De Angelis, and Leglers -- pursued a strategy aimed at upgrading the quality of their products. Given this situation, it was not surprising that Silvio Crespi, the president of the Cotton Association, wrote in 1896 that the "cotton fever" was creating the conditions for a crisis of overproduction:

> That production has extraordinarily increased is something known to everyone. Several and important new companies were established, existing factories were enlarged of a fourth, of a third and often of a double; everywhere steam engines were added to the hydraulic power, the speed of machines was increased. Burnt factories were replaced by more powerful plants; and the statistics of the Cotton Association that counted about 1,400,000 spindles in 1893 ... extimate the spindles at 1,720,000 and the power-looms at 70,000 on 30 June 1896... Furthermore, we can assure that the productivity of spindles is 10% higher than a few years ago. These numbers are enough to show that in Italy there has been an extraordinary and hasty increase in production... In Italy everyone wants to become a cotton industrialist; the government is only concerned to shear [with taxes], the solidarity among the industrialists is simply at the state of theory. For the industry and the country it has become necessary, however, that the cotton industrialists reduce, if not

the number, at least the intensity... that they become solidary (cited in Romano 1984:54-56).

Internal consumption was not keeping pace with the "extraordinary and hasty increase in production," especially for yarn. Thus, Crespi and other larger cotton industrialists that until then had always been in favor of the unceasing functioning of their factories, proposed a reduction of activity through the the complete abolition of night-work for youngsters and women (See note 62).

Export could not yet represent the solution to the incipient crisis of overproduction, although the search for foreign markets was pursued with growing success either through **ad hoc** trading companies or directly by the few vertically integrated large companies, which operated multiple factories and already had a predominant share of the domestic market by the early 1890s, **Cantoni, Cotonificio Veneziano, Benigno Crespi**, and **Legler** are exemplary. These firms began to export woven goods to the Ottoman Empire, Balkans, Eastern Europe, and especially to Latin America where a vast wave of Italian peasants had settled.

The export of woven cotton goods began in 1891 and by 1895 amounted to 21 million lire, while that of yarn reached 2 million lire, a value superior to that of import. Cotton industrialists cultivated the ambition of transforming Italian emigration in the Americas into a commercial opportunity. To Crispi's military colonialism in East Africa, they counteropposed an Italian road to commercial colonialism based on the German example. Trading companies and networks of sale agents were established in receiving areas. The most celebrated case was that of "the merchant prince" Enrico Dell'Acqua, an entrepreneur of Busto Arsizio, who created a commercial network in Argentina, Uruguay and Brasil after the late 1880s. His activity was financed by the main Italian cotton industrialists and in 1895 the **Società Italiana per l'Esportazione Dell'Acqua** was transformed into a joint-stock company with the financial support of the **Banca Commerciale** (Einaudi 1900).

The main limit to this strategy of commercial penetration abroad, however, rested on the "proletarian" character of Italian emigration. The consumption needs of emigrants were and remained low as only a fraction of them were middle-class families. Furthemore, commercial organizations required high starting costs, the competition of local and international producers was often strong, while there was a lack of efficient Italian consular and shipping organizations.

190. Pietro Soldini (1853-1935), Vittorio Olcese (1861-1940), Giuseppe Frua (1855-1937), Alessandro Maino (1863-1929), Giovanni Festi, and a few other technical cadres were destined to play major roles in the further development of

the Italian cotton industry. Some of them were co-opted by the Lombard cotton dynasties through marriage, as in the case of Giuseppe Frua, who married Ida De Angeli in 1900, the sister of Ernesto De Angeli. Others were able to establish their own entrepreneurial or managerial dynasties, as in the cases of Soldini, Olcese, Festi, and Maino.

There were differences in the formative curricula of these technical cadres. On the one hand, there were those who had begun their careers as laborers. The case of Vittorio Olcese is exemplary. Olcese was first hired as an apprentice by the Pisani mechanical workshop at Milan. He worked as a tracer charged with assembling the first locomotives at the **Elvetica** in Milan from 1875 to 1882. He became an assistent supervisor at the spinnery of the Crespis at Capriate d'Adda in 1882 and director of their spinnery at Baveno 1886. Then, he went to work for the Turatis establishing several large factories (at Campione in 1896, at Cogno in 1906, and others at Lavagna, Novara and Carrù).

On the other hand, there were those who had a formative curriculum that closely resembled that of the offsprings of the Lombard cotton dynasties. The case of Pietro Soldini is exemplary. Soldini was born in a wealthy Swiss family of Chiasso (Canton Ticino). His father owned a large shipping and forwarding firm (that had been heavily involved in contraband trade when Lombardy was under Austrian dominination), which was later managed by the first-born son Adolfo. Soldini studied first at Como and then at Neuveville and Stuggart. Then, he worked for an important Swiss cotton firm at Zurich from 1874 to 1876 and for an important English cotton trading firm at London from 1876 to 1879. In 1879 he was sent to Milan as the Italian representative agent for the English firm. He knew Eugenio Cantoni, who offered him the position of marketing director of the **Cantoni**. Soldini was hired by the **Cantoni** on December 1879 and was appointed general director of the firm at the death of Eugenio Cantoni in 1888. He kept this position for decades overseeing the firm's further development and then was replaced by his son Silvio Adolfo (1895-1953).

191. The founder of the Crespi dynasty of Busto Arsizio was Benigno (1777-1854), nicknamed **tengitt** (dyer in Lombard dialect), a cotton merchant-manufacturer with a network of domestic weavers and a dyeing workshop. Benigno had one son, Antonio (1807-1883), from a first marriage, and one son, Angelo Maria, and one daugther, Giovanna, from a second marriage. Antonio and Angelo Maria married two cousins, respectively Maria Provasoli (1810-1890) and Marianna Provasoli, two descendants of another prominent family of cotton merchant-manufacturers of Busto Arsizio, while Giovanna married Antonio Bianciardi, who held the post of

superintendent at the Como custom-house and probably helped the Crespis to smuggle Swiss cotton yarns and cloths into Lombardy. At Benigno's death in 1854, the family business was continued by Antonio, while Angelo Maria was liquidated with real estate properties and Giovanna with a dowry and a trousseau. Antonio was then already 47 years old, had worked in the family firm since childhood, and had 11 children (of which only 8 reached adulthood).

It was under the leadership of Antonio's first-born son, Cristoforo Benigno (1833-1920), that the Crespi family expanded greatly its industrial activities. Cristoforo Benigno studied first in a Rosminian seminary at Ponte Seveso, then went to Law School at the University of Pavia, however without receiving a degree, and finally studied accounting in Milan, while working in a bank. From the late 1850s until 1863, Cristoforo Benigno worked for the great Milanese cotton firm of Francesco Turati (Cristoforo's older sister, Caterina, had married Ambrogio Turati), where he learned how to speculate on the cotton trade. Cristoforo Benigno made a conspicuous fortune by speculating on his own on the raw cotton trade at the peak of the "cotton famine" and then, with the support of his father, rented one of the largest Lombard cotton factories at Vaprio d'Adda from the Consortium of Creditors of the **Archinto National Manufacture** in 1864-65. The factory, established by the firm **Sioli Dell'Acqua** in 1838, was owned by Count Luigi Archinto until his bunkruptcy in 1863-64 and produced cotton yarns, fustians and velvets of good quality with 300 workers, 11,000 spinning spindles, 1,300 twisting spindles, 250 power-looms, and a dyeing workshop. The Consortium, however, chose to sell the plant at an auction and Duke Raimondo Visconti di Modrone acquired it for 1.6 million lire in December 1865.

At this point, Cristoforo Benigno established a spinnery for the production of quality yarns (throstles of pure American cotton) at Vigevano (1866-67) and entrusted its management to his brother Giuseppe (1846-1922). The yarns supplied the 240 looms (only 30 were concentrated in a workshop) of the Crespi firm at Busto Arsizio that employed about 400 spinners, weavers and dyers in 1869. The firm had also a sale office in Milan that was managed by Antonio's fifth-born son Benigno (1848-1910).

Next, Cristoforo Benigno set up another plant -- a spinnery with 6,800 spindles and a few power-looms at Ghemme, a rural village near Novara (1869-72). He travelled to England to buy the machinery from the Platt Brothers of Oldham, a firm that produced the best and more expensive English textile machinery. This new initiative, however, caused the first serious contrasts between Cristoforo Benigno and the rest of the family, since the financial solidity of the Crespis was menaced by the great delay (two years) with which production began. Once production got

underway, the management of the plant was entrusted to Antonio's third-born son Carlo (1838-1910) and to the sixth-born son Pasquale (1850-1920).

In 1876, Cristoforo Benigno promoted a new industrial initiative that accelerated the definitive break-down of family solidarity. He acquired 85 hectares of woodland near Capriate (Bergamo) and began the construction of a large plant, a dam on the Adda river and a canal (one kilometer long and 12-14 meters wide) to provide hydraulic-power to the plant. While the plant and machinery (5,000 self-acting spindles from the firm Platt Brothers of Oldham) were ready by the next year, it took two years to complete the construction of the canal because of severe technical difficulties (that even caused the death of a few workers). Once again the delay created great financial difficulties and deep contrasts between the Crespi brothers emerged. Giuseppe and Benigno came to view Cristoforo Benigno as too audacious and dangerous for the economic stability of the family patrimony. The explosion of severe interpersonal conflicts between the six Crespi brothers brought to the final collapse of their business partnership after the death of their father Antonio in 1883.

192. Antonio's fifth-born son, Benigno (1848-1910) began to work very young in the family firm, managing the sale office in Milan after he had participated as a volounteer to the war of 1866 on the side of Garibaldi. In 1877, Benigno married Giulia Morbio, who was the offspring of a wealthy Lombard noble family. Giulia received as a dowry a portion of the extensive agricultural properties owned by her family in the Novarese. The following year, Benigno abandoned **de facto** the family firm and with the financial support of Andrea Ponti Jr. established his own cotton firm, the **Crespi & C.**, with a spinnery at Nembro in the Seriana Valley (Bergamo). The spinnery produced thick yarns (from grade 4 to 40) and had around 5,000 spindles. The number of spindles increased as following: 12,000 in 1891 (240 workers); 13,200 in 1900; 30,000 in 1902 (480 workers). Benigno did not follow a model of vertical integration and the **Crespi & C.** continued to produce only yarns. Benigno entrusted the management of the firm to a few loyal technical cadres and devoted most of his time and resources to develop other economic ventures. He paid close attention to the agricultural properties (rice plantations) of his wife in the Novarese (besides the dowry, she inherited all the Morbio's properties at the death of her father Carlo in 1881). He also acquired other large tracts of agricultural land at Albino (Bergamo). Benigno invested also in other industrial firms: the **Lombard Manufacture of Concrete**, the **Cotton Manufacture of the Ticino Valley**. Furthermore, at the turn of the century he began investing in the construction of a hydraulectric power-station at Gromo in

the Seriana Valley. This station, completed in 1902-03, produced 40,000 Volts and was one of the most powerful in Europe at the time. It powered the cotton factory at Nembro and became the first nucleus of the **Crespi & C. Electric Company**.

It was the Milanese newspaper **Il Corriere della Sera**, however, that became Benigno's profit-making machine by the end of the century. The newspaper was founded on 5 March 1876 (13 days before the fall of the **Destra**) by the journalist Eugenio Torreli-Violier and three wealthy moderate conservatives: Pio Morbio (the brother of Giulia), Riccardo Pavesi and Riccardo Bonetti. Benigno acquired a small share of the newspaper in 1882 when it was undergoing financial difficulties. The Milanese newspaper market was highly competitive and **Il Corriere della Sera** was squeezed between the radical **Il Secolo** and the moderate conservative **La Perseveranza**. In 1885 the three founders abandoned the field (Pio Morbio migrated to the USA) and Benigno became the sole owner of a newspaper that sold a daily average of 30,000 copies. Under the Benigno's ownership the newspaper became the most authoritative voice of the Lombard moderate/conservative bourgeoisie, selling a daily average of over 70,000 copies and producing a profit of 238,000 lire in 1898-99 (equal to 124% of the publishing company's capital). This result was favored also by Benigno's ability to forge an alliance with some of the most successful Milanese entrepreneurs/politicians -- Giovan Battista Pirelli, Ernesto De Angeli and Luca Beltrami -- who as minority shareholders contributed to set the political line of the newspaper.

193. The plant at Capriate of the firm **Benigno Crespi**, owned by Cristoforo Benigno (1833-1920) and his son Silvio Benigno (1868-1944), began as a spinnery with 5,000 water-powered self-acting spindles in 1878. The goal of Cristoforo Benigno was that of reaching 50,000 spindles (a goal that was reached only in the 1920s) and the number of spindles increased as following: 10,000 in 1880-81; 15,000 in 1882 when the factory was the first in Italy that began producing fine yarns (grades 40 to 100) with Egyptian combing cotton; 20,000 (3,000 rings) in 1884; 32,000 in 1890, when the Crespis installed also a new water-powered engine of 450 HP and two auiliary steam-engines, while the factory employed 600 workers (210 adult males, 250 adult females and 140 young girls). Between 1894 and 1896, the factory was enlarged and the first mechanized weaving department was installed (200 power-looms made by the Swiss firm Honegger). The Italian Queen Margherita visited the plant in 1896 and inaugurated the new steam-power engine of 300 HP (with four steamers made by the firm Franco Tosi). In 1898, the Crespis installed dyeing and finishing departments and acquired the patents of Thomas Prevost for the mercerization

of cloths. The dyeing department was managed by Cristoforo Benigno's second son, Daniele (1878-1944), who had received a degree in Industrial Chemistry at the University of Pavia. The production of black satins became the specialty of the firm and cloths were widely exported to the Middle East, the Balkans and South America. In 1902 the firm had 36,600 spinning spindles, 8,430 twisting spindles, 320 power-looms. The factory was powered by a steam-engine of 300 HP and by a water-engine of 600 HP and it employed 1320 workers (See Confalonieri 1979:408; Romano 1985:44 ff).

194. The large palace was located in the center of Milan (in Via Borgonuovo 18) and was destroyed for two thirds in the course of the Milan bombing by the Allies in August 1943. Its internal part had been erected in the 16th century by the Biglis, while the rest had been built in neo-classical style by the Counts Perego in the mid 19th century (Romano 1985:36-40). The Peregos had set the stables on the ground floor, while they lived on the first floor; instead the servants were lodged on the second floor and the garret was used as a granary and a hayloft. Cristoforo Benigno Crespi acquired the Perego palace in the Fall 1884 for 800,000 lire, a considerable sum of money (equal to the price of about 1,000 power-looms). The palace was restructured by the architect Angelo Colla. The administrative and commercial offices of the firm **Benigno Crespi** were hosted on the ground floor. A sumptuous staircase that led to the Crespis' residence on first floor was built and its walls were decorated with frescos, bas-relifs and stuccos celebrating Christopher Columbus. A library and two other large rooms hosted a valuable collection of paintings (works of painters such as Correggio, Tiepolo, Canaletto, Lorenzo Monaco, Foppa, Luini, Ferrari, Daniele Crespi, Guercino, Corot, Bellini, and many others) that Cristoforo Benigno was able to assemble in a relatively short period of time under the guidance of a small group of art experts. The area where the Crespi family actually lived comprised: a small salon for small parties, decorated with stuccos in baroque style and with a wonderful floor inlaid with valuable woods; a bedroom with valuable paintings of Cavenaghi, Sassoferrato and Crespi, Florentine hand-made furniture, white blue and golden stuccos, intagliated doors, walls covered with silk damask tapestry, and a floor inlaid with valuable woods; a salon with a Louis XVI ceiling, a luxurious brocade tapestry and paintings of Correggio and Cremona; a large ballroom decorated in "new style" with a great abundance of paintings, sculptures, frescos and enormous mirrors with golden frames; a more austere dining room, decorated in Renaissance style. In 1892, Cristoforo Benigno built another wing of the palace, with a second sumptuous staircase. The new wing became the residence of Silvio Benigno and his wife Teresa Ghiglieri (marriage on 2 January

1893). Later, also Cristoforo Benigno's second son Daniele and his wife Giulia Locatelli went to live in the palace, while both his two daughters, Maria and Beatrice (1874-1965), left the palace when they got married. Maria married first Count Eugenio Pensa di Marsaglia of Turin and then the Marquis Domenico Fracassi di Torre Rossano of Turin; Beatrice married in 1893 the Florentine noble Antonio Rosselli del Turco (1867-1940).

195. The following is the profile of Silvio Benigno Crespi drawn by a biographer of the family (Romano 1985:42-43) on the basis of a variety of written and oral sources.

> Silvio is clever, brilliant, witty, capable of that cheerful and sudden spontaneous laugh that renders him immediatly pleasant to the interlocutor. Slim, not tall, the lively and a bit nervous black eyes, a small fashionable moustache, he loves to dress elegantly and flaunts gentlemanly politeness with ladies. Endowed with an extraordinary fluency of speech, he is never embarassed when he has to improvise any kind of speech. He is a sporting man and practices with assiduousness horseback riding, mountain-climbing, tennis, fencing, and swimming; attracted by all novelties, he will race with the old-fashioned bicycle, then with the bicycle, then still with the engine- powered tricycle and finally with the automobile. Silvio has on the whole the character of the enthusiast, he is a man with a thousand interests and a thousand initiatives and he engages himself in these driven by such an intense emotional charge that at times the enthusiasm does not allow him to follow criteria of a more cold rationality. And in the face of adversities he is subject to sudden changes of temper: disappointments become thus serious depressive states that skim over persecution mania and a gloomy desire of death. But it is enough that the wind of events changes a little its direction and Silvio is immedatly seized with enthusiasm and ideas, sly plans and designs of redemption crowd and overlap in his mind.

196. On the Crespis' paternalist philosophy and company-village built by the architects Ernesto Pirovano and Gaetano Moretti there is an extensive literature: Crespi 1894; Guiotto 1979; Mariani Travi and Mariani Travi 1979; Bernardi 1981:127-186; Bossaglia 1981:111-126; Lorandi 1981:187-199; Romano 1985:80-94.

197. Silvio Benigno Crespi illustrated this position at the International Congress of Milan on Labor Accidents and Social Insurances in 1894.

It is indisputable that big industry and labor concentration, very great factors of the progresses of this century, draw man's work nearer to that of the machine, and they make the worker lose in independence what he gains in productivity.

Man, a creature essentially free, that loves air and light and needs the sun to develop ... instead is constrained by civilization to join with others, to the point of becoming a mere organ of an enormous machine, being of use only as a gear; and all this because his work neither starts nor ends anything without that of many other companions, because the complete work can only be produced with the contribution of all the organs of the machine, with the engagement of all its wheels...

... Big industry is thus in contrast with human nature, with its physical development, and if it is not exercised with an **intellect of love** spreads rickets, anaemia, dishonor to the family and fatherland, vice, decay of races.

The revolt follows, under the form of socialism for some, of anarchy for others; revolt, however, not revolution, because collective labor is, and always will be, overpowering in respect of individual labor.

The responsibility of industrialists is thus incalculable, -- as immense is the latitude of their duty, which consists in the conciliation of the needs of industry with the exigences of human nature, so that the progresses of one never clog the development of the other.

Among these entrepreneurs I put in the front line those of the cotton sector, because their art uses a various and vast complex of mechanisms, which are integrated and operate by themselves, and man has only to maintain them in good state.

In their marvelous industry costs diminish as production increases, therefore tends always to expand, and factories to enlarge, thus they become at times real industrial villages...

... Legions of laborers gather, and moreover will gather, in these factories, where they will apply themselves to the same machine from morning to night for years and years, performing always the same operations, so that they would became brutes, if they were not succourred by the above mentioned intellect... (Crespi 1894:60,66,67;emphasis in the original).

198. Crespi proposed the complete abolition of night-work for youngsters and criticized Lacava's bill at the International Congress of Milan on Labor Accidents and Social Insurances in 1894 (Crespi 1894:77-81).

> ... The bill brought in by Lacava limits to 6 hours the working-day for children between 9 and 12 years of age, to 10 hours the working-day for youngsters between 12 and 15 years of age, to 6 hours the night-work for the latter.
>
> In this regard we would like the age limit raised from 9 to 10 years of age ... and we would like the complete abolition of night-work for youngsters, because the permission given to those who are 12 years old, but not yet 15, to work 6 hours might always become a comfortable means to defraud the law, and will never be of use to any serious industrialist, because a shift of laborforce every 6 hours, in the heart of the night, is practically impossible, or at least always hurtful...
>
> But, if generally we are for labor limitations, we cannot agree with the bill brought in when it fixes a special working-day for youngsters who are 12 years old, besides that of those who have not reached that age.
>
> In our industry, as certainly in many others, the labor of youngsters of 12 years of age is auxiliary and complementary to that of adults; the profession of shuttler in which they are engaged, cannot be interrupted at a given moment of the day without arresting spinning machines, and thus without arresting the factory: hence a labor limitation to 10 hours for youngsters would be equivalent for cotton industrialists to a limitation to 10 hours for the entire laborforce...

For Crespi the reduction of the length of the working-day to 10 hours was something impossible for now because it would ruin the cotton industry. Moreover, he maintained that the working-day for youngsters had to continued to be of 12 hours also because work in the cotton industry was "not tiring".

> ... In our opinion it is necessary to distinguish between tiring and not tiring industries; for the first ones, that is for those in which the youngster has to carry weights, or make efforts of any kind, the length of the working-day should be limited not to 10 but to 8 hours; for the second ones, in which the work of the youngster is the most salubrious, in which, as in our case, he has nothing to do other than change an empty shuttle with a full one, or put small paper tubes in order, the full working-day [of 12 hours] must be allowed.

If this will not be allowed, the worse will fell to youngsters.

> ... Industrialists will be forced to fire all those who are not of 15 years of age, since a multiplicity of time-tables is too hurtful and, in a orderly factory, it is intolerable a system of different arrivals and different departures, of a continuous coming and going: it would happen what already happens for children below 12 years of age, and that is to be excluded from cotton factories or allowed in only in exceptional cases.

Finally Crespi criticized also the creation of a pause of two hours in the working day of youngsters and women.

> Minister Lacava was certainly induced to adopt that provision by the habit prevailing in southern countries, and also among us for many classes of workers, of resting for two hours at noon; but he has not considered the special condition, the factories powered by hydraulic energy (and these are the more numerous ones), of being far away from the village, or at least of receiving a large portion of their labor-force from far away. Often young laborers have to walk for half an hour to reach the factory, and as much to return to their families.
>
> During the two hours of rest thus they would in most cases wander around the factory without surveillance, or sleep in the open, and they would always end doing plays that tire them more than work. Hence it would be better to send them home an hour earlier, at the end of the day, and thus give them more time for dinner and night rest, of which youth has a great need...

199. The following sources provide information on the Sellas and on the Biellese wool industry up to 1896: Are 1962, 1965, 1969, 1974; Berta 1978; Bessone 1976, 1985 Botto 1926; Castronovo 1964, 1966, 1988a; Coda Bertotto 1984; Comitato per l'Archeologia Industriale 1987; Comune di Biella et alter 1984; Einaudi 1959; Faldella 1883; Foa 1973; Fra Dolcino 1882; Gamaccio 1986; Gawronski 1987; Guiccioli 1887-1888; Neiretti 1978, 1983; Ormezzano 1926, 1928; Piacenza 1982; Pozzo 1870, 1877, 1881; Quazza 1961, 1984; Quazza and Quazza 1980; Ramella 1981, 1983; Renier 1937; Ricossa 1986; Rigola 1930; Sciolla 1980; Secchia 1960; Sella 1902; Sella s.d.; Sella 1850, 1863, 1873; Sella 1848; Sella 1984; Sella 1863, 1864; Sella 1881, 1897; Sodano 1953; Valz Blin 1966, 1973; Zucchi 1952.

200. The will of Quintino (1827-1884) provides an illustration of the inheritance practices followed by the Sellas:

> First of all I desire that after my death a

manifestation of my affection and gratitude still reaches my mother, my brother, my sisters, and my brother-in-law Giacomo Rey.

I reccommend to my sons the greatest observance for their mother, to whose virtuous abnegation they owe immensely more than what they can imagine. I recommend to them of never deviating, in no circumstance, and for whatever cause, from the conduct that virtue and honor impose to every honest citizen. They should be good patriots and they should do what they can to sustain the unity and freedom of our dear Italy, as well as the dynasty of Savoy. They should remember that our family owes its prosperity to work, parsimony and concord.

I recommend to my daughters to imitate the virtue of their mother, and to bring to the families in which they marry in, the same modesty, laboriousness, concord, and abnegation, so that also to them it will happen that their husbands will point them at their daughters as models of wives and mothers. I leave to my beloved and esteemed wife Clotilde Rey Sella, besides what the law prescribes, the usufruct of a convenient apartment.

I leave also to my wife the property of all the movable goods that exist in the apartments that I have occupied, with the exception of the securities that there might be. I do not leave anything else to her because she forbade me to do so.

To my daughters Eva and Sita, and to my son Guido, besides the **legittima** prescribed to them by the law, that is the portion reserved to them particularly by the law, I leave ten thousand lire that must be paid to them one year after my death without interests. This provision of ten thousand lire is made on the condition that in the ascertainment of the estate my daughters and my son Guido or whoever for him, become quiet for what it concerns the industrial plant and the properties of the firm Maurizio Sella, [accepting] the estimate resulting at the last underwritten inventory in accordance to what is anyhow stated by the firm's contract.

Being my son Guido unfortunately incapable of any act of civil life, I pray my brother Francesco, and my brother-in-law Giacomo Rey to promote his interdition according to the article 326 of the Civil Code.

... Of what remains of my own patrimony, that is deduced the **legittime** to my daughters and to my son Guido ... I establish and appoint as universal inheritors my sons Alessandro, Corradino and Alfonso. I declare expressly of leaving to them my own portion of the estate of the firm Maurizio Sella, leaving to them the responsibility of paying the liabilities toward my daughters, the son Guido, my wife ...

> I confirm the partnership agreements with my deceased brother [Giuseppe Venanzio], and thus with my nephews who are his inheritors, of 12 April 1861, 12 and 27 May 1876, especially for the provisions relative to the cases of death. ...
>
> I desire to be buried without any sort of pomp, **more pauperum**, without any funeral procession other than the one with my children, nephews and nieces. ...
>
> Biella 15 September 1880.

201. In the following pages I provide a brief geneology of the two élite branches of the Sella family from the seventh to the ninth generation.

**SECOND BRANCH**: Descendents of Gio Domenico (1738-1805) and Anna Maria Ormezzano (1745-1830) of the sixth generation, who had 10 children, but only 6 of them reached adulthood (the others were: Gio Giacomo Antonio Carlo [1765-1769], Gio Battista [1773-1774], Gio Battista Vincenzo [1775-1792], Giuseppe [1779-1797]):

(I) Carlo (1769-1828), who was the vicar of Sordevolo;
(II) Pietro Giacomo (1771-1821), who married in 1796 his third- degree cousin Giuseppina Robiolio (1773-1843), daughter of Pietro and Anna Maria Sella (1744-1801) of the third branch (See Chapter 5, note 61). They had ten children:

(1) Anna Maria (1797-1798);
(2) Modesta (1798-1872), who married in 1813 her fourth-degree cousin Gio Battista Sella ((1788-1878), son of Gio Antonio (1734-1814) and Anna Maria Giletti (1751-1806) of the third branch. They had 10 children (See Third Branch, number X);
(3) Giovanni Domenico (1799-1845), who remained a bachelor;
(4) Maria (1801-1871), who married in 1832 the notary Gio Antonio Garlanda, son of the notary Gio Bartolomeo and Anna Apollonia Tallia of Mortigliengo. Both the Garlandas and the Tallias had been important 18th century merchant-manufacturers. They had two sons:

(a) the notary Francesco (1833-1895), who married Modesta Cesa. Ther for children -- Giovanni (1858-1924), Albino (1861-1907), Annibale (1864-1929), and the lawyer Valerio (1867-1926) -- established in the 1880s an important woolen industrial firm (See Ormezzano 1927:154-165);
(b) Pietro, who married Teresa Castelli (1831). They had three children -- Federico (1857-1913), Eligio and Ernesto. Federico was a well known writer, a professor of English phylology at the University of Rome and the founder of the journal **Minerva** in 1891. He was elected to the Chamber of Deputies in the district of Cossato in 1895 and later was among the founders of the Italian

Nationalist Party (Cr. Ormezzano 1927:117-154);
(5) Pietro (1803-1808), who remained a bachelor and left part of his patrimony to support the kindergarten of Lessona and the foundation of a business school at Mosso Santa Maria, which was one of the first that provided training in business accounting;
(6) Gio Battista (1805-1808);
(7) Caterina (187-1855), who married in 1835 Gio Domenico Andreani, son of Antonio from San Martino Olivardo;
(8) Giuseppina (1810-1839), who remained unmarried;
(9) Giacomo (1816-1826), who remained a bachelor;
(10) Giovanna Battista (1815-1858), who married in 1840 Gioacchino Colongo (1813-1873), son of Tiburzio and Teresa Borgnana-Picco. Gioacchino and his brother Bernardo were the designated heirs of their uncle Giacomo Antonio Borgnana-Picco (1787-1855), who was one of the pioneers of the Biellese industrialization of woolen production. They had one son, Eugenio (1842-1909), who remained a bachelo and was a prominent Biellese manufacturers. In 1884 he closed his factory at Vallemosso and opened another at Carignano (Turin). This move, however, caused his financial disaster and he was forced to sell the factory tothe brothers Valerio and Eugenio Bona (See Ormezzano 1927:103-110);

(III) Pietro Antonio (1777-1855), who married in 1805 Lucrezia Giletti (184-1857), daughter of Giacomo Antonio and Angela Maria Robiolio of Portula (See Chapter 5, notes 60 and 61). In the late 1820s, when the patrimony of this branch was divided, Pietro Antonio and his younger brother Maurizio became the sole owners of the family-owned woolen firm, which was re-named **Maurizio Sella e Fratello.** The partnership between the two brothers, however, lasted only a few years and each brother started his own firm in 1834. Pietro Antonio formed a partnership, the **Sella & Piacenza,** with Giuseppe Ormezzano and the lawyer Giacomo Piacenza. The firm had a modern spinning factory located in the old fulling-mill owned by Ormezzano in the territory of Valle Inferiore Mosso. Pietro Antonio and his son Giovanni Domenico oversaw productive operations, while Piacenza managed the firm's commercial house in Turin (See Second Branch, number IV.2 and Chapter 5, notes 59, 60, 73). Pietro Antonio and Lucrezia had eight children, but only six reached adulthood:

(1) Giovanni Domenico (1806-1870), who married in 1848 Giulia Amosso (1830-1922), daughter of Paolo Amosso and Eleonora Bora. Paolo Amosso had inherited the woolen firm of his father Matteo in Biella and his personal patrimony was valued in 80,000 lire in 1834 when he became municipal councilman of Biella, post that he kept for many years. Probably Giovanni Domenico used also part of his wife's dowry and of the capital he had accumulated over the years as a result of his partnership in the firm **Sella &**

**Compagnia** to liquidate Giacomo Piacenza and Giuseppe Ormezzano and to establish his own firm in 1851, the **Gio Domenico Sella**. Giovanni Domenico and Giulia had three children:

(a) Pietro Paolo (1849-1887), who married in 1878 Maria Regis (1859-1916), daughter of the medical doctor Gio Giacomo and Sofia Cridis. Pietro Paolo devoted himself with passion to the study of chemistry and mathematics, receiving specialized training at Swiss, Belgian and German schools. He became co-owner, together with his younger brother Giacomo (1854-1921), of the firm **Gio Domenico Sella** in 1870. With him, however, after he had left the partnership with his brother in 1883, the Sellas began to widen their business interests to include finance. Chairman of the Popular Bank of the District of Mosso, established in 1882 on the initiative of his cousin Quintino, Pietro Paolo founded in 1884 in Turin one of the first Italian banks designed to facilitate the flow of savings to industrial investments. Pietro Paolo and Maria had four children: Emanuele (1879-1946), Sofia (1880), Cecillia (1881- 1968), and Ugo Carlo (1884-1961);
(b) Clotilde (1851) who married Giovanni Perozzolo (1830) son of Carlo and Rosina Venazza from Agnona.
(c) Giacomo (1854-1921) who married in 1879 Amalia Hübner (1858-1934) daughter of Federico and Maddalena Oirale from Savigliano. He became a co-owner, together with his brother Pietro Paolo of the firm **Gio Domenico Sella** in 1870. The partnership with his brother, however, ended in 1883 and the firm was dissolved. While Pietro Paolo engaged himself in the banking business, Giacomo established his own woolen firm, the **Giacomo Sella**, with a new factory outside of the Biellese, on the left bank of the Dora river at Collegno (Turin). In 1890, Giacomo sold his half of the old industrial plant at Valle Mosso (that of the **Gio Domenico Sella**) at Valle Mosso to the woolen firm **Fratelli Simone**, while his brother Pietro Paolo (and then his two children) rented his half to small Biellese manufacturers. The firm **Giacomo Sella**, however, went bankrupt in 1892 as a result of many technical and managerial mistakes made by Giacomo and his assistants in a period of deep economic depression. His career as a woolen manufacturer came to a definitive end. Giacomo and Amalia had three children: Bice (1880-1889), Guido (1881-1891), and Clotilde (1887-1953);

(IV) Vincenzo (1789-1828), who married Marianna Rosso (1779-1832), daughter of Giovanni Quirico and Caterina Costa of a family of woolen manufacturers of Callabiana. They had two children:

(1) Anna Maria Giuseppina (1804-1805);

(2) Anna Maria (1807-1851), who married in 1824 Giuseppe Ormezzano (1800-1880), son of Gio Battista and Angela Ottino. After 1834, Giuseppe became a partner of the woolen firm **Sella & Piacenza**, together with the lawyer Giacomo Piacenza and Pietro Antonio Sella, the brother of Anna Maria's father (See Second Branch, number III). His brother Francesco (1801-1887), a lawyer and president of tribunal in Turin, married in 1834 Giuseppina Sella (1817-1892), daughter of the lawyer Giuseppe Vincenzo (1791-1865) and Giovanna Molinari (1791-1857) of the third branch (See Third Branch, number XII.1);

(V) Maurizio (1784-1846), who married in 1813 his fourth-degree cousin Rosa Sella (1799-1881), daughter of Gio Giacomo (1769- 1840) and Anna Maria Giletti (1751-1806) of the third branch (See Third Branch, number I.2). In 1835 Maurizio founded the woolen firm **Maurizio Sella** at Chiavazza on the outskirts of Biella and at his death in 1846 he left a patrimony valued in 451,291 lire (78,973 lire for each of his four sons and 22,564 lire for each of his six daughters). Maurizio and Rosa had 20 children, but only four sons and six daughters reached adulthood:

(1) Maria or "Mariotina" (1815-1895), who married in 1834 the medical doctor Pietro Angelo Boggio (1806-1869), son of Giuseppe and Teresa Regis. The Boggios were an 18th century entrepreneurial family of Mosso Santa Maria and Pietro Angelo established a modern woolen firm at Ometre (Mosso Santa Maria) in 1840. Maria and Pietro Angelo had three children who managed the firm jointly until the end of the century (after 1870, however, they opened a new factory at Molinet in the territory of Strona where water-power was more abundant):

(a) Edoardo (1836-1912), who oversaw the administrative and commercial business of the firm, was one of the most prominent Biellese entrepreneurs of his generation. He was one of the founders of the Association of Woollen Manufacturers of the Strona Valley (30/01/1876) and its president for many years. He was the vice-president for a decade of the Association of the Italian Woollen Industry and in 1890 was appointed to the presidency (1890-1891). Edoardo was engaged actively also in local politics: municipal councilman of Strona since 1871, mayor of Strona from 1878 to 1883, Provincial councilman for the district of Cossato from 1879 to 1888, member of the Provincial Deputation from 1885 to 1888 and of the Provincial Administrative Board from 1880 to 1893;

(b) Enrico, who oversaw the productive operations of the firm, together with his brother Maurizio;

(c) Maurizio, who oversaw the productive operations of the firm, together with his brother Enrico. In 1898 he was selected by his Sella cousins to manage their firm **Fratelli Sella fu Maurizio**;

(2) Delfina (1817-1901), who married in 1842 Luigi Geniani (1805-1862), son of Giuseppe and Margherita Jaques from Varallo. Luigi worked with his brothers-in-law in the woolen firm **Fratelli Sella fu Maurizio** since 1850, receiving a yearly payment of 3,500 lire. Delfina and Luigi had one daughter, Sofia (1843);
(3) Francesco (1819-1895), who married in 1850 his first-degree cousin Augusta Pezzia (1825-1910), who was the widow of Carlo Corte (1821-1849) and the daughter of Gio Battista Pezzia and Serafina Sella (1806-1831) of the third branch (Serafina was the sister of Francesco's mother, Rosa Sella; See Third Branch, number I.5.a). Francesco was one of the managing partners of the woolen firm **Fratelli Sella fu Maurizio** at Biella until 1853. He then moved to the nearby town of Cossato where he bought vast agricultural properties. In Cossato he was the great organizer of the electoral campains of his brother Quintino to the Chamber of Deputies in 1860, 1861, 1865, etc., and was appointed mayor of the town in 1866, maintaining the post for several years. From 1862 until 1868 he managed the big firm **Fratelli Sella** that was owned by the children of Gregorio Sella. In 1867 he acquired an old cotton firm of the Benzio family at Cossato, modernized the production process and set up the cotton firm **Francesco Sella** that he managed until his death in 1895. Francesco and Augusta had three children:
   (a) Maurizio (1852-1931), who married twice. First, he married in 1876 Climene Corte (1859-1897), daughter of Luigi and Giuseppina Boschi from Andorno. They had three children: Rosa (1879-1956), Sofia (1880-1972), and Ugo Francesco (1883- 1957). Maurizio's second wife was Irma Sogno (1877-1961), daughter of Gio Francesco and Angela Gujalba le Cabecere. They had no children. Maurizio inherited from his father the cotton firm **Francesco Sella** in 1895. He managed the firm with some success and in 1904 established with the partner Evasio Porrino a firm specialized in the dyeing phase, the **Tintoria Biellese**. He was mayor of Cossato from 1896 to 1917 (and was also appointed **podestà** in 1930) and a member of the Provincial Council of Novara from 1895 to 1904;
   (b) Lidio Giuseppe Alfonso (1859-1905), who married in 1895 Flavia Strona, daughter of Beniamino and Delfina Serralunga. They had no children;
   (c) Serafina (1865-1894), who married in 1887 her second-degree cousin Biagio Alasia (1852) son of Giuseppe Alasia (1820-1893) and Vittoria Sella (1833) (See Third Branch, number I.4.a). Biagio was a lawyer and the trusty man of Quintino Sella in Rome;
(4) Gaudenzio (1820-1860), who married in 1847 his second-degree cousin from his mother side and fourth-degree cousin from his father side Ottavia Sella (1831-1903)

daughter of Gio Battista Sella (1788-1878) of the third branch and Modesta Sella (1798-1872) of the second branch (See Third Branch, number X.8). Gaudenzio was one of the managing partners of the firm **Fratelli Sella fu Maurizio** from 1846 to 1860. Gaudenzio and Ottavia had three daughters:

(a) Malvina (1849-1935), who married in 1871 Paolo Orengo (1828-1921), son of Pietro and Carolina Preti di Sant'Ambroise from Ventimiglia. The Orengos were a wealthy family of merchants from Ventimiglia and, among other things, they were the suppliers of the soap used in the Sellas' factories. Malvina and Paolo hd one son, Orazio (1873-1961), who married after 1915 his first-degree cousin Bice Biancheri (1876-1965), daughter of Andrea (1849-1891) and Ida Sella (1857-1931) (see points c and c.2 below);

(b) Federica (1852-1935), who married in 1871 Ottobono Orengo (1836-1906) the younger brother of Paolo (see above point a). They had two children: Carlo (1873-1875) and Ottavia (1879-1950) who married the Genoese surgeon Emilio Ammirati (1869-1935);

(c) Ida (1857-1931), who was married twice. First, she married in 1873 Andrea Biancheri (1849-1891) son of Gio Battista and Anna Sguardi from Ventimiglia. This was one of the marriages arranged by Quintino Sella. Andrea's uncle, Giuseppe Biancheri (1821-1908) was a very important Parliamentary politician and a good friend of Quintino Sella: he sat in the Chamber of Deputies (representing the district of Ventimiglia) uninterruptedly from 1853 until his death, was Minister of the Navy in the Ricasoli government (Novemebr 1866-April 1867), and President of the Chamber of Deputies almost uninterruptedly from 1870 until 1907 (1870-1876; 1884-1892; 1894-1895; 1897-1898; 1902-1904; 1906-1907). Ida and Andrea had two children:

(c.1) Maria (1874-1947), who married in 1896 her second-degree cousin from her father side Corradino Sella (1860- 1933), son of Quintino (1827-1884) and Clotilde Rey (1835-1915) (See Second Branch, number V.7.d). They had three children: Andrea (1897-1977), Eva (1898-1967), and Clotilde (1905-1982);

(c.2) Bice (1876-1965), who married in 1900 Michele Pericle Negrotto. They had one son, Enzo (1900-1956). After 1915, Bice married her first-degree cousin Orazio Orengo (1873-1961) (see above point a);

In 1894 Ida married the widower Giuseppe Grossi (1855) son of Luigi and Natalina Verani, who only a few years later ran away to Brasil (he was then presumed legally dead), abandoning not only Ida, but also his five children from his previous marriage: Giulia (1884-1944), Margherita (1886-1965), Noemi (1887-197), Ottavio (188-1944), and Orazia (1890-1972);

(5) Elena (1822-1822);
(6) Giuseppe Venanzio (1823-1876), who married in 1851 Clementina Mosca Riatel (1835-1920), daughter of Giovanni Battista and Marianna Rosazza. The Moscas and the Rosazzas were families of the Andorno Valley operating in the construction business and Federico Rosazza, Marianna's brother, was a Senator. Giovanni Battista Mosca Riatel had moved to Chiavazza (Biella) in the 1830s and he was the mayor of the little town for many years. Angelo Mosca Riatel (1811-1889), Clementina's older brother, married in 1841 Giuseppe Venanzio's aunt Carolina Sella (1823-1906), daughter of Gio Giacomo Sella (1769-1840) and Lucrezia Gila (1782-1855) of the third branch (See Third Branch, number I.10). Giuseppe Venanzio was one of the most prominent Biellese woolen entrepreneur and he was the sole manager of the woolen firm **Fratelli Sella fu Maurizio** from 1860 to 1876. Giuseppe Venanzio and Clementina had nine children:

(a) Vitalina (1852-1855);
(b) Carlo "Carlin" (1855-1936), who married in 1880 Clara Pozzo (1863-1952), daughter of Massimo and Carlotta Bianco from Candelo. This marriage was arranged by Carlo's mother (Lodovico Sella, interview 8-01-1988). The Pozzos were a local notable family: Clara was the niece of a senator and of the local historian Severino Pozzo. Carlo managed the **Fratelli Sella fu Maurizio** from 1876 to the end of the century and was a partner of the **Banca Gaudenzio Sella & Compagni**. Carlo and Clara had six children: Selina (1882-1882), Selina (1883-1963), Giuseppe Venanzio (1885-1885), Massimo (1886-1959), Carola (1887-1924), and Alessandra (1893);
(c) Maria (1856-1858);
(d) Luigia (1858-1935), who married in 1875 Felice Bora (1843-1905), son of Francesco and Adelaide Marandono. The Boras were a local notable family. Felice made the military career, reaching the rank of captain in the horse artillery corp. Luigia and Felice had six children: Beatrice (1877-1966), Elvira (1879-1962), Arrigo (1880-1952), Ettore (1882-1927), Riccardo (1883-1885), and Lisetta (1888-1954);
(e) Vittorio (1859-1943) who married in 1882 his first-degree cousin from his mother side Linda Mosca (1863-1942), daughter of the underprefect of Biella Cesare Mosca and Leontine Renaud. Vittorio was a partner of the **Banca Gaudenzio Sella & Compagni** and one of the co-owners of the **Fratelli Sella fu Maurizio** (he worked for several years as supervisor of the dyeing department). Vittorio was also a well known photographer, mountain climber and geographical explorer. He invested, together with his brother Erminio and his cousin and brother-in-law Edgardo

Mosca, in extensive projects of land reclamation and improvement in the Biellese and Sardinia. Vittorio and Linda had six children: Clementina (1883-1949), Cesarina (188-1884), Giuseppe Clemente Venanzio (1886-1887), Bianca (1887-1971), Giuseppe Venanzio (1888-1939), and Cesare Leone Gaudenzio (1889-1971);
(f) Gaudenzio (1860-1934), who married in 1898 Geltrude Bosswell (1857-1955), daughter of Jasper John and Isabel Schofield from Leeds (U.K.). The Bosswells were a family of former woolen entrepreneurs of the Yorkshire that then had invested in the banking business. Gaudenzio met Geltrude in the Sella's home at San Gerolamo, where she worked as a governess. Gaudenzio was one of the co-owners of the firm **Fratelli Sella fu Maurizio** and the sole manager of the **Banca Gaudenzio Sella & Compagni** from 1886 to 1934. Gaudenzio and Geltrude had five children: Giulia (1899-1900), Venanzio (1901), Riccardo (1902), Ernesto (1904-1974), and Giorgio (1906);
(g) Maria (1868-1960), who married in 1894 Augusto Halenke (1871-1957), son of Carlo and Teresa Fu"rnrohr. Carlo Halenke had settled in Biella in the 1860s and was a member of a German family engaged in the trade of raw wool. It is interesting to note that Augusto's younger brother, Leopoldo (1878-1953), married in 1908 Margherita Grossi (1886-1965), stepchild of Ida Sella (1857-1931), who was the daughter of Gaudenzio (1820-1860) and Ottavia Sella (1831-1903) (See Second Branch, number V.4.c). Maria and Augusto had one child, Sita (1895-1983);
(h) Giuseppina (1869-1954), who married in 1896 Edoardo Gaia (1860-1898), son of Celestino and Adelina Jacaccio. Edoardo was a lawyer and died in a shipwreck in the Pacific in 1898. Giuseppina and Edoardo had one child, Gustavo (1897);
(i) Erminio (1865-1948), who remained a bachelor and was an engineer. He was one of the co-owners of the **Fratelli Sella fu Maurizio** and of the **Banca Gaudenzio Sella & Compagni**. Erminio invested also, together with his brother Vittorio and his cousin Edgardo Mosca, in extensive projects of land reclamation and improvement in the Biellese and Sardinia.

(7) Emilio (1825-1830);
(8) Quintino (1827-1884), who married in 1853 his first-degree cousin from his mother side Clotilde Rey (1835-1915), daughter of Giacomo Antonio (1800-1869) and Maria Luigia Sella (1810- 1836) (See Third Branch, number I.7.c). Quintino was one of the co-owners of the firm **Fratelli Sella fu Maurizio**, but first and foremost he was a scientist and a politician. Quintino and Clotilde had seven children:
(a) Corrado (1854-1860);

(b) Guido (1855-1861);
(c) Alessandro (1857-1891), who married in 1880 Giannina Giacomelli (1864-1949), daughter of Giuseppe and Clotilde Benz of a family of bankers from Udine. This was a marriage arranged by Quintino Sella. Quintino had known Giuseppe Giacomelli at Udine during the war against Austria in 1866: Quintino was the Royal Commissary for the Province of Udine and Giuseppe was the mayor of Udine. Giacomelli was a member of Parliment for many years, became a trusted adviser of Quintino for matters of State finances and later was also chairman of the **Società Generale Immobiliare** and of the **Società per il Risanamento di Napoli**, two big financial companies that were among the most active in the real estate speculation that invested Rome and Naples during the 1880s. Both companies went bankrupt amidst the great banking crashes and scandals of the early 1890s. It was Giacomelli that convinced the seven offspring of Giuseppe Venanzio and Quintino to set up the **Banca Gaudenzio Sella & Compagni** in 1886 and he was also an important share-holder of the bank until his death. Beside his partnership in the family-owned bank, Alessandro was also a co-owner of the firm **Fratelli Sella fu Maurizio**. Alessandro and Giannina had five children: Pietro (1882-1971), Gino (1884-1884), Gino Giuseppe (1885-1924), Luigi (1887-1921), and Quintino (1888-1975).
(d) Corradino (1860-1933), who married in 1896 his second-degree cousin from his father side Maria Biancheri (1874- 1947), daughter of Andrea (1849-1891) and Ida Sella (1857- 1931) (See Second Branch, number V.4.c.1). Corradino was one of the co-owners of the **Fratelli Sella fu Maurizio** and of the **Banca Gaudenzio Sella & Compagni**. He was elected to Parliament in 1890 (and then again in 1904) and was the president of the Association of Italian Woollen Manufacturers from 1897 to 1909 and of the League of Bielles Manufacturers (1901 ff). Mayor of Biella from 1893 to 1898 (and from 1901 to 1909) and president of the Professional School of Biella, Corradino was the continuator of some of the typical initiatives of the family like the promotion of public schools and charitable institutions and the support to an active policy of communications (with the sponsorship of the railway Novara-Biella). Corradino and Maria had three children: Andrea (1897-1977), Eva (1898-1967) and Clotilde (1905-1982);
(e) Guido (1862-1886), who was mentally retarded;
(f) Alfonso (1865-1907), who married his second-degree cousin from his father side Maria Santocanale (1873-1954), daughter of Napoleone (1831-1918) and Ortensia Boussu (1848-1945) from Palermo (See Second Branch, number V.9). They had no children. Alfonso taught

physics at the Rome University and was the first Italian scientist to study radioactivity. He was one of the co-owners of the **Fratelli Sella fu Maurizio** and of the **Banca Gaudenzio Sella & Compagni**.

(g) Sita (1868-1943), who married in 1894 the lawyer Edoardo Boggio (1859-1953), son of Alessandro and Enrichetta Barberis from Mezzana Mortigliengo. They had two children: Ilda (1895-1956) and Quintino (1898-1973).

(9) Elena (1829-1885), who married twice and had four children (but only one of them reached adulthood) from her first marriage. She married in 1847 Luis Benoit Boussu (1798-1855), then she married Filiberto Bagnasacco (1829-1896), son of Antonio and Rosa Barazia. Luis Benoit Boussu was a woolen manufacturer who had come to Biella from Vienne (Dauphinè) with his brother Federico on the invitation of the Savoyard government in 1824. His family had a woolen firm in Vienne and the invitation of the Savoyard government was made in the context of a policy that intended to stimulate the qualitative upgrading of Biellese wool production. The Boussu brothers introduced several modern machines and procedures, and established a factory for the production of "French style cloths" at Chiavazza (Biella), which was next to that of the **Maurizio Sella**. Elena and Luis Benoit had four children: Ortensia (1848-1945), Luigia (1849-1850), Alfonso (1850-1851), and Teresa (1852-1852). Ortensia married in 1866 Napoleone Santocanale (1831-1918), son of the lawyer Filippo and Angela Borroni from Palermo. This marriage was arranged by Quintino. Filippo was one of his colleagues in the Italian Parliament, while Napoleone was a naval engineer and worked at the Florio shypyard in Palermo. Ortensia and Napoleone had five children: Angelina (1867-1896), Filippo (1871-1955), Maria (1873-1954), Elena (1875-1875), and Giuseppe (1875-1875). Of them, only Maria (1873-1954) married (three times), but had no children. First, she married in 1892 Gio Muzio Polar (1868) from Lugano, who was a Swiss guard of the Pope. Then, Maria married her second-degree cousin from her mother side Alfonso Sella (1865- 1907), son of Quintino Sella (1827-1884) and Clotilde Rey (1835-1915) (See Second Brnch, number V.8.f). Finally, she married in 1913 Raffaele Barabbino (1871-1945), a civil servant from Palermo.

(10) Lucrezia (1831-1885), who married in 1846 her second degree-cousin Valentino Sella (1816-1884), son of Gio Battista Sella (1788-1878) of the third branch and Modesta Sella (1798- 1872) of the second branch (See Third Branch, number X.1; Second Branch, number II.2). Valentino was one of the co- owners of the woolen firm **Sella & Compagnia**. Valentino and Lucrezia had two children:

(a) Rosina (1847-1875), who married in 1869 the lawyer Leone Fontana (1836-1905), son of Vincenzo and Orsilia

Spurgazzi from Turin. They had two children;
(b) Silvio (1851-1916) was the genealogist of the Sella family and one of the co-owners and managers of the **Sella & Compagnia**. He married in 1879 Antonietta Boetti (1858-1947), daughter of Edoardo and Teresa Migliorati from Savigliano. They had four children: Olga (1880-1968), Edoardo (1881-1947), Valentino (1883-1884), and Elisa (1891-1970).

(11) Emilia (1832-1911), who married in 1849 Antonio Fourrat (1819-1979), son of Gio Antonio and Maria Ollanier from Turin. They had no children.

(12) Efisia (1833-1881), who married in 1851 the prominent Biellese woolen industrialist Giovanni Bozzalla-Pret (1827- 1882), son of Luigi and Carolina Salza from Castagnea. The Bozzallas were a family of 18th century merchant-manufacturers of the Sessera Valley. In 1832 Giovanni Bozzalla (1770-1845) and his son Luigi (1798-1856) had established a modern woolen factory at Moline' (Castagnea) and in 1855 their firm, the **Giovanni Bozzalla e Figlio** won a large contract for the supply of cloths to the English legion fighting in Crimea. In 1857, one year after the death of Luigi, his son Giovanni, who had studied business administration in Switzerland and had inherited the business, acquired the woolen factory of the Amossos on the Cervo river near Biella and installed new self- actings made in England by the Platt Brothers. In 1862 the firm won a large contract for the supply of cloth to the Italian army. Efisia and Giovanni had 14 children:
(a) Maria (1852-1852).
(b) Luigi (1854-1927), who married in 1887 Teresa Coiro (1866), daughter of Giovanni and Teresa Porro from Livorno. They had no children. Luigi, together with his younger brother Emilio, managed the family-owned woolen firm until 1887. He was a municipal councilman of Biella for many years, sat on the board of the local savings bank and on that of the Chamber of Commerce of Turin. Luigi was also the first secretary of the Association of Italian Woollen Manufacturers. In 1887, however, the two brothers dissolved their firm and sold the factory to the Cerruti brothers in 1890. Luigi went to law school, became a lawyer, and worked for 30 years in the law firm of the Cornaggia Medicis in Milan.
(c) Alessandro (1856-1900), who married im 1897 Emma Corte di Montonaro (1864-1954), daughter of Eugenio and Maria Negri Cogna. They had no children.
(d) Emilio (1857-1925), who married in 1882 Carolina Amosso (1865-1944), daughter of Gioacchino and Margherita Borello. They had one child, Giovanni (1883-1948). Emilio, together with his older brother, managed the family-owned woolen firm until 1887, then he became a partner of his brother-in-law Felice

Piacenza (1843-1938) of Pollone (see below);
(e) Quintino (1858-1863);
(f) Corinna (1860-1873);
(g) Silvia (1861-1936), who married in 1878 the prominent Biellese woolen industrialist Felice Piacenza (1843-1938), son of Giovanni (1811-1883) and Giuseppina Marandono from Pollone. Silvia and Felice had four children: Livia (1879), Guido (1881-1939), Mario (1884-1921), and Enzo (1892-1968);
(h) Rosina (1862-1863);
(i) Noemi (1863-1948), who married in 1879 her second-degree cousin Silvio Mosca-Riatel (1845-1912), son of Angelo (1811- 1889) and Carolina Sella (1823-1906), who was the daughter of Gio Giacomo Sella (1769-1840) and Lucrezia Gila (1782-1855) (See Third Branch, number I.10.c). Noemi and Silvio had three children. Silvio was an engineer and a co-owner of the family woolen firm that had a factory at Chiavazza (Biella);
(j) Quintino (1865-1946), who married in 1890 Serena Amati Cattaneo (1868-1952), daughter of Alessandro and Maria Tavazza. They had four children;
(k) Giuseppe (1866-1872);
(l) Giulio (1869-1869);
(m) Romolo (1871-1872);
(n) Giuseppe (1874-1958), who was a painter of the school of the Biellese master painter Lorenzo Delleani. He remained a bachelor;

(13) Emilio (1835-1839);
(14) Anonymous (1836, died the same day of his birth);
(15) Ludovico (1837, died the day after his birth);
(16) Carlo (1839, died eight days after his birth);
(17) Alfonso (1840, died the same day of his birth);
(18) Emilio (1841, died three days after his birth);
(19) Pietro (1842, died the same day of his birth);
(20) Emilio (1843, died eleven days after his birth);

(VI) Maria (1786-1842), who married in 1807 her third-degree cousin Benedetto Sella (1789-1836), son of Gio Antonio Sella and Anna Maria Giletti. They had eight children (See Third Branch, number XI).

**THIRD BRANCH**: Descendents of Gio Antonio (1734-1814) and Anna Maria Giletti (1751-1806) of the sixth generation, who had 15 children (but only 9 of them reached adulthood):
(I) Gio Giacomo (1769-1840), who married in 1796 his first-degree cousin Lucrezia Gila (1782-1855), daughter of Giacomo and Maddalena Giletti from Portula (See Chapter 5, note 60). Gio Giacomo was the manager and one of the co-owners of the woolen firm **Gio Giacomo e Fratelli Sella**. He and Lucrezia had 10 children:

(1) Anna Maria Rosa (1797-1797);
(2) Rosa Maria (1799-1881), who married her fourth-degree

cousin Maurizio Sella (1784-1846), son of Gio Domenico (1738- 1805) and Anna Maria Ormezzano (1745-1830) of the second branch. They had 20 children (See Second Branch, number V).

(3) Teresa (1801-1833), who married in 1820 the manufacturer Lorenzo Corte (1801-1868), son of Carlo and Maria Bonesio from Andorno. They had three children:

(a) Carlo (1821-1849), who married in 1844 his first degree- cousin Augustia Pezzia (1825-1910), daughter of Gio Battista and Serafina Sella (1806-1831) (See below number 5.a). They had two children: Teresa (1847-1858) and Augusto (1849-1855). After Carlo's death, Augusta married her first-degree cousin Francesco Sella (1819-1895) of the second brnch (See Second Branch, number V.3);

(b) iacomo (1823-1893), who married in 1852 Luigia Falla Ciri (1836-1905), daughter of Carlo and Caterina Bocca. They had 10 children;

(c) Rosina (1833), who married in 1855 Michele Dionisio (1814- 1878), a pharmacist of Candelo. They had 9 children;

(4) Giovanni Giacomo Antonio (1803-1864), who married in 1831 Serafina Soldati (1801-1875), daughter of Filippo and Chiara Festa from Turin. Giovanni Giacomo Antonio moved to Turin in the late 1820s to run the commercial house of the **Gio Giacomo e Fratelli Sella**. In 1837 his father donated to him and his brother Gregorio the firm, which was renamed **Fratelli Sella**, but the two brothers parted ways and patrimony in 1839. Gregorio took the firm, while Giovanni Giacomo Antonio took extensive agricultural properties -- the wheat- and rice-fields of Murrione and Merizzo in the Vercellese, and the vineyards of Lessona -- and a large cash payment that he invested partly in a partnership with the Cartotto brothers, the **Sella and Cartotto**, that controlled a modern spinning factory on the Strona river. This partnership, however, did not last long and in 1851 the factory was sold to the Galoppo brothers. The following year the wife and offspring of Giovanni Giacomo Antonio had him declared legally disabled by the court to stop his large cash donations to the Congregation of St. Philip Neri of Turin. Giovanni Giacomo Antonio and Serafina had five daughters:

(a) Vittoria (1833), who married in 1851 Giuseppe Alasia (1820-1893), a young Turinese lawyer who made a brilliant political and administrative career: elected to the **Parlamento Subalpino** in the district of Savigliano, Intendant, Director in chief of the first division of the Ministry of Internal Affairs, General Secretary of the Education Ministry (1860-1861); Prefect of Bari, Aquila and Ravenna; General Secretary of the Ministry of Internal Affairs; General Secretary of the Council of State. It is interesting to note

that their first- born son Biagio (1852), who was a lawyer in Rome and a trusty man of Quintino Sella, married in 1887 his second-degree cousin Serafina Sella (1865-1894) daughter of Quintino's older brother Francesco (1819-1895) and of Augusta Pezzia (1825-1910) (See Second Branch, number V.3.c);
(b) Ombellina (1836-1889) who married the lawyer Bernardo Fenolio (1831);
(c) Tersilla (1840-1883), who remained unmarried;
(d) Eleonora (1842), who married in 1863 the Turinese lawyer Giuseppe Zappata (1833-1921);
(e) Leopolda (1845), who married in 1872 the colonel Delfino Muletti (1823);

(5) Serafina (1806-1831), who married in 1824 Gio Battista Pezzia, son of Giovanni and Barbara Corte from Andorno. They had three children:
(a) Augusta (1825-1910), who married twice. First, she married in 1844 her first-degree cousin Carlo Corte (1821- 1849), son of Lorenzo and Teresa Sella; hey had two children (See Third Brnch, number I.3.a). Then, in 1850 she married her first-degree cousin Francesco Sella (1819-1895), son of Maurizio and Rosa Sella; they had three children (See Second Branch, number V.3);
(b) Enrica (1827-1828);
(c) Giovanni (1830-1895), who remained a bachelor and was an engineer.

(6) Matilde (1808-1878), who married in 1831 Giuseppe Rey (1803-1875), son of Giuseppe. The Reys owned a textile commercial house in Turin and the brother of Giuseppe, Giacomo (1800-1869), married in 1831 Matilde's sister, Maria Luigia (1810-1836) (See Third Branch I.7). Matide and Giuseppe had five children:
(a) Clotilde (1832-1832);
(b) Augusto (1833-1838);
(c) Luigia (1840-1865), who married in 1859 married Giuseppe De Filippi (1830), son of Ludovico and Carlotta Costa from Carmagnola. Giuseppe was a trusty lawyer of Quintino Sella. They had no children. After Luigia's death, in 1868, Giuseppe married Luigia's second-degree cousin Olimpia Sella (1846), daughter of Secondo (1819-1884) and Caterina Sella (1838-1916) (See Third Branch, number X.7.a).
(d) Eugenio (1843-1919), who remained a bachelor and was a medical doctor;
(e) Camillo (185-1900), who remined a bachelor;

(7) Maria Luigia (1810-1836), who married in 1830 Giacomo Antonio Rey (180-1869), son of Giuseppe. The Reys owned a textile commercial house in Turin and Giacomo became a partner of the **Gio Giacomo e Fratelli Sella** from 1830 to 1835. Giacomo's brother, Giuseppe (1803-1875), married in 1831 Maria Luigia's sister, Matilde (1808-1878) (See Third Branch, number I.6). Maria Luigia and Giacomo had three

children:

(a) Clotilde (1831-1832);

(b) Giacomo Vincenzo (1833-1907), who married Lidia Mongenet (1840-1918), daughter of Baldassarre and Eugenio Anselmi. Giacomo Vincenzo inherited the family-owned textile commercial house in Turin. They had five chidren. The first-born male, Ugo (1860-1944) married in 1895 his third-degree cousin Pia De Filippi (1871-1902), daughter of the lawyer Giuseppe and Olimpia Sella (See Third Branch, number XI.7.a.2); they had two children. After Pia's death, Ugo married Paola Ridoni.

(c) Clotilde (1835-1914), who married in 1853 her first-degree cousin Quintino Sella (1827-188), son of Maurizio and Rosa Sella; they had seven children (See Second Branch, number V.8);

(8) Elisabetta Felicita (1812-1812);

(9) Gregorio (1815-1862), who married in 1841 Anna Bertolazzo (1816-1895) of Diego and Clara Bullio. The Berolazzos were a family of lawyers and notaries of Biella. The Bullios had been among the most important 18th century merchant-manufacturers, but they had lost out in the Napoleonic period. Anna had brought a conspicuous dowry made of buildings in Biella and agricultural properties in the lower Biellese. She had inherited also a large sum of money from her step-father, the Baron Francesco Bella Fabar. After 1839, Gregorio was the sole owner of the woolen firm **Fratelli Sella** and turned it into the most important, modern and profitable woolllen firm in the Kingdom of Sardinia in the 1850s. Beside a successful industrialist, Gregoorio was also a large land-owner, a technical writer, and an important politician. He was mayor of Croce Mosso from 1852 to 182 and was elected to Parliament in 1849, 1853, 1857, and 1860. Gregorio and Anna had seven children:

(a) Clara (1843), who married Enrico Bianchetti (1834-1894), son of Giovanni and Marietta Martellini from Domodossola. They had two children, Maria (1866-1890) and Edgardo (1869-1924), who remained unmarried.

(b) Erminia (1845), who married in 1868 the engineer Cesare Stoppani (1838-1887), son of Giuseppe and Albina Meschini from Novara. They had one child, Giuseppe (1869-1919), who remained unmarried.

(c) Teresa (1846-1872), who married in 1868 Gio Francesco Cappa (1839), son of Pietro. They had no children.

(d) Giustina (1848-1932), who married in 1871 Secondo Omar (1841-1911), son of Sereno and Amalia Obieni from Biandrate, a lawyer that was elected to the Parliament and was among the founders of the **Banca Popolare di Novara**. They had three children.

(e) Lucrezia (1850-1931), who married in 1873 the

engineer Luigi Boasso (1837-1893) son of Antonio and Caterina Giada from Turin. One of their two children, Margherita, married the morganatic son of the King Victor Emanuel II and the **Bella Rosina**.

(f) Linda (1853-1916), who married in 1875 her second-degree cousin Cesare Piacenza (1849-1916) the third born offspirng of the lawyer Giacomo (1812) and Marianna Mathis from Turin. Cesare was the grand-grand-son of Francesco Piacenza (1727- 1796) and Angela Maria Ormezzano (1750-1815), who was the sister of Anna Maria Ormezzano (1745-1830), who was the wife of Gio Domenico Sella (1738-1805) the leader of the second branch in the sixth generation. Cesare was also the grand-son of Maria Rosa Gila (1784-1884), who was the wife of Pietro Francesco Piacenza (1777-1841) and the sister of Lucrezia Gila [1782-1855], who was Linda's grand-mother, since she was the wife of Gio Giacomo Sella (1769-1840) (See Chapter 5 notes 59, 60, and 88). From 1834 to 1851, Cesare's father, Giacomo Piacenza (1812), was a partner in the woolen firm **Sella & Piacenza**, together with Giuseppe Ormezzano (1800-1880), Pietro Antonio Sella (1777-1855) and Giovanni Domenico Sella (1806-1870) of the second branch (See Second Branch, numbers III, III.1, IV.2). Linda and Cesare had two daughters: Maria (1876-1967), who married Umberto Dogliotti, and Erminia (1878- 1924), who remained unmarried.

(g) Giacomo (1855-1920), who did not marry, but had a natural child (recognized by him in his will), Gregorio (1885-1953) who married in 1912 Augusta Ferrari (1893), daughter of Umberto and Maria Piero from Mongrando.

(10) Carolina (1823-1906), who married in 1841 Angelo Mosca Riatel (1811-1899), son of Gio Battista and Marianna Rosazza. The Moscas and the Rosazzas were two prominent families of the Andorno Valley operating in the construction business and Federico Rosazza, Marianna's brother, was a Senator. Gio Battista Mosca Riatel had moved to Chiavazza (Biella) in the 1830s. Angelo was mayor of the town for several years. Angelo's brother, Cesare, was the undeprefect of Biella in the 1870s and 1880s. Their sister, Clementina (1835-1920) married in 1851 Giuseppe Venanzio Sella (1823-18876, son of Maurizio and Rosa Sella (See Second Branch, number V.6). Carolin and Angelo had five children:

(a) Adolfo (1848-1928), who remained a bachelor;

(b) Silvio (1843-1844);

(c) Silvio (1845-1912), who married in 1879 his second-degree cousin Noemi Bozzalla (1863-1948), daughter of Giovanni and Efisia Sella (See Second Branch, number V.12.i). They had three children. Silvio was an engineer and one of the co- owners of the family-owned woolen firm that had a factory at

Chiavazza (Biella);
(d) Flaminia (1847-1906), who married in 1869 Vittorio Long (1838-1913), son of Celestino and Noemi Vincent. The Longs had a textile commercial house in Turin. In 1874, Vittorio's sister, Amalia, married Flaminia's brother, Guido, and Vittorio became a partner in the Mosca's woolen firm, which was re-named **Mosca & Long**. Flaminia and Vittorio had six children;
(e) Guido (1851-1900), who married in 1874 Amalia Long (1854- 1877), daughter of Celestino and Noemi Vincent (see above). They had two children: Angelo (1875-1945) and Noemi (1877- 1877);

(II) Angela Maria (1771-1836), who remained unmarried;
(III) Anonymous (1772, died the same day of her birth);
(IV) Teresa (1775-1854), who married in 1792 Gregorio Vincenzo Ambrosetti (1768-1833), son of Gio Battista and Rosa Clara Florio. Gregorio Vincenzo was the leader in his generation of the most important family of merchant-manufacturers of Sordevolo (Elvo Valley) and of the entire Biellese in the 18th century. They had two children:
(1) Rosa (1810-186), who married Bernardino Gromo (1787-1854), a medical doctor of a family of Biellese noblemen and merchant- manufacturers. Their only daughter, Teresa (1832-1911), married in 1852 Gio Mattteo Cridis (1828-1913), a lawyer nd large land-owner from Cossato; they had five children.
(2) Giovanni (1811-1873), who married in 1839 Teresa Vercellone (1819-1895), daughter of Gio Francesco and Giuseppa Piacenza. The Vercellones and the Piacenzas were two of the most important families of the Biellese "woolen aristocracy." Giovanni was prominent Biellese woolen manufacturer and was appointed Senator. Ernestina (1851-1923), one of the six children of Giovanni and Teresa, married in 1873 her second- degree cousin Rodolfo Sella (1847-1924), son of Albino and Cecilia Boggio (See Third Branch, number X.3.a).

(V) Bartolomeo (1776-1861), who remained a bachelor. He was one of the co-owners of the woolen firm **Gio Giacomo e Fratelli Sella** but, first and foremost, Bartolomeo was a medical doctor and a phylanthropist. He received a degree in theology in Turin and then went to study medicine at the University of Pavia, which was at the time the great intellectual center of Jansenism in Lombardy. In 1799, Bartolomeo was listed among the Jacobins of Piedmont and became the president of the **Assemble' du Canton de Mosso** from 1807 to 1811. After the Restoratio he exercised the medical profession for the benefit of the poor of the Biellese. In his will of 1829, he left his entire patrimony of Vercellese land properties valued 750,000 lire to the Primary Congregation of Charity of Turin, as a fund for the free distribution of medicines and relief to the inhabitants of Mosso in time of famine and economic crisis;

(VI) Cecilia Anna Maria (1778-1836), who became a nun;
(VII) Anonymous (1780, died the same day of his birth);
(VIII) Anonymous (1782, died the same day of his birth);
(IX) Pietro (1784-1827), who remained a bachelor. He was the great industrial innovator of the Sella family, introducing in 1816 the first water-powered spinning machines in the Biellese (See Chapter 5);
(X) Gio Battista (1788-1878), who married in 1813 his fourth- degree cousin Modesta Sella (1798-1872) daughter of Pietro Giacomo (1771-1821) and Giuseppina Robiolio (1773-1843) of the second branch (See Second Branch, number II.2). Until 1829, Gio Battista was one of the co-owners of the **Gio Giacomo e Fratelli Sella**, then in 1830 he established, together with his brother Giuseppe Vincenzo, the **Sella & Compagnia**. Gio Battist was also politician that contributed to uplift the family prestige: he was elected to the first **Parlamento Subalpino** in 1848, was appointed Senator in 1853 and was also mayor of Valle Inferiore Mosso for many years since 1857. Gio Battista and Modesta had ten children:

(1) Valentino (1816-1884), who married in 1846 his second-degree cousin Lucrezia Sella (1831-1885) daughter of Maurizio (1784-1846) and Rosa Sella (1799-1881) (See Second Branch, number V.10). At the death of his father, Valentino took over the management of the **Sella & Compagnia** together with his younger brothers Albino and Gio Battista "Titin" and his first- degree cousin and brother-in-law Secondino. Valentino and Lucrezia had two children:

(a) Rosina (1847-1875), who married in 1869 the lawyer Leone Fontana (1836-1905), son of Vincenzo and Orsilia Spurgazzi from Turin. They had two children;

(b) Silvio (1851-1916), who married in 1879 Antonietta Boetti (1858-1947), daughter of Edoardo and Teresa Migliorati from Savigliano. Silvio was the genealogist of the Sella family and one of the co-owners and managers of the **Sella & Compagnia**. He and Antonietta had four children: Olga (1880- 1968), Edoardo (1881-1947), Valentino (1883-1884), and Elisa (1891-1970);

(2) Giuseppina (1818-1876), who married in 1834 the judge of Mosso Giovanni Pozzo (1805-1859) son of Giuseppe from Candelo. They had two daughters:

(a) Elisa (1839-1908), who married in 1859 the lawyer Demetrio Schiapparelli (1831-1908). They had no children;

(b) Ernesta (1840), who married in 1863 the prominent cotton industrialist Giuseppe Poma (1835-1894), son of Pietro and Lucia Bona. They had four children.

(3) Albino (1820-1886), who married Cecilia Boggio (1828-1912), daughter of Gio Battista and Maria Crolle. At the death of his father, Albino took over the management of the **Sella & Compagnia** together with his brothers

Valentino and Gio Battista "Titin" and his first-degree cousin and brother-in-law Secondino. He lived in a castle at Vinzaglio, where he owned an agricultural estate and was mayor for many years. He was also a member of the Provincial Council of Novara. Albino and Cecilia had four children (all large land-owners who were not engaged in industrial activities):

(a) Rodolfo (1847-1924), who married in 1873 his second-degree cousin Ernestina Ambrosetti (1851-1923), daughter of the industrialist and Senator Giovanni (1811-1873) and Teresa Vercellone (1819-1895) from Sordevolo. Giovanni was the son of the industrialist Gregorio Vincenzo (1768-1833) and Teresa Sella (1775-1854), daughter of Gio Antonio Sella (1738-1814) and Anna Maria Giletti (1751-1806) (See Third Branch, number IV.2). Rodolfo was an engineer and he and Ernestina had one son, Riccardo (1885-1939);

(b) Eugenia (1849-1924), who married in 1873 the lawyer and large land-owner Gustavo Granoglio (1847-1938), son of Giacomo and Caterina Santi. They had three children;

(c) Adele (1853-1919), who married the engineer Pietro Bonacossa (1844-1914), son of Francesco Napoleone and Margherita Negroni from Villa Maggiore Lombarda. They had two children;

(d) Federico (1858-1927), who married in 1885 Angiola Bonacossa (1861-1942), sister of Pietro (see above). They had five children;

(4) Celestino (1822-1876), who remained a bachelor;

(5) Quintina (1824, died four days after her birth);

(6) Quintina (1826-1877), who married in 1843 the civil engineer Agostino Carnera (1813-1880), son of Francesco and Lucrezia Genestrone. They had three children.

(7) Caterina (1828-1916), who married in 1843 her first-degree cousin Secondino Sella (1819-1884), son of Benedetto (1789- 1839) and Maria Sella (1786-1842) (See Third Branch, number XI; Second Branch, number VI). At the death of Gio Battista, Secondino took over the management of the **Sella & Compagnia**, together with his brothers-in-law Valentino, Albino, and Gio Battista "Titin". Caterina and Secondino had three children (See Third Branch, number XI.7);

(8) Ottavia (1831-1903), who was married twice. First, she married her second-degree cousin from her mother side and furth-degree cousin from her father side Gaudenzio Sella (1820- 1860) son of Maurizio (1784-1846) of the second branch and Rosa Sella (1799-1881) of the third branch, who managed the firm **Fratelli Sella fu Maurizio** from 1846 to 1860. They had three daughters (See Second Branch, number V.4). In 1863, Ottavia married the Adolfo Giribaldi (1835), son of Angelo and Anna Laurenti-Robaudy from Bordighera. The Giribaldis and Laurentis owned a

banking house. Adolfo was a high official of the Council of State. They had two children: Maria (1865-1871) and Giulio (1873-1963), who managed his family's banking house until 1956 when he sold it to the relatives Biancheri (See Second Branch, number V.4.c.1 and number V.8.d). Giulio married in 1899 his cousin Eugenia Giribaldi (1876-1969) daughter of Luigi. They had one son, Ottavio (1900).
(9) Federica (1834-1909) who was married twice. First she married her first-degree cousin Giuseppe Sella (1827-1869), son of Giuseppe Vincenzo (1791-1865) and Giovanna Molinari (1791- 1857) and had four children (See Third Branch, number XII.3). In 1873 Federica married Carlo Binelli (1830-1887) son of Vittorio and Giacinta Mathis. They had no children.
(10) Gio Battista "Titin" (1836-1902), who married in 1858 Elena Mathieu (1840-1900), daughter of Antonio and Vittoria Buttia from Turin. At the death of his father, "Titin" took over the management of the **Sella & Compagnia**, together with his brothers Valentino and Albino and his first-degree cousin and brother-in-law Secondino. Gio Battista "Titin" was elected to the Chamber of Deputies in the district of Novara in 1886. He and Elena had two children: Vittorio (1859-1886) and Maria (1860-1887).

(XI) Benedetto (1789-1839), who married in 1807 his third degree-cousin Maria Sella (1786-1842), daughter of Gio Domenico (1738-1805) and Anna Maria Ormezzano (1745-1830) (See Second Branch, number VI). Benedetto was one of the partners of the **Gio Giacomo e Fratelli Sella**. They had eight children::
(1) Alessandro (1810-1872), who married Antonia Taschetti (1850), daughter of Giovanni from Vercelli. They had no children. Alessandro was one of the most well known Italian hygenists of the 19th century;.
(2) Maria (1811-1896), who married in 1828 Teonesto Regis (1798-1862), son of Francesco and Angela Romerse from Ronco Biellese. They had 12 children;
(3) Gioacchino (1813-1884), who was ordained priest in 1836 (the last priest of the Sella family in the 19th century). He was a valiant preacher, the influential spiritual leader of most of the Biellese clergy and the reliable adviser of the Bishop phylanthropist Losana. Giacchino used his personal patrimony to buy back the church of Saint Philip of Biella from the Italian State;
(4) Angela Maria (1814, died four days after her birth);
(5) Giovanni Venanzio (1817, died the same day of his birth);
(6) Giovanni Secondo (1817-1818);
(7) Secondino (1819-1884), who married in 1843 his first-degree cousin Caterina Sella (18281916), daughter of Gio Battista and Modesta Sella (See Third Branch, number X.7). At the death of Gio Battista, Secondino took over the

mangement of the **Sella & Compagnia** together with his brothers-in-law Valentino, Albino, and Gio Battista "Titin". Caterina and Secondino had three children:

(a) Olimpia (1846), who married in 1868 the lawyer Giuseppe De Filippi (1830) son of Ludovico and Carlotta Costa. Giuseppe was the trusty lawyer of Quintino Sella and the widower of Luigia Rey (1840-1865) daughter of Giuseppe (1803-1875) and Matilde Sella (1808-1878) (See Third Branch, number I.6.c). Olimpia and Giuseppe had three children:

(a.1) Filippo (1869-1938), who married Corinne Fitzgerald. They had no children;

(a.2) Pia (1871-1902), who married in 1895 her third-degree cousin Ugo Rey (1860-1944), son of Giacomo Vincenzo (1833-1907) and Lidia Mongenet (1840-1918) (See Third Branch, number I.7.b). They had two children. After Pia's death, Ugo married Paola Ridoni;

(a.3) Ludovico (1872-1918) who married Edmei Daleggio, had two children and died while serving in the Italian Navy during WWI;

(b) Virginia (1848-1876), who married in 1871 Giuseppe Saracco (1821-1907), son of Antonio and Vittoria Fontana from Bistagno (Acqui). They had one child, Francesco (1872-1875). Giuseppe Saracco made an important political career: deputy from 1851 to 1865 and senator afterwards; General Director of the Ministry of Finances with Quintino Sella (during the La Marmora government in 1864); Minister of Public Works during the governments of Depretis (April-July 1887) and Crispi (1887-1889; 1893-1896); President of the Senate (1898-1904); Prime Minister (June 1900-February 1901);

(c) Alessandro (1864-1943), who married in 1896 Severina Boggio (1873-1943), daughter of Antonio and Virginia Botto from Mosso. They had three children;

(8) Vitale (1823-1841), who remained a bachelor;

(XII) Giuseppe Vincenzo (1791-1865), who married in 1815 Giovanna Molinari (1791-1857), daughter of Antonio. Giuseppe Vincenzo was a lawyer and represented the **Gio Giacomo e Fratelli Sella** in Turin until 1829. In 1830, together with his brother Gio Battista, he formed the **Sella & Compagnia**. He wand Giovanna had three children:

(1) Giuseppina (1817-1892), who married in 1834 Francesco Ormezzano (1801-1887), a lawyer and a judge in Turin, who was the son of Gio Battista and Angela Ottino from Mosso Santa Maria, and whose older brother Giuseppe Antonio (1800-1880) married in 1824 Anna Maria Sella (1807-1851), daughter of Vincenzo (1781-1828) and Marianna Rosso (1799-1832) (See Second Branch, number IV.2; on the marriages between the Sellas and Ormezzanos in previous generations See Chapter 5 notes 59 and 73). They had eight children.

(2) Eugenio (1820-1882), who married in 1869 Paolina Fara and had no children. Eugenio was a valiant entomologist and assembled an important collection of birds and coleoptera that he donated to the Zoological Museum of Turin.
(3) Giuseppe (1827-1869), who married in 1849 his first-degree cousin Federica Sella (1834-1909), daughter of Gio Battista (1788-1878) and Modesta Sella (1798-1872) (See Third Branch, number X.9). Giuseppe was a noted member of the Piedmontese school of landscape-painters. They had four children who were important co-owners of the woolen firm **Sella & Compagnia** (and then of the **S. A. Lanificio Sella & C.**) since they inherited the shares of their father Giuseppe, their mother Federica, and their uncle Eugenio:
(a) Merope (1850-1931), who married in 1870 Gioacchino Bianchi di Lavagna (1832-1901), son of Pietro and Anna da Cassano from Alessandria. They had two children;
(b) Emilia (1851-1939), who married in 1872 Carlo Carassi del Villar (1848-1898), son of Augusto and Edvige Bertini from Turin. They had three children;
(c) Tancredi (1852-1918), who married in 1876 Teresa Juva (1854-1941), daughter of Giacomo and Teresa Bertetti. They had three children;
(d) Elisa (1855-1931), who married in 1876 Arturo Nasi (1849), son of Federico and Vittoria Magliano. They had two children.
(XIII) Anonynous (1793, died the same day of her birth);
(XIV) Carlo Francesco Vincenzo (1794-1794);
(XV) Maria Benedetta (1797-1798).

202. The "News on the woolen industry" were written by Giuseppe Venanzio after his participation to the London Universal Exhibition of 1862 as the only Italian member to the Royal Committee for the Woollen Industry. The London Exhibition gave the opportunity to Giuseppe Venanzio to realize directly the technological and organizational improvements that had been introduced in the course of the last few years by the most advanced industrial firms of Leeds, Bradford, Elbeuf, Verviers, etc. and to individuate some of the basic weaknesses of the industrialization process in Italy. Here, according to Giuseppe Venanzio, too many essential preliminary conditions were still lacking to allow the development of a modern productive system in the textile sector. The "innumerable technical difficulties," which already by themselves represented for the woolen industry "a very great inertia," "the very great amount of capital that is required for the installation of factories," and the "incredible great number of articles, of products that one has to risk upon to induce the buyer to fix upon them his attention", these and other problems were, in fact, made more serious in Italy by the delay of the process of

centralization of laborers in the factory (Sella 1863:36). Then there was an even more arduous obstacle, according to Giuseppe Venanzio, which was the economic policy of the government. The devotion to the political principles of the **Destra** and the reliable presence of his brother Quintino in the government at the Ministry of Finances in 1862, induced him to not deny entirely the original trust in the good intentions of the government towards the problems of the industrial sector:

> Now that, thanks to the talent and works of our more valiant men and of our powerful allies, we have the immense fortune of witnessing the disappearance from the scene of our tyrants, of seeing coming through the dream of our youth, of seeing our motherland one and strong, it cannot fail to rise and prosper in every branch the industry of the wool facric, of which very great is the consumption that is done and that always will be done among us with the growing of public wealth, with the growing of civilization bearer of luxury and new needs (Sella 1863:24).

Notwithstanding his optimism, Giuseppe Venanzio was critical of the abscondence of political authorities towards trading practices, which were completely left in the hands of international trade companies that, in his opinion, often sponsored forms of outright contraband, and toward the contracts for military supplies, which he considered to be extremely advantageous to foreign producers. Then, there was the issue of the cost of money. The high interest rate in Italy, more than double in respect of that current in France and Great Britain, risked to block the development of industrial sectors. Giuseppe Venanzio recognized that to make up for it, it was possible to count "with us upon a lower labor cost," and he believed optimistically in a "change of this state of things, once the government will have put his finances in order, when the great needs of money for public works, internal organization and defense of the State will end." But, at the moment, he deplored the free-trade economic course and the "serious perturbations" caused to the industrial system by the "ease and frequency with which customs duties are lowered" and even "without any reciprocity" (Sella 1863:44 ff).

It was between 1870 and 1873 that Giuseppe Venanzio confronted with extreme vigour the issue of customs duities, which he considered decisive to impress a radical turn around to the Italian economic policy (Sella 1873:34 ff). In particular, he maintained that it was about time to put an end to the illusions over the proclaimed advantages of an incorporation of Italy into the European market on the basis of her presumed competitive capacities in the agricultural and trade sectors: even if the authorities wanted to pursue

this mirage, it was necessary to take into account the always stronger reduction of free-trade in the main areas of the international market.

The Parliamentary Inquiry on Industry of 1872 and the Vienna Exhibition of 1873 offered to Giuseppe Venanzio the concrete opportunity for mobilizing in Piedmont textile industrialists in favor of protectionism and for the first interventions (in agreement with Alessandro Rossi) of the industrial class on the Parliamentary representatives and on the governative authorities. During the hearings of the Committee of the Parliamentary Inquiry at Turin and Novara, Sella persisted in particular on the structural disadvantages -- the scarcity of motive power, the high interest rates, the weaknesses in the field of professional education, the lack of strong trading organisms in the sector of the supply of raw materials, etc. -- that hindered the development of the textile sector. He called for precise governmental guarantees and for the support of local administrations in favor of a more dynamic investment policy in infrastructures.

But only in 1873, with the "Notes over the woolen industry on occasion of the Vienna Exhibition" (Sella 1873), the protectionsit campaign engaged by Giuseppe Venanzio acquired a wider perspective and achieved the first practical results. Sole Italian wool industrialist (after the renounciation of Alessandro Rossi) in the Organizational Committe of the Exhibition, he participated in Vienna with a greater authoritativeness than eleven years earlier in London. The Biellese area was the major Italian wool indusrial district with a level of development that was considerable by now: 2,800 looms (of which 250-300 power-looms), 78,000 spindles, 6,135 workers, and an annual production valued over 23 million lire. The report of Giuseppe Venanzio on the results of the Vienna Exhibition, which called for a radical protectionist turn, was translated into French (1875) and German (1876), while in Italy it was published on the explicit request of the Minister of Agriculture, Industry and Commerce, and received considerable attention by the press. The "economic nationalism" professed by Giuseppe Venanzio was beginning by now to gain always more followers.

> The word **Vaterland** electrifies everybody, Germans of the north and south, of Prussia and Austria. All agree with and unite around this word. The **Welausstellung** is for all of them a glory of the great German native land. For them industry and commerce are not only means oof material welfare, but also means of national power... Latin populations must imitate the Germans in their eminent virtues, in their concord, for the good, for the national honor, they must concurr with them to the material and moral progress, they

must, above all, avoid the old mistakes, being their loyal friends. In this manner they will make their own true and lasting interest (Sella 1873:173-174).

203. Quintino's great tenacity and resistance to fatigue was testified also by his passion for mountain climbing. Every year he organized long alpine excursions to which participated also his sons, nephews, other relatives, and friends. He was the first Italian to climb some of the highest mountains of the Alps -- the Monviso, Cervino, Monte Bianco, and Monte Rosa. In 1863 he founded the Italian Alpine Club (CAI) of which he was the president for many yers (Sella 1863). He liked mountain climbing not only because he viewed it as a valuable recreational and physical activity, but also -- as he stated in a speech in 1874 -- because he considered it as a "life gym" and an effective ground for moral and intellectual training and improvement.

> Oh brave young men, run to the Alps, to the mountains where you will find strength, beauty, knowledge, and virtue.
>
> The body becomes robust, one can find pleasure in fatigues, one can get used (and it is an important school) to privations and sufferings.
>
> All this is so much more important today, because one could say that, to the greater intellectual efforts that man must make for the development of civilization, one has to find rest in a corresponding increase of physical activity.
>
> In the mountains you will find the courage to face dangers, but you will learn also prudence and previdence in order to overcome these with safety. You will become fearless men, which does not mean imprudent and improvident men. A man who is able to risk his life has a great value, and the more so if by risking his life he is able to surround himself with all the reasonable cautions.
>
> Moreover, the Alps are a stupendous school of constancy. Momentary rushes are not enough to succeed. One needs knowing to last, persist and suffer. One could say that was caming back from an alpine excursion the poet who dictated:
>
> Qui sudet optatum cursu contingere metam
> Multa tullit fecitque puer, sudavit et alsit.
>
> Even your loyalty and honorability will be able to grow in the Alps. The loyal and noble solidarity, which renders secure and conducts to safety mountain climbers tied to the same rope in the most dangerous passages, is not without any effect on the character. One appriciates practically how great is the value and how great are the effects of a generous loyalty.
>
> Believe me, young colleagues. In the difficult

circumstances of your life, it will seem to you to be at a difficult ascension. An instant of cowardice, of improvidence and one can lose everything. The courage, providence, constancy, loyalty can make you win everything. You will find out then the great moral and educational value of mountain climbing.

... If I am not mistaken, mountain climbing as it fights in the physical order the consequences of a too sedentry life to which our present civilization constrains us, so it defends us in the intellectual and moral orders from the dangerous effects of the excessive cult of material interests, which today have a very great importance.

... Oh brave young men, run thus to the Alps, because they have a great educational value under every point of view (Sella, s.d.:78-85)

An effective description of the austere way of life of Quintino and his family is provided by the writer Giovanni Faldella (1883::147 ff), who visited him in Biella in 1882.

... Then we started walking toward the house of Sella, which is annexed to his older wool factory. We went out of the city [Biella]; and went down on a pleasant lane, on which we met laborers coming back from work, who greeted the engineer Quintino with an affectionate reverence. We crossed a bridge; and once the small walls bordering the lane ended, we found ourselves in the most sunny landscape: on the one side a hill covered of green as a park; in the middle the noisy, sparkling and foaming note of the [Cervo] stream; in the back the widening of the horizon; to the right the Biellese villas, almost mosques immersed in the mould. ...

While we are talking, we get in front of the large building of the Sellas. One gets in through a reddish gate, and from a long courtyard one ascends through an entrance hall to a wide stair. The home is modest and almost straitened. What one notes above all in that home is the homely note. It is a truth of Monsignor De la Palisse to admire a home as homely; but it is a true truth. There are homes of patriots, there are quarters of heads-of-division, in which exterior life, public life, has penetrated a lot. One can see in show the album of the day of the promotion, the ribbon of a historical flag, etc. Instead in the home of the deputy Sella the tradition of the family is dominant; there is, above all, the family, almost nothing else than the family.

He introduces us immediatly to his wife, severely well educated and gay, a secure and kind queen of the family. There is the graceful and florid daughter-in-

law, a Giacomelli. It comes up a tribe of little girls, of nephews and nieces, etc. Among the guests there are some teachers of the Biellese schools, private tutors of the family. There is an illustrious scientist passing through, a German hellenist, Muller.

We hear the sound of loud whistles. ... These are the whistles of the steam engine for the holy work call for the laborers. Once upon a time, the bell of the factory was used for this aim, but now the whistle of the engine has been adopted to let hear the invitation also to those that are more far away.

Mrs. Sella tells us, how the home is straitened, because the family never wanted to separate itself from the place of work, from the old factory, from the nearness of the laborers. Living in the middle of work, is for sure the best instruction and education! This is how it is easily explainable the continuous propagation of the good examples, the growing, the success of certain families.

At the sound of the small bell lunch is served at the table. Among a numerous progeny and the guests there is a long and dense set. While we are having lunch, two sons arrive: the older [Alessandro], who arrives from the nearby factory, and the younger, Corradino, who arrives now from Rome, where he has completed with a good exame his course in mathematics. They come, and are received, fresh and quiet, as if both of them were arriving from the same place. The conversation is above all about mountain climbing. One of the sons of Sella had triumphed in those days over an alpine peak, in the Aosta Valley, considered unsurmountable until then. ...

After lunch we went to visit the nearby wool factory. We walked through long galleries among double lines of female weavers, each in front of her power-loom, engaged in the surveillance of the yarns, in watching the weft, in pulling and smoothing the cloth, etc. Quintino Sella passed through; and casted a glance here and there, leaving a light of teaching and benevolence. ...

Once out of the factory, we ascended through an alpine alley with many flowering cyclamens. ... The deputy Sella through that hill, which is the park of the family, leads us to the villa of Saint Gerolamo, inhabited by one of his sisters-in-law [Clementina Mosca Sella, wife of Giuseppe Venanzio]. That was the lodging of King Umberto, when he was a guest of the Sella family.

As the mother of the Gracchis showed her sons as her most precious necklaces, Quintino Sella showed the portrait of his own mother, as the greatest treasure of his own family. It is a big photograph, from which

radiate one hundred others small portraits. Because Mrs. Rosa Sella, before of her death, had among sons, daughters, daughters-in-law, sons-in-law, nephews, nieces, and grand-children one hundred people who called her mother. "Qualis Berecyntia mater, centum complexa nepotes."

When, in August 1880, the King was in the villa of Saint Gerolamo, in that wonderful landscape, the master of the house [Quintino] requested him a grace.

When the Sovereigns honor a home, whoever has the fortune of hosting them profits to receive a sign of their benevolence. I have never demanded anything for myself to Your Majesty, and now I take the opportunity to demand a favor.

Tell! For sure! -- answered the King, willing to concede who knows what to one of the best friends of his father.

Since my mother for her old age and for her sickly health cannot come down and bow, I pray Your Majesty to climb a small stair, so that my mother can have the honor to see you.

Fancy! answered the young King, willing to pay homage to the mother of one of the best friends of his father. ...

Quintino had a great affection and admiration for his mother, Rosa Sella, and she played an important role not only in Quintino's life but, as Quintino noted right after her death in 1881, also in the life of the entire Sella kinship organization.

In this year on 26 July died my mother Rosa Sella born at Mosso Valle Inferiore on 2 February 1799, and married on 23 November 1813 to my father Maurizio Sella. ... Our home lost the master-key, who held united many families, which appear in the obituary, and its most wonderful ornament. She had 20 children, of whom 10 died either immediatly after birth, or immediately after that they were 5 years-old. Other 10 instead grew up, married and became fathers or mothers of families, with the exception of Emilia Fourrat who did not have children. My mother was a woman of great talent, of an incredible activity, who loved with passion her family and her husband, of whom notwithstanding the many pregnancies and the many nursings she was an effective partner, so that the economic amelioration of the family is due not less to her than to my father. She had above all a decisive influence in the decision taken by my father to settle in Biella, where reluctantly he went because he did not want to abandon his beloved native place. She had a virile strength in all the circumstances of life: she

> was serious in every matter, and very pleasant in the conversation, she took an interest in all serious matters. She was a true and very rare model of intelligent, industrious and virtuous family mother (cited in Quazza 1984:32).

204. Quintino's vision of the relation between capital and labor was very different from that of the other most prominent politicians of the **Destra**, who were able to envisage only a relation totally permeated by paternalism, phylanthropy and charity. Quintino, instead, considered as legitimate the needs of social, economic and cultural improvement of the working classes and recognized their right to coalesce and strike. In a speech on 11 October 1868 given at the party for the 16th anniversary of the foundation of the General Association of Mutual Aid of the Workers of Biella, of which he was the honorary vice-president, Quintino stated that

> ... The aristocracy to conserve to itself public offices, had proclaimed the ignobility of work. ... The clergy to conserve the privileges and the properties that was always taking and never giving up, supported the privileges of the aristocracy. ... We, thanks to the Statute that was conceded in 1848 by Carlo Alberto, have freedom, equality in front of the law. Now we can go, come, assemble, associate. ... It is not work anymore that is reputed ignoble, but idleness. ... The first effect of freedom and equality is in fact the ennoblement of man and then of work. ... Compare the two systems. ... You would conclude certainly that you are greatly interested to keep, defend, develop the present state of things. ... A first effect of the public liberties was the creation of the workers' mutual aid societies. A truly beneficial, truly ingenious work. ... And the strikes? ... Now well I have so little fear of freedom that I admit the freedom of coalitions and thus also that of strikes. The fixation of the wage is for me a contract as an any other. ... And I would like the government and the governative agents not to interfere with strikes, provided that violence is not used neither against things, nor against persons, nor against manufacturers (cited in Quazza 1984:50-51).

The position of Quintino Sella on the freedom of coalitions and strikes represented a breakage not only with that of the other leaders of the **Destra**, but also with the Penal Code that considered the strike illegal:

> ... every concertation of workers that tends without any reasonable cause to suspend, hinder or

raise the price of labor will be punishable with jail, up to three months, always provided that the concertation has been enacted (art. 399).

205. The following episode provides an example of Quintino's rather unique rectitude and honesty in the management of public affairs. In the Fall of 1864, he was appointed Minister of Finances in the La Marmora government and immediatly requested an opinion to his friend Luigi Ferraris, a valiant attorney and a prominent liberal politician, over his intention of withdrawing from the partnership in the firm **Fratelli Sella fu Maurizio** or of modifying the terms of his participation to the partnership during his permanence at the Ministry, because he considered it incompatible with the firm's manufacturing of military cloths for the government. Ferraris' opinion was negative and Quintino, in informing his brother Giuseppe Venanzio about this, made to him a special request (Quazza and Quazza 1980:539):

> Turin, 21 October 1864
>
> Dearest brother,
>
> Considering the uncertain conditions of the duration of the present Ministry I too agree with the attorney Ferraris that it is inopportune that I withdraw from our partnership. Nor would I have the time at this moment to introduce other modifications in our partnership agreement, because I would need a few hours of study, while I do not even have minutes.
>
> Only I would pray you to tell me if you would have any difficulty to take with me an engagement of honor that for all the time that I remain in the Ministry you will not make any contract with the government.
>
> I greet you dearly. Your most afectionate brother,
>
> Quintino Sella

Giuseppe Venanzio accepted Quintino's request:

> ... To the question that you ask me now with your letter: if I would have any difficulty to take an engagement of honor that for all the time in which you remain in the Ministry I will not make any contract with the government I cannot but answer affermatively. For your own part you have already made many sacrifices (compensated is true by your fame) of patrimony for the good of the fatherland that it is right that I make also one for a time. Thus I give you my word of honor that for the time of which above I will not make any contract with the government anymore (letter of 23 October 186).

206. In 1850, the firm gave work to 700 laborers and the

equipment of the factory (the so-called **Batör** or **Macchina Vecchia** [Old Machine]), was all water-powered and consisted of 3 preparatory machines, 1 purifier, 26 Cockerill carding machines, 7 continues, 1 spinning machine for thick yarns, 7 mule-jennies of 260-330 spindles each, 4 other spinning machines. The capitalization of the firm, which had fallen to 993,643.48 lire in 1840 as a result of the liquidation of Gregorio'S brother Giovanni Giacomo Antonio, increased rapidly in the following years as Gregorio reinvested in it the conspicuous yearly profits. In 1861-62, the firm reached a capitalization of 2,461,713.98 lire that in May 1862, at Gregorio's death, was increased of another 572,206.11 lire, thus reaching a total capitalization of 2,940,000 lire. The progression of yearly profits reinvested in the firm was as following: 23,609.49 lire in 1841; 70,999.82 lire in 1842; 95,273.87 lire in 1843; 124,171.60 lire in 1844; 147,734.99 lire in 1845; 137,779.00 lire in 1846; 100,542.66 lire in 1847; 205,322.59 lire in 1848; 184,729.61 lire in 1849; 152,698.62 lire in 1850; 28,877.97 lire in 1851; 85,283.68 lire in 1852; 27,372.29 lire in 1853; 59,131.00 lire in 1854; 95,866.07 lire in 1855; 86,682.01 lire in 1856; 61,166.26 lire in 1857; 33,685.96 lire in 1858; 133,867.71 lire in 1859; 146,499.15 lire in 1860; 88,929.60 lire in 1861 (Quazza 1961:52, 182-183; Castronovo 1964:313).

207. Gregorio's personal library, which is partly conserved at the Sella Archive of San Gerolamo, provides precise indications over his cultural interests. There are very many tracts of chemistry: the **Elements of Chemistry** of Miller, the **Manual** of Brand, the **Manuel** of Schu"tzenberger, the **Theathrum chimicum**, and many others of Lavoisier, Priestley, Cavendish, Scheele, Gay-Lussac, etc. Gregorio carefully annotated the **Cours thèorique et pratique sur l'Art de la Teinture en laine, soie, fil, coton, fabrique d'indienne en grand et petit teint** of M. Hornassel (Paris, 1818), a very important text of dyeing art, as those of Hellot, Berthollet, Bancroft, and Hermbsta"dt. There were dictionaries of scientific inventions and technical innovations, collections of the **Moniteur scientifique**, the **Saggio sulle macchine a vapore** of Serristori, many geographical studies and journals of natural history. He had also several works of political-economy, like the tracts of Sismondi, Leon Faucher, Cousin, Pellegrino Rossi, Scialoja, Boccardo and Andrea Meneghini; the statistical studies of Gioia, De Bartolomeis, Casalis, Maestri and several industrial manuals and official publications; the historical works of Rollin, De Pradt, and Guizot (See Quazza 1961:28; Castronovo 1988:32-33).

208. The two brothers decided to dissolve their partnership when it became clear that the amount of the water-power

available at Vallemosso could not provide the power necessary for the installation of the new automated spinning machines and power-looms in the old factory. Building a new factory somewhere else required a great fixed investment that Pietro Paolo, attracted by the new opportunities offered by the banking business, considered too risky in a period when labor disturbances and market competition were increasing in the Biellese wool industry. Thus the firm **Gio Domenico Sella** was dissolved and the property of its industrial building was split among the two brothers. Pietro Paolo, and then his two children Emanuele and Ugo Carlo, rented his half to small Biellese entrepreneurs, while Giacomo sold his half to the woolen firm **Fratelli Simone** in 1890. Giacomo needed money badly to finance his new troubled wool firm, the **Giacomo Sella**, that had a modern factory at Collegno (Turin) on the left bank of the river Dora Riparia. It was all invain, because due to the general economic crisis, technical and managerial mistakes and difficult labor relations, the **Giacomo Sella** went bankrupt before the end of the century.

209. Very little is known about the motivations that brought the seven young cousins (the older, Carlo was 31 years-old, while the youngest ones, Erminio and Alfonso, were 21 years-old) to establish the **Banca Gaudenzio Sella & Compagni** on 23 August 1886.

> I know that Quintino and Giuseppe Venanzio never thought of establishing their privately owned bank. They thought about the foundation of banks in the Biellese and they promoted and participated to the establishment of Savings Banks, Popular Banks and others. Giuseppe Venanzio was even the president of the Biellese Bank. But, Quintino and Giuseppe Venanzio never had the idea of owning their own bank. ... At the same time, this idea was not of Gaudenzio [who was only 26 years-old], he merely accepted to manage the bank, abandoning reluctantly the career of mathematician (Lodovico Sella, interview 8-01-1988).

The most probable hypothesis is that the idea of establishing the Sella Bank came to the politician-financier Giuseppe Giacomelli, an old friend of Quintino. Giacomelli's daughter, Giannina (1864-1949), married in 1880 Quintino's older son Alessandro (1857-1891). After the death of Quintino in 1884, Giacomelli became the family adviser, while he continued his political and financial career. Giacomelli came from a family of bankers of Udine with close ties with the Austro-German banking world. He had known Quintino Sella in 1866, during the war against Austria, when Quintino was appointed Royal Commissary for the Province of Udine and Giacomelli was the mayor of Udine.

Then, Giacomelli, who was elected to the Italian Parliment several times, became a trusted adviser of Quintino for matters of State finances. Sella appointed Giacomelli general director of the office for direct taxes at the Ministry of Finances in 1871. In the 1880s, Giacomelli became the chairman of the **Società Generale Immobiliare** and of the **Società per il Risanamento di Napoli** (1888 ff), two big financial companies that were among the most active participants in the real estate speculation that invested Rome and Naples during the 1880s. Both companies, however, went bankrupt amidst the great banking crashes and scandals of the early 1890s.

Two facts provide an indication of the key role played by Giuseppe Giacomelli in the establishement of the Sella Bank. First of all, he was an important share-holder of the bank. The equity capital of the bank was of 550,000 lire and was divided among ten share-holders as following:

| | |
|---|---|
| Gaudenzio Sella | 50,000 lire |
| Firm Fratelli Sella fu Maurizio | 100,000 lire |
| Giuseppe Giacomelli | 100,000 lire |
| Carlo Sella | 50,000 lire |
| Erminio Sella | 50,000 lire |
| Vittorio Sella | 50,000 lire |
| Alessandro Sella | 40,000 lire |
| Alfonso Sella | 40,000 lire |
| Corradino Sella | 40,000 lire |
| Carlo Monticelli | 30,000 lire |
| Total | 550,000 lire |

Giacomelli was, together with the director of the firm **Fratelli Sella fu Maurizio** Carlo Monticelli, the only non-Sella share-holder. Moreover, it seems that two of the sons of Quintino, Alfonso and Corradino, were able to underwrite their shares only thanks to a loan made by Giacomelli, who in practice paid for them.

Another element supports the idea that the Sella Bank was largely the result of Giacomelli's initiative. It is symptomatic the fact that in 1887, the first complete year of activity, the Sella Bank discounted in Rome 8,900,000 lire of promissory notes, that is a sum superior to the 6,527,000 lire discounted in Biella. Thus, the Sella Bank was immediatly connected with the Rome financial market in which Giacomelli acted as a protagonist (Ricossa 1986).

In any case, in the following years under the cautious management of Gaudenzio, the bank became a valid alternative investment to the family-owned wool firm. Gaudenzio was able to limit the damage resulting from the financial crash of Giacomelli's speculative initiatives in Rome and Naples in 1896 (this year the Sella cousins bought Giacomelli's share of the Sella Bank). He managed the bank according to the German model of deposit and investment bank and soon transformed it into the financial institution of the

expanding Biellese wool industry. The Sella Bank financed the Biellese international wool trade, the new industrial and commercial initiatives of Biellese manufacturers (including the **Società Anonima Filatura di Tollegno** established in 1900, in which the Sella family had a controlling interest) and the development of the electrical industry (the **Società Idroelettrica Italiana**, established in 1907). From 1907 onwards, Gaudenzio's bank became also one of the main financial supporters of the ventures of the Biellese financier Riccardo Gualino.

210. Vittorio Sella (1859-1943), after the military service, decided to devote himself to the management of the wool factory. He studied chemistry, weaving and mechanics at the Professional School of Biella (1879-early 1880s) and then worked for ten years in the firm, supervising the dyeing department. After a serious incident in England, he was compelled to abandon his factory work. From then on he fully dedicated himself to mountain climbing, photographing and geographical exploring. He made several important expeditions to the Caucasus (1889, 1890, 1896) and he traveled to Alaska (1897), the Sikhim (1899), the Ruvenzori mountain (with the Duke of Abruzzi in 1906), and the Karakorum mountains of Himalaya (with the Duke of Abruzzi in 1909).

211. Some modern power-looms had been introduced in the major factories already in the years immediatly before the general strike of 1877. But, according to the report of the Commission of the Parliamentary Inquiry on Strikes in Italy of 1878, these sporadic initiatives of manufacturers exacerbated the conflict with hand-loom weavers. There was no doubt that among the goals of the "war" of the weavers there was that of "interposing obstacles to the replacement of mechanical work to human work." One case of 1875 was exemplary: a strike caused by the installment in a workshop of Portula of a mechanical weaving department lasted 480 days. This means that the weavers banished the factory and for about one year and a half nobody went to work there.

Another element to consider was the fact that the weavers were able to exploit the lack of class solidarity among manufacturers. Many smaller entrepreneurs were often ready to give work to laborers that were on strike. It was rather evident, in fact, that the weavers could count upon the active solidarity of many smaller manufacturers, who felt menaced by the "revolution of the power-loom" carried on in the bigger factories.

212. It is important to note that in the workshop the weavers continued to use the same type of loom that they used in the home production. The only relevant innovation was the application of the Jacquard mechanism to the

traditional hand-loom, which became necessary to produce finer fabrics with complex drawings. The **Fratelli Sella fu Maurizio** introduced a few of the (hydraulic) power-looms presented at the London Exhibition of 1852, but this experiment gave unsatisfactory results because of the serious technical defects that still affected this type of power-loom.

The weavers were paid by the piece on the basis of the quantity produced: as in the system at domestic production the piece of fabric was paid to them according to a price that was set at the start of every work season. In this manner, their earnings varied in relationship to the time required to weave an entire piece of fabric. Since the price of a piece of fabric was the same for all, highly skilled weavers were able to earn up to twice the pay of others. In fact, weaving a piece of fabric in eight days instead of twelve meant earning one-third more. A weaver who accelerated his work too much, however, ran the risk of making mistakes that quality control specialists spotted once the cloth was woven. Mistakes were punished with heavy fines that covered the cost of the darning (while in the domestic production the darning was done by the weaver's wife before handing in the fabric). Under the new conditions of centralization, in which labor control was tight and the production of finer fabrics was prevalent over ordinary ones, it was more difficult for mistakes, imperfections and even tricks commonly used by domestic weavers to cheat the merchant-manufacturers -- such as not using the entire weft or soaking it beyond what was allowed to pass unnoticed. Thus, working in the workshops implied for most weavers a more intense effort of application, a greater accuracy and a longer time for the completion of each piece of fabric. As a consequence, for each piece the daily earning was decreasing, and only a minimum part of this reduction was compensated by the higher piece-work tariffs that were paid for finer fabrics.

213. According to the available data on the laborers employed in the Biellese wool factories, against a 32% of females and little less than 15% of children of both sexes, adult males were the 53% and among these weavers were at least two-thirds.

Of the 348 laborers enrolled in 1871 in the registers of the firm **Fratelli Sella fu Maurizio**, children below 14 years old were 42, women 127 and males over 15 years-old 179, of whom 13 were blacksmiths, carpenters, masons, and doormen. The weavers were 105 and the other adult male workers employed in eight manufacturing departments were only 61. After weaving, it was spinning that had the greater concentration of men; but, while the weavers were more than 100, the spinners were only 10, to whom one had to add 6 assistants that were over 15 years-old (the other

assistants were all less than 14 years-old). Only in the weaving departments there were no children because apprentices had to be at least 16 years-old (Ramella 1983:131-132).

214. Between the two manufacturing seasons, that lasting from October until March, in which the fabrics sold in the summer were woven, and that lasting from April until September, in which the fabrics sold in the winter were woven, there were periods in which work stagnated. Weaving departments produced only the collection on the basis of which orders were then gathered from brokers and commercial houses. When the productive activity slowed down in the factories, part of the laborforce was dismissed: its reproduction was guaranteed by the ownership and rent of land, which allowed to overcome these periods of unemployement.

The weekly time-table of the woolen factory was indicative of the seasonal proceeding of industrial production: it contracted during the winter months, between December and the first half of February, and reached its peak in the summer, between June and July; the hours of stay in the factory ranged from a minimum of 12 in the first two weeks of April and in the last two weeks of September, to a maximum of 14 hours (including the hour and a half for the lunch pause) -- from 5 a.m. to 7 p.m. -- in June and July. Thus in the summer months, all the time at the disposal of the weaver ended up coinciding with his stay in the factory (without considering the time for the often long walk from and to his hamlet): the weaver was **de facto** prevented from attending to activities other than factory production.

215. The fines were the major cause of the agitations. In the winter of 1862, the weavers of the Mosso Valley requested and obtained the intervention of the under-prefect of Biella, who assured laborers that, if they returned to work, the fines were going to be enforced in a much more limited measure than before and only for extra-ordinary and serious cases. The mediation of the under-prefect ended the agitations, because the laborers were convinced that they had achieved their objective, but the intervention of the State official created a great scandal among manufacturers. Quintino Sella, who was at the time a deputy and the Minister of Finances in the Rattazzi government, was solicited to intervene by two of his brothers, Giuseppe Venanzio, who managed the **Fratelli Sella fu Maurizio**, and Francesco, who managed the **Sella & Compagnia**. State intervention was considered desirable "in defense of properties and the people," but an "interference in wage issues" was considered intolerable. Moreover, as Quintino Sella stated in a letter written to the Minister of the Interiors, the under-prefect had given to the weavers

groundless assurances, creating a dangerous situation of misunderstanding:

> The laborers came back to work confident, as it seems, that they will not pay fines anymore and the calm seems to be re-established, but clearly new and more serious difficulties can reappear once it is necessary to enforce a penalty (Quintino Sella in Quazza and Quazza 1980:418).

And, in fact, a few months later "new difficulties of a more serious kind rose." In his letter, Quintino Sella suggested to the Minister of the Interiors "to change the present underprefect, who for desire of good ... has lost too much of his own moral authority (Quazza and Quazza 1980:444-445). In this letter Quintino provides also informations of great interest about some of the characteristics of the weavers' agitations. Around mid April the **Sella & Compagnia** of Croce Mosso dismissed two weavers "because they were introducing in the fabric a quantity of weft that was much lower than the amount requested." Promptly, the drastic measure created tension:

> On 14 April twenty weavers presented themselves to the directors of the factory requesting the abolition [of the fines and] an increase of the piece-work rates for some kinds of fabrics. The opportunity of an increase was recognized, but it was not reached an agreement over its entity, and thus all the weavers presented themselves requesting always more [against the fines]. Then the directors of the factory, because they could not accept the conditions that were proposed, have let the weavers free to leave and they left after having been paid.

It was in essence the strike, but the front of the weavers was not united, as Quintino noted in his letter:

> On 18 April some weavers asked to start their work again and those who were considered the best ones were accepted back by the directors of the factory. On 21 April there were talks between two delegates of the laborers and the directors of the factory: they wanted the exclusion of the few [weavers] to be based only on chance, but the directors of the factory refused because they wanted to keep the liberty of accepting back whoever they pleased.

It was at this point that disorders broke out.

> On 25 April about 200 weavers showed up in front of the factory of the **Sella & Compagnia**, half of whom

were workers of that factory and the other half of other factories of the surrounding district, especially of the **Fratelli Galoppo** and the **Gio Giacomo e Fratelli Sella**. These weavers began to shout, start up a tumult and menace to pull down the door that was locked. A delegation of four workers was admitted into the factory, and it was agreed that the directors of the factory would have limited to three or four the number of the weavers that were excluded from acceptance. But the good offices of the delegation were rejected by the multitude, which requested by the way that the five weavers that had been accepted back in the previous days should come out of the factory under their eyes. Then, new menaces and shouts until the directors of the factory, which is completely isolated and far away from any significant village, had to give up and admit back all the laborers who had left on 14 April.

Naturally, episodes of this kind were destined to happen again because were feeded continuously by the imposition of penalties. In the Fall the agitations started once again in the district of Mosso and in many factories of the Biellese the weavers advanced requests of revision of piece-work tariffs. Facing a working-class protest that was growing dangerously, the entrepreneurs did not give up on the fines but, whether because compelled by strikes or to prevent them, conceded wage increases. The situation was explained by Giuseppe Venanzio Sella to his brother Quintino in a series of letters (Quazza and Quazza 497-498).

> The weavers are impatient for an answer and some are not collecting their pay anymore maintaining a confrontational attidute towards me. Three of them already came today [16 December 1863] to listen a definitive answer from me. I had promised that this week I would have given an answer, but I was unable to apply myself to this issue since I came to Turin for the auction sale. Now I have three alternatives. 1. come to an agreement on the tariffs and then put things in order with justice without being passionate; 2. accept the proposed tariffs and then dismiss those who are more compromised to set an example; 3. refuse the proposed tariffs and face a strike. I think that the first position is the one to follow. By bargaining I could obtain a modification of the claims and then I will have the opportunity to be rigorous and those who are bad, since they do not tolerate the discipline, will end up being dismissed or leaving by themselves. The second position could lead me also to a strike. The third one would be dangerous because we will have to face the entire Assocition [of Weavers of Croce Mosso] and then we have the nearby village of Chiavazza where

> there are some who are envious of us and who maybe would profit with pleasure of the agitation to hurt us. And after all the result would always be the same, that is we would end up giving up unless we would want to push the issue too much further. This is something that I believe with difficulty would be convenient to us considering the popularity that we enjoy, the old age of our mother and the weak health of Clementina [Giuseppe Venanzio's wife]. And then I foresee a great demand for weavers so that our position would become bad with the obstinacy if the other manufacturers would not lend us a hand. This is thus my way of seeing and the one that will guide my decisions ...
>
> P.S. Giovanni Domenico Sella after a strike of fifteen days had to give up to the weavers everything that they had requested.

On 19 December Giuseppe Venanzio informed Quintino that he had reached an agreement with the weavers:

> Today I settled the issue with the weavers. Yesterday morning I had made a counter-proposal that they did not want to accept and this morning I called all of them and then I have made a very small concession and they were content. They were all within an ace of leaving. Now I will apply myself to put order and cut down the bigwigs. I report this to the under-prefect because I promised to keep him informed. I think that the issue had a rather satisfactorily conclusion...

In the meantime, the weavers had created their own mutual aid society, the Association of the Weavers of Croce Mosso (1863), that soon became a powerful and feared organization of resistance. But, also the Sellas and the other major manufacturers created their own organization. The two fronts seemed to be ready for a new confrontation and the general strike broke out in the summer of 1864. The agitations began at the end of July in the Mosso Valley, where -- as Quintino Sella informed the Minister of the Interiors (Quazza and Quazza 1980:522) -- the weavers had sent at the beginning of the month "to almost all or to all the manufacturers" of the area "an ultimatum about the working hours." The Weavers' Association requested a reduction of the effective length of the working-day (with the exclusion of the lunch pause) to ten hours from April until October and to nine and a half from November to March. Quintino Sella was writing to the Minister to inform him that it had been announced the visit in the Biellese of the Prince Amedeo d'Aosta and that thus "he would fall in the middle of a strike, with the presence of the army, etc." Sella thought that it was better to defer the arrival of the

armed troops, considering that his intervention with the weavers had achieved a positive result.

> My brother and I, in agreement with the under-prefect ..., have talked with one of the labor leaders, who works in our factory (the wool firm Maurizio Sella of Biella). We have told him about the imminent arrival of the Prince, made him consider the great unbecomingness of showing [to the Prince] our contrasts, and thus we have asked him to go to Mosso to persuade the other leaders to suspend everything until after the trip of the Prince. He understood immediatly the issue, and went right the way to Mosso, and now he is back assuring us that for eight or ten days, that is until after the trip of the Prince, all issues will be suspended.

The tour of the Prince of Aosta in the Biellese proceeded without any problem, in accordance with the official program, and he even visited the factory of the **Sella & Compagnia**. But, once the Prince left, since the manufacturers had not given yet an answer to the weavers' ultimatum, the workers began a strike that rapidly involved all the wool factories in the region. The armed troops arrived, but the strike went on for two and a half months and a settlement was reached only as a result of the mediation between the parties of the Minister of the Interiors Mancini.

216. The penalties that in the previous regulation were particularly harsh, now were unified to 0.20 lire for men and to 0.10 lire for women and children. It was stated, however, that "if the recidivation becomes persistence this can be a reason for immediate dismissal." Furthermore, it was stated that the money of the fines would be deposited in a "special fund for each factory to provide a subsidy to sick and old workers, or to their families." It seems, however, that this disposition was not applied (See Fra Dolcino 1882:17-21).

217. In order to work at the hand-loom in the worksops it was necessary a period of apprenticeship. The general regulation of 1864 fixed in eigth months the period necessary for learning to weave ordinary cloths in the workshops and in ten months for diapered cloths. To become an apprentice, however, one had to be: (1) enrolled in the Association of the Weavers of Croce Mosso (1863-1877), the mutual aid society of the weavers that operated as an organization of resistance; (2) a relative of a hand-loom weaver, that is he had to be a member of those families -- tightly connnected among themselves by transgenerational alliances based on endogamic matrimonial practices -- that

had always lived on the resource represented by the textile activity and in which the patrimony of technical kwnoledge had continued to be transmitted from father to son. Those who were extraneous to this group of families had to pay extremely high dues (from 50 to 100 lire) of apprenticeship to affiliate themselves to the Weavers' Association (See Ramella 1983).

Manufacturers attained several advantages from the use of the family structure of the weavers to recruit the new labor force for the new centralized weaving deprtments. The family hierarchies were used to obtain -- in the limits in which this was possible -- that disciplining at work of youngsters and children that coercitive methods by themselves were not able to ensure. The family constituted a very precious instrument for the transmission of working attitudes in terms of professional cognitions and in terms of socializtion to the activity in the workshop. The laborforce that formed the group of the hand-loom weavers was part of domestic groups that had always been involved in woolen manufacturing and knew its procedures. Thus the development of wage labor in the workshop did not affirm a tendency to the digregation of the family but, on the contrary, reinforced its cohesion. The basis upon which this cohesion was founded now -- that which was essential for life and social reproduction -- was partially different from that of the phase of production at home, having shifted from the property of plots of land (as a source of subsistence and credit for the acquisition of raw materials), to the possession of the professional skill and its transmission from father to son.

This form of recruitment of the labor force, however, had several disadvantages for manufacturers. In this way it was favored also the transmission of a cultural model of work that required continuous corrective interventions, because it did not become adequate to the new requirements of productivity in the mechanized factory, which imposed the saving of time and men. From the adult laborers the apprentices did not only learn the skill, but also a particular behavior at work and, naturally a group code that they would have to respect in a rigorous manner. The most serious of the disadvantages of the family recruitment was that on this basis the hand-loom weavers hadfounded the regulation of the access to their trade.

During the more acute moments of crisis in the relations between laborers and manufacturers, the latter tried to widen the area of recruitment to peasants in order to reduce the too tight dependence that involved too many risks. But, these attempts failed: too high was the turn-over of peasants in factory work. Even attempts to resort to laborers from outside the Biellese -- Tuscans, Lombards, etc. -- failed, as a result of the violent reactions of local hand-loom weavers, who were always able

to mobilize a wide support among the population of the district, accusing manufacturers of violating the basic rules of social solidarity.

218. The length of the working day that had always been on the average of 12 hours of effective work in the course of the year, now was reduced on the average to 11 hours (art. 11); it was conceded to the workers other than weavers the tolerance of a delay of ten minutes after the ringing of the bell (it was of fifteen minutes in the old regulation), but it was stated the loss of the entire working day for whom arrived to the factory with a delay of more than one hour. The weavers, instead, were able to obtain a tolerance of half a hour from October to March and of one hour from April to September (See Fra Dolcino 1882:17-21).

219. The commercial value of the wool fabrics produced in the Biellese area was calculated to have been around 10-11 million lire in 1854-55, around 28 million lire in 1869, and around 34 million lire in 1872. In 1872 the over 100 wool factories of the Biellese employed 5,800 workers and produced 5 million meters of fabrics, while in 1864 production had been of 3-3.5 million meters (Castronovo 1964:302 ff). At the same time, the number of centralized looms had increased: their number had almost tripled between 1848 and 1861, passing from 800 to 2,200, it was 2,800-3,000 in 1870, and 3,750 in 1878 (Castronovo 1964:401 ff). One has to consider, however, that these estimates do not take into account the very consistent sector of the small workshops.

The development that followed national unification allowed the Biellese district to keep, in the context of the weak national wool sector, the prominent place that it enjoyed in the Sardic States: of the 200,000 spindles and 6,480 looms (of which about 250 mechanical) that were taken the census of in 1869 in the Italian woolen industry, the Biellese had 78,000 spindles and 2,800-3,000 looms, all hand-looms; six years later the spindles had increased of 50% at the national level and the looms had risen to 8,560; of the latter, about 44% -- that is the same proportion of the previous estimate -- were in the Biellese, where in the meantime the factories had become 135. However, while in the national industry, power-looms reached the number of 2,571, ten times more than in 1869, in the Biellese district weaving continued to be carried on almost esclusively with the hand-loom and only in the factories of the Sellas and of a few other major manufacturers appeared the first power-looms, in the version by now brought to perfection (Castronovo 1964::25). The causes of these limits in the technical and organizational evolution of the Biellese wool industry -- which regarded only weaving -- were not the consequence of a scarse innovative attitude of local

entrepreneurs. It is important to remember that already in the early 1850s the Sellas tried out hydraulic power-looms, however, not with satisfactory results. In the other manufacturing departments the introduction of new machines was constant, especially in spinning, in which since the mid 1860s new automatic spinning machines began to substitute the old mule-jennies.

220. Weavers maintained that absences were necessary to cultivate the family-owned plots of land. Entrepreneurs, instead, believed that weavers had scarce enthusiasm for work and preferred to spend their time in the wine-shops. There is also a third possible explanation for weavers' absenteeism: the re-activation of looms at home. The growth of vertically integrated wool firms, in fact, had not hindered the proliferation of a myriad of small workshops and semi-artisanal firms that appeared and disappeared according to the economic situation. These producers exploited those segments of the market that were not dominated by industrial manufacturing, producing fabrics of lower quality for those consumers that could not afford the fine fabrics of the big factories. This minor sector was able to offer work opportunities, in the form of orders at home for weavers, which did not have the character of continuity of factory work, but allowed the weavers to re-activate domestic looms at least for part of the season. To understand the reasons of weavers' absenteeism one has to consider that the activity at home, which added itself on the continuative one at the factories, required time and that the vitality of the minor sector was greater exactly in the phases in which the market was expanding: orders at domicile to weavers arrived in periods in which also the factories were burdened by orders.

221. Manufacturers had no doubts about the true nature of the causes of the requests of wage increases on the part of laborers: the main reason laid in the new bad habits contracted by the weavers, who abandoned themselves to the "crapulence and dissipation" of the inns and of the innumerable wine-shops that had sprung up in the region. According to their accusations, this was the more evident sign of the severe "moral and economic disorder" that in the last few years had taken root among a working-class population that was known till then for its laboriousness and sobriety: the indiscipline at work and with it the strikes and the "excessive [economic] pretences" were nothing else than its direct consenquence.

The report of the Parliamentary Commission on Strikes in Italy of 1878 largely shared these evaluations and strongly condemned the "vice of the wine-shop" and that "even more fatal of alcoholism:" "above all" in the diffusion of these "vices that by multiplying the needs

aggravate the discomfort and provoke discontent in the laborers" it had to be found "the nearest cause of the disorders especially for the central and northern provinces." In the Biellese district in particular "the indefinite multiplication of wine-shops and wine-associations," that had happened "with the introduction of strikes", had "reached the extreme limit." The report provided also some statistical data: the number of the officially authorized wine-shops in the Biellese area had increased from 496 in 1864 to 890 in the second half of the 1870s, and to these had to be added 81 wine-associations.

This recent "unfortunate inclination to the dissipation" was the cause of the fact that laborers did not considered anymore the wages paid by the factories sufficient to the needs of life, while, on the contrary, "whereas if the weaver would keep the correct ancient habits, they would be enough not only to cover the needs of his family, but would leave also a sufficient margin to saving." Thus, according to the Parliamentary report and to the manufacturers, the pressures aimed at obtaining increases in the piece-work tariffs that had appeared in the last few years were nothing else but the negative effect of changes in the consumption levels and habits of the laborers. Hence, the initiatives of manufacturers in the factories against the weavers were fully justified, because the latter had put themselves outside of the rules of the game, by making requests that only the recent "corruption of the wine-shop" could explain.

It is undoubted that the weavers were great frequenters of wine-shops, but it is evident that there was a direct interest of the manufacturers to exagerate the dimensions of the phenomenon. The value of the informations that entrepreneurs provide over the "vice of crapulence" to which laborers "had unfortunatly abandoned themselves" in these years rests above all in showing the relevance attributed by the local élite to the need of imposing norms of behavior whose affirmation was judged as a condition for the development of the emerging factory system. The diffusion of factory work went hand in hand with the proliferation of the wine-shops because the latter had emerged as the new specialized sites of working-class leasure time and socialization, as opposed to the factory which had imposed itself as the specialized site of working time (See Ramella 1983).

222. Manufacturers decided that from the month of April it was going to be posted "in each factory a notice with which the workers were intimated that from now on absences from work were not tolerated anymore on Monday as on the other working days, unless they receive a regular permit or that the absence is the caused by an ascertained legitimate motive" (art. 4). In the opinion of many manufacturers, the

behavior of the weavers was also the negative consequence of the disparity of treatment that was reserved to them in the various factories: the major manufacturers, in particular, felt impotent to face the growing indiscipline also because the necessary rigour was not applied in every factory. Thus, the manufacturers of the Mosso Valley recognized that was "indespensable that in all the factories reigns an uniform discipline" and that "this could not be obtained in any other way than through a common action." As a consequence they agreed to engage themselves "to apply in their respective factories the following points: A - repeated delays in the entrance at work must be punished either with fines or with a wage reduction... B - damages caused to machines or raw materials as a result of negligence or ill intention shall be compensated in that proportion fit to stimulate correction. C - lack of respect and obedience to the factory directors if repeated must cause dismissal" (art. 5). Among the acts of indiscipline that could not be tolerated anymore there was also the introduction of wine in the factory, a prohibition that went back to the first factory regulation "of the seven pains" introduced by Gio Giacomo Sella in 1826: "In every factory it must be rigourosly prohibited the introduction of wine, or that drunk workers remain in the factory (point D, art. 5). Fifty years had not been enough to erase the habit of working with the bottle on hand (See Ramella 1983:146-147).

223. In the intentions of manufacturers each worker had to underwrite the new general factory regulation (See Fra Dolcino 1882:27-29). Among other things the regulation stated that "the weavers will have to uniform themselves to the time table of the factory as every other worker, without that they can invoke customs and habits that others do not have, such as the afternoon sleep or similar: they will not be able to be absent from work without a permit or justified motives and neither to be absent during working hours without authorization (art. 3). For these transgressions heavy fines were decided and, if these were repeated three times in a month, the dismissal. Expulsion from the factory was also decided in the case in which the weaver refused to "reimburse to the manufacturers the damages that he shall cause; among the damages have to be calculated also the false placements of yarns, the mistakes of drawing and weft and the lacerations" of the fabric (art. 4). Moreover, there could be the dismissal also "in cases of lack of respect, disobediences and insubordinations that are not foreseen in the present regulation" (art. 6).

224. The menace of confinement of 70 weavers was not carried through for the intercession with the Minister of Interiors Nicotera of Quintino Sella, Edoardo Boggio and of some of the local authorities, among whom the mayor of Croce Mosso

who was the priest Giovanni Battist Rivetti.

225. Maria Sella (1868-1960) sketched an interesting portrait of her mother Clementina in her diary (See Ramella 1983:252):

> ... her youth was melancholic in the bare flat of the factory. Continuous pregnancies, cares to the children, struggles with the servants and nurses and a lot, a lot of physical work. She told this, but for all the time that I have known her, she attended to the home as an excellent, thrifty housewife, yes, but as a great lady: she did not do physical works, she directed them... Her authority was very great and all the personnel worked swiftly under her concise commands. "Neither [do someone] wrong, nor grace" she used to repeat in relation to it.

When Clementina moved into the great mansion on the hill of San Gerolamo, right above the stream Cervo and the modern multi-storeyed factory, the family, when all were present, counted "17 people at the table and 12 in the kitchen." But, besides the management of domestic activities ("cleaning, washing, kitchen, cellar, fruiterer, pantry, hen-house, dog-house, stable"), she oversaw personally three rice plantations in the Vercellese owned by the family, the vineyards of the estate at Lessona, in the lower Mosso Valley, and the **mezzadria** (share-cropping) of the meadows, fields and woods, of the orchard and garden" of the hill of San Gerolamo surrounding the house.

226. As the number of power-looms grew in the factories and that of the hand-looms decreased, there was a contraction of working days for hand-loom weavers who still found work and, with these, continued to fall also the wages paid to them in the factories. In 1889 the average of daily wages of hand-loom weavers was in the Mosso Valley of about 3 lire; if we take into account that in 1876 at the **Sella & Compagnia** the average wage of hand-loom weavers was 3.50 lire (3.30 lire at the **Fratelli Sella fu Maurizio** in Biella) and that the index of the nominal wage for that year of adult male laborers employed in the major Italian textile industries (1863=100) corresponded to a value of 136, while in 1889 it had risen to the value 166, we have a measure of the fall of wages of hand-loom weavers with the introduction of the power-loom (Ramella 1983:267-268).

227. The protectionist tariffs of 1878 and 1887 blocked effectively the importation of ordinary carding woolen fabrics. In a few years the national industry demonstrated to be able to satisfy in large measure the demand for low priced wool fabrics of the popular classes. Linked to this

"mass" production was above all the last generation of Biellese wool manufacturers that expressed its typical exponents in the Rivetti family, "symbol of the tiring ascent of the sons of work and of the rapid fortune of the new industrial powers" (Castronovo 1964:167). The fortune of these new manufacturers rested on an activity that

> ... was founded essentially on the production of goods of a modest sort and of no great exigency, destined to what was necessary to the poorest classes of the urban centers and rural areas especially in the center and south [of Italy] (Castronovo 1964:167).

This type of production had found its original propulsive element in the ravelling of rags in which engaged in, for example, the Rivettis, detaching themselves "from the productive orientations dictated until then by the old woolen aristocracy reluctant in general to the use of rigenerated wools (Castronovo 1964:167).

One of the characteristics of the new manufacturing nuclei was "a resolute defense and not without intolerances of the ownership position achieved," and the definitive breakage of that particular relation, made of struggle and reciprocal respect, which characterized relations between manufacturers like Sellas and their "own" skilled laborer, paternalistically appreciated for his capacities of work at least as much as the product of quality that he produced. The Rivettis, instead, utilized largely an unskilled and low-paid female labor force, often passive and without any professional and syndical traditions.

The Rivettis, Lanzones, Redas, Lesna-Tamellinos, Trabaldo-Tognas, Cerrutis, Crolles, Garlandas, Gilettis, Bertottos, Torellos, Botto-Poalas, Zegnas and the other "sons of work" started out largely as sub-contractors. The early growth of vertically integrated wool firms, in fact, had not hindered the proliferation of a myriad of small workshops and semi-artisanal firms that appeared and disappeared according to the economic situation.

Some of the sons of work were former itinerant salesmen, others were former artisans of other sectors (carpenters, shoemakers, masons, blacksmiths, etc.), but most of them were simple spinners and weavers, who often had worked for decades in the factories owned by the Sellas and the other dynasties of the woolen aristocracy.

The three Cerutti brothers, for example, worked for several years at the **Fratelli Piacenza** before venturing on their own, first as sub-contractors and then as autonomous manufacturers with the firm **Cerutti & Compagnia**.

Carlo Reda and Gio Battista Rivetti (180-1857) were the first two foremen of the factory of the firm **Gio Giacomo e Fratelli Sella**, when Pietro Sella introduced in 1816 the first spinning and carding machines. Carlo Reda's son,

Gregorio (1841-1932), started working in the factory of the Colongo-Borgnana-Piccos in 1849 as a spinning assistant and ended in 1869-70 as foreman of the carding department. He then rented, together with his father and his 14 brothers a small mill, beginning an autonomous industrial activity that brought him and his family to become one of the most successful entrepreneurial group in the Biellese district by the end of the century.

Gio Battista Rivetti's son, Giuseppe (1816-1899) worked for 50 years in the factory of the **Gio Giacomo e Fratelli Sella**, before setting up with his four sons his own little workshop in 1872. By 1896 his four factories employed more than 700 workers.

Luigi Einaudi, a sharp-sighted observer that wrote several articles on the Biellese strikes of 1897 for the Turin newspaper **La Stampa**, described some of the essential characteristics of the phenomenon of the sons of work:

> ... [there are] many small factories (**fabbricotti**), where people work and earn, managed by old parsimonious, enterprising laborers, united in partnerships of four, five friends, or cousins or brothers. There are many factories, whose owners either went bankrupt or have ceased to devote themselves to industry, which are leased as wholes, or by sections, to men that have some capital, or who enjoy the trust of a wealthy friend or a banker. One starts out with a few looms and weaves for others as a sub-contractor. Then one starts to weave on his own; adds later the dyeing works, the spinnery, and the factory is established and can prosper also against the competition of more powerful ones already established for a long time.
>
> In Biella there are manufacturers that in a dozen of years have become millionaires, and who were foremen. I do not want to say with this that the road for becoming manufacturers is open to everybody; now it is even beginning to lack the space, unless that with the electrical transmission at a distance of motive power it would be artificially increased. I want only to demonstrate that the class of manufacturers is very variagated; and ranges from those who are half laborers and work themselves or make their sons and their wife work, to those who reserve for themselves only the direction of the firm. There is not yet, however, any owner of wool factories who is a pure and simple capitalist and who contents himself with the surveillance over paid directors and with receiving at the end of the year a variable dividend according to the good or the bad proceeding. Manufacturers are themselves directors of the factory and dedicate to it most of their time. For the most part they are many

> brothers, cousins or relatives in different degree. One dedicates himself to the technical aspects, the other to the administration, a third draws, studies the tendencies of fashion in fabrics, a fourth travels to collect orders and to order new machines (Einaudi 1959:51-52).

228. The years from 1893 to 1895 were critical for the Biellese wool industry as a consequence of the deep general economic depression. Under the pressure of the crisis and of the heightened competition, manufacturers progressively lowered the uniform list of piece-work tariffs that they and the laborers had agreed upon in 1889. They did this by giving to the workers the alternative of either accepting lower wages or having to close down the factories.

The situation, however, started to change in 1896, when there was a rapid and solid expansion of orders and production. In the Fall of 1897 the laborers of the Biellese wool factories, organized in leagues of resistance led by Socialist activists, went on a general strike, requesting a wage increase and, above all, a reduction of the effective working-hours from 11 to 10. Manufacturers, however, did not give up and the workers underwent a painful defeat that was also underlined by the arrests of some of the leaders of the leagues of resistance, who were charged with criminal association, and by the dissolution of the leagues.

The working-day schedule proposed by the laborers was: from 6.30 a.m. to 12.00 and from 1.15 p.m. to 5.45 p.m.; that proposed by manufacturers was: from 6.30 a.m. to 11.45 a.m. with a pause for breakfast from 8.00 a.m. to 8.30 a.m. and from 1.15 p.m. to 7.00 p.m. with a pause for a light meal from 4.30 p.m. to 5.00 p.m. The proposal of manufacturers contemplated only 15 minutes more of effective working-time, but the laborers were required to stay in the factory for 11 hours instead of 10. Mmanufacturers were reluctant to eliminate the two half hours of pause because they were afraid that in a little time these were going to be reintroduced, thus reducing the length of the working-day to only 9 effective hours.

In the Fall of 1898, at the trial the leaders of the leagues of resistance were acquitted notwithstanding that

> ... in front of the judges defiled in a compact phalanx the manufacturers to complain of the undeniable damages that a strike unadvisedly deliberated and conducted had caused to the factories of the Biellese valleys... (Einaudi 1959:93).

Corradino Sella, mayor of Biella, however, made a clamorous act. He was the only manufacturer/politician that testified in defense of the labor activists, in the conviction that

the political and social struggle had to be conducted "on the terrain of principles and not of the persons." Corradino's attitude of tolence and re-conciliation underlined that still existed marked differences between the old woolen aristocracy and the sons of work regarding the ways in which to manage the relation with the working-class.

A new general strike erupted in the Fall of 1901 and ended with another defeat for the laborers. The vindications presented by the laborers, organized once again in a league of resistance (the **Unione operaia pannilana del Biellese**), underlined the definitive affirmation of the factory system in the Biellese wool industry.

Among other things they requested: (1) the introduction of a machine for the counting of the strokes of the weft at the power-loom in order to eliminate every reason of contention among laborers that worked in succession at the same loom and every possibility of mistakes on the part of the measurer; (2) the abolition of a deduction of 5% on the wages; (3) the introduction of a uniform fine of 0.10 lire for delays; (4) the abolition of the obligatory work on holidays; (5) an increase in the piece-work tariffs for work at the loom, especially for those working at the looms with the "bicycles," which worked much faster than the others, up to 120 strokes per minute instead of 80; (6) the guarantee that workers could have been dismissed only on the basis of justified motives, in order to avoid the reprisal against trade union activists by manufacturers; and, finally, (7) the abolition of double looms, in use since 1893-94 in the factory of the Cerruti brothers, of which the laborers feared a generalized introduction in all the factories.

Of all the vindications presented by the workers, manufacturers, who were also organized in a single league (the **Lega degli Industriali Biellesi**), refused to even take into consideration the last two. In particular, they considered the introduction of the double looms as a necessary requirement for the survival of their firms.

Double looms consisted in two simple looms that faced each others so that one single worker standing in between attended contemporaneously to both of them. The worker at the double loom was paid more than the double than the weaver at a single loom, however, he was paid 12 cents for every one thousand strokes, the same as the weaver at a single loom.

The laborers considered the double loom a dangerous innovation for several reasons. First of all, they charged that at the double looms were produced simpler (with no drawings) fabrics made of finer and more resisting yarns (less subjected to breakages), that is, requesting less attention on the part of the weaver. As a consequence, to the weavers at the single looms was left to weave only the worse an less resisting raw material. Thus, weavers at double looms, by having a more rapid work, were able to earn

fortnightly wages of 55-70 lire and up to 80-85 lire, while those at single looms had to content themselves with 15-20 lire because of the worse raw material (continuous breakages and products of a lower value). But, the reverse side of the coin of the higher earning for the weavers at the double loom was the ruin of their physical health. The weavers could not last for more than three years at the dizzy speed of double looms.

The laborers went on strike in the Fall of 1901 because they feared a generalized extension of the use of the double loom in the Biellese factories, with the risk of unemployement and a consequent reduction of wages. With the failure of the strike, however, they became aware that, as it had happened after the strike of 1877 when the hand-loom was replaced with the power-loom, they could not arrest the introduction of double looms, but only try to retard it and make it more gradual.

229. In 1867, Giuseppe Venanzio Sella bought a large piece of land at Tollegno along the bank of the Cervo river, where there was a water-fall of 38 meters. In 1870-71 he began to establish a new spinning factory for the production of finer carding yarns that were to be used for the weaving at the new power-looms installed in the old factory of the **Fratelli Sella fu Maurizio**. The new spinning factory grew over the years as a detached spinning department of the main factory. It was enlarged by Carlo Sella in 1880, then in 1886 after the acquisition of the Giachetti mill with 10 self-actings, 12 carding assortments, 4 ravelling machines, and in 1898 with 10 combing spinning machines. The factory was then conferred by the Sellas to a new joint-stock firm **S. A. Filatura di Tollegno**, which remained under the control of the family, but with the financial and managerial participation of other major Biellese wool manufacturers -- Felice Piacenza and Emilio Reda, two of the most skilled and successful Biellese entrepreneurs of this period, together with the Ottolenghis, Rivettis and Bellias. Daniele Schneider (1868-1957), a valiant Alsatian technician from Mulhouse, was appointed technical director of the firm in 1901. In 1905 the firm promoted the national trust that dominated the Italian combing spinning wool industry for decades, the **Consorzio filatori lana a pettine**, established in Milan with the participation also of the **Manifatture Lane Borgosesia**, the **Lanerossi** and the **Marzotto**. It was Daniele Schneider who elaborated the statute of the trust, the price list and the relative formulas of calculation.

230. The **Società Idroelettrica Italiana** was established as a joint-stock company in Milan in 1907. Its original nucleus was the first hydro-electrical plant realized by the Sellas before the end of the century at Tollegno to exploit the local water-fall of 38 meters. Then, together with other

Biellese entrepreneurs -- Giuseppe Ottolenghi and Felice Piacenza -- the Sella participated to the construction of a big hydro-electrical plant at Pont Saint Martin in the Aosta Valley, 30 kilometers away from Biella. The new joint-stock company, was established to collect the necessary financial resources for the construction of a network of hydro-electrical plants in the Valtellina. As Gaudenzio Sella stated in a letter of 12 March 1906, with its new plants in the Valtellina, the new company had to provide for a remedy to a widespread defect of the early Italian hydro-electrical industry:

> Until now the big electrical companies of northern Italy have utilized for the most part big water capacities with small falls. Here instead we would utilize small capacities with big falls in the high valleys where the inclination of the stream is very steep. This results in a much lower expenditure in the hydraulic plant and moreover allows the nocturnal accumulation, sufficing for this reservoirs of a few tens of thousands of cubic meters... Most of the streams that we plan to utilize suffer only the winterly low water and not that of the summer, because they are feeded by glaciers (Ricossa 1986:77).

The **Società Idroelettrica Italiana** contined to expand in the following years and between 1917 and 1919 was merged with other ten companies serving central Piedmont and the Ligurian Appennines, to form a single great company, the **Società Idroelettrica Piemonte (SIP)**, run by Gian Giacomo Ponti, and with the Sellas and their Biellese allies as important share-holders.

## CONCLUSIONS

The subject of this dissertation -- a select group of north Italian capitalist dynastic families -- is the result of reflection, elaboration and choice. Reflection, elaboration and choice first, in relation to how anthropology has studied complex societies, and second, in relation to how other disciplines in the social sciences have done so.

In recent years, anthropology has incurred the risk of becoming less relevant as a social science, because of its manifest inability to provide an effective contribution to the understanding of the dynamics of complex societies. With rare exception, anthropological field-research and theoretical inquiry have been strongly conditioned by the discipline's narrow focus upon the powerless, that is, upon those social groups that are instrumentalized and/or victimized by the dynamics of complex societies operating on a global scale (e.g., peasants, rural proletarians, migratory people, urban poor, industrial working classes, etc.). As a result, anthropologists too often describe what happens in complex societies but cannot provide an account of why and how major transformations occur.

The present research is an explicit contribution to the anthropology of complex societies and an attempt to find a viable alternative to yet more localized studies of the powerless. It focuses first, upon the dynamics and forms of

power-management in such societies and second, upon the role of individual dynastic families in the maintenance of élite social status as well as in the accumulation of political and economic power at local, national and global levels.

As examined in Chapter 1, dynastic families and élite formations constitute strategic units of analysis in ethnographic research on complex societies for two major reasons. First, the families and formations constitute identifiable social groups which operate self-consciously, to wield influence and power. Second, despite the fact that their social groups are relatively small-scale, being organized predominantly on the basis of informal social ties, the dynastic families effectively maintain power and strategic resources over generations through their explicit manipulation of kinship and social alliances. These are appealing characteristics for an ethnographer because they facilitate the study of these social groups using the concepts, methodologies and techniques of anthropological inquiry. It is through an examination of kinship and informal forms of social organization in multiple contexts within the process of capital accumulation that an ethnography of dynastic families incorporates power groups into the major theoretical and methodological concerns of modern anthropology. Through élite studies, anthropologists can achieve a clearer understanding of the larger frameworks, dynamics and processes within which peasants,

workers, migrants, and tribesmen live. In this respect, élite studies articulate well with "culture of resistance" and "peoples without history" approaches. Hence, an ethnographic inquiry into the role of élites and the nature of their power over other groups and social processes is a central component of the holistic anthropological study of society and culture.

* * *

At the same time, the study of dynastic families and élite formations spurs anthropology to engage in critical dialogue with other social sciences -- e.g., political-economy, sociology, political science, social psychology -- which emerged historically to study complex societies. In particular, my analysis raises new questions regarding how these other disciplines have traditionally approached the processes of capital accumulation and power management at economic, political, social, and symbolic levels.

In the past the social sciences developed abstract models of how powerholders and entrepreneurs are supposed to behave. These frameworks assign to abstract and impersonal forces the government of complex societies (e.g, the market and its "invisible hand", consumption, production, the flow of commodities and currencies, etc.).

Yet, élite formations rest on the continual

intermeshing of many strands of contact among people strategically located in different realms of a social structure. To speak of neat divisions of economics, politics, social life, and culture masks the fundamental nature and strength of élites as densely interwoven social networks. Economists, sociologists and political scientists may find it interesting to compare analytical accounts of the actual behavior of some élites engaged in political and capital accumulation processes with their disciplines' more abstract and sectoral models. An approach to the study of élite formations that uses the qualitative contributions of anthropological theory and methodology can help to illuminate the question of who rules and how power is distributed among interest groups in contemporary capitaist societies.

The attention to élite formations in fact represents an effective analytic means to deconstruct the complexity of such societies into a form with which anthropologists are particularly familiar, that of small-scale processes and relationships of human subjects, who directly affect the operation of power organizations. An holistic and comparative anthropological study of those who actually wield power in capitalist societies can help to overcome some of the longstanding impasses characteristic of élite and capital accumulation studies which have to do with the dominant form of power organization at the apex. Moreover,

such approach can provide insight into why and how major transformations occur in such societies, including the role of individual decision-makers in this process.

* * *

With reference to the problems of inter-disciplinary relations, widely and deeply confronted in this dissertation, the relationship between anthropological research and historiography deserves particular attention. While the relationship between the anthropology of complex societies and the other social sciences is still problematic mainly because of specialization and sectoralization, the relationship between the anthropology of complex societies and historiography is facilitated by the common aspiration of providing an holistic account of such societies. Ethnographic field research traditionally confronts this objective through a synchronic dimension, while historical research necessarily confronts holism diachronically.

For the anthropology of complex societies, however, synchronic holism cannot by itself represent a sufficient epistemological solution. Indeed, the anthropological study of complex societies must be able to identify the continuities and discontinuities of socio-cultural processes and political-economic dynamics over the **longue durèe**. In order that an anthropology of complex societies -- which

must also have a capability for comparative research -- may effectively exist, there has to be a close relationship and collaboration with the historical study of the topics of inquiry. The interest is truly reciprocal, because anthropology offers to historians a service: it can control research hypotheses and it can stimulate the careful investigation of the roots of socio-cultural phenomena.

An intellectual and conceptual collaboration between anthropology and historiography has existed since anthropologists began to confront the problem of complex societies and they used as their theoretical, temporal and spatial frames of reference the concepts of **longue durèe** and core-periphery which were first introduced by Fernand Braudel (1972) and then systematized by Immanuel Wallerstein (1974). As Eric Wolf (1982) has shown, if placed in the context of the historical formation and dynamic evolution of the capitalist mode of production, the whole body of anthropological research and literature represents a relevant qualitative contribution to the individuation and explanation of processes of globalization of markets. For these processes brought all societies into the formation of the capitalist world-system, progressively incorporating even those of the "peoples without history" who lived in apparently marginal territories and were the particular concern of anthropology.

Since dynastic families and élite formations exist and

operate in and through history, they must be understood within a model that orients ethnographic inquiry towards accounting dynamically for their power and accumulation. In order to properly understand the motivation, behavior, organization, and dynamics of such social groups, I maintain that they need to be analyzed in an historically oriented political-economic framework that allows for the dialectical interplay among the three basic analytic levels of theory, process and agency. Such a framework has to permit a bridging of the theoretically framed structural constraints of the capitalist mode of production with the unfolding of this mode in time and space, and the historical empirical realities of élites' behavior and volitions.

A coherent understanding of the qualitative transformations over time and space that mark the development of the capitalist mode is necessary for placing the transgenerational behavior and strategies of dynastic families and élite formations into a meaningful context. The history of these political-economic élites can only be interpreted and contextualized in the long-run history of the accumulation process. We can investigate what options were viable or even conceivable for these actors as a consequence of the constraints imposed on them by the shifting and often contradictory requirements of accumulation.

In this logic and in this conceptual context, I discuss

and operationalize in Chapter 4 the theory of long waves of capitalist development -- the periodization of which coincides largely with that used for the 19th and 20th centuries by historians like Hobsbawm (1976,1981) and also by anthropologists like Wolf (1982). The historically oriented political-economic framework of long waves allows us to incorporate into the analysis the innovativations which continually emerge and necessarily alter the course of history. It enables us to pay sufficient attention to a wide variety of factors and to the qualitative changes arising not only in the economic sphere, but also in the social, political and institutional domains, which are necessarily integral parts of the long-term historical dynamics of capitalism.

As discussed in Chapter 4, a modified version of Gordon's long wave theory provides us with the most adequate theoretical framework for formulating an historical analytic account of the redefinitions of the requirements of the capital accumulation process. Specifically this approach allows us to view the behavior of dynastic families and élite formations as relevant for providing an explanation of how and why the requirements of capital accumulation change over time and space. Such a theory, in fact, enables us to view the new requirements as emerging at critical times out of the struggle between powerful actors who attempt to restore the rate of accumulation by combining new infusions

of capital with new technological, organizational, and institutional configurations.

* * *

Chapters 5 and 6 constitute the data section in this dissertation and they examine the shifting economic, political and familial strategies pursued by a selected group of prominent northern Italian dynastic families -- the Gavazzis, Pontis, Cantonis, Crespis, and Sellas. This group is representative of a north Italian bourgeoisie that confronted rather successfully the negative consequences of the major historical periods of crisis in the accumulation process, defined by the long wave periodization (1816/21-1848 and 1874-1896), through an intensification of effort and a re-organization of political-economic activities. My analysis describes the particular solutions devised by each of these families during the depressive phases and the roles they played in altering established local, regional and national social structures and in forming new ones that sustained rapid capital accumulation during the expansionary phases (1780-1815/20; 1848-1873; and 1897-1913/19). Moreover, the two chapters analyze for each phase of each long wave the dynamics of the overall Italian political-economy and the evolution of the relationship that each dynastic family had with the social and territorial context

in which it operated.

Chapter 5 analyzes the motivations, dynamics and results of the behavior of the Gavazzi, Ponti and Sella families in the context of the unfolding of the first long wave (1780-1848). The historically oriented political-economic approach adopted herein demonstrates that the entrepreneurial success of these social groups -- who, together with landowners, **fittabili** and wholesale merchants, formed the dynamic and enterprising bourgeoisie which emerged alongside the landed aristocracy in northern Italy -- was in fact rooted in the long-term economic strategies of their forefathers, dating back to the 16th and 17th centuries. They were, in fact, notable provincial families that already had accumulated substantial economic and social capital and that could claim a long-standing engagement in merchant-manufacturing in the small market centers of the pre-alpine areas. By the end of the Napoleonic era, the Gavazzi, Ponti and Sella families: (1) controlled consistent patrimonies formed by commercial houses, putting-out networks, workshops, watermills, water rights, entitlements to preference for military contracts, agricultural land, herds, buildings, and credits (dowries and loans at interest on the security of mortgages); (2) monopolized most of the economic, administrative and even religious life of the rural areas where they resided; (3) formed silk, cotton, and wool "aristocracies" that carefully and consistently pursued

intergenerational succession and marriage practices that allowed them (a) to transmit the productive assets of the family patrimony to a single male heir, preferentially the first-born male, and (b) to form marriage alliances with other local power-holding families.

Although these families were themselves not "new," they constituted the segment of the north Italian bourgeoisie that was directly engaged in proto-industrial and industrial production during the first long wave. The economic innovations introduced by their generational leaders between 1816 and 1848 contributed to greatly transform northern Italian society, pushing it toward more capitalist-oriented relations between agriculture, proto-industry, industry, and commerce. In particular, it was in this period that the Gavazzi, Ponti and Sella families achieved a pre-eminent political-economic position by re-organizing the bases of textile manufacturing in the pre-alpine areas.

As international prices and the demand for reeled and spun silk rose, the Gavazzis significantly expanded production by transforming their traditional silk mills located in the cocoon producing area north of Milan into more capital-intensive water-driven spinneries operating with new methods and processes of production. By the late 1840s, the Gavazzis were among those few very successful silk entrepreneurs who had become **negozianti in banca e seta** and who controlled most of the silk production and trade by

performing several functions and roles. They were, at the same time, bankers who advanced working capital to lesser manufacturers, large landowners with **coloni** engaged in the mulberry-silkworm-cocoon complex, industrialists who by managing **filande** and **filatoi** integrated the preliminary phase of reeling with that of twisting and yarn production, and finally **negozianti** or wholesale dealers who, together with the commissioners of foreign commercial houses, concentrated and exported reeled and twisted silk. The Gavazzis, together with the other **negozianti in banca e seta,** were one of the most powerful economic forces in the region and had moved their residence to Milan, the main commercial and financial urban center of northern Italy.

In contrast, the cases of the Ponti and Sella families illustrate the emergence of a well-formed group of specialized cotton and wool industrialists producing for the internal market, which was facilitated by the fact that the depressive phase of the first long wave was dealt with on the political level by setting up protectionist tariffs that sealed off the north Italian market from foreign yarn production of a lower quality. Under such favorable circumstances, these entrepreneurial families concentrated and mechanized the productive phase of spinning in small and medium-size factories driven by water. By centralizing the spinning process, the entrepreneurs were able not only to cut costs, exercise a greater control over labor, and

increase the output and quality of yarn, but also to expand the scale of domestic weaving organized on the basis of putting-out arrangements. Until this point, cottage production had been the only real outlet for large numbers of peasants in the pre-alpine areas, inasmuch as it provided the workers with supplementary or substitute employment, thereby enabling them to keep their families intact. Thus, the integration of the new spinning factories in the rural social structure was facilitated by the fact that they complemented and further promoted peasant domestic production by widening the opportunities for proto-industrial work.

Chapter 6 analyzes the motivations and activities of the Gavazzi, Ponti, Cantoni, Crespi, and Sella families during the second long wave of capitalist development (1849-1896). All of these dynastic families further consolidated their élite status by keeping their main economic power base in the manufacturing sector in which they had accomplished their original accumulation and by continuing to invest in the technological and organizational upgrading of the spinning, weaving, dyeing, and printing phases of production. The families were a driving force in the long, complex and often contradictory processes that led to the imposition of the factory system as the paradigmatic form of productive organization for the whole cycle in the textile sectors by the late 1890s. A wide area of work at home

survived, but was by now only an appendix of the vertically integrated factory, to which it guaranteed some flexibility.

Throughout this period, these families were able to achieve almost complete hegemony in the rural sectors where their respective family's and production facilities were located. Their attitudes in social and political matters were very conservative: they were averse to class struggle and to any type of bargaining with organized labor. Their explicit objective was to manipulate the industrialization process in such a way as to avoid destabilizing the established social hierarchies. At the same time as they consciously limited social upheavals and conflicts, the families exploited the social backwardness of the rural areas for purposes of accumulation. These efforts not only effectively contained the cost of labor, but also confirmed the marked subordination of the laborers through the various social forms of "corporate paternalism."

Over time, the dynastic families came to play a prominent role in Italian culture and national politics which, in turn, enhanced their economic activities. For example, the national political influence of the Ponti, Cantoni, Crespi, and Sella families became especially manifest during the protectionist battles of 1878 and 1887. The new tariffs enabled these manufacturers to take great strides toward the complete unification and conquest of the Italian market. After several generations of slow and

family managed accumulation, the families comprised an élite well aware of its power and status -- an élite which spawned two generations of technically astute entrepreneurs, who manifested a level and breath of cultural interests fully congruent with the standards and values of European bourgeois society. In many cases, members of these dynastic families in fact had strongly polivalent and complex social roles: they were, at the same time, technicians, industrialists, financiers, scholars, local administrators, and national politicians.

Despite their cultural, technical and organizational accomplishments, members of these families never lost their sense of family solidarity nor did they stop using their extended kinship ties to enhance capital accumulation. The process of intergenerational succession to leadership positions in both business and family was still regulated by rather rigidly enforced patrilineal rules of descent. Moreover, the accumulation of great economic and political power by these dynastic families went hand in hand with the careful implementation of consistent inheritance and marriage practices, such as: (1) avoiding or at least limiting the fragmentation of patrimonies threatened by the inheritance laws of the **Codice Civile**, which required that the testator divide at least half of his estate (the **legittima**) equally among all of his offspring, daughters included; (2) maintaining and reinforcing a sense of family

solidarity among the entire extended kinship network; and (3) strenghtening old alliances while forming new ones with other local, regional and national power-holders. As we have seen especially in the case of the Sellas, these objectives were pursued mainly by excluding female offspring from the ownership of productive assets and by implementing a matrimonial policy that promoted marriages between cousins as the only possible alternative to a marriage arranged by parents on the basis of a rigidly enforced practice of social endogamy.

At the same time, these élite families operated in concert or with other technically competent entrepreneurs in order to extend their influence to agriculture, railroads, insurance, banking, and several other manufacturing sectors (e.g., the mechanical, chemical, ceramic, and electrical industries). From the 1870s, the development of many industrial sectors in northern Italy was often the result of attempts by these dynasties and their close allies to diversify their capital investment. Grounds for common action were found with relative ease by generational leaders who were often linked together through tight webs of kinship and friendship. Most of these technologically astute entrepreneurs had a training period abroad, or at least made frequent contacts with the most industrialized countries, in order to obtain the latest production, managerial and marketing techniques. These leaders also shared an

optimistic world-view and were well aware that they comprised the vanguard of a rapidly rising capitalist class. By acting in concert, northern Italian dynasties came to play an aggressive role in the political-economic arena and even to acquire a "revolutionary" connotation inside the Italian bourgeoisie.

* * *

The theoretical approach and the methodology selected in this inquiry have been coherent and effective for the synchronic and diachronic study of dynastic families and elite formations, but I have encountered great difficulty at the diachronic level as a result of the specific situation of the Italian social sciences and historiography.

The direct and active political engagement of many scholars and the fact that they occupy prominent power positions represent interesting and peculiar Italian phenomena. Until now, however, these conditions have had more the effect of deforming the selection of research topics and the setting up of social scientific studies, than the effect of encouraging rigorous anlyses based on field researches and participant observation. Certain subjects, like the study of entrepreneurs for example, have never been taken into serious consideration.

But, it is above all on historiography that the

effects of ideological dogmatism and political controversy are particularly evident and widely diffused. Before Fascism, Italian historians were split in two different and opposed camps: (1) the liberal ethico-political historians, who had in the idealistic philosopher Benedetto Croce their intellectual leader, and for whom the **Risorgimento** and post-**Risorgimento** ruling class had been an optimal oligarchy up through the time of Giovanni Giolitti; (2) the revisionists, both right-wing (e.g., Oriani) and left-wing (e.g., Gobetti), for whom the Italian bourgeoisie had been inadequate to its historic mission (and Fascism and the widespread reliance on state-owned enterprises to modernize the country seemed to give them credit). According to revisionist theory, the bourgeoisie failed for more than one reason: (a) because politically it had been unable to establish an English-type two-party system, but had resorted to the practice of **trasformismo** instead; (b) because it had been unable to establish a powerful military-industrial complex based on effective national iron-and-steel and heavy-engineering industries; (c) because its accumulation was viewed as more dependent upon State protection and support (e.g., through custom duties, subsidies, hand-outs, drainage of national savings, etc.), than on successful competition in the market.

The revisionist approach has strongly influenced the work of several generations of economic historians. Most of

the latter, in fact, take 1860, that is the year of the proclamation of the national State, as the starting date for their investigations into the industrialization process in Italy and they consider the direct and indirect activities of the State and of its bureaucratic agencies, together with those of the big "mixed" banks, as more relevant than the actual behavior of entrepreneurs, and thus more deserving of detailed analyses, research projects and accounts.

This is not the place for conducting a critical examination of these theses, which among other things end up ignoring the realities of proto-industry, industry, and agrarian capitalism in pre-unification Piedmont, Lombardy and Liguria. As the case studies of the Gavazzi, Ponti, Cantoni, Crespi, and Sella families presented in Chapters 5 and 6 amply demonstrate, however, the entrepreneurs and the regional economies of north-west Italy were perfectly up to the standards of the most developed areas of the north-west European economy long before 1860. At the same time, these theses end up over-estimating the level of industrial development of the Kingdom of Naples at the moment of national unification and tend to ignore the pre-existing integration of southern agriculture into the international market under the hegemonic control of Great Britain.

In the end, no tradition has been adequate. On the one hand, the ethico-political historiography of Croce and his followers, entirely taken up with the problem of national

unification and independence, under-estimates every relation between politics and interest groups, especially for the 18th and 19th centuries. On the other hand, social historiography -- the revisionism of the left -- adopts the class struggle model and studies the conditions of exploitation of subaltern classes, but does not confront carefully the problems of the internal dynamics of the various regional economies and their dominant oligarchies either before or after national unification. As a result, the analyses of the concrete historical realities of the social actors who were engaged in political-economic activities are very scanty, and they are largely confined to hagiographic publications on major enterprises. This situation, moreover, has led to a lack of historical knowledge regarding other key issues, in particular: (1) the evolution of the relation between technology and labor organization and control; (2) the formation and composition of the working-classes, besides those that were employed in the big metal-mechanic factories located in urban centers; (3) and the relations between manufacturers and laborers in actual situations and the contribution of these relations to the transformation of contemporary Italian popular culture.

Even in more recent years, economic historians prefer to write the histories of big corporations, rather than those of entrepreneurs, almost as if it is not worthwhile to occupy oneself with the latter. Only in the 1980s do we get

the first non-apologetic and rigorous studies, conducted by a few economic historians, of a handful of dynastic families operating in the 19th and 20th centuries (see Bairati 1988).

An important exception to this disheartening litany consists of some analyses of great quality and insight of Antonio Gramsci. Although his interest centered on the proletariat of the big urban factory and of the areas of agrarian capitalism, he devoted careful attention to the hegemonic behavior of the Italian bourgeoisie, for example, in his analyses of the Southern and Vatican questions, of Americanism and Fordism, and (as evidenced in his last speech to the Chamber of Deputies) of the dissolution of Free-Masonry decreed by Mussolini in 1925.

* * *

In conclusion, by using long waves theory as the operational scenario, and by reconstructing the concrete history of political-economic élite families, this work addresses these discrepancies and this lack of knowledge. In fact, although this dissertation is intended as an anthropological study of Italian dynastic families and élite formations, it makes, at the same time, an important contribution to the social history of the Italian political-economy. In focusing upon the decisions and strategies of some of the most important players in north-

western Italy, much has been learned about the complex and often contradictory processes by which this region was transformed over the course of one hundred years from a dynamic agrarian semi-periphery into an integral part of the core of the world economy.

I hope that the present research -- and its further continuation for the periods 1896-1945 and 1946-1994 -- will encourage a multiplicity of historiographic and social scientific inquiries into the roles and behavior of social actors who have been, and still are, engaged in political-economic activities. In particular, I hope that it will serve as a useful framework for analyzing the behavior of Italian entrepreneurship, its cultural and political attitudes, values and styles, and its relationships with the tradition of the pre-unitarian oligarchy and with the subaltern social classes.

# APPENDIX A

## Methods

Dynastic families and elites are kinship and informal networks of powerful people. In order to study them ethnographically, ask them questions, observe them, and participate in their activities, it is necessary to become to some degree a part of these networks. The ethnographer is thus confronted with the fact that these powerful people defend their exclusivity by restricting their social interaction with those who do not belong to their "kind." The social interaction of elites is, in fact, predicated upon the fundamental distinction between "us," referring to their friends and relatives as part of their upper class networks, and "them," referring to the rest of society, regardless of the fine analytical distinctions usually made by social scientists between new or old middle classes, working classes, and lumpenproletarians. That is, the social views and practices of elites are grounded in a sharp dichotomy between people who exercise hegemonic power as they do, and those who do not. In this respect, the ethographer is part of "them" unless he/she happens to be born into or recruited by these networks.

The question of elite accessibility, hence, has an obvious bearing on the feasibility of an ethnography of dynastic families and elite formations. Gaining access to elite networks can undoubtably be difficult and requires

considerable energy and effort on the part of the ethnographer. However, it is not impossible. In many other contexts of ethnographic research getting access to one's informants is also not an easy task. One has only to think of the difficulties that anthropologists have to overcome when they study such populations as the Yanamamo of the Amazonian forests or the Mae Enga of Papua New Guinea, to realize that there is always room for manouvering one's way into the lives of people who sharply define and strongly defend the boundaries of their socio-cultural interaction with outsiders. At least one can say that contrary to most social groups and populations traditionally studied by anthropologists, capitalist elites tend to live comfortable lives in comfortable settings, eat exquisite food and drink excellent wines. These are all amenities that can considerably contribute to lessening the psychological hardship experienced by the ethnographer while doing fieldwork.

One possible strategy to gain access to elite networks is to start with marginal and more accessible (less exclusive) members such as elders (especially women) or "renegades" and slowly work one's way to core members of these networks. In this respect my initial efforts have been facilitated by the fact that I could count on a small preexisting personal network of friends made in varied social contexts in different periods of my life and on the

network of my father who had been for almost 20 years a retainer of the Agnelli family, the most important dynastic family of the Italian elite network.[1] Since my introduction was not solely as a researcher interested in the elite but also as a "friend of a friend," a "son of a friend" or a "son of a retainer," it was possible to legitimize my status and research quickly and to gain access to formal and informal aspects of elite life.

Furthermore, I think that there were additional factors that may have facilitated my field-research. First of all, the timing proved to be particularly favorable. The mid 1980s, in fact, were expansionary years for most of the businesses controlled by Italian dynastic families. Once again after the critical decade of the 1970s they were accumulating large profits and gaining shares of world markets. The years in which hundred of thousands of angry class-conscious striking factory workers used to march in the streets of Milan, Turin or Rome with red flags, their clenched fists raised and shouting **Agnelli e Pirelli ladri gemelli** ("Agnelli and Pirelli twin thieves") seemed in the mid 1980s a far away memory, surviving only through old black-and-white photographs and fuzzy television footage. The structural crisis that Italian "neo-capitalism" experienced in the late 1960s and for most of the 1970s had brought balance sheets into the red, plus strikes, class struggle and electoral victories of the Communist Party;

those were the "anni di piombo" (the "lead years") of terrorism, political instability, and increased state control over the economy. Now in the mid 1980s, instead, the Milan stock-exchange was booming while, at the same time, the trade union movement and the Communist Party were in disarray without viable political strategies or leadership. At the same time, the governing political class was enacting policies of privatization of state controlled businesses and services as part of a general effort to restructure the state apparatus in order to meet the challange of the European political and economic integration.

In this context, dynastic families and their elite formations were enjoying an exceptionally widespread respect both in national and international economic, political and public opinion domains. Their roles and investment policies were receiving extensive popular support in the Italian polity to the point that the same Agnelli and Pirelli that only a decade earlier were publicly ostracized as "twin thieves" were now praised almost on a daily basis in the national and international press, television coverage and books as "far-sighted industrial statesmen" or as "Renaissance condottieri." The dynastic families and their retainers, through a propaganda apparatus that they largely controlled, were offering a new public image of themselves as a progressive although hardnosed class of entrepreneurs

who had saved the country from the political and economic disaster of the preceding "demagogic decade." In the mid 1980s nobody seemed able or willing to challenge the hegemonic power of this self-conscious ruling class.

For these reasons, as many of my informants remarked, it seemed almost "natural" that somebody would attempt to study the role of dynastic families and elite formations in the contemporary Italian political economy. These informants also appreciated the fact that my research was part of a Ph.D. dissertation at the City University of New York and that it had been sponsored both by the National Science Foundation and the Wenner-Gren Foundation. Most elite members were somewhat familiar with the practices of U.S. research funding agencies and universities (since they have either studied here themselves or sent their children for business or professional training). They thus interpreted these elements as reassuring indications that I was conducting my research in accordance with the standards of international social science inquiry. In their view this was a valuable effort because it contrasted sharply with the superficial and often incorrect or even polemical assessment of the role of dynastic families and elites rendered by journalists.

This generally positive predisposition toward my research effort was reinforced by the fact that when I met elite members it was immediately evident to them that I

already had an extensive knowledge about their lives and families since I was able to structure the conversation not in abstract terms but, rather, around their specific family histories. That is, I was able not only to follow and understand what was said but also to stimulate pertinent discussion. This knowledge was the result of having spent several months prior to the actual interviewing phase collecting, reading and processing all publicly available material on the histories of the families and their businesses. This search involved an examination of newspaper and magazine articles, including obituaries of key elite individuals and technical or economic reports on the enterprises; social science and historical literature; published genealogies; memoirs written by elite members; books on the families in question, their retainers and enterprises. In some cases this review turned into an extensive exercise of archivial research. With the help of a computer I assembled for each family a kit that included: a preliminary annotated genealogy; a history of the family controlled businesses; a history of the family; detailed biographical sketches of key figures in the family and its retainers. This material proved invaluable for the subsequent phase of interviews and participant observation since it provided me with a guide to pursue issues and topics and to place people in meaningful contexts as I encountered them. As the research progressed I routinely

updated the kits by entering the newly collected data in the computer files.

Finally, I am convinced that an additional positive element for the success of the field work lies in the fact that I was a native Italian with an upper-middle class upbringing. This meant that I was already familiar with many of the idiosyncrasies of these elites. In fact, while growing up in Italy, both at home and at school, I had been socialized to many elite cultural codes such as etiquette, speech behavior, dress and other aspects of "high culture." Hence, I was able to behave according to many of their cultural expectations without too much effort on my part. By using the interviewee's value-laden phraseologies and by adopting the interviewee's orientation and manners I was able to deemphasize the most intrusive aspects of my research and get their cooperation. I attempted to establish what Dexter (1970: 25) defines as the "neutrality on the interviewer's side" and hence to "listen" to what they had to say. This state was also enhanced by the fact that most of time I was much younger then my informants and hence they often assumed a teaching attitude toward me.

The initial contacts expanded rapidly and provided a network that eventually included over one hundred individuals in many dynastic families and among their retainers. Some limited their interaction with me to office appointments while others invited me to their homes for

meals, tea and other social or ritual functions. In order to follow the network I had to be extremely mobile, setting up bases in Turin, Milan, Genoa and Rome and travelling almost constantly in Northern and Central Italy. This proved to be expensive and risky. After a few months I had a major car accident in which my vehicle was destroyed, while toward the end of the field work period the engine of a second car died.

The network in which I moved was highly complex and in many instances overlapping. As I quickly discovered, families were connected by multiple ties of kinship, friendship, mutual obligation, and financial alliance. Sometimes the same informant proved to be a contact in diverse contexts.

The internal complexity of the network facilitated double-checking information. Additional cross-checking and critical perspectives came from contacts with journalists, academics, party politicians, trade unions activists, and my extended middle class kindred.

Core members of my network introduced me to people and situated me in an elite flow of information. Individuals told me about other members of the elite, and in doing so, about themselves. Almost constantly, in fact, other families and members of the elite network were referred to as contrasting examples of failure or success in performing elite hegemonic functions and tasks. Eliciting the reasons

in each case provided insights for understanding the internal hierarchies, dynamics, and conflicts of elite networks. At the same time, I was able to discuss and test hypotheses with those I studied. In fact, this was a well-educated, self-conscious and powerful group of people who have read social science, anthropology, history and political economy and who were able to respond critically within the same framework as the ethnographer.

I kept interviews open-ended and non-standarzided encouraging the interviewee to structure the account around what he or she regarded as relevant. In the course of conversations, however, I tried to focus on critical periods of internal and external crisis experienced by the family in its history. That is, interviews with members of the contemporary elite were not only intended as a source of data on the present but also as an avenue into the past. I devoted considerable attention in such conversations to the reconstruction of socio-historical data through the elicitation of genealogies, speech behavior, ideological constructs and meanings, alliances and business dealings, and political attitudes of present and past generations covering an historical period of over 150 years. In this manner, I attempted to reconstruct the processes that ensure the continuity of dynastic families and elites, as well as the contradictions that give rise to their particular internal dynamics. By collecting detailed family histories

I was not only trying to provide a temporal dimension but also the history of alliances forged, and strategies and decisions adopted over generations that are critical to the survival of such groups. My approach was predicated on the assumption that only by conducting a dyachronic analysis was it possible to uncover the impact of "family events" such as marriage, birth, death, socialization, fission, succession to leadership positions and property transmission, upon the organization of such groups and the internal dynamics of their quest for power and capital accumulation. Only a research process focussed on the subjective reconstruction of elite family and life histories could provide meaning to these "family events", connecting them into sequences and dynamics that permit some interpretation on the part of the ethnographer.

This oral history provided insights into how elite members construct and articulate the meaning of their lives, as well as outside events, and how they perceive their role in the course of history. These accounts were expressions of the personality of the informants, their cultural values and the particular socio-historical circumstances that shaped their outlook. Finally, oral history was a means to recreate memories and recover experiences that could not have been obtained in any other way. Extensive talks with elderly women of the elite were especially important since this process of "life review" provided information on female

"domestic" power and socialization that is generally lacking in historical materials focussed on public economic and political affairs. These data could then be compared with other recent memoirs as well as behavior in the present.

The family and life histories of the elite and other behavioral data collected in the course of the ethnographic inquiry, together with the official historical and social science documentation, provide the foundations for several of the chapters of this work.

## Notes

1. From 1966-67 to 1974 he was the general secretary and director of the Agnelli Foundation, a "think-tank" whose activities were financed by the dividends of a small bloc of FIAT shares donated to it by the Agnelli family. From 1974 to his retirement in 1984 he held high level managerial positions in several corporate businesses controlled by the FIAT holding.

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