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BACON'S MODERNITY: FROM LITERATURE TO SCIENCE

by

CHARLES WHITNEY

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Frank Brady
Chairman of Examining Committee

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date

John T. Shawcross
Executive Officer

Supervisory Committee

Contents

Chapter One
Introduction

For my own part at least, in obedience to the everlasting love of truth, I have committed myself to the uncertainties and difficulties and solitudes of the ways, and relying on the divine assistance have upheld my mind both against the shocks and embattled ranks of opinion, and against my own private and inward hesitations and scruples, and against the fogs and clouds of nature, and the phantoms flitting about on every side; in the hope of providing at last for the present and future generations guidance more faithful and secure. Wherein if I have made any progress, the way has been opened to me by no other means than the true and legitimate humiliation of the human spirit. For all those who before me have applied themselves to the invention of arts have but cast a glance or two upon facts and examples and experience, and straightway proceeded, as if invention were nothing more than an exercise of thought, to invoke their own spirits to give them oracles. I, on the contrary, dwelling purely and constantly among the facts of nature, withdraw my intellect from them no further than may suffice to let the images and rays of natural objects meet in a point, as they do in the sense of vision; whence it follows that the strength and excellency of the wit has but little to do in the matter....And by these means I suppose that I have established forever a true and lawful marriage between the empirical and the rational faculty, the unkind and ill-starred divorce and separation of which has thrown into confusion all the affairs of the human family.

Preface to the Instauratio Magna

1. The Problem, and the Subject of this Study

Many participants in the Renaissance display a sense of being in a new period of history through the sometimes exaggerated claims they make about their own achievements as against those of the age immediately preceding theirs.[1] By Francis Bacon's time (1561-1626) the art of making such claims has shown extremes of both sophistication and hyperbole--as John Donne, by depicting several great innovators boastfully vying to win a special room in hell, satirically shows in Ignatius His Conclave (1611). Whatever their shortcomings, the claims of diverse figures like Bacon, Machiavelli, Paracelsus, Gilbert, Montaigne, Carew for Donne himself, Galileo, or Descartes, seem to establish a point of departure of thought and action for their utterers, a means by which they can assert their own legitimacy and their independence from hostile, witless, mistaken, sinful, or just indifferent intellectual peers and forebears. The radical departures of the above and other innovators can be said to be either cause or effect of the incoherence that Donne in the Anniversary poems finds supreme in the universe. Donne laments,

> ...every man alone thinkes he hath got
> To be a Phoenix, and that there can be
> None of that kinde, of which he is, but hee (1, 217-19).

Such phoenixes find it desirable or necessary to make a place for themselves outside the common but unaccomodating universe of discourse, and to comment upon it. Often standing at or

near the beginning of the text, the claims of such authors about the importance of their works and their statements of their attitudes toward those and other works characterize the basis on which communication between author and reader can occur: the statements say, in effect, "I invite you to set aside your assmuptions and consider my view of the world as something important and novel."[2] At times such rhetorical assertions of novelty and importance take the place of an actual demonstration of novelty and importance; but to a greater or lesser degree the full effect of works displaying such explicit depends upon the work being considered new and significant . I would like to call these claims to importance and originality "assertions of modernity." This characterization, like W. K. Ferguson's and others' definition of the Renaissance, emphasizes the writer's self-conscious statements about his place in history rather than only the nature of his accomplishments.[3] This study examines Bacon's assertion of his own originality, importance, and independence from tradition, beginning from his own specific claims in the Instauratio Magna (1620) and other writings. I propose not to evaluate per se the degree of validity of Bacon's claims in intellectual history, but to help rectify the inadequate

understanding of works marked by explicit assertions of "modernity" like Bacon's as typical phenomena both of the Renaissance and of "modern" texts generally. My thesis is that the primary theme of Bacon's work, his concerted attempt to break away from the influence of tradition, makes him blind to his actual position with respect to tradition, and that this blindness is a consistent feature of asserters of "modernity." This study considers the phenomenon of modernity itself in chapter one, then explores in Bacon the two themes of assertion of difference from the past and unacknowledged derivativeness. In demonstrating Bacon's actual derivativeness I shall not go over the ground explored by others but shall focus specifically on Renaissance claim-makers, Renaissance ideas of eloquence, and allegorical and other types of poetry as the sources of models or analogues for Bacon's scientific vision. I intend this study to be a contribution to one aspect of a general literary and scientific problem, the invention's relation to its models.

Baconian assertions of modernity, whather of the Renaissance or of other periods of history, present peculiar interpretive problems that by no means have been satisfactorily

dealt with. Bacon's claims of originality and priority indeed seem an embarrassment to many of his admirers; they are sometimes de-emphasized by focusing attention on the humility present in others of Bacon's typical self-characterizations.[4] Thus one aim of Paolo Rossi's notable study of Bacon is to distinguish Bacon's more moderate and thoughtful sense of his work's value from "the titanic bearing of the Renaissance magicians."[5] Yet in Rossi's distinction the membership of Bacon's claims in a general class of such revolutionary Renaissance pronouncements is not fully considered. In general the most significant examinations of Bacon's relations to literary, philosophical, and religious traditions (for example, the work of James Spedding and Robert L. Ellis, R. F. Jones, Hiram Haydn, Morris Croll, Hershscel Baker, Benjamin Farrington, Paolo Rossi, Brian Vickers, Karl Wallace, or Lisa Jardine) leave unnoticed or give no satisfactory account of Bacon's insistence on his own uniqueness and isolation in intellectual history. (In two separate articles, however, Virgil Whitaker has pointed out Bacon's unacknowledged and paradoxical debt to Bernardino Telesio,(1529-88), Francisco Patrizi,(1529-97), and other encyclopedists for the form and substance of his own claims to novelty).[6] Further, as the above authors and others have established, Bacon's claims to originality are contradicted by the wealth of traditional sources for the forms and ideas, both general and specific, that make up the content of Bacon's work--and even of his claims themselves. The problem the claims pose in this respect also needs fresh consideration: in view of the derivative

nature of Bacon's work, how could he make such far-reaching claims and why did he want to do so? If it is true, as Rossi says, that "Bacon was voicing the general opinion of his age, defining some of its essential demands, when he strove to rehabilitate the mechanical arts, denounced the sterility of Scholastic logic, and planned a history of arts and sciences to serve as foundation for the reform of knowledge and of the very existence of mankind,"[7] then Bacon's presentation of his ideas in the Instauratio and elsewhere as just the opposite--as ideas "quite new, totally new in their kind"--demands explanation. Bacon's work will be viewed here from the perspective of fairly definite ideas about the works of insistent "moderns," whose extreme claims and extreme positions, after their validity has been gauged, have often not been given the attention they still deserve as symptoms of intellectual crisis and as forceful self-definitions. That Bacon "stands between medieval and modern" is incontrovertible if banal; I suggest more specifically that Bacon's is an example of a kind of writing that often (but unintentionally) does not fulfill the norms of coherence and consistency that we usually expect from competent writers but rather is based on the internal conflict of original vision and traditional means of elaboration. My approach is not drawn from Baconian or even principally from Renaissance scholarship, but, with considerable freedom, from two literary theorists of modernity, Paul de Man and Harold Bloom,[8] and from a number of compatible sources. These critics seem to provide illuminating perspec-

tives of a type that is lacking in Bacon studies and in traditional historical scholarship generally. The tasks of showing the coherence of a work and the alternative one of bringing out the conflict in it, whether or not they reflect different views on the nature of discourse, are judged by the light they provide; by giving up the assumption that Bacon should be rendered coherent I mean only to explore another possible approach.

Although James Stephens has recently attempted to construe Bacon's rhetorical theory and practice as coherent and consistent,[9] it is difficult not to be struck by the jumble of traditional ideas, forms, and commitments that accompany Bacon's declarations of independence and exhortation to others to follow the new path, and to question the assumption that Bacon's writing, as Brian Vickers says, only seems contradictory.[10] For instance the Aristotelianism and the religious overtones in Bacon's scientific vision, not to mention Bacon's rhetorical artistry, have been thought strange in a devoted anti-Aristotelian and staunch advocate of the separation of faith and reason, and the subservience of imagination and reason.[11] The incoherence, incompleteness, and contradictoriness of Bacon's text in general or of specific ideas on scientific method and the scientific future of man have often been noticed, even by sympathetic readers such as Virgil Whitaker, Benjamin Farrington, Stanley Fish, Rudolf Metz, Elizabeth Sewell, Lisa Jardine, Robert L. Ellis, D. G. James, and Paolo Rossi. But these scholars, with the notable exception of

Stanley Fish (see below), go on to discuss what seems to be coherent in Bacon's work after having taken due notice of his disharmonies.[12] Discrepancies in Bacon's work have been attributed to his lack of sophistication in scientific matters, his inability to think clearly and logically, or to think creatively; to his rhetorical flourishes, to conceit, misanthropy (in order to explain Bacon's large claims for his own enterprise and his general condemnation of the masters of traditional philosophy), or to the standards of contemporary readers, which suffer and indeed encourage a degree of miscellany in thought and an apparent or real contradictoriness and enigma that would become impossible to bear in later periods. There may be some truth to all these explanations; undoubtedly the last, which concerns canons of intelligibility discussed by, among many others, F. P. Wilson and H. M. Richmond (who analyzes the indeterminacy of meaning encouraged by the allusive and derivative style and thought of sixteenth- and seventeenth-century poetry),[13] is important. Here I offer an approach that deals with Bacon's incoherence by placing it in the framework of certain typical contradictions of modernity, to be discussed presently. In this framework Bacon's contradictions become not peripheral but central to the meaning of his work. This study sees the conflict of modernity and tradition operating as a distinct factor in addition to the indefiniteness of Renaissance discourse. In Bacon's case the powerful and successful presentation of a modern vision, based, as we shall see, on the nega-

tion both of traditional forms and of the powers of the mind, seems to result in a certain amount of incoherence. Here some of the hitherto undiscussed relations of "unique" innovation and implicit model are suggested, and I attempt to elucidate some of the wide-ranging paradoxes in this dedicated modern's attempt to overcome tradition and be original. The numerous Renaissance analogues to Bacon's claims show that in conveying a fresh, exploratory, and optimistic spirit Bacon has unacknowledged recourse to many models in literature, theology, and natural philosophy. (This is discussed in chapter two). Bacon's search for independence from the past, combined with his humanist education and respect for the past and with his Protestant conception of humility and duty, makes for his extremely ascetic and paradoxical interpretation of the idea of heroic virtus or man's power of action and creation (ch. two). His contradictory commitments to the modern and the traditional also result in his basically incoherent statement of the general problem of assimilating the influences of others in The Advancement of Learning (ch. three) In analyzing Bacon's relation to tradition, however, my main interest lies in the possible relevance of literary and poetic models for Bacon's conception of science and with the ways his work seems to transform these models into an abstract scheme of investigation (chs. four and five) Bacon, I try to show, displays a complex ambivalence toward these humanist models because of his necessity to assert the difference of his science

from them, a necessity shown above all in his modulated but spectacular claims to importance, priority, disinterest, and humility.

The obscure relation of modern literature to science in Bacon's work has received intermittent attention at least since Henry Reynolds' defense of poetry as a medium for scientific discourse against Bacon in Mythomystes (1632). Thomas Sprat, from a far different perspective, distinguished Bacon's scientific wisdom from his largely irrelevant "poetic" decoration in History of the Royal Society (1667). Study of the relations of the history of science to the history of literature, Ezio Raimondi has said in calling for a new kind of literary history, is however a neglected although an essential aspect of the study of culture and of liberal education itself. While humanist influence on Renaissance science is studied with new vigor today,[14] few have seriously considered the possibility of a poetic discipline like allegory becoming a model for a scientific one. Such a possibility is highlighted in Bacon's case by the perspective of this study, which assumes a necessary blindness on his part with regard to his sources in his effort to distinguish his work from all sources. Studies of the historical relations of science and literature--for seventeenth-century England Marjorie Nicolson's work is pre-eminent--usually concern themselves with the effect of the former upon the latter, for the scientist's independence from literary influence (besides his often obvious indepen-

dence from literary sensibilities) is taken more or less as the point of departure.[15] But my aim is to study the conservation of allegorical modes of achieving moral and spiritual insight in Bacon's scientific method and scientific goals. This type of endeavor does find support in several quarters, such as in studies of the artistic innovation, perspective, and its influence on all facets of Renaissance thought, and in inquiries concerning the common imaginative basis of science and poetry.[16] Still it remains primarily exploratory, and hence my account is merely fragmentary and suggestive. Bacon seems to find in Ciceronian and Renaissance ideas of eloquence as the unifier of knowledge a model for his own conception of philosophia prima, and his scientific writings can be defined as a series of incomplete attempts to overcome the limitations of the literary discourse of his time (or even as false starts in that direction). What Angus Fletcher calls the "daemonic" quality of allegory, the interplay in encyclopedic epics such as The Faerie Queene between the pastoral and the heroic regions of the poem, the values and concepts of the pastoral and georgic, and the function of mystery in allegorical poetry, all seem to be preserved and transformed in Bacon's encyclopedia to end all encyclopedias, the unfinished Instauratio Magna. By discussing Bacon's relation to literature, I shall partially build on, but also take issue with, the accounts of Stephens, Elizabeth Sewell, Michael McCanles, Geoffrey Bullough, and others. Bacon's slighting of poetry

and fiction is almost always attacked, apologized for, or passed over. But from the point of view of this study Bacon's modernity, like that of many iconoclastic modern poets, promotes a fruitful conflict that invigorates and transforms literary forms in the determined attempt to surpass them. Thus some of Harold Bloom's conceptions of modern poetic influence, conceptions centered on the author's struggle for originality against his precursors, can perhaps provide a way to discuss Bacon's problems of influence. In some respect Bacon's affinities with poets, as Sprat says, is due to the fact that as a scientist he is imperfect. It may be, however, that Bacon's case can find parallels among more canonical scientists.

Bacon is a paradigmatic modern by almost universal judgment; from the point of view taken here, Bacon's greatest contribution to science and to modern literature may well lie in the very example of his attempt to be modern, rather than in the much-maligned and much-praised content of his modern claims and proposals. The modest and tentative schema set up here to help understand Bacon the modern is interpretive, hypothetical; I hope it can be fruitful as an approach to Bacon himself and in placing Bacon in the context of his fellow moderns. But before discussing further specific issues in Bacon scholarship, let me set forth the "idea of modernity" and the approach that will be taken here.

2. Bacon and the Idea of Modernity

Human action depends upon a cultural tradition for com-

ponents of its form, content, and context, but tradition itself develops, increases, and changes as a result of particular desires and acts. We adapt the accumulated possibilities offered by culture in order to fulfill our powers and desires in the situation of the moment, but at the same time must adapt ourselves to the dictates of culture. The more someone becomes conscious of the historical dimensions of his acts or his work, or the more original his ideas, the greater the possibility that the relation of past directives and models to present desires and situation will become a problem for him or will seem to be a problem visible in his work. Here the many-faceted problem of modernity comes into being. (The merely descriptive aspect of modernity, the determination of a dividing line between one's own time and past or "ancient" times, can become a part of this problem). The typical issues of business, science, art, criticism,[17] or emigration from one culture to another all require consideration of problems of modernity. Some may wonder how to make their life and work meaningful or accountable in terms of traditional backgrounds, canons, imperatives; others how the immediacy, coherence, and distinct presence of the contemporary can avoid being undercut by their acute awareness of its traditional origins and analogues. Again, some will seek traditional models to serve in solutions to present problems; others will insist on finding ways in which the resistant forms of tradition can be redefined, surpassed,

or avoided so that they do not stifle the desires and schemes of the present. Defining the present and acting in it requires drawing a limited horizon around oneself and one's situation, disregarding the possible range of past influences and concentrating on immediate powers and materials. The opposition between the present as independent and the past as determining the present creates the tensions and the opportunities of modernity. Modernity reflects the aptitude for locating a point of departure from tradition, of abstracting one's own case from the stream of history or of removing the abstractions of history from one's spontaneous action in a concrete situation. Whether a particular modernity is simply a denial of the influence of the past or a comprehensive attempt to relate past and present, it depends upon an initial assumption--which may be implicit or may require a tremendous act of will--of such an at least theoretically independent point of reference outside of tradition. Asserting a particular attitude toward the past in a given situation may be primarily a practical affair, but the prior assumption of independence from tradition must refer to a person's recognition of his freedom as a participant in the making of culture, through which he realizes himself.

On the above definition biblical prophets and prophetic poets are as much moderns--even if we think of them, in narrower terms, as "traditionalists"-- as the iconoclastic innovators of science, art, or politics. They present an

awareness of history and of man's possible degree of power over it (since interpreting the future rests on a workable interpretation of the past) under the rule of God, nature, or only of man himself.[18] Indeed, it seems that all men every second face problems of modernity insofar as the very act of consciousness differentiates a present and a past from the continuous processes of time. Conceiving of the very idea of tradition depends upon such an act of modernity. Should we alter our frame of reference slightly, it seems that a good deal of the animal kingdom faces modernity problems too. Thus Nietzsche, who devotes a great deal of thought to aspects of modernity, uses a phylogenic analogue to describe the ominous development of human consciousness after man "found himself finally enclosed within the walls of society and at peace":

> The situation that faced sea animals when they were compelled to become land animals or perish was the same as that which faced these semi-animals, well adapted to the wilderness, to war, to prowling, to adventure: suddenly all their instincts were disvalued and "suspended." From now on they had to walk on their feet and "bear themselves" whereas hitherto they had been borne by the water: a dreadful heaviness lay upon them. They felt unable to cope with the simplest undertakings; in this new world they no longer possessed their former guides, their regulating, unconscious and infallible drives: they were reduced to thinking, inferring, reckoning, co-ordinating cause and effect, these unfortunate creatures; they were reduced to their "consciousness," their weakest and most fallible organ! I believe there has never been such feeling of misery on earth, such a leaden discomfort-- and at the same time the old instincts had not suddenly ceased to make their usual demands! Only it was hardly or rarely possible to humor them: as a rule they had to seek new and, as it were, subterranean gratifications.[19]

Before concentrating on Bacon we should consider the idea that the "modern" writer suffers mixed results in his con-

scious and sophisticated attempt to define himself and his world apart from his cultural past, just as do Nietzsche's enlightened amphibians and primitives (i.e. civilized men generally).

Explicit assertions of modernity are of course largely a function of the asserter's relation to his own age.[20] The briefest history of the actual word "modern," apparently coined by Cassiodorus in the sixth century (long after it was needed), shows the relativity of the idea. For Cassiodorus the work modernus, constructed on the model hodie ("today") hodiernus, from modo ("just now"), was mainly a descriptive term distinguishing recent times from those earlier.[21] Giorgio Vasari, in his Lives of the Painters, Sculptors, and Architects (1550), is one of the first to apply the term "modern" to the Renaissance as distinguished from the Middle Ages by virtue of its imitation of the ancients.[22] Implicit in Vasari's use of the term is a tripartite division of history into classic, medieval, and modern times. But if Renaissance period-consciousness began with the desire to recover the past, it was carried on by such self-conscious "moderns" as Bacon, Giovanni Campanella, and George Hakewill as a consciousness of the possibility of achieving completely new things without nostalgia. In the subsequent quarrel of Ancients and Moderns the latter did not return to the terminological simplicity that distinguishes history into just two periods. But they sharply limited the relevance

of either the medieval or the classical past.

The relative nature of the idea of modernity can perhaps be reduced when we reflect that it often paradoxically suggests the existence of a powerful desire to reinstitute a previous condition, even if only two time periods are explicitly involved.[23] Some notion of an original condition of man as created by God or as found in his natural state often becomes the modern's standard against which to judge tradition and the present.[24] For instance, in praising the ancients, Vasari, like seventeenth- and eighteenth-century neo-classicists, assumes that classical rules reflect natural realities. The identification of ancient principles with the truth of nature can also be an implicit assumption of innovating scientists. Copernicus not only cites ancient precedents for his astronomical theory, he also presents the heliocentric idea as an attempt to <u>restore</u> the classical principle of perfect and uniform circular motion, which he believes had been compromised too drastically by Ptolemy. Ptolemy had measured the motion of the heavenly spheres from the "equant," a point some distance from the center of the spheres.[25] On the other hand, those for whom the complications of culture mainly rankle often find accumulated artifice and the natural to be difficult or impossible to reconcile. Luther wished a return to the "primitive" practices of the Church, Bacon a restoration ("instauratio") of man's God-given harmony with nature, and T.S. Eliot a return to a mythological condition of natural wholeness ("associated sensibility").

Nietzsche and Freud, along with their skeptical predecessors, at times seem to regard the entire development of culture as unfortunate. One of the traits of twentieth-century modernism is said to be deliberate un-naturalness, foreshadowed, E.H. Gombrich says, by Mannerist works of Bacon's own time such as Parmigianino's "The Madonna with the Long Neck" (1532).[26] But here, it could be argued, the artist has only been alienated from a prevailing idea of nature because of its association with formal canons that are no longer vital, and the modern impulse in this case seeks another "natural" value beyond verisimilitude. Modernism's emphasis on formal abstraction can refer to a more primitive and pure level of perception of colors, shapes, and feelings, more functional principles of design, and explicit rejection of the accumulated meanings in traditional forms. The randomness that is explored in "found" poetry, in contemporary music, painting, and fiction (in the novels of Alain Robbe-Grillet, for instance), and that is symbolized by Thomas Pynchon's stochastic model for post-war historical events, the grid of random V-2 rocket hits on London, denotes a modernity that is a return not only to natural models but specifically to the chaotic happenstances of an inanimate world before man has presumed to understand and organize it. Here the parallel with Bacon's own radical empiricism is not coincidental; it consists, as we shall see, in the idea that the freshness of the truly new demands negation not only of tradition but

even of the human judgmental and shaping powers that create tradition.[27] With this kind of modernity Bacon paradoxically defines himself by negating and restraining his full complement of faculties.

The ambiguity of the innovator's temporal reference (i.e. future or past? primitivism or sophistication?) suggests problems characteristic of assertions of modernity generally, of the doubly difficult process of relating and distinguishing past and present. The role of an original condition of inanimateness in defining the modern can be derived from Freud's speculations on the "death instinct." Freud's remarks should be useful in considering the ambiguous and paradoxical nature of modernity in literary history and in relating modernity to essential problems of human nature. Since desire seeks its own annihilation in satiety, says Freud, the original of the static condition aimed at by the instincts might be the inanimate condition that existed before life came into being. If this is so, the essentially "conservative" nature of the instincts would be countered first by the "enforced alterations" of evolution, then by the simultaneous development of the human psyche and culture as ever more complex and extravagant attempts to satisfy the basic instincts, each of which has the paradoxical result of removing man further and further from his natural origins and making the road to satisfaction even longer. Culture is embodied in the individual psyche as the complex mechanisms of repression of simple desire and its re-

routing in the labyrinthine channels of cerebration and "domesticated," civilized life. Thus,

> The path in the other direction, back to complete satisfaction, is as a rule barred by the resistances that maintain the repressions, and thus there remains nothing for it but to proceed in the other, still unobstructed direction, that of development, without, however any prospect of being able to bring the process to a conclusion or to attain the goal.[28]

The complex forms of culture already present at a given time (i.e. tradition) in this way largely determine in advance the means of instinctual fulfillment. The instinct continues to demand more direct and complete satisfaction, and "out of the excess of the satisfaction demanded over that found is born the driving momentum which allows of no abiding in any situation presented to it; but in the poet's works 'urges ever forward, ever unsubdued.'"[29] Ironically the instinct is conservative, seeking simple satisfaction, while it is tradition that thwarts the directness of impulses and diverts their ever-renewed energy into new complications. Progress on this view becomes the result of longing that can never be satisfied by progress.

Let us apply Freud's notion to moderns like Bacon, who wish not just to establish an identity for themselves <u>vis a vis</u> tradition but also reject the traditional universes of discourse that stifle them. The desire for an authentic modernity would seem, at least in many cases, to parallel the desire for primary, unmediated satisfaction--that is, for return to a primal condition of simplicity. This goal might

be expressed as a demand for immediate perception of truth, for immediate expression of thought and feeling, for direct contact with sources of inspiration, or for originality and priority.[30] The cultural "mechanisms of repression" are of course the forms and ideas that the modern writer must begin with and attempt to re-interpret and make new in his own creation. These forms and ideas resist and defer the fulfillment of the writer's assertion of modernity, and change his work's total significance at the same time. His traditional materials engender a subtle resistance to the modern's intentions, invisible perhaps to him, or else the antagonists in a behind-the-scenes struggle that may actually, in the case of those who explicitly bracket off the past as Bacon does, become the central if hidden theme of the work. From this perspective, then, the meaning of the individual work lies principally in the difference between modern and traditional elements, just as for Freud cultural "progress" on the one hand and the individual's psychic life on the other are the result of the two opposing movements toward simple satisfaction and toward restraining complexity.[31] While we are never free to take only the writer's word for the meaning of his work, we must consider the possibility that an insistently modern writer like Bacon harbors a necessary ignorance of his work's significance. His explicit claims about his own work thus become more interesting, and may well require extensive interpretation. Study of them and the texts that bear them relates finally to what is a uni-

versal problem.

The fact that the asserter of modernity may be out of touch with the meaning of his own work (since the meaning lies in the difference between what he asserts and what is implied by the language and forms he must use) is implicit even in the definition of modernity given above: to cut oneself off from the past is to lose the possibility of knowing and deriving strength from it, just as new knowledge and strength is gained from new perspective and new independence. The initial assertion of difference from tradition means loss of awareness of the full nature of one's continuity with the past and hence loss of meaning. For those who are insistent about their own originality, priority, independence, and importance, one obvious focus of concern becomes the difference between what they claim to be new and the degree of innovation they seem to manifest from the point of view of their cultural descendants. Substantial controversies over the significance--and even the existence--of the Renaissance have revolved around just this point of its participants' misrepresentation of the relations of their age to the past;[32] a similar concern about modern poets' and novelists' sense of their originality appears in literary historians today.[33] If we knew more about the pre-Socratics, undoubtedly someone would be able to dispute Plato's estimation of the commanding role of his master in Greek thought, or of Aristotle's estimation of Aristotle's role. Freud

and D. H. Lawrence have been said to reflect recognizable versions of the morality they claim to be liberated from; Nietzsche's asceticism shows even in his attack on its role in history. Milton's Protestant historicism provides a modern reading of history far narrower than that of earlier Renaissance figures such as Giovanni Pico, or than the powerful use of tradition in his own poetry seems to reflect. The problem cannot be seen as a question of appreciating a piece of work as separate and self-defining, for with the determined modern the relationship to tradition must be, directly or indirectly, a central issue. The self-conscious modern demands that his terms be accepted not just in a world of their own but that they be taken in preference to other uses of them in the past. The explicitly modern work becomes an act committed in opposition. Several paradoxes therefore face the modern: how can he "depart" from tradition; gain a judgmental perspective on it; or make something that is not determined by it, when his ideas and tools are a product of it? Or, assuming that he is able to start from a new point zero, what means are left to him to actualize his new freedom, a freedom "from" but perhaps not "to" anything? That more insistent claims of priority and independence increase the possibility of the inaccuracy of claims is logical. When the innovator most willfully makes claims for his originality, the possibility arises for an intriguing systematic discrepancy between what he invests in his visions

and what others find in them. The "blindness" of the modern, as Paul de Man calls it, underlies his insights and his construction of a new world.[34] In attempting to remove himself from the stream of history, the modern distorts his relationship to it with a necessary forgetfulness of his complex and compromising origins. Establishing a presence can mean a critical subtraction, dislocating, or absenting of oneself from the accepted world of significance: this is especially true in Bacon's case, for he begins with a global attack on the use of traditional philosophy and literature and even on their creator, the thinking human mind. In his case the goal of self-assertion is achieved, as I shall try to show in detail, in a sweeping self-denial and in incoherence.

Rather than an expression of freedom and increased consciousness, an extreme stance, possibly more like a defensive reaction than a free assertion, can close off the modern to the ideas around him and suggest a narrower insight into history and a reduction in power of expression. The viewpoint and the work of the modern, then, may display a certain lack of control resulting precisely from the conscious effort to locate a firm basis for control, and therefore pose characteristic difficulties in interpretation. Not that locating a firm basis cannot be its own reward: in the case of Bacon, for one, the establishment of a self-defined modern perspective results in a tremendous and contagious feeling of liberation and a dramatization of assertive will. The blind, forgetful, and sometimes undoubtedly desperate claim to modernity

is a supremely necessary one to set up the conditions of work and action. On this view, blind revolt from tradition is the prerequisite for an individual's sense of independence and for his ability to act. Thus for Albert Camus rebellion shows the existence of a standard of human judgment and value beyond mere tradition: the rebel says in effect, "I rebel, therefore we exist."[35] Geoffrey Hartman (after Nietzsche) focuses on the gains rather than the losses resulting from the artist's blindness (a blindness frequently the result of modernity): "We are accustomed to think of the artist as having a blind spot that contributes to creative power. He has an ability to feed on what nourishes his talent and to forget or subdue other realities."[36] Wallace Stevens's and other twentieth-century poets' attempts at novelty provide a much different perspective--but one still relevant to Bacon's desire to humble the mind before nature. For Stevens novelty is the attempt to step barefoot into a reality conceived not as defined by man but as a world of phenomena to be experienced without mediation or model, as something utterly fresh.[37] Effort in this case would be directed toward not making an effort. The demand in Steven's Notes Toward a Supreme Fiction that "it must be new" can be glossed by the epigraph Ihab Hassan takes from Kafka (and, with the proper distancing, so can Bacon's demand that the scientific visionary be completely innovative):

> The decisive moment in human evolution is perpetual. That is why the revolutionary spiritual movements that declare all former things worthless are in the right, for nothing has yet happened.[38]

3. Critics of modernity and of Bacon

The triumphs and defeats of the modern will to self-definition, to intellectual or libidinal freedom and power, are of course a favorite theme of myth, philosophy, and literature, and Bacon himself is hardly spared attack. Genesis provides the Western archetype in describing the rebellious advance of knowledge at the price of a loss of a more fundamental connection with origins; interpretations of the Faust legend make Faust the archetype for modern man, soulless and damned by his attempt to be self-sufficient and all-powerful--an archetype often casually connected with Bacon's aim of gaining knowledge for power over nature. In a compatible fashion Martin Heidegger defines the "modern spirit" of the scientific age launched by Bacon as the will blindly seeking omnipotence over time, which continuously limits will's power by carrying possibilities for action and creation into the past, beyond will's reach.[39] Max Horkheimer and Theordore W. Adorno also focus on what is in effect one kind of modernity, "enlightenment," as a blind will for control and understanding. Bacon's scientific "enlightenment" thus becomes a "de-mythologizing" force that finds man's projections of himself at the bottom of every seeming mystery. It has raised man from the dream of the animal world into the rationalism of a systematised world, but cannot recognize its self-created mythology behind the search for truth: it destroys meaning and value in a "totalitarian" fashion by destroying myth and in the end leaves us with nihilism

rather than truth.[40]

The most effective critics of a particular modernity, of course, are the moderns who from a limited but powerful viewpoint assert a contrary modernity. In Dialectic of Enlightenment we find Bacon attacked for his blind zeal for power and knowledge; he is the first to feel the weight of its authors' resentment at the twentieth-century horrors of our "enlightened" civilization. As for William Blake in his marginal comments on the Essays, Bacon is one of the conspirators in Newton's and Locke's self-consciously modern enterprise, the soulless worship of systematized nature. But such vehement criticism of Bacon (or another explicit modern) is especially subject to the same difficulties Bacon's modernity is. From our present perspective it appears that while Bacon's modernity is very different from the ones of those who criticize it, it must be in large part because he is caught in the problem of modernity itself that Bacon is blind and contradictory, not because he possesses a particular kind of modernity and not another kind. A person can have many different degrees of understanding of his acts and assertions, but the more climactic the assertion is, it seems reasonable to suppose, the more difficult full understanding becomes. The greatest ones may be those who on a grand scale "can both act and know," as Marvell says; Bacon is not of this stature (if anyone is), but he is particularly interesting in his limitations, like Marvell's Cromwell. To a certain extent the "de-mythologizing"

modernity of Bacon and what could be called the "re-mythologizing" modernity of Horkheimer, Adorno, Blake, or say, L.C. Knights (who reproaches Bacon for dissociating the old sensibility)[41] simply criticize and complement each other. They emphasize different aspects of the modern dilemma, that of relating the independent, self-defining present moment in which spontaneous action and "unified," "unmediated" thought and experience is possible to a rationalized system of the world where what is present is defined in terms of abstractions that relate it to other places and times.[42] On the other hand just as Bacon's radical modernity deserves sympathetic attention for its power, so also does it deserve, for its blindness, radical attack. Blake's marginalia are therefore more enlightening and responsive to Bacon than many a lukewarm apology. However, they , like Bacon's work itself, need to be set in the context of the typical limitations of the asserter of modernity.

Gerhart Ladner, in setting forth the different kinds of "renewal" ideas, including cyclical cosmologies, vitalistic metaphors of cultural or spiritual renewal like the "Renaissance" idea, and various messianic, millenarian, utopian, and revolutionary notions, maintains that it is above all the idea of reform that implies a free and conscious renewing of old forms, not a blind desertion of them or a sterile return to them.[43] Such a moderate and deliberate kind of renewal as Ladner's "reform" seems to be one

way to solve the problem of modernity. In Ladner's terms we might define this problem as how to get along under changing conditions without blind desertion of the past or sterile return to it. My concern here is not precisely with the full understanding and free building of the genuinely new on or in the old that is implied by Ladner's idea of reform, but with the ineluctable difficulties such a truly noble intention can entail in any case of modernity. Bacon's "reform" of learning, if it can really be called that, is, as will become clear by examining his own statements, not such a deliberate and considered renewal, but a violent attempt to separate from the past by fiat. Bacon's case is important in the historical development of ways to be modern, just as, for Ladner, early Christianity specifically developed the kind of renewal called "reform." Bacon's case presents some of the possible problems of modernity as well as an attempt to overcome them.

The conception of modernity applied to Bacon here parallels to some extent Georg Lukács's acute analysis of modernism.[44] Heidegger's idea of man as isolated, alienated, "thrown" into the world defines for Lukács the false position of the modern, a position that denies both "the common life" of man and art itself. Lukács's anti-modernist vision of the artist's and the innovator's possible continuity and community with history, society, and language can, just as Ladner's idea of rational and Christian reform, be linked with Bacon's intentions but is not easy to apply to Bacon's

text, which shows symptoms of the modern disease so disgusting to Lukács. The value of Bacon's work would surely be lessened if one were to embrace wholeheartedly Lukács's criterion of value. His demand that the writer resolve the opposition between individual and collective (tradition being one dimension of the collective) falsely implies that Bacon's modern situation as a man thrown into a world of alien discourse has little relation to a condition common to all men.

If Bacon's is the work of an impulsive, non-Ladnerian reformer as well as of a fragmenting, anti-Lukácsian modern, it seems reasonable that the norm of textual coherence must be qualified or discarded by the reader when dealing with Bacon or a figure with similar modern aspirations. From the perspective of modernity, Bacon's strengths and weaknesses lie in the same areas, his attempt to locate independently a point of departure from tradition and in the ideas and forms that resist their inclusion in the revisionist shaping spirit the determined Bacon provides for them. For this reason countering Horkheimer and Adorno's (or others') picture of Bacon as a "de-mythologizing" terror by showing how agreeable, quaint, and quite poetic he really is remains ineffective. Instead of apologizing for or setting aside Bacon's "terrible blindness" it should be seen as one of the most interesting, strange, important, and, if it is not entirely paradoxical, profound aspects of his work.

This study takes up Bacon's "demythologizing" modernity

by considering some aspects of the relation of his work to Renaissance ideas of eloquence and allegorical poetry. Bacon's difficult relation to rhetoric, myth, poetry, and the imagination has occupied a number of critics. At least since Shelley's A Defence of Poetry (1840;written 1821) the value of his work has seemed to many somehow to involve poetry. An indication of Bacon's regrettable popular eclipse today (he is "unavailable for imaginative appropriation in our time" according to one student) is that in 1821 Shelley defended poetry by associating it with Bacon, while in 1960 Elizabeth Sewell did the opposite in The Orphic Voice--poetry having made no remarkable strides in public acceptance since 1821. I aim to show that Bacon tries to institute a new kind of discourse that overcomes the limitations of myth, rhetoric, and poetry, but that his eloquent scientific and philosophical works actually contribute to a transformation of some of the typical structures, values, concepts, and goals of his age's poetry. A recent approach in opposition to my own is James Stephens's, Francis Bacon and the Style of Science, which, as mentioned above, attempts to show the essential coherence of Bacon's theory as well as his practice with regard to rhetoric and myth. Bacon, as Stephens shows, views myth and emblem as something like psychological tools for swaying his audience to follow his scientific program. Stephens analyzes Bacon's pragmatic use of rhetoric and myth according to Bacon's theory.[45] Such an analysis of rhetoric, while of considerable value, does not of course deal directly with the

problem of understanding or accounting for the "poetic" aspects of Bacon's work, or with the general problem of poetry and science. These aspects, by any acceptable definition of "the poetic," must in readers' experience take on more stature than Bacon affords them: the inadequacy of his account of the value of myth, emblem, and rhetoric generally, an account made with the intention of claiming distinction for his unique method of discovery from all mere "art of discourse" (including poetry), is part of the problem, not of the solution. Bacon the modern's notion that all can be made the uncomplaining instrument of the will and the right method becomes ironic not only because of modern history's discovery of the ways advanced technology can control men, but also, I try to show, because of the strange effects produced by Bacon's traditional rhetorical "instruments" on the supposedly supreme content of his new enterprise. Stanley Fish suggests that Bacon's Essays present deliberately contradictory alternatives or commonplace, proverb, sententia, and emblem on the one hand and critical analysis, leading to qualification or contradiction of traditional wisdom, on the other.[46] Stephens implies that he is in agreement with Fish (p. 156). But the figurative language of the Essays cannot be both enlivening presentation of Bacon's conclusions (Stephens) and the type of reliance on proverb Bacon is really attacking (according to Fish). Fish accurately perceives the discontinuity and contradiction in the Essays, but not Bacon's highly incomplete awareness of this potential conflict

in meaning. Bacon does seem, as Stephens says, to attempt to provide "aphoristic pictures which show things just as they are" (p. 157). The Essays thus seem to display the conflict of Bacon's modern desire for certain facts and his traditional commitments to a cosmos understood in terms of allegorical similitudes. While the Essays will not be specifically taken up here, the study of similar incoherence in the Advancement (chapter three below) suggests that the Essays would likewise admit an approach which assumes some inadvertence in the conflict of modern and traditional elements.

Stephen's named opponent is Elizabeth Sewell, who, as I do, finds a contradiction in Bacon's work between the desire to transcend the limitations of philosophical and poetic texts and a generally unspoken commitment to them.[47] In this respect the present study provides concrete support for her insights and follows the lead of her suggestive and stimulating remarks. Sewell seems to suggest that Bacon has a lack of recognition of the ramifications of his problem of distinguishing poetry and science. He is "a dark, riddling, emblematic poet, struggling with a metamorphosis of his own thinking."[48] The lapse, it should be added, is introspective also, or perhaps primarily. In both life and writings he was in some respect his own worst enemy. In 1621, after his political disgrace, Bacon admits to this kind of blindness in his confessional prayer: "my soul hath been a stranger to me in the course of my pilgrimage";[49] and it is the theme of Walter Savage Landor's imaginary conversation between Bacon and

Richard Hooker:

> Bacon. But we who care nothing for chants and cadences, and have no time to catch at applauses, push forward over stones and sands straightway to our object. I have persuaded men, and shall persuade them for ages, that I possess a wide range of thought unexplored by others, and first thrown open by me...Few [subjects] that occurred to me have I myself left untouched or untried: one however hath almost escaped me, and surely one worth the trouble.
>
> Hooker. Pray my Lord, if I am guilty of no indiscretion, what may it be?
>
> Bacon. Francis Bacon.[50]

The intellectual component should not be left out: certainly the most ironic aspect of Bacon's importance in the development or promotion of science is his own lack of professional ability in or understanding of the fields in which tremendous innovations were being made in his lifetime. Here too his desire to assert his uniqueness operates: he wishes to distinguish his own work from the likes of that of Gilbert and Harvey no less than that of Spenser, Plato, or Aristotle. The conflict Sewell finds in Bacon, however, is not fundamentally one of tradition and modernity, nor, moreover, does she perceive this conflict as truly central in Bacon's work. In her view (congruent with Shelley's), poetry provides a fundamental way of knowing (Orpheus was a philosopher as well as a poet) that underlies the scientific imagination as well as poetry. Thus Bacon, the would-be scientist,

in his insensitivity to poetry and the imagination, is simply alienated from the central sources of insight that nevertheless still operate in him.

Bacon the poet is being unjust to poetry, distorting his vision of his own task and the achievements of others.

> This is a betrayal....Such double-crossing runs through all his works. [51]

According to the idea of modernity, however, the value of a text is sometimes more usefully thought of not as stemming from any nameable entity or quality, such as "the poetic," or the "imagination," at least as ordinarily understood, but from a difference or a discontinuity. This discontinuity can be between the author's established point of departure and the materials he must work with in time. The modern poet, says Paul de Man, revolts--but no more than Bacon does--against poetry as an institution.[52] Bacon attempts, and partly succeeds, in leaving the realm of what later came to be called "literature." The power (as well as the limitation) of his Instauratio lies in the fresh impulse to overcome the stifling demands of a derivative culture engaged sublimely but too exclusively and dangerously in attempting to assimilate and harmonize (frequently by means of poetry) the classical past and present realities. But this power parallels that of the poem as modern, which also engages in a necessary but limiting denial of its origins in tradition. In this sense Bacon's scientific modernity can be perceived to be comparable with developments in modern poetry. Sewell's

name-calling obscures the source of Bacon's strength in a modernity antithetical to poetry. Poetry as modern, in fact, must thrive upon attack and conflict, not apology. Thomas S. Kuhn's idea of "normal science," an institution from which the innovating scientist revolts sharply,[53] provides a parallel to de Man's idea of literature as an institution to be overcome by each writer of it; since Bacon's revolt is so broad, for him "normal science" and literature are in the same boat. His contradictory modernity thus provides an excellent case for the study of the relations of literature and science.

Michael McCanles has recently considered Bacon's works as fundamentally contradictory; he discusses the logical contradictions an upholder of extreme empiricism like Bacon naturally falls into by reducing the purview of the metaphorical and hypothetical end of the spectrum of meaning.[54] McCanles's study of Bacon is essentially a vehicle for highlighting the "dialectical freedom" he finds not in our lamentably boorish utopian enthusiast but in seventeenth-century poets by contrast to him. In these poets the hypothetical and metaphorical aspects of meaning retain their authentic hegemony. While his view of Bacon's contradictoriness does not fundamentally involve the poles of tradition and innovation, McCanles's conception of Bacon's lack of awareness of his statements' implications, the primary importance he gives to Bacon's stated intentions to be modern (rather than to the content of his modernity) and to the extreme nature of

of Bacon's rejection of traditional texts, find enthusiastic support and elaboration here. However by placing Bacon's modernity in the context of other moderns, including poets themselves, the present study suggests that Bacon's value, like theirs, may be inextricably combined with a reaction against an ideal "dialectical freedom" of literature. This freedom allows the writer to suggest an infinite range of possibilities but also can smother the insistently modern writer's particular kind of genius, which depends upon an initial separation from such a chaotic world of sheer possibility. Bacon's blessed ability to forget and start anew expresses the modern's reaction against one kind of freedom and his own assertion of a freedom of singularity.

Karl Popper criticizes Bacon's utopian vision of the wonders of science and his extremely rigid inductive method by likening them to the purification rituals of religious movements.[55] But Bacon's extreme views should perhaps be judged as necessarily extreme products of his modernity. His perennial aim seems to have been to construct a firm and viable point of departure from the influence of the past, a task which required extreme measures. Here, perhaps, lies his value as well as his limitations with respect to the free and independent development of science as well as with respect to modern literature.

Notes

1. See Rupert Hall, "Defending the Middle Ages," TLS, No. 3901, Dec. 17, 1976, p. 1578; Herbert Weisinger, "The Renaissance Theory of the Reaction Against the Middle Ages as a Cause of the Renaissance," Speculum, XX, 1945, 461-67.

2. The implicit phatic invitation beneath the surface structure of literary texts has been hypothesized by Samuel R. Levin, whose version I have adapted: "I imagine myself in and ask you to conceive of a world in which what I say and only what I say holds."

3. W. K. Ferguson, "Humanist Views of the Renaissance," Renaissance Studies (London, Ont: University of Western Ontario, 1963); see also ch. 2 below, n. 24.

4. See, for example, James Stephens, Francis Bacon and the Style of Science (Chicago: University of Chicago Press, 1975), p. 1; James Spedding's remarks on Bacon's supposed lack of presumptuous "self-assertion" in The Works of Francis Bacon, ed. Spedding, Robert Leslie Ellis, and Douglas Denon Heath (1857-74; rpt. New York: Garrett Press, 1968), XIV, 568. [In this study the Spedding edition will be used unless otherwise noted. All citations from Bacon's Latin works will follow the citation of the English translations of those works. Citations from the Novum Organum will also include the book and aphorism numbers; those from the De Dignitate et Augmentis Scientiarum, the book and chapter numbers; those from The Advancement of Learning, the book number.] Benjamin Farrington is another such apologist; Coleridge, who considers at length Bacon's "cold invidious treatment" of contemporaries and precursors, is a notable exception among venerators of Bacon. See The Friend (1818), III, 2, 8 in The Collected Works of Samuel Taylor Coleridge, vol. 4:1, ed. Barbara E. Rooke (Princeton: Princeton University Press, 1969), pp. 482-87.

5. Francis Bacon: From Magic to Science, tr. Sacha Rabinowitz (Chicago: University of Chicago Press, 1968), pp. 34-35.

6. "Francis Bacon's Intellectual Milieu," Essential Articles for the Study of Francis Bacon, ed. Brian Vickers (Hamden, Ct.: Archon, 1968), pp. 28-50; "Francesco Patrizi and Francis Bacon," Studies in the Literary Imagination, 4, No.1 (1971).

7. Francis Bacon: From Magic to Science, p. 9.

8. Paul de Man, Blindness and Insight: Essays in the Rhetoric of Contemporary Criticism (New York: Oxford University Press, 1971); Harold Bloom, The Anxiety of Influence: A Theory of Poetry (New York: Oxford University Press, 1973), Kabbalah and Criticism (New York: Seabury Press, 1975).

9. Francis Bacon and the Style of Science, e. g. p. 170.

10. Introduction to Essential Articles for the Study of Francis Bacon, p. xii.

11. R. E. Larsen "The Aristotelianism of Bacon's Novum Organum," Journal of the History of Ideas, 23, 1962, 435-50; (on religion) Benjamin Farrington, The Philosophy of Francis Bacon (Chicago: University of Chicago Press, 1964), pp. 21-26; (on imagination) Anne Righter, "Francis Bacon," in Essential Articles, pp. 300-21.

12. Some inconsistent views of Bacon (attributed, in part, to his own obscurity) are catalogued by Rudolf Metz, "Bacon's Part in the Intellectual Movement of His Time," Seventeenth-Century Studies Presented to Sir Herbert Grierson (London: Oxford University Press, 1938), pp. 21-32.

13. F. P. Wilson, Elizabethan and Jacobean (London: Oxford University Press, 1945), e. g. p. 13; H. M. Richmond, The School of Love: Evolution of the Stuart Love Lyric (Princeton: Princeton University Press, 1964).

14. See Eric Cochrane, "Science and Humanism in the Italian Renaissance," The American Historical Review, 81 (1976), 1039-57, and below, n. 25 in ch. 4. Eugenio Garin's Science and Civic Life in the Italian Renaissance, tr. Peter Munz (Garden City: Doubleday, 1969) is an excellent and eloquent account of the humanist background of science; see also Marie Boas, The Scientific Renaissance, 1450-1630 (New York: Harper and Row, 1962).

15. Such is the spirit of Richard Olson, ed., Science as Metaphor: The Historical Role of Scientific Theories in Forming Western Culture (Belmont, Ca.: Wadsworth, 1971).

16. See, for instance, Giorgio de Santillana, "The Role of Art in the Scientific Renaissance," Critical Problems in the History of Science, ed. Marshall Clagett (Madison: University of Wisconsin Press, 1969), pp. 33-65; in applying Sir Karl

Popper's notion of the testable scientific hypothesis to specific problems of tradition and innovation in the development of painting, E. H. Gombrich assumes important parallels concerning invention in art and science. See Art and Illusion: A Study in the Psychology of Pictorial Representation, 2nd ed. (New York: Pantheon, 1961), p. 321. That poetry and science work according to the same human mental powers-- i. e. "imagination"-- and that both involve a dimension of what Michael Polanyi calls "tacit knowing"-- suggests that looking for parallels and bilateral historical connections might meet with success. See The Tacit Dimension, 2nd ed. (Garden City: Doubleday, 1967). Elizabeth Sewell (see text below) has discussed Bacon's idea of discovery from the standpoint of this unity, a unity which Bacon, significantly, denies. G. J. Holton wishes to draw parallels between science and the humanities by studying the "thematic," unverifiable hypotheses (such as Newton's theory of gravity or matter) necessary to scientific development and corresponding to metaphysical theories and literary fictions. See Thematic Origins of Scientific Thought (Cambridge: Harvard University Press, 1973). A study that takes up literature from the viewpoint of the philosophy, if not the history, of science, is Norman Rudkin, "The Dialectics of Poesis: Literature as a Mode of Cognition," R. S. Cohen and M. V. Wartofsky, eds., Boston Studies in the Philosophy of Science, vol. 2 (New York: Humanities Press, 1965), pp. 343-400. A stimulating historical consideration of the poetic "models upon which the rational explanation of the world came to rely for its terminology" is Bruno Snell, The Discovery of the Mind: The Greek Origins of European Thought, 2nd ed. (New York: Harper and Row, 1960), pp. 199, 191, 245. The tacit predisposing of scientific observation and discovery by assumed conceptual models is also the theme of N. B. Hanson's Patterns of Discovery: An Inquiry into the Conceptual Foundations of Science, 2nd ed. (London: The Scientific Book Guild, 1962). Some of the many views of the problem of models in science (including the work of Duhem, Canguilhem, and Black) are discussed in Mary Hesse, Models and Analogies in Science (Notre Dame, Ind: University of Notre Dame Press, 1966). The rational, open, and provisional scientific theory (as opposed to the relatively closed and metaphorical world of the poem or of the genre) is qualified by T. S. Kuhn's view of the intellectually closed groups of "puzzle-solving" scientific specialists working according to fixed schemata or paradigms. The difficulty of Kuhn's particular conception of the paradigm, the primary importance of the issue of models in general, and the rudimentary state of our knowledge of how they operate are the themes of Margaret Masterman, "The Nature of a Paradigm," Imre Lakatos and Alan Musgrave, eds., Criticism and the Growth of Knowledge (Cambridge: Cambridge University Press, 1970), pp. 59-90.

17. The limits of relevance of a work's historical context in defining the nature of that work are determined finally simply by the critic's judgment, W. K. Wimsatt argues in "Battering the Object," Day of the Leopards: Essays in Defense of Poems (New Haven: Yale University Press, 1976). Jean Piaget classifies three types of innovation on the basis of their degree of determination by their respective historical situations. However a great deal of Wimsatt's "judgment" might be needed to determine how much a particular discovery or invention has arisen in response to a pre-existing situation, although in Bacon's case I hope to make the issue clear. See Main Trends in Inter-Disciplinary Research, 2nd ed. (1973; rpt. New York: Harper and Row, 1973), pp. 62-63.

18. Cf. Angus Fletcher, The Prophetic Moment: An Essay on Spenser (Chicago: University of Chicago Press, 1971) on the prophet's "threshold moment" or critical point of passage from past to future.

19. F. W. Nietzsche, On the Genealogy of Morals: A Polemic, tr. Walter Kaufmann and R. J. Hollingdale (New York: Random House, 1967), p. 84.

20. Thomas McFarland, "The Originality Paradox," New Literary History V (1973-74), 448-49, speaks of the two axes of individual-tradition and individual-society.

21. E. R. Curtius, European Literature and the Latin Middle Ages, tr. W. R. Trask (Princeton: Princeton University Press, 1953), pp. 251-255. For modernus Curtius cites Cassiodorus's Variae, IV, 51. On the concept of modernity in the Middle Ages and Renaissance see Renaissance and Renascences in Western Art, Erwin Panofsky, 2nd ed. (New York: Harper and Row, 1969).

22. Panofsky, Renaissance and Renascences, pp. 33-35.

23. "All revolutions are sleeping-beauty myths," says Northrop Frye, "what the revolution attacks is a usurpation, and what it replaces it with is historically, or at least morally, prior to the usurpation." See The Return of Eden: Five Essays on Paradise Lost (Toronto: University of Toronto Press, 1965), p. 113.

24. Thus F. O. Lovejoy, "Nature as Aesthetic Norm," Essays in the History of Ideas (Baltimore: Johns Hopkins University Press, 1948), and, more fully, with George Boas, Primitivism and Related Ideas in Antiquity (1935; rpt. New York: Octagon, 1965).

25. See Curtis A. Wilson, "Rheticus, Ravetz, and the 'Necessity'

of Copernicus' Innovation," The Copernican Achievement, ed. Robert S. Westman (Berkeley: University of California Press, 1975), pp. 17-39.

26. The Story of Art (1950; 11th ed. New York and London: Phaidon, 1966), p. 269. Bacon's relation to this style, like that of Donne, Shakespeare, Marvell, or Gracián, is worthy of consideration. One could begin from the assumption that the Mannerist work stems from the conscious attempt to experiment with and question a prevailing style that has fully realized its possibilities. See James Mirollo, "The Mannered and the Mannerist in Late Renaissance Literature" in The Meaning of Mannerism, eds. F. W. Robinson and S. G. Nichols, Jr. (Hanover, N.H.: University Press of New England, 1972), pp. 7-24. For an approach to Mannerism as reflecting a detached attitude toward tradition and as a recurring phenomenon of cultural history (as is the consciousness of modernity discussed here), see E. R. Curtius, European Literature and the Latin Middle Ages, pp. 273-301.

27. See L. B. Meyer, "The End of the Renaissance? Notes on the Radical Empiricism of the Avant-Garde," Hudson Review, 16 (1963), 96-113.

28. Beyond the Pleasure Principle in The Collected Works of Sigmund Freud, ed. James Strachey, et al. (London: Hogarth Press, 1955), XVIII, 42.

29. Works, XVIII, 42 (see pp. 36f.).

30. In the qualifying, deferring, and frustrating effect of tradition on the artist's impulse José Ortega y Gasset finds the cause of the modernist turn to "pure" or "abstract" art, which for Ortega offers liberation from the past only at the price of sterility and dehumanization. See The Dehumanization of Art and Other Essays on Art, Culture, and Literature, tr. Helene Weyl (1948; 2nd ed. Princeton: Princeton University Press, 1968), pp. 41-46.

31. Cf. Jacques Derrida's analysis of "différance" as the fundamental principle of meaning in Speech and Phenomena and Other Essays on Husserl's Theory of Signs, tr. David B. Allison (Evanston, Ill.: Northwestern University Press, 1973), e. g. p. 129.

32. Lynn Thorndike delivers a classic attack on what he considers to be the benighted self-importance of humanist claims in "Renaissance or Prenaissance?" in Journal of the History of Ideas, 4, No.1 (Jan. 1943), esp. p. 67. That number is devoted to a controversy on the existence and importance of the Renaissance.

33. E. g. W. J. Bate, The Burden of the Past and the English Poet (Cambridge: Harvard University Press, 1970); Harold Bloom; Thomas Weiskel, The Romantic Sublime: Studies in the Structure and Psychology of Transcendence (Baltimore: Johns Hopkins University Press, 1976).

34. See "Literary History and Literary Modernity" in Blindness and Insight, pp. 142-65.

35. The Rebel: An Essay on Man in Revolt, tr. Anthony Bower (1954; 2nd ed. New York: Random House, 1956), p.22.

36. The Fate of Reading and Other Essays (Chicago: University of Chicago Press, 1975), pp. 255-56.

37. See Stevens's "No Idea About the Thing But the Thing Itself," for example, and J. H. Miller, Poets of Reality: Six Twentieth-Century Writers (Cambridge: Harvard University Press, 1966), p. 7.

38. "Wedding Preparations in the Country," quoted in The Dismemberment of Orpheus: Toward a Post-Modern Literature (New York: Oxford University Press, 1971), p. 1.

39. What Is Called Thinking? tr. Fred D. Wieck and J. Glenn Gray (New York: Harper and Row, 1968), pp. 101-05.

40. Dialectic of Enlightenment, tr. John Cumming (New York: Seabury Press, 1972).

41. "Bacon and the Seventeenth-Century Dissociation of Sensibility," Explorations, 2nd ed. (New York: New York University Press, 1964), pp. 108-128.

42. In The Use and Abuse of History (1874) Nietzsche makes the opposition "historical-unhistorical" in re-evaluating the herd of cows' dreaming condition that famously symbolized in Hegel's Phenomenology of Spirit (1807) the unfortunate nadir of historical consciousness. Henri Bergson in Creative Evolution (1907) provides another modern "re-mythologization" in his idea of a surging"vital force" that asserts itself in "real time" ("duration"): i. e., time as experienced

rather than time conceived abstractly and "mechanically" extending into the past and future as if it were a kind of space with points located on it. Frank Kermode gives a detached appraisal of the dissociation-of-sensibility idea in his Romantic Image, 2nd ed. (New York: Random House, 1964), pp. 138-61.

43. The Idea of Reform: Its Impact on Christian Thought and Action in the Age of the Fathers (1959; 2nd ed. New York: Harper and Row, 1967), pp. 9-39.

44. "The Ideology of Modernism," in Realism in Our Time: Literature and the Class Struggle, 2nd ed. (New York: Harper and Row, 1964), pp. 17-44.

45. Francis Bacon and the Style of Science, 1974, pp. 55-172.

46."'Georgics of the Mind': The Experience of Bacon's Essays" in Self-Consuming Artifacts (Berkeley and Los Angeles: University of California Press, 1972), pp. 78-155.

47. The Orphic Voice: Poetry and Natural History (1960; rpt. New York: Harper and Row, 1971), p. 59.

48. The Orphic Voice, p. 61.

49. XIV, 101.

50. Imaginary Conversations in The Collected Works of Walter Savage Landor, ed. T. Earle Welby (1927-36; rpt. New York: Barnes and Noble, 1969), IV, 78.

51. The Orphic Voice, p. 109.

52. Blindness and Insight, p. 162.

53. The Structure of Scientific Revolutions (1962; 2nd ed. Chicago: University of Chicago Press, 1970), pp. 10-42.

54. Dialectical Criticism and Renaissance Literature (Berkeley and Los Angeles: University of California Press, 1975), pp. 14-51.

55. Conjectures and Refutations: The Growth of Scientific Knowledge (London: Routledge and Kegan Paul, 1963), pp. 12-15.

Chapter Two

The Pathos of Novelty: Bacon's Claims and Their Background

> ...there is no thought to be taken about precedents, for the thing is without precedent.
>
> Bacon (De Interpretatione Naturae)

> ...who saw
> When this creation was? Remember'st thou
> Thy making?
>
> Satan (V. 856-58)

1. Bacon's Claims of Autonomy and the Problem of Assimilating the Past.

One is meant to be struck, upon opening the Instauratio Magna of 1620, by the author's juxtaposition of several grandiose claims concerning the importance of his enterprise, its total novelty, his complete disinterest of motive, and his humility about his personal capabilities and contribution. These claims provide simple, strong, and valid statements about Bacon's essential stance both in 1620 and much earlier.[1] Seriously pitting oneself against all of history as Bacon does here, making a case in good faith for oneself as marking a turning point, or the turning point, of human endeavor, is a rare and awesome phenomenon outside of psychological case histories. One thinks of religious prophets and perhaps self-proclaimed enlightened despots. Bacon's claims are presented at their most powerful in the initial manifestoes of the Instauratio, the uncompleted encyclopedia of new knowledge and how to discover it. The first two pieces especially, the rich and carefully composed Proem and Epistle Dedicatory, distill renovative zeal for a new kind of quest for truth that is expanded first in several prefaces, then in a methodology (the Novum Organum), then into the beginning of a natural history (the Parasceve) and the fragmentary histories Bacon later included as part of the Instauratio), then into a projected collective enterprise of scientific inquiry, which is--unforseen by Bacon--never likely to be fulfilled. Taken together, Bacon's philosophical works describe just such a

movement of successive beginnings that tend to supersede one another in comprehensiveness and nearness of their common goal, but never come even forseeably close to conclusion. Generally, this incompleteness shows the primary importance Bacon attaches to the representation or re-creation of an initial point of departure of thought and action and to the search for the nature of the fresh beginning. Within the 1620 Instauratio itself (our present concern), this representation at first takes the form of a self-conscious assertion of autonomy.

The Proem itself has a famous little induction that runs as follows:

> Francis of Verulam reasoned thus with himself, and judged it to be for the interest of the present and future generations that they should be made acquainted with his thoughts.[2]

Our themes are almost all implicit even at this initial level of super-concentration: Bacon's thoughts are important for the whole human race; his ideas are given to him alone and come not from the generations of men, who are the beneficiaries only; he means not to force his opinions on others or to shame them, but humbly to make them acquainted with them so that they can judge these opinions for themselves; and his concern is mankind's welfare, not his own.

Under claims to importance, we can list the following. Bacon's highest aim, he says in the Proem, is to restore "to its perfect and original condition" ("in integrum") that "commerce between the mind of man and the nature of things

which is more precious than anything on earth, or at least anything that is of the earth." The object of Bacon's reform, "the entire fabric of human reason," is effected by a "total reconstruction of sciences, arts, and all human knowledge, raised upon the proper foundations."[3] Bacon wishes not just to replace one system of knowledge with another but to effect a change in man's relationship with nature, which means actually redefining man so that his nature is consonant with Nature, rather than confused and disturbed by the inventions of his mind. Such a change, of course, means a return to the purity of Eden, where human knowledge will be purged of "that venom which the serpent infused into it, and which makes the mind of man to swell,"[4] as Bacon says in the Instauratio Preface. This change will constitute a "marriage between the mind and the universe,"[5] as he says in the Distributio Operis. The past that serves as the guiding light for Bacon is not the historical past of civilized Greece and Rome, but the mythological paradise of Eden. For Bacon the true end of knowledge

> is a restitution and reinvesting (in great part) of man to the sovereignty and power (for whensoever he shall be able to call the creatures by their true names he shall again command them) which he had in his first state of creation. And to speak plainly and clearly, it is a discovery of all operations and possibilities of operations from immortality (if it were possible) to the meanest mechanical practice.[6]

The innocent knowledge characteristic of this ideal condition will be sought not for "pleasure of the mind, or for

contention, or for superiority to others, or for profit, fame, or power, or any of these inferior things; but for the benefit and use of life."[7] Like John Milton and other humanistic educators, Bacon wished "to repair the ruins of our first parents"[8] (but in a far different way). The children of the innocent but fruitful marriage of the mind and nature will, Bacon hopes, be a "line and race of inventions that may in some degree subdue and overcome the necessities and miseries of humanity."[9] The springing of a "line and race of inventions" from such a hieros gamos may be grotesque to the modern reader, who might think of science fiction's robot fantasies. But the inventions are the manifestations of man's self-realization: they are the art that fallen man through practical labor constructs as a visible bridge between himself and his true nature effortlessly realized before the Fall.

Accompanying the claim to far-reaching importance there comes the seemingly gratuitous one to priority and exclusiveness. Again and again (as in the epigraph above) Bacon says that he works in isolation and that he is the first and the only man ever to find the way to the realization of human potential. In the Proem he is engaged in a "solitary...enterprise," one that enters "upon that one path which is alone open to the human mind." He "has found no man hitherto who has applied himself to the like."[10] In the Epistle he repeats that his ideas are "quite new; totally new in their kind." There also he is involved in "the kindling of a new light in the

darkness of philosophy." [11] In the Distributio Bacon says more explicitly , "I also sink the foundations of the sciences deeper and firmer, and I begin the inquiry nearer the source than men have done heretofore....I have been a more cautious purveyor than those who have hitherto dealt with natural history." [12]

Nor need we limit ourselves in documenting this strangely definite announcement of priority to the 1620 volume. In the Redargutio Philosophorum (1608) Bacon stresses the difficulty of communicating his ideas because of their utter novelty:

> I do not know how to convince you of a thing so novel and unexpected. The difficulty is that the usual rules of argument do not apply since we are not agreed on first principles. Even the hope of a basis of discussion is precluded , since I cast doubt on the forms of proof now in use and mean to attack them.

But in justifying himself Bacon says,

> ...this wholesale rejection of authorities is much less invidious than to reject some and approve others. That would have been to execute judgment upon them; but actually all I am doing is, as I have said, to point out a new way. [13]

Bacon's claim for his philosophy as the single destined mother of truth is found in the De Dignitate et Augmentis Scientiarum (1623), where he proposes that there be among the appendices to the study of physics a survey of the "dogmas of the ancient philosophers."

Not however that there is any hope of gaining any truth

> of the purer kind from these or the like theories. For as the same phenomena, the same calculations, are compatible with the astronomical principles both of Ptolemy and Copernicus; so this common experience of which we are now in possession, and the ordinary face of things, may adapt itself to many different theories; whereas to find the real truth requires another manner of severity and attention. For as Aristotle says elegantly, "that children when they begin to lisp call every woman mother, but afterwards come to distinguish their own," so certainly experience when in childhood will call every philosophy mother, but when it comes to ripeness, it will discern the true mother. [14]

Bacon launches a general attack in the Redargutio and in the Tempus Partus Masculus (1602, when invective satire was fashionable in England) against almost all the major ancient and modern philosophers. His characterizations of their "monstrous guilt" and his scorn of "the din of their grovelling and inconsequent rationations" [15] provides indications of Bacon's view of his ideas as the "una via."

The above claims are balanced by protestations of humility and disinterest. In the Proem to the Instauratio Bacon says, without irony, that he is motivated not by ambition but regards his publication as "some evidence for his honest mind and inclination toward the benefit of the human race." [16] Bacon's charitable intentions are inseparably connected with the humble disinterest essential to the success of his scientific method. This method "wherein if I have made any progress, the way has been opened to me by no other means than the true and legitimate humiliation of the human spirit," is one which only he and none of "all those who came before" applies consistently to science. Bacon not only shuns

the goal of glory, but also the self-indulgence of the theory-spinners, who proceed "as if invention were nothing more than an exercise of thought, to invoke their own spirits to give them oracles."[17] Only by continuing to gather and analyze data and by suppressing the impulse to come to a conclusion and to put forth an ingenious systematic explanation (and thereby achieve a false glory) can the truth of nature be ascertained. The truth indeed will show itself, so that Bacon rejects his own strength of mind as the cause of his insights. In the Epistle to the Instauratio he attributes his success to the "mercy and goodness of God, and to the felicity of your Majesty's time."[18] Bacon here does not claim inspiration, but seems to be putting forth some notion of providential help.[19] Linking one's enterprise with Providence supplies, like the general protestations of humility and disinterest, even more evidence for a thoroughly admirable character than claims to importance and priority by themselves can. The idea of Providence here legitimizes the idea of chance or fortune, i.e. the natural working out of things in time. In fact, the opposition between wit and chance (or nature) forms the principal intellectual motif of the Epistle: Bacon's insights, unlike those of others, while terribly important and totally new, are, he says, not particularly profound or subtle, because "they are copied from a very ancient model; even the world itself and the nature of things and of the mind." Certain ingrained habits of thought simply prevented anyone from having Bacon's ideas

before he did: "the only wonder being that the first notion of the thing, and such great suspicions concerning matters long standing, should have come into any man's mind." Thus the work is "a child of time rather than wit."[20]

It is easy to find claims to a special humility, disinterest, and sense of service outside of the Instauratio prefatory material and the Novum Organum, because these qualities are not only fundamental to Bacon's method and to his critique of philosophical tradition, but their assiduous profession is characteristic of Bacon (and, to some extent, of the men of his time) in his role as counselor to great men and humble beneficiary of their favors. But in the Redargutio Bacon gives a definitive statement of these claims concerning the superiority of his modesty over that of all others. He has provided a psychological critique for others while claiming himself immune to such a probe of hidden motives.

> In the verdict later generations pass on me they will be right to deny that anything I have done is great. But they will be wrong if they ascribe to daring what is due to humility, to humility, I say, and to the absence of that human pride which has ruined all by conferring the title sacred upon certain fleeting meditations instead of reserving it for the divine signature on things. Here only do I felicitate myself, only on this account do I hold myself happy and well-deserving of the human race, that I have shown the power inherent in a true and proper humbling of the human spirit.[21]

Bacon's critique of culture can be summed up by the opening sentence of the Preface to the Instauratio: "It seems to me that men do not rightly understand either their store (opes) or their strength (vires), but overrate the

one and underrate the other."[22] Both store and strength occasion specific claims on Bacon's part about his own achievements: in respect to vires he has forged a new confidence; in respect to opes a new humility.

Bacon's claims are most striking for their contagious enthusiasm for the vision of a union with nature that begins with fresh, positive experiences of natural phenomena. For Bacon it becomes necessary to say not just that this experience of nature involves no mediation of traditionally defined ways of seeing, but also to affirm, in the intensity of the experience, that "no man hitherto" has had such a vision of natural truth. This is the uniqueness of an inspiring vision whose antecedents become irrelevant or are obliterated. Bacon's vision, a true departure from tradition, must be accepted entirely on its own terms, and therefore must be prior to all others. Antecedents would get in the way of the fresh vision itself and provide possible alternate ways of interpreting it or even of questioning it. The lack of historicity, the very exclusiveness of the experience becomes its final guarantee of validity. Bacon's achievement is not presented as "better than" or as "fulfillment of" that of his predecessors, but as something completely different and therefore worthy of entirely fresh consideration.

Bacon's claim to priority seems to depend to a great extent on his claim to humility and disinterest. One of Bacon's arguments seems to run that since nothing has worked in the past, the method that avoids all the wrong solutions

will be right. In this sense, Bacon's priority is based on the fact that his inductive method puts forth nothing, while everyone previously put forth something--and it never worked. He humbly accepts any subject as worthy of study, but it must be studied in a way that systematically represses the intellectual faculties and the self-serving emotions. "If the truth must be spoken," Bacon says,"when the rational and dogmatical sciences began, the discovery of useful works came to an end."[23] Bacon's humility attempts, in a very different spirit, to tap the same sources of power as those of Erasmus's Christian fool (than whom no one claims more priority). The innocent can best discover truth, and the innocent observer can best present the corruption of others. Of course Bacon would have known Cicero's dictum that the good speaker should profess humility in order to "put his hearers in a favorable, attentive, and tractable state of mind."[24] But Bacon's use of rhetorical "modesty formulas" is part of his essential stance of modernity and of his radical scientific method. By using his claims of humility and disinterest to enhance and specify the nature of the claims to priority and importance, Bacon attempts to make his claims complement each other in a grand assertion of a modern point of departure that rests on autochthonous ground, not on the past. Bacon's discontinuity with respect to tradition, and his deliberate shutting off of awareness of the context of his claims, becomes necessary so that the force of his individual assertion may be freed from the bonds of a thoughtful synthesis of tradition. By this thoughtlessness[25] of the fresh beginning

Bacon achieves his peculiar power in assertion and leverage in attack.

The importance of a people's own conception of itself as creating a new age, as opposed to the actual degree of innovation the age may seem to manifest in retrospect, has been often stressed by scholars in their characterizations of the Renaissance as an historical period.[26] One says, "The Italian humanists thought of the civilization of their own day as a new and original creation, in many respects like that of antiquity but distinctively their own. It was, in all aspects, the work of the Italian cities and their men of genius."[27] Before the ancient world can be rediscovered and brought back to life, the latter age must recognize its separation from the ancient world. The Florentine might no longer think of his age as part of the 1,000 year decline of the Roman Empire, but can now survey world history from the perspective of its secular meaning for his own age.[28] The heavenly city, Augustine's solace for the decline of Rome, comes to have a rival, Florence.[29] One could say that a synecdochic relation to antiquity (seeing one's age as an appendage of it) is replaced by a more difficult metaphorical one, making possible, in the minds of the humanists, a new kind of imitation of the classics and opening up seemingly limitless lines of development of ancient forms and ideas. The autonomy of the ancient citizen is recreated as well as his freedom of thought and his variety of literary fictions. But the new problem of the freer relationship to the past means that the truth of man and nature (as a corpus of traditional author-

ities and common terms) becomes more problematical. A "conscious effort to establish harmony between two worlds separated by a lapse of centuries has to be made."[30] To put the problem in a different way, the "task of self-justification of their literary activities and mode of life in relation to the religious establishment was inescapably imposed upon the humanist."[31] As the humanists were themselves aware, the attempt to create links between the past and the newly liberated present--through philosophy, art, poetry, and history--is also an attempt to define man anew.[32] Increased awareness of a modern condition naturally raises increased problems of assimilating the past as a vital part of that condition.

The assertion of new independence for man combined with an eclecticism and a boundless curiosity about the past is displayed by, for instance, Giovanni Pico della Mirandola (1463-94). In the prologue to his disputation of 900 theses (the "Oration on the Dignity of Man,"--which Bacon may well have known)[33] he makes certain claims for man, if not for himself, and provides an extreme approach to the problem the past presents. The "vast range of undigested ideas"[34] that the scholar of Pico's time deals with is partly the result of a new intellectual freedom and new kind of interest in the ideas and forms of antiquity--an interest which in Pico's case is expanded to include all ideas, whether contemporary, scholastic, Arabic, Jewish, or classical. Pico's brand of syncretism includes a concept of truth as composed of parts

of all doctrines rather than of Christian dogma exclusively.[35] By the same token, Pico's man has liberated himself from a single niche in the chain of being. Pico's straightforward eulogy of the possibilities of man on earth also contrasts with the profound Miltonic drama of a being "sufficient to have stood, though free to fall" (Paradise Lost, lll, 99). Pico's God says,

> Neither a fixed abode nor a form that is thine alone nor any function peculiar to thyself have we given thee, Adam, to the end that according to thy longing and according to thy judgment thou mayest have and possess what abode, what form, and what functions thou thyself shalt desire. The nature of all other beings is limited and constrained within the bounds of laws prescribed by Us. Thou, constrained by no limits, in accordance with thine own free will, in whose hand We have placed thee, shalt ordain for thyself the limits of thy nature. We have set thee at the world's center that thou mayest from thence more easily observe whatever is in the world. We have made thee neither of heaven nor of earth, neither mortal nor immortal, so that with freedom of choice and with honor, as though the maker and molder of thyself, thou mayest fashion thyself in whatever shape thou shalt prefer. Thou shalt have the power to degenerate into the lower forms of life, which are brutish. Thou shalt have the power, out of thy soul's judgment, to be reborn into the higher forms, which are divine.[36]

This detachment and autonomy with respect to the static hierarchy of beings elaborated in the Middle Ages is the natural concomitant of an exuberant eclecticism that finds grist in all doctrines. Pico heightens the privileged place of man and the universe and of himself in the world of ideas (as a twenty-four-year-old scholar taking on a mountainous task of disputation). This detachment of man within the scheme of things gives man the possibility of examining,

choosing, and assimilating what he wishes from the whole range of cultural tradition. A sort of declaration of independence from history and nature accompanies this confident hope of mastering them.

The announcement of the new age and new man may possess a potential weakness from the beginning. The "bewilderment" felt before the unknown possibilities of the new perspectives on the past, after declarations have been made and idols smashed,[37] is not touched upon in Pico's oration. Pico himself was perhaps somewhat bewildered when the religious authorities forbade him to hold his above-mentioned disputation. The unlimited possibilities that tradition holds for Pico seem dangerously close to the prospect of no possibilities broached by the first known Renaissance reader of the ancient skeptic Sextus Empiricus, Giovanni's nephew Gian Francesco Pico della Mirandola.[38] The inaugural violence of separation in the proclamation of man as an independent measure of the world seems to result, for him, in the awareness of the fragility of any perspective or criterion of knowledge and value. The difficult necessity becomes to create the self anew in the face of a no longer stable universe.[39] Heroic claims like Giovanni Pico's and Bacon's, though displaying little sense of the fragility of individual human resolution, are perhaps especially indicative of its incipient or masked presence. For Jacob Burckhardt the important term in this respect is "guilt";[40] as if, by declaring independence from the past, the fall of man were recreated; or in post-

Burckhardtian terms, as if the father had been killed and forbidden pleasures enjoyed. The human strength, the virtus, in the claim to independence may be stirred also by anxiety and desperation at the inexorabilities of time, mutability, and fate.[41] Yet the reaction to the bewilderments of Renaissance eclecticism and syncretism, the remedy for the feeling of fragility, the purgation of the guilt, and the overcoming of fatum often becomes none other than more of the same: more claims and declarations, more self-conscious modernity.

Raphael's Stanza della Signatura exhibits with its fusion of pagan and Christian worlds a syncretism that parallels Pico's. Of its frescoes, Jean Seznec says,

> The Church welcomes the beauty and wisdom of antiquity into her widened embrace. As though by a miracle, Homer and Dante, Plato and St. Thomas, Apollo and Christ, become brothers...all gods, all truth united in a single cult, and worshipped with the same indiscriminate zeal....The reconciliation is only a dream of scholars and philosophers, for whom the approaching Reformation holds a terrible awakening.[42]

If Protestants react against syncretism, they do so in a spirit not entirely different from the zeal of the humanists. The reformers too make dramatic claims, except that they are more selective about the particular tradition they choose to hold up as ideal. The interest in Hebrew of Pico and Johann Reuchlin (1455-1522) comes out of the same humanist desire to return to the textual sources of truth, but the interest of the latter leads, in Protestantism, to the exclusive promotion of the Bible in a way sometimes constrictive of secular literature and philosophy.

Between Pico and Bacon we can trace in many writers great opposition to a full, if disorganized, literary and philosophical tradition. The revolt expresses itself in skepticism, Protestantism, the Counter-Reformation, alchemy, science, literary style and allusion, and elsewhere. The writers' points of departure come to be claimed more in open opposition to the tradition than in the spirit of harmony and revivification, as most of the examples of claims below will show. To some extent we can even picture a series of successive claims, each of which undercuts the base in tradition of the preceding claim, and each of which therefore confronts greater bewilderment and must assume ever more extreme and less thoughtful attitudes about truth and the past. On the other hand during the sixteenth century the wonderful achievements of the Renaissance--such as the discovery of printing and the New World, as well as literary, artistic, and religious undertakings-- are recognized more and more as consciousness of the individual's originality and of the existence of a "modern" world with its own traditions naturally increases in scope and, sometimes, in thoughtfulness.[43] The complete doubt and self-creation of René Descartes (1596-1650)[44] is perhaps the logical outcome of such a movement. In Descartes' cogito, says Poulet, the process of locating an autonomous consciousness is at last defined with new abstract purity-- and, it might be added, in its utter fragility.[45]

Bacon too has an essential concern with syncretism, with the problem of assimilating the chaotic range of ideas of ancient and modern times into a unified truth. His concern, in fact, is greater than the claims quoted above by themselves might indicate. But Bacon's enthusiasm for independence, like Descartes; and unlike Pico's, is primarily directed against traditional philosophy and literature. For this reason the terms upon which Bacon allows traditional ideas consideration in the particular scheme that he has developed are considerably stricter than Pico's. Bacon imagines that he can humbly enter Pico's Italy, repository of all traditions, not to be enlightened or to enter into debates on great ideas as Pico himself does (Bacon hates controversy), but to classify those traditions according to his new system (such as his compilation of the "dogmas of the ancient philosophers"). Just so, Bacon says, the French invaders came to Italy "with chalk in their hands to mark out their lodgings, not with arms to force their way in."[46] By his declaration of autonomy Pico can attempt a wide assimilation of traditions; but a consequence of this Herculean ideal, as we have seen, is Bacon's more intractable declaration, which closes off the relation of his thought to the fullness of understanding that is, theoretically, the goal of a truer syncretism. His claims set up the possibility of "progressing" beyond the toils of that understanding toward a more single-minded interest in the action of discovery and practical invention.

2. Baconian Virtus and Attitudes toward the Past.

It was mentioned above that Bacon's essential criticism of his contemporaries is their incorrect estimation of man's strength (vis) and work or "store" (opus). Bacon chooses these words, which are both basic alchemical terms, instead of virtus and opere. The latter pair are associated with distinctively creative work and the force of will and intellect displayed by the heroic individual personality--exactly the attitudes that Bacon feels must be put in their place behind the humble collective enterprise of ascetic scientists who produce practical works. The vis Bacon is interested in can be seen as at once a negation of distinctively human creative effort as it has been elaborated in tradition and an affirmation of the more elemental and simpler creative processes of nature and time. But Bacon's location of an autonomous consciousness, his assertion of modernity by means of claims to priority, suggests a less negative relation to the ubiquitous Renaissance theme of the hero, the apotheosis of the self. In fact, John Steadman has discussed with consummate grace Bacon's view that the scientist is the modern hero.[47] Bacon's scientist (the ideal man), with his crucially important attitude toward the past, is a strange, paradoxical figure indeed.

The hero battles aginst fortune and fate as the representative of human will and accomplishment. The opposition of heroic virtus and fortune or destiny is common in Renaissance thought,[48] as it is in classical epic and tragedy.

Man actualizes his free will through his peculiar force and virility, his virtus, "the sum of all the corporeal and mental excellences of man."[49] The successful man of affairs, for Bacon as for others, is a faber fortunae or "architect of fortune." The detachment from a specific level in a hierarchy of being and from a place in history as a mere appendage to glorious antiquity indeed suggests a more active and willful determination of human nature.[50] One scholar remarks that the Renaissance period could be dated from the first representation of Hercules (the archetypal hero) in the classical style rather than as an abstraction standing for Biblical figures and themes.[51] Such a characterization of Hercules in itself indicates the new, more objective historical perspective and the relative independence of outlook that goes with it. But in the early sixteenth century, Charles V adopts the motto Plus ultra to underline the glory of the voyages of discovery and to contrast his age with that of antiquity. The ancient Pillars of Hercules are inscribed Non plus ultra and thus come to symbolize the limitations of the ancient world and the ancient hero compared with the modern. As has been pointed out often enough,[52] Charles's motto is used as an heroic image by Bacon in the frontispiece to the Instauratio (1620), which depicts a ship passing through the Pillars. Bacon's claims (like those of others) define him as an hero in a fight to erect lasting and true examples of man's (and his own) greatness. Such examples can be set up against

the ravages of time, which has revealed the vanity of so many of man's past endeavors.

Charles Trinkaus sees the establishment of the "primacy of the will" as a major accomplishment of early humanists like Franceco Petrarca (1304-74) and Coluccio Salutati (1331-1406; e.g. in De fato et fortuna).[53] Their rejection of scholasticism, with its emphasis on knowledge, God's rationality rather than his will, and technical language, and their own emphasis on rhetoric and poetry as representing the virtus and anima of the speaker and therefore the more complete truth in his statements, is related to a conception of the self built around the will. Such a view is compatible with the importance of the Protestant "calling" to Bacon, his personal resolve to pursue a lifelong and divinely sanctioned role. His statement of vocation can be found in the Proem to the De Interpretatione Natura (1603; this piece also provides a succinct statement of Bacon's several claims). It begins,

> Believing that I was born for the service of mankind, and regarding the care of the commonwealth as a kind of common property which like the air and the water belongs to everybody, I set myself to consider in what ways mankind might be best served, and what service I was myself best fitted by nature to perform.[54]

A key figure for both the Protestant and the Petrarchan stress on the subjective passion and will of the individual personality is St. Augustine. The Confessions, as, again, Trinkaus points out, provide for Petrarch and other humanists a complete "delineation of the will and construction of a philosophy based on it," a portrait of a self "made manifest as pure subject in search of a vision of the world that

corresponds to its own inner experience of truth."[55] But along with this delineation of the self Augustine provides, in different ways according to the different perspectives on him, a paradigm for men of the Middle Ages, the Renaissance, the Reformation, and again for Bacon's moral critique and charitable science, in his portrait of a mind exercised in the sensitive but resolute reform of the pagan heritage in keeping with the present realities of the Christian world. Thus the humanists' autonomous perspective allows them actively to reform and re-assimilate classical culture on the model of Augustine (among others), in constructing new works that can the better endure time through the inclusive and passionate virtus of their makers. In this respect the strong presence of the self comes in its crucial establishment of its difference from and its similarities to the past. Bacon qualifies the degree of primacy the past enjoys in this process of assimilation; in doing so he paradoxically brackets not only the past but the very human virtus that provides the force for the assimilation of old to new by deciding that personality and intellectual vigor are detrimental to scientific inquiry. As Fr. Walter Ong has shown in detail, Peter Ramus (1515-72) and others had already provided a model for the replacement of the humanist dialogue, which looks for truth in the passionate words of individual personalities, with an abstract and impersonal system.[56]

The heroic "passion" frequently becomes associated with

Renaissance Neoplatonic concepts about Eros, who governs not only lovers' motions toward each other but all motions and all generation in the universe (every "exquisite sympathy"" as Bacon says)[57] and the soul's desire for truth and God. Heroic passion is thus the aspiration in man to perform the highest "motion" or activity proper to him-- a motion that comes to be conceived more and more as one that man himself defines. This passion, whether of courtier, lover, poet, or philosopher, is often seen as "all in war with time," as Shakespeare says,[58] since it wishes to devote itself to something eternal. The confusion of meaning of the two words "hero" and "eros" occurred in the late Roman period;[59] in Giordano Bruno's (c. 1548-1600) De gli eroici furori (London, 1585) or On the Heroic Frenzies the discipline of human realization becomes the ascension of the heroic nature through various stages of love to the highest religious awareness of which man is capable (although this awareness is just a higher kind of blindness). Only by ardent development of heroic passion can a man hope to master, in part, his destiny.[60]

If Bacon's claims cast him in the mold of the hero, the charity or "philanthropia" that Bacon claims he is moved by in bestowing his gifts upon man and that he believes is the necessary motive for the successful scientist becomes his version of the heroic passion. As far as its essential function in Bacon's method goes, this unselfishness is primarily passive, it could be argued, since regardless

of its ends its chief purpose is to enable nature, not the mind or selfish desires, to do the work. In respect of its passivity, Bacon's ascent is somewhat like one celebrated by Bruno, the kind in which the highest activity becomes a passive opening of oneself to receive the divine light.[61] The essential passivity of the human participation in the divine is perhaps axiomatic; it is particularly stressed also by John Calvin (1509-64) for whom human merit becomes inconsequential in face of God's majesty, just as intellectual merit becomes a minor factor in Bacon's method. But Bacon with his particular modernity proposes a solution to the opposition of virtus and mutability or destiny that in fact seems definitely extreme, if not unique. His idea of proper human activity demands a peculiar reconciliation, or perhaps a better word is a collapsing, of heroic passion into mutability. According to Bacon man must learn, by wiping away the vain monuments of misdirected heroic passion, to make his thoughts and works those of nature herself; that is, make them the natural laws governing the way things move and change.

The theme of the epistle to the Instauratio, which makes Bacon's ideas the product of "time" or "chance," not "wit," is more than an orator's formula of humility. That "truth is the daughter of time" is another well-known adage.[62] By its very destructiveness time reveals hidden essences, be they true faith and love or hidden sins. The typical virtue associated with mastering time is consilium, or good coun-

sel, one of the twelve Aristotelian virtues. This virtue is central to Bacon insofar as his career as lawyer and counselor as well as his literary endeavors as counselor to men (both as a scientist and essayist--the 1625 edition of the Essays is entitled "Essays, or Counsels") require it.[63] Consilium enables a person to "anticipate the future by remembering the past and thus judging the present correctly."[64] For scientific endeavor Bacon imposes an extreme interpretation upon the virtue that conquers time. In science there should be no fight against the essential mutability of nature but an opening of the mind to nature. The virtue that conquers time is one that surrenders to it. For Bacon man is "the servant and interpreter of nature" and "Nature to be commanded must be obeyed."[65] Forms of restraint thus become central to Bacon's scientist, for only by holding back thought and emotion will the phenomena settle and fit together, through the work of time, into coherence. For Bacon man should be a paradoxical kind of ascetic: he realizes himself through a disciplined denial of himself. This denial of self accompanies Bacon's denial of tradition as that which elaborates the forms of human intellect and emotion. The denial is the means by which Bacon openly asserts his heroic passion, his peculiar virtus, his priority and modernity. Evidently Bacon pays a high price (if one equates value with richness and fullness of intellectual and emotional life) for the "locating of an autonomous consciousness"--but then Bacon demands a peculiarly positive location and a vision substantially discontin-

uous with tradition.

The selfish-selfless paradox that is implicit in the Christian world's assimilations of classical ethical ideas[66] (ideas such as that of the magnanimous man, who does good to others by the overflowing of his self-absorption) is reduced by Bacon with his extremes of assertion and restraint. His awe-inspiring announcements of the great benefits in store for man as the result of himself make him a type of the magnanimous man, but his program of asceticism, charity, and humility make him a Christian hero indeed. Bacon's assertion of modernity thus paradoxically displays what Paul Zweig calls "one of the deepest inclinations of the Christian mind: the secret fascination with self which had always lain just under the surface of the religion, only partly concealed by its rhetoric of humility."[67]

Let us examine Bacon's scientific method for a more definite picture of Bacon's peculiar modernity in relation to heroic virtus. The extreme nature and the fallaciousness of Bacon's inductive method can be explained by his desire to assert a fully autonomous self with an unmediated connection to the natural world. The first requirement in his empirical process of knowledge acquisition is that all distortions of mind and desire be eliminated so that the world can be perceived afresh.[68] By making it part of a general skeptical attack on culture and on the power of the thinking mind, Bacon carries his inductive science to a daemonic extreme. For Paolo Rossi Bacon's condemnation of intellectual systems

and individual triumphs of synthesis is a reaction to the extremes of Renaissance magicians.[68] While undoubtedly true this observation de-emphasizes the global nature of Bacon's attack on traditional forms of intellectual life as a means of discovery in science. Bacon's scientist may arrange data but his constant task must be to curb the flight of the mind and preserve a pure immediate relation of the mind to the particulars of nature. "The understanding [hominum intellectui] must not therefore be supplied with wings, but rather hung with weights, to keep it from leaping and flying."[69] Once the data have been properly assembled and categorized, the induction process is carried out "veluti per machinas" ("as if by machinery"),[70] not by thought. Thus we find Bacon, using the skeptics' arguments and rhetoric, condemning "one by one" the pantheon of our glorious Western tradition. Plato is "that mocking wit, that swelling poet, that deluded theologian." "Your philosophers are more fabulous than poets," he says. "They debauch our minds. They substitute a false coinage for the true. And worse still are the satellites and parasites of the great ones, the whole mob of professional teachers. Will not someone recite the formula by which I may devote them all to oblivion?"[71] The induction process itself is a litany of negations: nothing is left for the mind to decide upon or judge, for Baconian induction works by the process of elimination.[72]

Indeed removing the mind of man from the process of discovery is the goal of the doctrine of the Idols (the mind must

be "purged and swept and levelled"),[73] two of which Idols concern cultural and two the natural limitations of humanity. The method of remaining open to natural processes replaces, in Bacon's system, the construction of the ingenious intellectual and imaginative worlds of poets and philosophers. Karl Popper stresses the "ritual" quality of Bacon's extreme method, where truth is to yield itself automatically.[74]

The primarily rhetorical force of Bacon's prose (shown, for example, in his claims), rather than the logic or efficacy of his method, is unfortunately the only manifestation of the "magic" the method seems to offer; this is one reason Bacon's induction has been so creatively misunderstood by Coleridge, Wilhelm Dilthey, and others of the Romantic period with strong literary interests.[75] In "expounding" the myth of Pan and Echo Bacon stresses that the role of the scientist is a negative one: he must absent himself from the natural creation of knowledge by remaining a blank tablet for the auto-interpretation of nature:

> The world [i.e. Pan] therefore can have no loves, nor any want (being content with itself), unless it be of <u>discourse</u>. Such is the nymph Echo, a thing not substantial but only a voice; or if it be of the more exact and delicate kind, <u>Syringa</u>,--when the words and voices are regulated and modulated by numbers, whether poetical or oratorical. But is is well devised that of all words and voices Echo alone should be chosen for the world's wife; for that is the true philosophy which echoes most faithfully the voices of the world itself, and is written as it were at the world's own dictation; being nothing else than the image and reflection thereof, to which it adds nothing of its own, but only iterates and gives it back.[76]

The ironies of Bacon's use, here and elsewhere, of a common Neoplatonic motif (Echo as the divine word) in an anti-

Platonic way will be discussed in chapter four. As will be discussed there, Bacon's attempt at an extreme modernity (as in his view of knowledge acquisition) makes it impossible for him to control the implications of his discourse, which comes to suggest the Neoplatonic ideas that are transformed later in history into the poetic "imagination," a quality the Syringian Coleridge and Shelley find so much of in Bacon. Here however I am examining the extreme nature of Bacon's modernity itself. Having made the point of Bacon's assertion by negation, however, it must be added that the contribution of the scientist's powers (other than those of ascetic restraint) is not entirely absent in Bacon's view of discovery. Although the mind is by nature corrupt and fallen, it has an uncorrupt nature, too: right induction is a natural process, and "interpretation is the true and natural work of the mind when freed from impediments."[77] This interpretive vis of the Baconian scientist is in fact the power of innocence: "the entrance into the kingdom of man, founded upon the sciences, is not much other than the entrance into the kingdom of heaven, where into none may enter except as a little child."[78] Thus Peter Caws, in pointing out the qualification Bacon makes of his extreme induction by prescribing various "vintages" or stages of certainty wherein the human understanding is "indulged" and allowed to form as-yet-crude conclusions, remarks that in Bacon's view these outbursts of ideas will come as spontaneously and surely as the unintelligible noises of a new-born baby.[79] In this sense, then,

as Bacon says, his rules do "not slight the understanding, but govern it."[80] They provide extreme control for the fallen and corrupt propensities of human nature to allow brief and directed expression of intellectual force as the polymorphous perverse. The elaborate safeguards against the proud virtuosity of the egotistical intellect allow for a rudimentary but pure movement of the mind. Such indulgence is a moment of discovery, a valid assertion of Baconian modernity, as if the dame Folly had been allowed at last rightful supremacy in the wake of vanquished higher culture--a moment, since the threats to this fragile but aspiring self in the great world are tremendous. Only in this sense can one second Shelley's kind of approbation: Bacon's moment of fresh connection with nature at the beginning of the inductive process, or his spontaneous production of scientific explanations in the various "vintages" of the truth, parallels Shelley's conception of the continual revolution of the modern poet against constantly decaying discourse.[81] For Bacon this freshness comes from beyond reason as it is ordinarily thought of, and beyond imagination. As is often mentioned, Bacon does allow imagination a limited place in the scientific process[82] but he radically attempts to locate a point of departure outside of reason and outside of the life of the imagination. Just as Bacon's claims reflect the paradox of selflessness in Christianity, so also do they provide for the potentially dangerous assertion of modern will beyond reason, institutions, and the moral prescriptions of

any collective. For Bacon escape from the labyrinth of tradition has meant obedience to an ascetic discipline on the one hand and return to a primitive and impersonal level of experience on the other.

3. Bacon's Claims and Others': Some Models and Analogues for the Assertion of Modernity.

In the eyes of Bacon, that asserter of heroic modernity, the analogous claims of other men of his time sometimes become lumped together in his mind with the more conservative utterances of the age as parts of the tradition that is being overthrown. We might call the passion that makes a discourse effective and convincing and that presents an authentic and moving zeal the rhetorical or inspirational version of the heroic eros. For Bacon this passion is essentially linked to the fact of his priority. As a kind of orator he is caught up in the "frenzy" of his claims, as Bruno would have it--or at least he finds it rhetorically advantageous to appear so-- that the relationship of his claims to other claims is obscured. Perhaps Bacon is invoking a purified version of the sense of "admiratio" or wonder at the glorious deeds of the hero that is aimed at by Renaissance poets.[83] Such wonder, we might expect, concerns the total effect of the subject of wonder, not its historical antecedents. Milton tells Parliament in Areopagitica (1642) "I am filled with zeal," yet this zeal does not stop him from adducing many ancient opinions and precedents to back his arguments for freedom of speech. But for Bacon the issue becomes

more a case of his claims versus rival claims, and the rivals must be false, even as, in the Protestant denial of of syncretism, pagan gods are not only false but actually devils in disguise. Yet the substance of Bacon's claims comes, directly or indirectly, through similar antecedent claims, just as much of the material for Milton's poetry comes from a pagan world transformed. The thoughtlessness or suppression of understanding in Bacon's scientific method is reflected in this lack of understanding of the nature of his assertion in context--or perhaps it would be better to say of the nature of assertions themselves.

While few writers display the subtly modulated combination of claims to importance, priority, humility, and philanthropic disinterest that Bacon does, many display specific claims that are comparable to Bacon's in their attempt to fix a point of departure from tradition and, often, to actualize an heroic zeal. Through examining them we can get a picture of the Renaissance milieu that seems to encourage this type of assertion, and we can better understand the thoughtlessness of the fresh beginning--the success of Bacon's paradoxical virtus and evocation of admiratio--that allows Bacon to preserve his sense of immediacy and his own point of departure. The presentation of this list focuses on the point of departure, the zeal for discovery, the realization of the ego in its pure relation to nature, as the primary theme of the Instauratio, and highlights the paradoxical blindness of this zeal, which is both borrowed from others

and essentially original. Examining Bacon's "solution" to this problem--our general purpose in this study--must in fact begin with a catalogue of possible sources. All the writers discussed below were known by Bacon, with the exception of Descartes and perhaps Leonardo; among them are those--Machiavelli, Montaigne, and Telesio--who probably influence Bacon more than other modern writers. Bacon is generally quiet about his sources among the moderns unless he wants to attack. Quite in the spirit of his modernity, Bacon's attack on one writer (Agrippa) makes Virgil Whitaker suspect a major influence from that quarter. "Often," Whitaker says, "we must assume that, when Bacon mentions a writer to dissent, he has been silently indebted to the same man."[84] The list is far from complete, and in many respects arbitrary; it could go on and on. Bacon's range of interests and sophistication of style, as well as the apocalyptic nature of his vision, indicate that his claims assimilate directly or indirectly claims from many fields.

The writers considered below have been divided into three very general and overlapping groups (excluding Descartes): secular "men of letters," religious writers, and writers on natural subjects. No more comprehensive breakdown seemed either worthwhile or to the point. Machiavelli, Montaigne, and Jonson, as well as the logician Ramus, share a vital connection with traditional learning (in Montaigne's case, at least a command of traditional learning), despite claims to innovativeness, uniqueness, priority, and/or importance.

In comparison, those who deal with natural subjects (such as encyclopedists, experimental scientists, inventors, alchemists) tend to prefigure more strongly Bacon's iconoclastic side as well as his self-glorification and confidence. Although the first is much more important to Bacon and his age, both Calvin's Institutes and the Rosicrucian tracts contribute an evangelical spirit of change and the sense of having an inspired message--not that Bacon needed to look specifically at them to find such characteristics. My principal concern is to see Bacon's claims in a variety of relevant contexts, and for this reason the natural philosophers, some of whom are already known influences on Bacon, come last. (Still, the parallels of Bacon's claims to the natural philosophers Paracelsus and Telesio are perhaps the most significant of all.) The aspects of each claim that are analogous to Bacon's will be pointed out; the unusual combination of claims that Bacon displays will be stressed.

Among men of letters the claims to priority of Niccolo Machiavelli (1469-1527) certainly bear upon Bacon's claims. Machiavelli and Bacon are parallel figures in their injection of a visionary force into Renaissance syncretism that breaks through both the lush superficiality and the tyranny of ideas, and invigorates by simultaneously liberating and narrowing. Il Principe (The Prince, 1513; published 1542) records Machiavelli's "understanding of great men's actions," actions which take place in the eternal battle of Fortuna and the virtus possessed by the isolated man of strength.[85] Alone in a universe of mutability, the strong man must know

when and how to exert himself with full vigor and full freedom of action in order to take advantage of fortune.[86] In the heroic search for truth, Bacon, as we have seen, eschews virtus to the extent of collapsing the opposition of forces of virtus and fortuna emphasized by Machiavelli. As far as his own endeavors go, Machiavelli announces in the introduction to the Discourses on Livy that " I go upon a path not yet trodden by anyone; though it may bring me trouble and difficulties."[87] In studying the history of the Roman republic Machiavelli, unlike many of his contemporaries, is not interested in history as literature--for the variety of events, the praise of past heroes and, commonly, blame of men of the present. Machiavelli is relatively "ignorant of literature."[88] His purpose is practical: he wishes to analyze and understand the events of ancient times and compare them with those of modern times so that the virtues and institutions of the ancients at their best can be imitated.[89] Bacon much approves of this type of history, with its emphasis on the practical value of tradition, although he distinguishes it from history that in a more disinterested fashion seeks only to establish the truth of the past.[90] Machiavelli tells us that his new route (like Bacon's) can only be pointed out, not completely traveled, by its initiator. Again, Machiavelli is, he says, "driven by the natural eagerness I have always felt for doing without any hesitation the things that I believe will bring benefits common to everybody"; although in sharp and significant contrast to Bacon,

Machiavelli is able to admit a secondary motive, the desire for "reward by means of those who kindly consider the purpose of these my labors."[91] In the Prologue to the Mandragola Machiavelli, in satirizing the typical motives of others, again counts himself among those (i.e., all men) who seek first to take care of themselves,[92] who follow "wisdom for a man's self" as Bacon would call it. We have seen how antithetical this explicit attitude is to Bacon. Machiavelli and Bacon both seek advancement via writing (in Il Principe and The Advancement of Learning). But Machiavelli seeks fame, honor, and riches openly and for their own sakes, whereas Bacon, if he seeks them, does so by the profession of benevolence. In respect to both ability and intentions Bacon bases his claim to innovativeness and uniqueness upon his humility, a theological virtue that is not among Machiavelli's prime aspirations.

Peter Ramus (1515-72) offers a novel conception of the idea that there is one truth in which all doctrines participate. In his Aristotelicae Animadversiones (Remarks on Aristotle, 1543), Ramus posits an original Promethean "natural dialectic" partially corrupted by later philosophers like Aristotle, but which he, Ramus, can reconstruct. Thus Walter Ong points out, in expounding Aristotle Ramus treats the works in the Organum "as though they were supposed to fit exactly into his own scheme of an art of dialectic."[93] Bacon also claims that what he wishes to put into operation is the natural method for discovering knowledge; however Bacon's

argument depends upon his assertion that this method is not really found anywhere else, least of all among the accepted authorities. Ramus achieves a kind of autonomy by his radical handling of ancient ideas; for Bacon discontinuity with tradition and originality of vision become paramount.

Michel de Montaigne (1533-92), like Bacon, openly pits nature against tradition, although (conveniently for the approach taken in this study) it is his own nature, not the universe's. Montaigne at one point sees tradition as the vast backdrop against which the individual is lost. "Nihil tam absurde dici potest, quod non dicatur ab aliquo Philosophorum (Cic. Div.ii.). Nothing may be spoken so absurdly, but that it is spoken by some of the Philosophers." Against this possibility of total engulfment by the past, Montaigne says, "I suffer my humours or caprices more freely to passe in publike," entirely ignoring the influence of the past on him.

> Forasmuch as though they are borne with, and of me, and without any patterne; well I wot, they will be found to have relation to some ancient humour, and some [men] shall be found, that will both know and tell whence, and of whom I have borrowed them. My customes are naturall; when I contrived them, I called not for the help of any discipline....A new figure: an unpremeditated Philosopher and a casuall. 94

Besides the assertion of autonomy and the critique and rejection of the past as a source for inspirition, Bacon and Montaigne share a humility about the strength of their own wits compared with all those who went before. In con-

trast to Montaigne, Bacon displays a reforming zeal and an optimism about civilization. These traits are related to Bacon's refusal to find antecedents where Montaigne at least admits the similarity of his ideas to others in the past. What possibility of reform could there be if the reformer's ideas were tried before and they failed? Bacon is a relatively desperate character, one whose entire strength depends on those whom he seeks to persuade and on certain kinds of blindnesses about the past. Yet Montaigne's need to find all his ideas in himself (does he really believe that he does?) relates to his goal of humble self-understanding: what possibility of self-knowledge would there be if one's knowledge came from others? For both men discontinuity has become the essential starting point; through it Montaigne gains himself while Bacon seems to introduce discontinuity into his very mind and into his writings.

Sir Philip Sidney (1554-86) in his sonnet sequence Astrophel and Stella (1591) presents a "modern" lover who both uses traditional forms in a more detached and critical fashion and sets out to show his sincere and impatient suffering over real frustration. Although he does not reject it altogether Sidney remains uncomfortable with the traditional Petrarchan stance of patience and devotion: after praising his mistress, Stella, Astrophel exclaims,"'But ah,' Desire still cries, 'give me some food'" (sonnet 71). Sidney claims, in effect, that he has discovered a source of invention in his own heart rather than in tradition (as in sonnet 1).

Tradition has given him a "sunne-burn'd braine," or, in David Kalstone's gloss, "the parched sense of a man who has walked too long in the sun of the ancients."[95]

The legitimacy of an independent world of invention is maintained by Edmund Spenser (1552-99) on the basis of the unknown possibilities offered by his new age. Spenser claims that his readers can obtain new insights in the process of understanding his allegory of faerieland, just as they can from the innovations of scientists and the discoveries of explorers. In consciously fusing a sense of discovery, and an orderly means of discovery (allegory) with his "antique world," Spenser provides a model for Bacon's own re-interpretive mythography;[96] but more important, he provides a possible model for Bacon's scientific method of discovery (see chapter five). Bacon's necessarily insistent and exclusive assertion of his own modernity (as well as the negative nature of that modernity) makes an explicit connection with allegorical poetry like Spenser's, as with other antecedents, impossible for him to acknowledge or even grasp. Of the men of the past, Spenser asks,

> Who ever heard of th'Indian Peru?
> Or who in venturous vessell measured
> The Amazons huge river now found trew?
> Or fruitfullest Virginia who did ever vew?
>
> Yet all these were, when no man did them know;
> Yet have from wisest ages hidden beene:
> And later times things more unknowne shall show.
> Why then should witlesse man so much misweene
> That nothing is, but that which he hath seene?
> What if within the Moones faire shining spheare?
> What if in every other starre unseene
> Of other worldes he happily should heare?
> He wondern would much more: yet such to some appeare.

> Of Faerie lond yet if he more inquire,
> By certaine signes here set in sundry place
> He may it find; ne let him then admire,
> But yield his sence to be too blint and bace,
> That no'te without an hound fine footing trace.[97]

The epistle to Volpone (1607) by Ben Jonson (1572-1637) affords comparison with Bacon's claims. Like Bacon, whom he admired, Jonson makes a show of isolating himself from his own time and its ways, which he attacks satirically. Setting out alone, he seeks to restore the essential moral force of poetry, "to informe men, in the best reason of living," "If my Muses bee true to me," he says,

> I shall raise the dispis'd head of Poetry againe, & stripping her out of those rotten and base ragges, wherewith the Times have adulterated her forme, restore her to her primitive habite, feature, and majesty, and render her worthy to be imbraced, and kist, of all the great and Maister Spirits of our World. 98

Jonson the humanist sees the solution to his time's distress in inspired obedience to the classical ideal of the poet as ethical exemplar and to a supposed canon of ancient dramatic propriety. In both respects he parallels Bacon, whose program begins with a similar proclamation of moral probity, and who proposes a set of rules that marks the ascendency of prescriptive regulation in natural inquiry just as Jonson's and other neo-classicists' mark the same in poetics. But Jonson wants us to believe (here anyway) that his strength comes from a learned devotion to the past, while Bacon wants us to believe his comes from an all-too-learned rejection. In view of Jonson's dramatic celebrations of the roguish zest of his times and in view of Bacon's covert derivativeness, the realities are to a certain extent the

the opposite in both cases. Jonson's bold and hearty assertion of personal force (aided by the Muses) also contrasts with Bacon's humility.

John Donne (1572-1631) with his metrical irregularities suggests both a modern domination of a more authentic and personal speaking voice over song[99] and a modern confronting (or at least accomodation) of irreconcilable elements characteristic, as I hope to show in the next chapter, of Bacon also. In the Anniversary poems (1611-12) the claims are not for himself but for Elizabeth Drury; the complex picture he develops of his latter age's decay is that of one who has achieved his considerable perspective on the basis of the elaborate apotheosis of a stand-in personality. This same displacement is repeated by Donne's own eulogist, Thomas Carew (1594-1640), who echoes Donne's modest view of himself in relation to Elizabeth with his own in relation to Donne (see The Second Anniversary, 7-22 and 27-36; "An Elegy upon the Death of the Deane of Pauls, Dr. John Donne," 71-82). Carew, who finds Jonson's fidelity to ancient authors bordering on plagiarism in "To Ben Jonson...," praises Donne in the following manner in 1633 and in so doing lists the standards of his own self-consciously modern poetic, a poetic he finds in Donne.

> The Muses garden with Pedantique weedes
> O'rspred, was purg'd by thee; The lazie seeds
> Of servile imitation throwne away;
> And fresh invention planted, Thou didst pay
> The debts of our penurious bankrupt age....

But besides hero-worship of the founder of a school, Carew differs from Bacon in that he has little hope that the reform can be carried on and idols purged for good:

> But thou art gone, and thy strict lawes will be
> Too hard for Libertines in Poetrie.
> They will repeale the goodly exil'd traine
> Of gods and goddesses, which in their just raigne
> Were banish'd nobler Poems, now, with these
> The silenc'd tales o'th' Metamorphoses
> Shall stuffe their lines, and swell the windy Page
> Till Verse refin'd by thee, in this last Age
> Turne ballad rime, Or those old Idolls bee
> Ador'd againe, with new apostasie.....100

Religious reformers are a likely lode for astounding claims, but the greatest boast of John Calvin (1509-64) is that he is one of the elect and "has received more light from God than others." He has thus been empowered to open up "to all the children of God" the truth of Scripture (the only place where truth exists).[101] But presumably Calvin also humbly claims "total depravity" for himself as a member of the human race. His combination of humility with a sense of importance parallels Bacon's.

Bacon's connection with Calvinism is perhaps less easily determined than his clear link to Machiavelli and Montaigne and to the reforming example, at least, of Ramus. Bacon's mother was a Calvinist; of course calvinistic ideas were ubiquitous in Bacon's England. The "worldly asceticism" defined by Max Weber as the social results of Calvinist ideals[102] is indeed an apt characterization of Bacon's vision of selfless dedication in the service of material benefits.

The Puritan insistence upon work and the improvement of man's estate provides a particular Christian interpretation of virtus that, combined with the sense of the unworthiness of man and the necessity for discipline, highlights Bacon's similar combination of ideas in his claims.[103]

St. Francis de Sales (1567-1622), whose Introduction to the Devout Life enjoyed great popularity in seventeenth-century England, offers, in the spirit of the Counter-Reformation, a spiritual guide not as usual for contemplatives but for those who live "in the world." He says, "it is no easy task and must be undertaken with much more zeal than many have so far shown."[104] Like Bacon, he claims that the humbler, more practical and more altruistic task he undertakes is worthier than his predecessors' loftier tasks.

Extremist sects afford more striking parallels to Bacon's claims. Specific parallels have indeed been noted between some features of the future predicted by the Rosicrucians and some details of Bacon's utopia, Bensalem.[105] In 1614 the Confessio Fraternitatis announces that

> ...what before times hath been seen, heard, and smelt, now finally shall be spoken and uttered forth, when the World shall awake out of her heavy and drowsy sleep, and with an open heart, bare-head, and bare-foot, shall merrily and joyfully meet the new arising Sun...like as the mathematician and astronomer can long before see and know the eclipses which are to come, so we may verily foreknow andforesee the darkness of obscurations of the Church, and how long they shall last. From the which characters or letters we have borrowed our magic writing, and have found out, and made, a new language for ourselves, in the which withall is expressed and declared the nature of all things. So that it is no wonder that we are not so eloquent in other languages, the which we know that they are altogether disagree-

> ing to the language of our forefather, Adam and Enoch, and were through the Babylonical confusion wholly hidden.[106]

The Order of the Rosy Cross claims not only exclusive, apocalyptic, and scientifically precise prophetic powers, but also knowledge of the original natural language. Baconian science too has nothing less than an apocalyptic goal, and Bacon claims to have initiated a more natural discourse that for once overcomes the distortions of systematization, rhetoric, received ideas, and vanity.

Scientists, encyclopedists, inventors, alchemists, physicians, magicians, and others dealing with natural knowledge provide perhaps the readiest comparisons with Bacon and his claims. Leonardo da Vinci, in the Proem to his Notebooks, points in the general direction of the scientist's claims by ironically lamenting that all the good themes are gone for a prospective writer since there are so many self-important learned men writing. Leonardo's ironic claim is that he, unlike the others, must make do with "despised and rejected wares"--i.e., not books and opinions but natural substances and mechanics, the "book of Nature."[107] In the spirit of the humanist revolt against scholastic pedantry--but against the spirit of humanist syncretism--Leonardo and innumerable others, including Bacon, attempt to promote the study of nature and the mechanical arts.

Legitimizing these lowly studies seems to be synonymous with attacking the ideals of the loftier studies. Bernard Palissy (c.1510-?89), for instance, was one of a large

number of men who prior to Bacon's time devoted themselves to promoting the mechanical arts against, for one thing, the classical learning of the humanists.[108] Palissy's extravagant orations concerning his mechanical wonders and his rejection of traditional learning may have been witnessed by Bacon on his visit to France.[109]

The physician and alchemist Philippus Theophrastus Bombastus von Hohenheim (1493-1541), from whose name the word "bombast" derives, is notorious in Bacon's time for his far-reaching claims and attacks on the accepted authorities.[110] Under his assumed name, Paracelsus (signifying that he goes beyond the received medical authority Celsus), he expresses a Mirandola-like confidence in man.

> Man is superior to the stars if he lives in the power of superior wisdom. Such a person, being master over heaven and earth, by means of his will, is a magus, and magic is not sorcery but supreme wisdom.[111]

Calling himself the "Trismegistus of Mechanical Arcana," Paracelsus says:

> the Monarchy of all the Arts has been at length derived and conferred on me....For this purpose I have been chosen by God to extinguish and blot out all the phantasies of elaborate and false works, of delusive and presumptuous words, be they the words of Aristotle, Galen, Avicenna, Mesva, or the dogmas of any among their followers. My theory, proceeding as it does from the light of Nature, can never, through its consistency, pass away or be changed: but in the fifty-eighth year after its millennium and a half it will then begin to flourish....Come hither after me, all you philosophers, astronomers and spagyrists, of however lofty a name ye may be, I will show and open to you, Alchemists and Doctors, who are exalted by me with the most consummate labours, this corporeal regeneration.[112]

Although like most others Bacon condemns Paracelsus's search for the philosopher's tincture as well as his medical methods and his vaunting prophecies, both men wish to turn from books to nature, both see their own contributions as the decisive turning point of history, exhort others to join them, and isolate themselves by condemning most of their fellow scientists. In different ways both attempt to substitute the performance of an individual, onmipotent personality for the significations of all the texts of history.

In the middle of the sixteenth century Henry Cornelius Agrippa von Nettlesheim produces one of the most popular and influential attacks on the state of learning, which to him neither heeds the word of Christ nor allows scholars liberty to search out truth. Agrippa openly displays his heroic virtus in a righteous battle. Comparison with Bacon's modulations is again left to the reader.

> Will not this my enterprise (studious Reader) seeme unto thee valiant and adventurous, and almost comparable to the attamptes of Hercules, to take up weapons against all that Giaunt force of Science and Artes, and to chalenge into the fielde all theire moste hardie hunters of Artes and Sciences? The statelinesse of the Doctours, the learninge of the Practisers, the authoritee of the Maisters, the endeavours of the Bachelours, the envie of all the scholers, and the sedition of the Handicraftes men, will murmure againste me. Which if I shall vanquishe, will it not be so much, or more, then to stryke the Nemean Lyon with a mase... [ten more heroic comparisons] ... to take awaie the Golden apples of Hesperides, and many other noble adventures of this sorte, which were done by Hercules with greate labours, and with no lesse daunger, being of no lesse travaile, then perill to overcome these monsters of studies and schooles. And I well perceive what a bloody battaile I have to fighte with them hande to hande, and how daungerous this fight

> will be, seeinge that I am beset on every side with an armie of so mightie ennemies. O with howe many ingins will they assaile mee, with howe many Shames and Villainies will they lode mee? First of all the loowsie Grammarians will make a Stirre, and with their Etymologies uppon Agrippa will geve me a goutie name...[There follows four pages of fantasied attack on Agrippa by academics]. [113]

Bacon calls Bernardino Telesio (1529-88) "the first new man." Bacon's criterion for a successful stance of modernity is in Telesio's case the rejection of the authority of established writers on nature, especially Aristotle's. Telesio appeals, as innovators of whatever field are prone to do, to imperfectly-known older figures (pre-Socratics, especially Parmenides), to back up his attack on the principal figures of authority (Bacon appeals to the pre-Socratics to some extent also). In his De rerum natura iuxta propria principia (1565; expanded 1586) Telesio says,

> Qui ante nos Mundi hujus constructionem, rerumque; in eo contentarum naturam perscrutati sunt, diuturnis quidem vigiliis, magnisque; illam indagasse Laboribus, at nequaquam inspexisse videntur....Nos non adeo nobis confisi, et tardiori ingenio, et animo donati remissiore, et humanae omnino sapientiae amatores, cultoresque... Mundum ipsum, et singulas ejus partes, et partium, rerumque; in eo contentarum passiones, actiones, operationes, et speties, intueri proposuimus. [114]

> Those who before me have investigated nature seem to have looked with great, long-lasting, and watchful labors, but not at all to have comprehended the true connection of the things of this world...[But] I, not relying entirely on myself, and with a slower genius and weaker mind--and being a lover and cultivator in general of human wisdom--, have proposed to consider the world itself and its single parts, the passions, actions, operations, and species.

Here Telesio, like Bacon, claims priority, humility, and

importance. The method he has devised entitles him to make these claims. As Bacon does later, Telesio stresses the limits of reason and speculation, and builds a system, so he believes, on sense perceptions and on strictly defined inferences from them.[115] If it is true that Telesio's ideas influence Bacon more than other modern scientific writers,[116] perhaps also the forms of Bacon's claims owe more to Telesio's example than to anyone else's. But Bacon, quite in the spirit of Telesio's own modernity, which rejects what came before it, in his turn criticizes and rejects Telesio's ideas as unproductive and confusing.[117] It is particularly interesting to note that although Telesio's originality and iconoclastic stance appeals to and influences Bacon, the later writer only explicitly praises Telesio for his revival of long-discredited ideas--ideas that cannot threaten Bacon's own priority among the moderns. What Bacon gives with one hand he takes away with the other.

> But of Telesio himself I have a good opinion and acknowledge him as a lover of truth, useful to the sciences, the reformer of certain opinions, and the first of the moderns; at the same time it is not as Telesio that I have to do with him, but as the restorer of the philosophy of Parmenides, to whom much respect is due.[118]

In the art of making bold claims, Francisco Patrizi (1529-97) goes beyond Telesio. His writings, besides being a possible source for Edmund Spenser's Platonism, seem to provide a strident model for Bacon's induction to the Instauratio's Proem (see above, p.52) In the Panaugia (a part of the great

work (Nova de Universis Philosophia, 1591), which is dated further as "Anno aetatis suae LVIII," Patrizi says,

> Franciscus Patricius, establishing a new, true, and whole philosophy of the universe, dared to proclaim the following as most true. Proceeding in order what he proclaimed he proved by divine oracles, geometric necessities, philosophic reason, and most clear experiments.[119]

Galileo Galilei's Sidereus Nuncius (The Starry Messenger, 1610), which includes his astronomical discoveries, could hardly have been ignored by Bacon, nor could Galileo have avoided claiming knowledge of "Great things, never before seen." Galileo's epistle to Cosimo II de Medici contains a subtle and elaborate compliment that indicates both Galileo's confident attitude and his differences from Bacon. Galileo argues that because nature is more lasting than art, science and scientific invention are superior to other arts: they can provide great men with truly permanent monuments (in this case, the moons of Jupiter that Galileo names the "Medicean stars," following the custom of naming stars after gods and heroes).[120] Bacon also places knowledge of nature above works of art, but of course not for the "vain" reason Galileo gives. But behind Galileo's compliment is the idea that knowledge of nature through science is a new field of endeavor for human virtus in the sense of intellectual courage and strength. The permanence of Galileo's discovery will give him, not Cosimo, a monument famous for all time. But for Bacon the distinct quality of science is that

it rejects personal fame and personal intellectual force, and emphasizes the practical, the humble, and the democratic.

Among the most important of the claims of scientists are those of Bacon's contemporaries and compatriots, William Gilbert (1540-1603) and William Harvey (1578-1657). Their interest in independent, accurate observation and their claims to priority and importance in that endeavor are quite similar to Bacon's, if slightly less sweeping. Gilbert, like Agrippa, employs grotesque parataxes to list some of the foolish and ignorant errors of past writers. While he does denigrate most of the men of the Renaissance (Agricola and Cardan are "careless"; Ficino "chews the cud of ancient opinions"), he finds a much greater "genius" for works useful to man in his day than in ancient times. Bacon too found in the signs of his times much cause for hope for progress. For himself Gilbert claims that he will be the first to demonstrate by labors and experiments "hidden and recondite but real causes" operating in magnetic bodies.[121] The size of this claim increases dramatically when we realize that for Gilbert magnetism was the fundamental attractive and binding principle of the universe. Writing in the somewhat more sophisticated scientific atmosphere of 1627, Harvey seems to judge more accurately the extent of his own innovativeness. (Bacon was dead by 1626 but Harvey's ideas were known much earlier). Harvey claims to work from nature not from philosopher's books, but he neither flaunts nor covers up his belief that "this book of mine was the only one to oppose tradition and

to assert that the blood travelled along a previously unrecognized circular pathway of its own."[122] Rather than Bacon's or Gilbert's enthusiasm at the presentation of a new idea, Harvey's preface displays more quiet (but still earnest) zeal: he presents the results of long investigation of an unpopular idea that has at last found some favor.

Two statements of Descartes' stance toward tradition provide a terminus to our list of claims. Descartes wishes to triumph completely over nature and fortune by pure force of intellect rather than by Bacon's elaborate accomodations of the mind to nature.

> ...those who have learnt least about all that which has hitherto been named philosophy, are the most capable of apprehending the truth.... the true principles by which we may arrive at that highest point of wisdom, in which the sovereign good of the life of man consists, are those which I have put forward in this book.[123]

Two typical features of Bacon's and Descartes' attempts to systematize philosophy are that they advertise easy comprehension[124] (as a result of their claimed orderliness) in comparison with the labyrinthine arduousness of past philosophers, and thatthis ease can be linked with a disclaimer about the role of the writer's own genius. Thus Descartes says,

> ...it is not essential to possess much art or address in order to discover [knowledge]...no more glory is due to me than is due to a casual passer-by for having by good fortune [par bonheur] discovered under his feet a rich treasure which had for long successfully eluded the searches of many.[125]

This "bonheur" is not far from Bacon's "chance" or "time":

the fortunate discovery of something that, once found, soon comes to be taken for granted. But for Descartes discovery involves directing the mind's activities; for Bacon, a surrender of the mind to nature and time, and a humility that becomes central to the validity of the method.

For Bacon a successful point of departure and assertion of modernity means becoming involved in a huge conflict between the present and the past. His struggle to overcome his antecedents and find a stable basis becomes the natural task of those of his time who inherit the quotient of humanist exuberance and text-worshipping eclecticism. By understanding Bacon's problem of modernity in the light of the above possibly tedious list of analogues--many of which would undoubtedly contribute to a genealogy of Bacon's claims--we can better appreciate the task facing Bacon's age and consider in a new light "the unfortunate, and sometimes mean, reticence [Bacon] displays concerning his own great obligations to the ancient and modern world."[126] It must be asked if Bacon's denial of his own repetitiveness (i.e.,denial of an antecedent context for his work) results in a loss of coherence, in a peculiar indeterminacy of meaning. The absence of a thoughtful, shaping maker that is both the hallmark of Bacon's method and the paradoxical prerequisite for his forceful assertion of modernity also suggests the possibility of such incoherence. Do these factors engender in some of his work a situation like the weightless condition inside a spaceship, where objects not strapped down float and clash? The

following chapter will examine the conflict of modern and traditional elements implicit in Bacon's important writings on science.

Notes

1. On the continuity of Bacon's outlook on the past despite varying emphases and depth see Paolo Rossi, Francis Bacon: From Magic to Science, tr. Sacha Rabinowitz (Chicago: University of Chicago Press, 1968), esp. p. 37.

2. Works, IV, 7; I, 121.

3. IV, 7-8; I, 121-22.

4. IV, 20; I, 131.

5. IV, 27; I, 139-40.

6. Valerius Terminus, I (III, 222).

7. IV, 21; I, 132.

8. Of Education in The Prose of John Milton, ed. J. Max Patrick (Garden City: Doubleday, 1967), p. 230. The Renaissance concern with returning to origins is discussed in Harry Levin, The Myth of the Golden Age in the Renaissance (New York: Oxford, 1969).

9. IV, 27; I, 140.

10. IV, 7-8; I, 121-22.

11. IV, 11-12; I, 123-24.

12. IV, 25, 30; I, 137, 142.

13. Tr. Benjamin Farrington in The Philosophy of Francis Bacon (Chicago: University of Chicago Press, 1966), pp. 108, 119.

14. Book III, ch. iv (IV, 258-59; I, 563).

15. Tempus Partus Masculus in Farrington, pp. 70, 63.

16. IV, 8; I, 122.

17. Preface to the Instauratio, IV, 19; I, 130.

18. IV, 11; I, 123.

19. See Sidney Wahrhaft, "The Providential Order in Bacon's

Philosophy" in Studies in the Literary Imagination, 4, No. 1 (1971), 48-64.

20. IV, 11-12; I, 123-24.

21. Farrington, pp. 132-33 (Latin: III, 584-85).

22. IV, 13; I, 125.

23. Novum Organum, I, 85 (IV, 83; I, 192).

24. E. R. Curtius, European Literature and the Latin Middle Ages, tr. W. R. Trask (Princeton: Princeton University Press, 1953), pp. 83-85.

25. My use of the word "thoughtlessness" is suggested by Heidegger's What Is Called Thinking? "We are still not thinking," Heidegger says in discussing man's relation to his deeper nature and in calling for recollection of the Western philosophical tradition. In complete contrast, Bacon's motto might have taken the form "stop thinking so much."

26. W. K. Ferguson, "Humanist Views of the Renaissance" in Renaissance Studies (London, Ont.: Western Ontario University Press, 1963); Eugenio Garin, Italian Humanism: Philosophy and Civic Life in the Renaissance, tr. Peter Munz (New York: Harper and Row, 1966); Science and Civic Life in the Italian Renaissance, tr. Peter Munz (Garden City: Doubleday, 1969); Federico Chabod, Machiavelli and the Renaissance, tr. David Moore (1958; rpt. New York: Harper and Row, 1965).

27. Ferguson, p. 54.

28. Garin, Italian Humanism, p. 15 and translator's introduction, p. x.

29. Italian Humanism, translator's introduction, p. viii.

30. Jean Seznec, The Survival of the Pagan Gods, tr. Barbara F. Sessions (1953; rpt. New York: Harper and Row, 1961), p. 322.

31. Italian Humanism, p. 18.

32. Charles Trinkaus, In Our Image and Likeness: Humanity and Divinity in Italian Humanist Thought (Chicago: University of Chicago Press, 1970), II, 762.

33. Bacon's view of the strengths and limitations of Pico's oration is suggested in this passage on the science of "human nature": it is to be a knowledge "not so much in regard of those delightful and elegant discourses which have been made of the dignity of man, of his miseries, of his state and life, and the like adjuncts of his common and undivided nature; but chiefly in regard of the knowledge concerning the sympathies and concordances between the mind and body..."

(The Advancement of Learning, II [III, 367]).

34. P. O. Kristeller, "The Unity of Truth" in Renaissance Concepts of Man and other Essays (New York: Harper and Row, 1972), p. 53.

35. For use of the term with respect to Pico see P. O. Kristeller, Introduction to Pico's "Oration" in The Renaissance Philosophy of Man, ed. Ernst Cassirer, P. O. Kristeller, J. H. Randall, Jr. (Chicago: University of Chicago Press, 1948), p. 220. See also C. S. Lewis, The Discarded Image: An Introduction to Medieval and Renaissance Literature (Cambridge: Cambridge Univerisity Press, 1964), pp. 12, 68.

36. Cassirer et al., pp. 224-25.

37. Garin, Science and Civic Life, pp. 3f.

38. Richard Popkin, The History of Skepticism from Erasmus to Descartes (1964; rpt. New York: Harper and Row, 1968), p. 19.

39. Georges Poulet, Studies in Human Time, I, tr. Elliott Coleman (Baltimore: Johns Hopkins University Press, 1956), p. 13f.

40. The Civilization of the Renaissance in Italy, tr. S. G. C. Middlemore, rev. Irene Gordon (New York: New American Library, 1960), p. 204.

41. Such factors are brought out in Garin's discussion of Leon Battista Albert's work in Science and Civic Life. pp. 5f.

42. Seznec, p. 146.

43. P. O. Kristeller, The Classics in Renaissance Thought (Cambridge: Harvard University Press, 1958), p. 147.

44. Eugenio Garin suggests a relationship between Descartes and the Italian humanists in Italian Humanism, pp. 16-17.

45. Poulet, Studies in Human Time, I, sees Descartes's cogito as the crystallization of the Renaissance problem of self-definition (see pp. 3-39).

46. Novum Organum I, 35 (IV, 53; I, 162).

47. "Bacon and the Scientist as Hero" in Studies in the Literary Imagination, 4, No. 1 (1971), pp. 3-48.

48. See Cassirer, "Freedom and Necessity in the Philosophy of the Renaissance" in The Individual and the Cosmos in Renaissance Philosophy, pp. 73-122.

49. Lewis and Short's Latin Dictionary.

50. Individual and Cosmos, p. 84; see also Hannah Arendt, The Human Condition (Garden City: Doubleday, n.d.), pp. 225f. for a history and analysis of the vita activa and modernity.

51. Seznec, quoted in Eugene M. Waith, The Herculean Hero in Marlowe, Chapman, Shakespeare, and Dryden (New York: Columbia University Press, 1962), p. 39.

52. Steadman, "Bacon and the Scientist as Hero," p. 4.

53. See Trinkaus, In Our Image and Likeness: Humanity and Divinity in the Italian Renaissance (Chicago: University of Chicago Press, 1970), I, 18-28.

54. The History of the Reign of King Henry the Seventh [and Related Writings], ed. F. J. Levy, tr. Spedding, Ellis, and Heath, p. 291.

55. Trinkaus, I, 18.

56. Ramus, Method, and the Decay of Dialogue: From the Art of Discourse to the Art of Reason (Cambridge: Harvard University Press, 1958).

57. "Cupid, or the Atom" in The Wisedome of the Ancients, tr. Sir Arthur Gorges (1619; rpt. New York: Da Capo Press, 1968), p. 84.

58. Sonnet 15; see Anne Ferry, All in War with Time: Love Poetry of Shakespeare, Donne, Jonson, and Marvell (Cambridge: Harvard University Press, 1975).

59. E. P. Memmo, Jr. Giordano Bruno's The Heroic Frenzies: A Translation with Introduction and Notes (Chapel Hill: University of North Carolina Press, 1966), p. 17.

60. Robert Burton in The Anatomy of Melancholy (1621), unlike Bruno and, for instance, Edmund Spenser in the Foure Hymnes (1595), classifies religious passion separately from heroic love, which is distinctly sexual. He admits, however, that his classification is novel (see III, 4.1.1).

61. The Heroic Frenzies, e.g. p. 251.

62. See Erwin Panofsky, "Father Time" in Studies in Iconology (1939; rpt. New York: Harper and Row, 1962), p. 90.

63. Bacon's identity as counselor (rather than prophet) is discussed in chapter five.

64. Edgar Wind, Pagan Mysteries in the Renaissance, 2nd. ed. (New York: W. W. Norton, 1968), p. 259.

65. Novum Organum, I, 1, 3 (IV, 25; I, 137).

66. Waith, The Herculean Hero, p. 41, discusses the paradox involved in the assimilation of megalopsychia into a Christian framework; see also Walter Kaufmann, From Shakespeare to Existentialism (Garden City: Doubleday, 1960), pp. 8f.

67. The Heresy of Self-Love: A Study of Subversive Individualism (New York: Harper and Row, 1968), pp. 59-60; Moody E. Prior, "Bacon's Man of Science," Brian Vickers, ed., Essential Articles for the Study of Francis Bacon (Hamden, Ct.: Archon Books, 1968) discusses some of the religious and ascetic aspects of Bacon's conception of the scientific personality.

68. Francis Bacon, p. 33.

69. Novum Organum, I, 104 (IV, 95; I, 203).

70. Preface to the Novum Organum (IV, 40; I, 152).

71. Tempus Partus Masculus, tr. Benjamin Farrington in The Philosophy of Francis Bacon, p. 63.

72. Novum Organum, II, 18-20 (IV, 147-49; I, 259-61).

73. Novum Organum, I, 115 (IV, 103; I, 211).

74. The Logic of Scientific Discovery, tr. anon. (New York: Hutchinson, 1959), p. 279n. See also Conjectures and Refutations: The Growth of Scientific Knowledge (London: Routledge and Kegan Paul, 1963), pp. 12-15; The Philosophy of Karl Popper, ed. P. A. Schlipp (LaSalle, Ill.: Open Court, 1974), pp. 1032f., 1149.

75. On Coleridge and Bacon see P. B. Medawar, "The Art of the Soluble" in The Philosophy of Karl Popper, p. 282. A. S. Pfeffer, "Instauration of the Spirit: Transcendentalism and Francis Bacon," Diss. City University of New York 1967, discusses in greater length Coleridge's extreme perspective (pp. 183-206). Coleridge makes Bacon "the British Plato," with the help of gross mistranslations and misquotations, in The Friend, III, 2, 9.

76. De Dignitate, II, 13 (IV, 326-27; I, 529-30).

77. Novum Organum, I, 130 (IV, 115; I, 223).

78. Novum Organum, I, 69 (IV, 69; I, 179).

79. The Philosophy of Science (Princeton: Van Nostrand, 1965), pp. 243-44.

80. Novum Organum, I, 126 (IV, 112; I, 219).

81. "[Poet's] language is vitally metaphorical; that is, it marks the before unapprehended relations of things and perpetuates their apprehension, until the works which represent them become, through time, signs for portions or classes of thoughts instead of pictures of integral thoughts; and then if no new poets should arise to create afresh the associations which have been thus disorganized, language will be dead to all the nobler purposes of human intercourse. The similitudes or relations are finely said by Lord Bacon to be 'the same footsteps of nature impressed upon the various subjects of the world'...." See A Defence of Poetry in Selected Poems, Essays, and Letters, ed. Ellsworth Barnard (New York: Odyssey, 1944), p. 532, and also p. 536. Continuous revolution is also the theme of Prometheus Unbound.

82. See De Dignitate, V, 2 (IV, 413-21; I, 623-33); William A. Sessions discusses Bacon's Experientia Literata and the imagination in "The Hunt for Pan: Bacon's Use of the Imagination," Diss. Columbia University 1968.

83. See Waith, pp. 49-59.

84. "Francis Bacon's Intellectual Milieu" in Essential Articles, pp. 35, 29.

85. Machiavelli, The Chief Works and Others, tr. Allan Gilbert (Durham: Duke University Press, 1965), I, 10-11.

86. The Prince in Chief Works, I, 90-91.

87. Discourses, I, 190.

88. Chabod, p. 125.

89. Discourses, I, 190-91.

90. "Ruminative" and "Perfect" histories are discussed in The Advancement of Learning, II (III, 339, and see note 3 in I, 513).

91. Discourses, I, 190, 191-92, 190.

92. Mandragola, II, 776-77.

93. Walter Ong, Ramus, Method, and the Decay of Dialogue, p. 173. See "That There is But One Method of Establishing a Science" in Renaissance Philosophy: New Translations, tr. Leonard A. Kennedy and Eugene J. Barber (The Hague: Mouton, 1973), pp. 109-55.

94. An Apologie of Raymond Sebonde in Essayes, tr. John Florio (New York: Modern Library, n. d.), pp. 490-91.

95. Sidney's Poetry: Contexts and Interpretations (Cambridge: Harvard University Press, 1965), p. 128.

96. See C. W. Lemmi, The Classic Deities in Bacon (Baltimore: Johns Hopkins University Press, 1933).

97. The Faerie Queene, II, Proem, 2-4, in Edmund Spenser's Poetry, ed. Hugn MacLean (New York: W. W. Norton, 1968), pp. 148-49.

98. In Literary Criticism of the Seventeenth Century, ed. Edward W. Tayler (New York: Alfred A. Knopf, 1967), pp. 81, 82.

99. See John Hollander, Vision and Resonance: Two Senses of Poetic Form (New York: Oxford University Press, 1975), pp. 46-47.

100. The Poems of Thomas Carew, ed. Rhodes Dunlap (London: Oxford University Press, 1949), pp. 72-73 (ll. 25-27, 61-70).

101. Institutes of the Christian Religion, tr. Henry Beveridge (Grand Rapids: Wm. B. Eerdmans, 1964), I, 23-24.

102. The Protestant Ethic and the Spirit of Capitalism, tr. Talcott Parsons (New York: Scribner's, 1958), pp. 155f.

103. See R. F. Jones, Ancients and Moderns (2nd ed; Gloucester, Mass.: Peter Smith, 1961), esp. pp. 87-118.

104. Tr. Michael Day (New York: Everyman, 1961), p. 1.

105. Frances Yates, The Rosicrucian Enlightenment (London: Routledge and Kegan Paul, 1972), pp. 125-29.

106. See Yates, The Rosicrucian Enlightenment, p. 257.

107. Ed. Edward MacCurdy (New York: Braziller, 1958), I, 57-59.

108. See Rossi, pp. 1-35. Georgius Agricola, writer of De Re Metallica (1556) is perhaps the best-known.

109. Rossi, pp. 7-8.

110. See Henry M. Pachter, Paracelsus: From Magic to Science (New York: Collier, 1951).

111. Quoted in Henry M. Pachter, Paracelsus: From Magic to Science (New York: Collier, 1951), p. 74.

112. The Book Concerning the Tinctures of the Philosophers in The Hermetical and Alchemical Writings of Paracelsus, ed. Arthur E. Waite (Berkeley: Shambala, 1976), I, 19-21.

113. "Henry Cornelius Agrippa to the Reader" in Of the Vanities and Uncertainty of Arts and Sciences, tr. James Sanford (2nd ed.; London: n. p.., 1569), n. pag.

114. De Rerum Natura, Proem (1586; rpt. New York: Georg Olms, 1971), pp. 1-2.

115. P. O. Kristeller, Eight Philosophers of the Italian Renaissance (Stanford: Stanford University Press, 1964), p. 105.

116. I, 564n.

117. Bacon's definitive remarks on Telesio are in his De Principiis atque Originibus... (V, 476-500; III, 95-118).

118. V, 495; III, 114.

119. Quoted in Virgil K. Whitaker, "Francesco Patrizi and Francis Bacon" in Studies in the Literary Imagination, 4, No. 1 (1971), 115.

120. In Discoveries and Opinions of Galileo, tr. Stillman Drake (Garden City: Doubleday, 1957), pp. 27, 23-26.

121. On the Lodestone and Magnetic Bodies, and On the Great Magnet of the Earth, tr. P. Fleury Mottelay (London: Bernard Quaritch, 1893), pp. 10-14.

122. The Circulation of the Blood, tr. Kenneth J. Franklin (London: Everyman, 1907), pp. 5-7.

123. "Author's Letter..." in The Principles of Philosophy in The Philosophical Works of Descartes, tr. Elizabeth S. Haldane and G. R. T. Ross (1911; rpt. Cambridge: Cambridge University Press, 1967), I, 208.

124. For both Bacon and Descartes this ease of comprehension is true only for those-- and they may be a small minority-- who are able to put away their preconceptions and faulty education.

125. The Search for Truth in Works, I, 306. The French

is quoted in part by Hannah Arendt in The Human Condition, p. 363.

126. Morris W. Croll, "Attic Prose: Lipsius, Montaigne, and Bacon" in "Attic" and Baroque Prose Style: The Anti-Ciceronian Movement, ed. J. Max Patrick, R. O. Evans, and J. M. Wallace (Princeton: Princeton University Press, 1966), pp. 190-91.

Chapter Three

Bacon's Contradictory Attitudes Toward the Past

1. Introduction

While providing him with a basis for independence from the past, Bacon's bold claims to importance, priority, humility, and disinterest have too narrowly circumscribed the possible means and materials Bacon is left with. Tradition must therefore be allowed a place in Bacon's scientific enterprise, but only after being de-fanged and trained in the rules of the house Bacon is building. The kind of domestication of the past that he has in mind, however, is perhaps never possible for anyone. This chapter discusses the more complete attitude toward the past Bacon has developed in two different ways in the 1620 Instauratio and in The Two Books of Francis Bacon of the Proficience and Advancement of Learning Divine and Human (1605), and the difficulties inherent in the attitude, particularly as it appears in the Advancement. The following two chapters (four and five) explore the kind of transformations of traditional modes that occur when Bacon actually tries to act on the basis of his attitude.

The qualifications of Bacon's claims to priority and importance are already suggested by the contrapuntal claims to humility and disinterest. These claims both reflect the Christian Bacon's difficulty in assimilating and transforming the classical ideal of heroic assertion and provide an alternate means of distinguishing and further enhancing Bacon's claim to be the first man to discover the way to natural truth. With his qualifications Bacon indeed attempts to find a way to reconcile past and present--a paradoxical

attempt, since throughout it Bacon in one way or another insists upon his discontinuity. In the Instauratio he offers explicit qualifications for the bold claims made at the beginning and throughout that work (as well as displaying implicit qualifications); in the earlier Advancement of Learning, as well as in the Essays and De Sapientia Veterum, his whole strategy is to emphasize the points of continuity between his analysis and all "learning." Paolo Rossi has persuasively argued that Bacon's attitude toward the past remains essentially unchanged between the Tempus Partus Masculus of 1603 and the Instauratio and Novum Organum of 1620. (see ch. 1, n.1) The theme of reconciliation dominant in the Advancement contrasts with the content of these less tolerant works, but since that particular emphasis on that theme can be interpreted as part of Bacon's tactful strategy of persuasion (he wants royal backing for his scientific endeavors), and since Bacon endorsed his 1605 views by reissuing the Advancement as part of the Instauratio in 1623, I generally assume for the Advancement the same basic attitudes, though less developed, as those displayed in the other works. Bacon's fully developed position with respect to tradition, like the somewhat paradoxical claims with which he announces the modernity of his position, becomes difficult to maintain or make intelligible. This interpretive difficulty reflects the perennial and quite often unresolvable problems involved with the relation of tradition to innovation.

2. Qualifications in the Instauratio Magna

In the Instauratio Bacon claims to have discovered a way to nature that triumphs where all past attempts failed. But, in fact, in the Instauratio Bacon finds a way to "forget" the past by re-classifying it and making it irrelevant. Thus he presents himself as a harmless and innocent iconoclast, one who merely practices in new fields the high ideals of the past, truth and charity. The taboo upon the kind of assertion Bacon wishes to make--a taboo in force, apparently, in both Bacon and his culture--necessitates some disclaimers and considerable toning down of the initial dramatic emphasis on modernity.

One good qualified claim or claim-denial comes in the Preface to the Novum Organum, the last of the five rich pieces prefixed to that collection of aphorisms:

> it falls out fortunately as I think for the allaying of contradictions and heart-burnings [tumores animorum], that the honor and reverence due to the ancients remains untouched and undiminished; while I may carry out my designs and at the same time reap the fruit of my modesty. For if I should profess that I, going the same road as the ancients, have something better to produce, there must needs have been some comparison or rivalry between us...in respect of excellency or ability of wit....As it is however,--my object being to open a new way for the understanding, a way by them untried and unknown,--the case is altered; party zeal and emulation are at an end; and I appear merely as a guide to point out the road; an office of small authority, and depending more upon a kind of luck than upon any ability or excellency. [1]

Bacon suggests a grand division of knowledge according to its ends, a division that fits the distinction between the arts and sciences and that between ancient and modern learning. This division allows him to reap the fruit of

his modesty, that is, take away the stigma of pride from the assertion of modernity. It should be noted, however, that the "office of small authority" may be highest where the idea of authority is disvalued, and that the "kind of luck" Bacon mentions is actually also the aim of this method: the organized discovery of chance associations made by nature herself that eventually combine, via induction, into laws.

This coloring that Bacon gives to his side of the new division of knowledge is more evident a paragraph later where Bacon's persuasive powers take charge.

> Let there be therefore (and may it be for the benefit of both) two streams and two dispensations of knowledge; and in like manner two tribes or kindreds of students in philosophy-- tribes not hostile or alien to each other, but bound together by mutual services; let there in short be one method for the cultivation, another for the invention, of knowledge.
>
> And for those who prefer the former, either from hurry or from considerations of business or for want of mental power.... I wish that they may succeed to their desire in what they are about, and obtain what they are pursuing. But if any man there be who, not content to rest in and use the knowledge which has already been discovered, aspires to penetrate further; to overcome, not an adversary in argument, but nature in action; to seek, not pretty and probable conjectures, but certain and demonstrable knowledge;--I invite all such to join themselves, as true sons of knowledge, with me, that passing by the outer courts of nature, which numbers have trodden, we may find a way at length into her inner chambers. And to make my meaning clearer and to familiarise the thing by giving it a name, I have chosen to call of these methods or ways Anticipation of the Mind, the other Interpretation of Nature.[2]

In the first quotation above the "tumores animorum," "heart-burnings," or literally, "swellings of the heart" (or "soul"), suggests the frustration and painful holding back of desire (which, we would say, might result in re-

pression)[3] that Bacon evidently believes is associated, at least in the minds of some of his readers, with not retrieving and assimilating tradition with its myriad offering of rich and suggestive possibilities for human expression. How Bacon achieves a release of these swelling desires by means of or in spite of his two-fold division of human concerns, is one way of conceiving of the central problem of modernity in the 1620 volume, with its dramatic proposal of a new, ascetic order. In the passages above Bacon demonstrates his acute but only partial awareness of this problem.[4] Indeed the problem of all writers of literature, how to respond to and extend the material of tradition while at the same time achieving an independent coherence or expression of truth[5] is, as it were, the direct concern of the 1620 volume. The difficulties of the position developed there can only be appreciated by examining, as we shall in the following chapter, some aspects of Bacon's attempt to carry it out. In practice Bacon is unable to keep the theoretical division between content and form suggested in the above quotation: the art of presentation, based on traditional forms, takes over the meaning of a passage in unexpected ways. As an explicit qualification of Bacon's claims, the division of disciplines becomes itself qualified further by the language, formal elements, and context of the whole work.

3. Obscurities in The Advancement of Learning

The case of The Advancement of Learning is different. Here the very statements of position in favor of innovation and in favor of tradition are irreconcilable. In 1605, when Bacon wrote the Advancement, he does not seem to have a fully formed conception of his modernity--that is, of how he is different from writers of the past--or even of what could be called the possibilities of difference. In some ways the situation is the reverse of that in the later work, where Bacon finds it necessary to qualify his strong assertions and where the text itself further qualifies them by adumbrating poetic genres. In the Advancement the explicit emphasis is on the essential unity of both the tradition and the advancement of learning and of the arts and sciences; the strongest element in the qualifying undercurrent is a persistent modernity, a willful urge to autochthony and discontinuity that undercuts the easy, second-nature relationship with tradition suggested by Bacon's allusions. The kind of problems found in the Advancement are paralleled by those in the Essays and De Sapientia Veterum, although these works cannot be discussed separately here.

It is possible to see the Advancement as part of the "reconciliation"[6] or syncretist tradition of the humanistic Renaissance. In criticizing the scholastic philosophers, for instance, Bacon says, "if those schoolmen to their great thirst of truth and unwearied travail of

wit had joined variety and universality of reading and contemplation, they had proved excellent lights, to the great advancement of all learning and knowledge."[7] Geoffrey Bullough presents the Advancement as the culmination of a lively flowering of humanistic apologetical works in the late Elizabethan period.[8] Defenses of learning and more specifically of poetry, and debates about the limitations of learning, abounded. They included among many others works by Sidney (1595), Samuel Daniel (1599, 1602), Thomas Nashe (1593), Gabriel Harvey (1577), and the debate on learning carried on by the Essex-Raleigh factions (Bacon with the Advancement and Shakespeare with Love's Labor's Lost might both be counted on Essex's side against the abstruse mystifications of Chapman and the Platonic mathematics of Dee).[9] Like Daniel's Musophilus (1599), Bacon's is a defense of all learning, including imaginative literature. He aims, like Daniel but more so, "To show true knowledge can both speak and do"[10] --that is, he aims to pre-empt the argument that learning is too divorced from the world by showing knowledge's useful side--a standard humanist and also Protestant argument. Bullough says of the Advancement that "the new science was to be the means of saving knowledge from strife without and disintegrators within."[11] But the "saying" of traditional knowledge sometimes seems to turn out more like a burying.

A remark such as "For why should a few received authors stand up like Hercules' columns, beyond which there

should be no sailing or discovery?"[12] indeed suggests a syncretic openness to many types of learning. But Renaissance syncretism does expend much energy on reconciling and commenting on "a few received authors" in whatever field of study, and, perhaps more important, the automatic belief in the "received author" is for the humanists decisively altered but still powerful. Knowledge that is advancing and "proficient" (or "progressive") may in fact pull itself away from the inertia of humanist education (as "matter of magnificence and memory");[13] to save learning Bacon may be altering it quite a bit. Surely Bacon's treatment of human knowledge contrasts not only with Daniel's and Sidney's apotheosis of "wit" but also with the treatment of one of the chief exponents of humanist education in Elizabethan England of the generation before Bacon, Roger Ascham (1515-68). It is not the progress of purely utilitarian knowledge that inspires Ascham, but the development of the individual as the fulfillment of tradition and its riches. The contributions to learning of all the nations are as "patched clouts and rags"[14] compared to the "broad-cloth" contributed long ago by the Greeks. Essential to Ascham's program of education is the delineation of higher types of translation in the full sense of the word as assimilation of the learning and eloquence of Greek and Latin texts: periphrasis, metaphrasis, and imitation.[15] For Ascham such exercises preserve the very life-blood of culture and signification. Ascham's thoroughly

un-Baconian emphasis is made explicit by his famous and to us scandalous remark (he calls Erasmus to testify for him, too) that "Learning teacheth more in one year than experience in twenty."[16] He and Bacon approach the problem of modernity quite differently: whereas Ascham devotes himself to a conscious, regulated, and thoughtful assimilation of traditional learning by men of the present in a literary milieu, Bacon finds an overwhelming problem in combining the contemplative "learning" of the ages with active experience of the present--i.e., observation, experiment, and independent judgment.

Besides hasty composition, the irreconcilable stances of the Advancement (specimens of which will be forthcoming) might be partly explained by Bacon's strategies of persuasion. Positively he wants to promote his type of learning by appealing to the favorable qualities of any and all learning, and negatively he does not wish to shock, disgust, or perplex the reader who has a bias toward the comprehensively traditional. But beyond questions of implicit and explicit positions, Bacon seems to take no specific position vis-à-vis tradition in the Advancement at all. Levels of implied meaning seem to contradict each other without offering any synthesis. No answer is offered for the difficulties presented by the fact of Bacon's discontinuity with tradition on the one hand and Bacon's humble praise of it on the other. Bacon's confident and breezy style suggests obliviousness on the part of the

interlocutor of the Advancement to certain complexities of intellectual inheritance, and indeed this blindness seems to enable that confidence and the stance of modernity to have its place.

In Book I Bacon presents the problem of modernity, in the abstract, with a proverb. Among the errors of learned men, Bacon says, is the "extreme affecting" of either "Antiquity" or "Novelty." For correcting these errors Bacon supplies Jeremiah's counsel (really more of an accusation than a counsel): "State super vias antiquas, et videte quaenam sit via recta et bona, et ambulate in ea. (Stand ye in the old ways, and see which is the good way, and walk therein)."[17] There is, then, theoretically a "standing in" with tradition that is not a blind adherence to it but a patient and devoted opening of oneself to it, and a means of gaining a firm ground upon which to make a judgment. This stance is also a moral one, it should be noted, both for Jeremiah and for Bacon. It answers the age-old taboo on Adam's attempt to be his own law. How independent the judgment is--that is, to what extent one can "stand in" the old ways and then decide not to follow those ways in the future, remains a large question.

Jeremiah may be ambiguous in the Vulgate, but Bacon's misquotation (the vice of an inveterate alluder) does in this case seem to have wrenched the meaning a good bit.

State super vias, et videte,

> Et interrogate de semitis antiquis quae sit via bona,
> Et ambulate in ea,
> Et invenietis refrigirium animabus vestris.

("Stand in the ways, and look, and ask for the old paths, where the good way is, and walk in it, and find rest for your soul"). Jeremiah's concern as a watchman (i.e., a prophet) is to direct the people's course along "the ways," to preserve continuity of the present with the sanctioned ways of the past, and finally to bring the people home, that is to their souls' rest. Whatever the force of the "de" or the exact degree of equivalence between the "good way" and "the old paths" (or "customs and laws"), the emphasis here and in the prophet's whole discourse is definitely on the "Antiquity" side of Bacon's opposition. For Jeremiah the right way is the old way. But for Bacon the right "standing in the way" involves not old or new but a true and careful consideration of possibilities so that progress can be made. On the model of New Testament prophecy, perhaps, and in the spirit of Renaissance self-confidence, the "law" of tradition for Bacon is subject to abrogation or at least wide interpretation. It is ironic that Bacon should have selected Jeremiah as his authority here. No one could want and need the past more than Jeremiah; his whole attention, his final end and very being is directed toward the horrible distance between the past and the broken lines of the present, toward regret and even revenge. Bacon is glutted with tradition's richness, he wants and needs to break away; afterwards he needs to remind himself of the need for a supportive web

of meaning and of the laws against pride. When the portentous history of quotation inaccuracy finally appears, perhaps such errors as Bacon's will be discovered to fall into some broad historical pattern of willfulness. Misquotation certainly is part of Bacon's "standing in" the old ways.

The kind of independent judgment that Bacon displays in his use of Jeremiah parallels Renaissance developments of the idea of sapientia, which becomes a conception of the individual's (such as Pico's) reason emphasizing more and more the naturalness of a secular reason,[18] one that can with its own naked powers determine the truth. A natural development of such a conception would be, again, the confidence and independence found in Descartes' rationalism--but Bacon of course is not a rationalist. The ratiocinative wit enabling say, Charron's wise man, possessor of preud-homme (see De La Sagesse, 1603), to face unblinking the rigors of fortune, would be a power held in no little suspicion by Bacon, the scientist who also rejects the manly pride that goes with this sapience, at least as far as the search for natural knowledge goes. One can only ask again what this "standing in" of Bacon's could be. Bacon's own insistence that he brings little positive force of mind to the wars of truth, that his insights are the result of "time," not "wit," offers little help in discovering his criterion of judgment, unless he means, on the model of his inductive method, that after a comprehensive tabulation of traditional ways and beliefs new ways will be automatically

opened. The new shall then by only the right summation and organization of the old, and traditionalism shall become progressive. (Such indeed appears to be part of his plan in the Essays.)

The implications of the archetype of the way are almost endless, of course, and Bacon broaches various fundamental problems about defining a distinct present consciousness and set of experiences and actions that are yet related to history, ancestry, nurture, obligation. Jeremiah's look for the old way and Bacon's look from the old way can form an antinomy to be relieved only by some interpretation of them as a coincidentia oppositorum where first cause becomes identical with final cause, or as Heraclitus says, "the way down and up is one and the same." Beyond the opposition of modernity and traditionalism (if not before) Jeremiah and Bacon may meet; the wonder is Bacon's confident ease and ability to pass over the difficulties a more thoughtful resting on the passage soon uncovers. The dedicated modern indeed grasps his autochthony at the risk of self-deception. He takes on that risk in his actions, which to him are all-important. And in applying his general dictum about antiquity and novelty to specific cases Bacon's modernity difficulties are not entirely cleared up: he seems to suggest two contradictory and extreme positions.

Of all the passages in Bacon's writings that explicitly take up the, at times, labyrinthine complications of Bacon's relation to the past, none is more subtle than the one situa-

ted near the beginning of the discussion of natural philosophy in Book II of the Advancement and in Book III, chapter iv of the De Augmentis (natural philosophy being where Bacon makes his most pointed departure from tradition). Underneath the prudent talk of synthesis here two mutually exclusive positions are developed. A thickening of the text into multiple and seemingly uncontrollable implications makes the usual assumptions about directness of intention on the part of a writer of philosophy seem of questionable applicability. The type of undercutting and qualification of original statement that Stanley Fish finds to be the norm in Bacon's Essays[19] occurs in this passage too-but to insist here, as Fish does with respect to the Essays, that the qualification is entirely deliberate would be a strange reading indeed. Here Bacon shows the fundamental incoherence and thoughtlessness of his relationship to the past. (It is significant that his remarks here on attitudes to the past are presented as an aside: when he is not concerned with driving home his own modernity, the difficulties behind it are inadvertently revealed).

> Natural Science or Theory is divided into Physic and Metaphysic; wherein I desire it may be conceived that I use the word Metaphysic in a differing sense from that that is received: and in like manner I doubt not but it will easily appear to men of judgment that in this and other particulars, wheresoever my conception and notion may differ from the ancient, yet I am studious to keep the ancient terms. For hoping well to deliver myself from mistaking by the order and perspicuous expressing of that I do propound, I am otherwise zealous and affectionate to recede as little from antiquity, either in terms or opinions, as may

> stand with truth and the proficience of knowledge. And herein I cannot a little marvel at the philosopher Aristotle, that did proceed in such a spirit of difference and contradiction towards all antiquity; undertaking not only to frame new words of science at pleasure, but to confound and extinguish all ancient wisdom; insomuch as he never nameth or mentioneth an ancient author or opinion, but to confute and reprove; wherein for glory, and drawing followers and disciples, he took the right course. For certainly there cometh to pass and hath place in human truth, that which was noted and pronounced in the highest truth: Veni in nomine Patris, nec recipitis me; si quis venerit in nomine suo, eum recipietis [I have come in my Father's name, and ye receive me not; if one come in his own name, him ye will receive.] But in this divine aphorism (considering to whom it was applied, namely to Antichrist, the highest deceiver), we may discern well that the coming in a man's own name, without regard of antiquity or paternity, is no good sign of truth; although it be joined with the fortune and success of an Eum recipietis. But for this excellent person Aristotle, I will think of him that he learned that humour of his scholar, with whom it seemeth he did emulate, the one to conquer opinions as the other to conquer all nations....But to me on the other side that do desire, as much as lieth in my pen, to ground a sociable intercourse between antiquity and proficience, it seemeth best to keep way with antiquity usque ad aras [as far as may be without violating higher obligations]; and therefore to retain ancient terms, though I sometimes alter the uses and definitions; according to the moderate proceeding in civil government, where although there be some alteration, yet that holdeth which Tacitus wisely noteth, eadem magistratuum vocabula [the name of the magistracies are not changed]. [20]

Bacon first states that he wishes to keep "ancient terms and opinions" even if he uses them differently and even if they do not aid understanding. His attitude contrasts with that of Sir Thomas Elyot (1490-1546), who in this passage of 1531 typifies the English humanist:

> But now I remember me, this word magnanimity being yet strange, as late borrowed out of the Latin, shall not content all men, and specially them whom

> nothing contenteth out of their accustomed Mumpsimus, I will adventure to put for magnanimity a word more familiar, calling it good courage, which, having respect to the said definition, shall not seem much inconvenient.[21]

The emphasis here is on acquainting the unacculturated modern with ancient ideas, which of course have their own terms, but whose terms can be substituted, for the sake of clarity, for vernacular terms. With Bacon it is not the modern who must be patronized but the ancients--even at the expense of clarity. Bacon's ideas are modern, his terms old; Elyot's vice versa. Bacon's allusion to Tacitus is interesting in this respect. Tacitus by the words Bacon quotes intends dry irony (as an educated reader of Bacon would have known): but their trappings remain--empty of significance beyond deluding the once-free citizens.

Next, Bacon attacks Aristotle for trying to be his own father, as it were. Bacon indeed attacks Aristotle in this way in several different places, and distinguishes himself from Aristotle in this respect. It is true that the "term" in question here, "metaphysic," like many of the terms used in science and philosophy, is, of course, the Philosopher's, Aristotle's term. (We know now that "metaphysic" in reality was not used by Aristotle but inserted later by editors to name his treatise on ontology, but this does not concern us here). Aristotle is then, in this sense,[22] the relevant "father" for Bacon, who is in effect saying that he will be a good son even though his father has set a terrible example for him--has even prefigured the

"highest deceiver," Antichrist. In the Instauratio, it is this very good sonship, again under the banner of Christ's teaching, that makes Bacon himself the first, the patriarch who creates his own line of descendants at the same time that he remains, as here, the loyal son of ancient, if wayward, fathers. Like a man controlled by his passion, Aristotle has even gone to the height of perversity by not only failing to learn from his masters but by learning at the feet of his unruly pupil, Alexander the Great. Here again we are confronted with the hero figure, who for Bacon can be a fitting image, if properly asceticized, for scientific advance. Alexander is so employed when Bacon, earlier in the Advancement, points out the need for courage and confidence in the search for knowledge: "the expedition of Alexander into Asia...was prejudged as a vast and impossible enterprise; and yet afterwards it pleaseth Livy to make no more of it than this, Nil aliud quam bene ausus vana contemnere [it was but taking courage to despise vain apprehensions]."[23] The hero can also signify the self-aggrandizement that characterizes non-Baconian, glory-bound philosophers, as he does in the quotation under consideration. The double use of the case of Alexander leads us to wonder as the speaker here never intended us to--whether the modern ideas of the Baconian scientist do not really include the kind of proud iconoclasm and even sneakiness characteristic of the ancient discredited hero. We must also wonder if Bacon's true parent is not, in terms of the inductive method, Nature herself, who is devotedly followed while the false and tempting prophets

are scorned. Nature is the true "ara," the altar, that limits Bacon's classical lineage and whose glory Bacon seeks even as the Son of Man seeks only God's glory, a goal that is itself His best authentication. But such an interpretation is plainly impossible, for Bacon has specified that not coming in one's own name means following tradition and learning, not nature. But why, if Aristotle is really such a ranting booby and his terms are confusing and don't even mean what he meant any more, is Bacon insisting on following this "excellent person"?

Bacon, of course, "justifies" his use of ancient terms in a purely rhetorical--and tautological--way. He says ancient authoritative terms and opinions are worthy because the ancient authorities say so, and he lists some. One is reminded of Montaigne's remark (quoted in chapter one) that everything has been said already--and quoting Cicero to back him up on that. Bacon suggests a deterministic hell of circular reasoning, an inexorable domination of reason by authority and tradition, a demonic vision of a literary culture gone nuts. Bacon's position seems extreme: "follow the old ways because they are right." No basis for independent judgment, for "an easy commerce between old and new" is offered.

It might be suggested here that Bacon presents his traditionalist trappings to show doubting readers wary of his strange new ideas--and not inclined to ponder his rhetorical arguments too carefully--that he is really all right.

The more insightful readers would naturally catch on to the covert satire Bacon makes on traditionalism with his tautological argument. Such a reading conforms with the view of Bacon, which existed in his own time even before the Essex affair, that Bacon is somehow dissembling, crafty, and self-seeking. Certainly the Tacitus allusion would strengthen such a reading. However even if we accepted it, the same problem would remain. Bacon everywhere calls for careful consideration of tradition. His scientific program begins with the collection of the knowledge of the past and with a thorough world history (in contrast to Descartes's program); and the living spirit of Latin classicism breathes on almost all his pages. To say that Bacon in the above passage satirizes traditionalism is only to say that he does not take sufficiently seriously an issue central to his work as a whole, and brings us back to what he inadvertently reveals.

Clearly Bacon does wish to find a way to reconcile tradition and innovation. He sees himself as a peacemaker here and in the Instauratio too. But the implications of his statements make us wonder what the basis for a reconciliation is. Ambivalence, two sides with no middle, seems to be the rule. On the one hand Bacon suggests the existence of criteria of judgment: "truth and the proficience of knowledge"--that more clearly than in the Jeremiah allusion seem to be employable without the counsel of ancient wisdom. Indeed here Bacon

paradoxically judges whether or not ancient wisdom should remain the guide for judgment. Bacon himself, with the aid of right method, judges the worth of tradition all on his own--but again, how and on what basis, we are not told. On the other hand Bacon offers us a not-to-be-underrated ritual piety favoring use of traditional terms, a traditionalism that allows no place for independent judgment. If one cannot get outside the truth of authority, how can one ever judge authority, as Bacon so smoothly implies that he can do? How can one be the heroic iconoclast and the loyal follower of ancient fathers? This problem is the essential theme of the Advancement, or rather the theme against which that work dashes itself. The interlocutor is not Fish's shrewd smiling teacher of wary analysis; before that he is a frequently blinded and confused actor fighting in and caught in modernity's struggle of opposing forces. Bacon does not come to grips with the implications of his revolt from tradition, or of his reconciliatory attitude. Each renders the other questionable.

The attitudes which allow Bacon to present his contemporaries with a passage so perplexing to us would no doubt be traced by Marshall McLuhan to the lack of a developed sense of fixed perspective or point-of-view in the early seventeenth century. Points of departure, in other words, were still tenuous affairs. A writer such as Bacon, while making a show of resolution, actually tends to fall back on

the older ways displayed by other humanists: "Looking for the 'point-of-view' in Erasmus or Machiavelli only builds up a sense of their inscrutability";[24] Shakespeare is more difficult to pin down than Milton. The idea of the unity of truth, we might say, and the reverence for ancient texts, combines with the immature sense of modernity to produce a muted awareness of the possible contradictions between different allusions and between allusion and authorial assertion. Virgil Whitaker remarks, "One does not read far into the Renaissance without being struck by the general willingness to pick up interesting ideas from any classical context and to use them without regard to consistency of thought."[25] And the humanists' emphasis on a non-technical philosophy and on the artistic, and their still-strong preoccupation with assimilating <u>past</u> creativity certainly could produce what P. O. Kristeller calls their "superficial"[26] considerations of ancient wisdom. The humanist, like his syncretist medieval forebear, sometimes does not distinguish his own opinion from the textual store of unquestioned wisdom. The complete thoughtfulness of realizing the relevance of all the classical texts bearing on a particular question and reach a kind of autocracy of allusion that allows no place for the author to assert his own presence or give birth to a thought recognizably his own.

We have then in Bacon's passage above two opposite kinds of thoughtlessness confronting one another. One results from

traditionalism and the other from the attempt to be independent. Bacon has put the use of traditional material on a new footing, but rather than the smooth synthesis he projects theoretically, the difficulty of performing his new stance and his still-present faith in the efficacy of apt allusion produces two irreconcilable positions. His "opportunistic"[27] use of allusion and of rhetoric generally even seems to intensify his facile and uncontrolled employment of it.

The hollow quality of some of Bacon's allusions, metaphors, and other types of references to tradition can also be found in the Essays. The same emphasis on assimilation and reconciliation is present, and again no workable way of fusing sententia and observation is offered. Since the Essays are beginnings, initial attempts to find out about something, the possible reconciliation of traditional and modern elements seems to be left for the future conclusion that will synthesize all the data. The thoughtlessness here, like that found in Bacon's humble innovating scientist, is of one who expects -strangely enough- things to work out in time. Just as classical texts need commentary and interpretation, so the seemingly contradictory allusion and observation of the Essays need scientific method and truth for reconciliation. The emblems in the essay on adversity, for instance (Hercules sailing in a pot; needlework; incense: "virtue is like precious odours, most fragrant when they are incensed

or crushed"), which could well have come from a collection of commonplaces, seem to be also a kind of "data" for a quasi-inductive examination of adversity that Bacon only begins. But the problem of how they can become part of that new program while retaining their emblematical meaning is neither dealt with nor recognized in full.

The absence of coherence at the center of Bacon's discourse on tradition and innovation in the Advancement also has a counterpart in the Instauratio. Here and in the Essays Bacon has rejected in theory some of the old answers to scientific questions, but has not come up with new answers: indeed his chief innovation is that he denies himself the pleasure of the synthesizing conclusion. Materials stand in suspension, waiting for the redemption of their significance in the wonderful future knowledge, which will somehow be both practical and syncretic. But the indeterminacy has gone beyond the inductivist's slowness to conclude or the humanist scholar's assumption that unharmonious sententiae are ultimately in agreement since they form part of the body of ancient truth: Baconian impersonality sometimes marks the loss of a controlling consciousness, an absence basically inseparable from the assertion of modernity.

Notes

1. IV, 41; I, 153.

2. IV, 41-42; I, 153-54.

3. The OED defines "heart-burning" as "a heated and embittered state of mind, which is felt but not openly expressed."

4. Cicero argues as a Stoic in the Tusculan Disputations (3.12.26) that the wise man is inured to distress and never feels the "tumor animi." And Bacon seems to look down on those swell-hearts sentimental about the past. His vantage point, perhaps, is somewhat austere and Stoic; he does not dwell upon the depth of the possible loss or on the difficulty of compensating for it.

5. Such, anyway, is de Man's thesis in Blindness and Insight.

6. See Hiram Haydn, The Counter-Renaissance (New York: Scribner's, 1950), p. xii.

7. III, 287 (italics mine).

8. "Bacon and the Defense of Learning" in Essential Articles for the Study of Francis Bacon, ed. Brian Vickers (Hamden, Ct.: Archon Books, 1968), pp. 93-113.

9. Bullough, p. 112.

10. Musophilus, l. 836 in The Complete Works in Verse and Prose of Samuel Daniel, ed. A. B. Grosart (1885; rpt. New York: Russell and Russell, 1963), I, 251.

11. Bullough, p. 95.

12. III, 321.

13. III, 322.

14. The Scholemaster in The Whole Works of Roger Ascham, ed. Dr. Giles (1864; rpt. New York: AMS Press, 1965), III, 134.

15. The Scholemaster in Works, III, 181f.

16. The Scholemaster in Works, III, 136.

17. III, 290-91.

18. See Eugene F. Rice, Renaissance Ideas of Wisdom (Westport, Ct.: Greenwood Press, 1958), p. ix.

19. "Georgics of the Mind: The Experience of Bacon's Essays" in Self-Consuming Artifacts (Berkeley and Los Angeles: University of California Press, 1972).

20. III, 352-53.

21. The Book Named the Governour (London: Dent, 1907), p. 194.

22. The ambiguity of Bacon's attitude toward Aristotle is of course not unique. It must be measured against that of other philosophers and scientists of Bacon's time such as Galileo and Hobbes-- a task not undertaken here. For Hobbes see Thomas Spragens, The Politics of Motion: The World of Thomas Hobbes (Lexington: University Press of Kentucky, 1973), and J. W. N. Watkins, Hobbes' System of Ideas (London: Hutchinson University Library, 1974). The extent to which other Renaissance innovators besides Bacon also display incoherent attitudes toward Aristotle in their own assertions of modernity provides a worthwhile subject of study.

23. III, 291.

24. The Gutenburg Galaxy (Toronto: University of Toronto Press, 1965), p. 67.

25. "Bacon's Intellectual Milieu" in Essential Articles, p. 42.

26. P. O. Kristeller, "The Unity of Truth" in Renaissance Concepts of Man and Other Essays (New York: Harper and Row, 1972), p. 53.

27. Lisa Jardine, Francis Bacon: Discovery and the Art of Discourse (Cambridge: Cambridge University Press, 1974), pp. 15-16.

Chapter Four

Just "Tuning the Instruments of the Muses": Incompleteness and the "Literary" Text

1. From eloquence to natural law

Unlike the Advancement's break with traditional philosophy, rhetoric, and poetry, the later 1620 volume (the Novum Organum and the Instauratio Magna prefaces) displays a quite explicit opposition to traditional learning except for that learning's possible presentational, persuasive, or ornamental functions. For the actual practice of science the wisdom of Solomon, Virgil, and Cicero must be set aside. As the passages quoted in the last chapter show in general terms (pp. 82-84), Bacon in 1620 rejects the authoritativeness of history's accumulated texts (which may be mere "pretty and probable conjectures") but tolerates and indeed embraces the tradition's store of techniques and methods for setting forth ideas and inducing assent--for the "cultivation" not the "invention" of knowledge. Bacon's clear purpose seems to be to "naturalize" or "authochthonize" the powers of tradition in his modern enterprise so that they can serve his own purposes of presentation and persuasion without threatening the proper method of searching for objective truth.[1] But the degree of control with which Bacon intends to use rhetoric, for instance, cannot be matched by Bacon's abilities to control it. Bacon asserts that all the facts of nature should proceed from and be referred to an organized body of knowledge determined by his method. The method can be implemented only after the assertion of clear independence from tradition. Bacon's true book of nature is to be different in kind from

traditional texts, which perpetuate falsities in legion but more importantly prevent the discovery of new knowledge because of their limited view of what can be known. His scientific texts will have a new relationship with the natural world they are concerned with: they will exist in such harmony with natural truth that the intellectual and imaginative figures of dialectic and rhetoric will only enhance and not distort. It is the fine line between Bacon's overcoming of the limitations of traditional texts or written representations and his partial fulfillment of them through what he considers "correct" use of rhetoric and logic that we must examine. In making traditional forms his own Bacon's new position is in danger of being taken over by those forms. Bacon cannot resolve the huge problem of tradition and modernity that he sets out to. Sometimes he is only able to stand in general opposition to tradition without being able to develop specific alternatives: or his program and his assertion of modernity find development in a new version of the "literary" discourse he seems to be rejecting. For the former problem, the incomplete nature of Bacon's work, particularly that on scientific method, we can probably find one cause in the impossibility of realistically carrying out the method and the difficulty of Bacon's--or anyone's--even conceiving of it comprehensively and completely.[2] But this incompleteness also reflects in complex ways Bacon's struggle to develop

a new kind of text of nature and the necessity he feels for making a firm beginning at all costs. We shall see that Bacon's preoccupation with discrete beginnings that are never developed, let alone finished, is one of the most significant aspects of his struggle for discontinuity from the past. The latter problem, Bacon's creation of a sort of "higher" fiction in the Instauratio, is the subject of chapter five. But before turning to either of these subjects we must define in more detail Bacon's view of traditional texts and his conception of how they are to be included in a new, catholic, and unified body of knowledge.

Bacon's rejection of traditional philosophy involves lumping it with more fanciful modes of discourse like poetry. Thus the systems of some philosophers are "so many stage-plays"; like poetic fictions, they invent wish-fulfilling worlds of order. Scripture too, like traditional philosophy and poetry, can offer no light on nature. The four "idols of the mind," which find more order in nature than there is, limit the usefulness of both poetry and traditional philosophy as kinds of learning. "Invention is of two kinds, very different," Bacon says, "the one of arts and sciences, and the other of speech and arguments." In this distinction the poetry of Bacon's day, along with most philosophy, comes out in the latter category. Bacon finds the art of discovery to be almost totally absent in the learning of his time "as if in the making of an inventory of a deceased person it should be set down that 'there is no ready money,'"[3] a situation he is

out to correct. But it is important that Bacon's own view of traditional learning as something that provides ways of ordering knowledge already given was the position that had been emphasized by humanist grammarians, rhetoricians, and logicians.[4] Bacon in his turn attempts to subsume this heterogeneous body of traditional knowledge under a higher category yet, that of his own science. In doing so he displays traditional points of view along with his insistent modernity, and the two positions, as we shall see, present interpretive difficulties.

As might be expected, Bacon frequently is not exactly clear about the place of the suspect arts of logic, rhetoric, and "parabolic poetry" (i.e., metaphor and allegory) in the makeup of the new order of knowledge. One notable example will serve to present the aspects of the problem that are significant for our purposes. In the Advancement and the De Augmentis Bacon alludes to Cicero's rhetorical principles while stressing the necessity for unity of all branches of learning instead of strife and specialization:

> And generally let this be the rule, that all partitions of knowledges be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved. For the contrary hereof hath made particular sciences to become barren, and shallow, and erroneous; while they have not been nourished and maintained from the common fountain. So we see Cicero the orator complained of Socrates and his school, that he was the first that separated philosophy and rhetoric; whereupon rhetoric became an empty and verbal art. So we may see that the opinion of Copernicus touching the rotation of the earth, which astronomy itself cannot correct because it is not repugnant to any of the phaenomena, yet natural philoso-

> phy [the more general science that deals with all motion, both heavenly and earthly] may correct. 5

The irony of an empirically oriented, zealous and reforming scientist of the seventeenth century citing Cicero approvingly and at the same time rebuffing Copernicus could perhaps not be appreciated fully until later in history. Evidently Bacon liked to promote the unlikely standoff, for he had used it previously in the Valerius Terminus (discussed below). More ironic is the above passage as it appears in the De Dignitate, where Bacon adds an initial paragraph proclaiming himself as a "trumpeter, not a combatant," one who calls the branches of knowledge together--hence tacitly identifying his reform with Cicero's.[5]

For Cicero, the great synthesizer of Greek philosophy and the model for many Renaissance syncretists, rhetoric comprised the entire study of the liberal arts, and his views naturally proved congenial to and helped to form the positions taken by Renaissance humanist rhetoricians. The De Remediis utriusque Fortune (1366), a book that (like other works of Petrarch) was widely available in Bacon's time in both original and translation, echoes Cicero's ideas:

> To the essence and substaunce of an Oratour, and of Eloquence, is honestie and wysedome required, whiche notwithstanding are not sufficient, unlesse there be cunning, & copie. So that the two first thinges do make a man good and wise only, the other make hym neither good nor wise, nor eloquent, but full of woordes. Al these joyned togeather, do make a perfect Oratour, and his cunning: which truely is a more rare and high thing, then they suppose that hope that it

> consisteth in multitude of woordes. And therefore if thou covet the name of an Oratour, and seeke for the true prayse of Eloquence: fyrst studie vertue and wysedome.[6]

Eloquence, then, can be one way of defining the unity of truth, for all parts of the eloquent speech are in harmony and the subject-matter is placed in its proper relation to the entire cosmos. Eloquence is a moral force: it presents the dignity of the soul with its dignity of speech; it reveals the inner nature of the speaker and of humanity; it provides for self-discovery and has a social conscience.[7] In fact the inspired, eloquent _vates_ or prophetic poet utters his words with divine authority. In Edmund Spenser's _Foure Hymnes_ (1596), for example, inspiration is the gift of heavenly love and beauty, and the spirit who is lifted and kindled by such divine emanations achieves a higher understanding of truth (see iii, 1-7; iv, 7-14). In a more restrained fashion St. Augustine, in applying Cicero's conception of rhetoric to the bible, speaks of the "heights of eloquence" or "sublime eloquence" of the speaker moved by the holy Spirit.[8] The Italian humanists' _studia humanitatis_ (grammar, rhetoric, poetry, history) is inseparable from the _studia divinitatis_, and for Coluccio Salutati and others poetry occupies a special position outside of and linking the seven liberal arts, just as Theology, Queen of the Sciences, had done for the scholastics. Although Marsilio Ficino (1433-99) gives the palm back to theology, the unifying place of poetry and eloquence, sometimes (as in Spenser) combined with a

Ficinian Neoplatonism, remains strong up to Bacon's time.

With such views of eloquence foremost, it is not surprising that a category of liberal "litterae," "letters" or "literature" should form a unity of the different kinds of "learning" in Elizabethan times. In contrast to this trend is the split between a more exact or technical language on the one hand and "ordinary" speech and writing on the other that characterizes the work of the scholastics, the scientific post-seventeenth-century world, and, with strong qualifications, the argument of Socrates against the Sophists that was attacked by Cicero.[10] The Plato of the Italian humanists in fact found a place in universities not as a part of philosophy (where scholasticism ruled) but under the aegis of grammar, where the primary job of editing was undertaken but where interpretation was also carried out. One such editor and critic, Lorenzo Valla (1407-57), states that to be a grammarian and not a philosopher is to be a true philosopher, revealing the human soul through human expressions.[11] Sir Thomas Elyot, whose Governour is an antecedent of Bacon's moral writings in the Essays and Advancement, says of the grammarian:

> I name him a grammarian...that speaking Latin elegantly, can expound good authors, expressing the invention and disposition of the matter, their style or form of eloquence, explicating the figures as well of sentences as words, leaving no thing, person, or place named by the author undeclared or hidden from his scholars. Wherefore Quintilian [following Cicero] saith, it is not enough for him to have read poets, but all kinds of writing must also be sought for; not for the histories only, but also for the

> propriety of words, which commonly do receive their authority of noble authors, Moreover without music grammar may not be perfect; forasmuch as therein must be spoken of metres and harmonies, called rythmi in Greek. Neither if he have not the knowledge of stars, he may understand poets, which in description of times (I omit not other things) they treat of the rising and going down of planets. Also he may not be ignorant in philosophy, for many places that be almost in every poet fetched out of the most subtle part of natural questions. [12]

The relative unity of the parts of learning and types of discourse in Bacon's time and before is also evident if approached from the side of logic. In Bacon's school days such logic handbooks as John Seton's Dialecticae of 1584 (which Bacon may have used) make a strange conflation of fiction and philosophy. They serve as guides for analyzing Cicero and Ovid as well as providing precepts for the formal debating that was a much more important subject in medieval logic handbooks.[13] All but pure ornament and precepts for proper oratorical delivery in fact become part of the catch-all ars disserandi ("art of discourse").[14] Instruction and persuasion (the poetry of Bacon's age preeminently fulfilled these functions) come to be the primary goals of this art. The combined logical and rhetorical art of discourse provides a larger, more central place for classical literature but also serves as a guide for the more practical endeavors of preacher, lawyer, or teacher.[15] These endeavors had also been neglected by medieval logicians. The eclectic consciousness of the "Renaissance man" thus

undertakes, following such precepts on the unity of knowledge as Cicero's, the proper assimilation and appreciation of the wisdom and virtue of ancient and modern literature and the mastery of the practical affairs of life.

Bacon accepts this trend and pushes it to an extreme--but denies that it embraces all knowledge. Under "method of discourse" he classifies all the tools of logic (such as the syllogism, or Ramus's touted "one method" for arriving at certain knowledge of all subjects) as well as rhetorical disposition or arrangement of matter in discourse for clarity and maximum effect, and such "methods" of discourse as parable, dialogue, and aphorism. Each way of speaking has its own use, and some (such as the aphorism) are inherently more useful for the ends of science than others; all, however, are empty for Bacon in the sense that they are not methods of discovery of new knowledge, but only present existing knowledge. They "invent" not arts and sciences but speech and argument.[16] Bacon's view of learning does reflect his grandiose claims about the revolutionary importance of his ideas, but he also places an enormous burden upon himself. He has announced himself the advocate of a type of learning that does not yet exist, and he himself must continue to use as effectively as possible the forms of discourse that he wishes to supersede in his scientific enterprise.

Although Bacon agrees with Cicero insofar as he says that rhetoric and traditional philosophy are inseparable,

the main point Bacon's citation of Cicero makes is that Bacon seeks in his own science a unity of knowledge that is somehow analogous to the one Cicero and the humanists envisage. Scientific knowledge is to subsume in itself all previous knowledge, including as only a part of itself all that was knowledge to Cicero, and reorganizing that part along new principles. Bacon loves to attack his fellow moderns; Copernicus's theory does not meet Bacon's criterion of unity. Copernicus is vulnerable because he frames ingenious hypotheses about one kind of motion without considering the need for a general theory of motion, "making one philosophy for heaven and another for under heaven"[17] as Bacon says. (Newton, quite in the Baconian spirit of universal principles but not in the Baconian spirit of proud carping at his age's scientific innovators, erased the Copernican deficiency with the theory of universal gravitation. The most general natural philosophy, "philosophia prima," will, when discovered fully, supply the unity to truth without which the truth is not fully intelligible. For Bacon this truth can be compared with Cicero's conception of rhetoric. To understand a little better how this comparison can be made, we can examine the place of Bacon's original citation of Cicero. This is the Interpretation of Nature (1603?), an English work written under two pseudonyms, Valerius Terminus (the work itself is usually called by this name and will be so here) and Hermes Stella (as the unheard-from "annotator"). Here the allusion to Cicero finds quite a different context and significance.

Bacon often re-uses passages, and often expands them; in the Advancement and De Dignitate versions of the Valerius Terminus passage, however, Bacon dispenses with the qualifications and details and presents the bare allusion to Cicero and the bare observation on Copernicus, which have become vestiges of his former meditation. Perhaps he believed the early version to be unclear and rambling. Yet, if confusing, its ideas do shed light upon the relation of Bacon's idea of the unity of knowledge with that of humanistic scholars and writers.

> Cicero, the orator, willing to magnify his own profession, and thereupon spending many words to maintain that eloquence was not a shop of good words and elegancies but a treasury and receipt of all knowledges, so far forth as may appertain to the handling and moving of the minds and affections of men by speech, maketh great complaint of the school of Socrates: that whereas before his time the same professors of wisdom in Greece did pretend to teach an universal Sapience and knowledge both of matter and words, Socrates divorced them and withdrew philosophy and left rhetoric to itself, which by that destitution became but a barren and unnoble science.[18]

Here Bacon's less sympathetic attitude toward Cicero is evident: Cicero's motives, it is suggested, are selfish and his claims for the importance of eloquence are probably exaggerated. (Ambivalence toward eloquence is of course present in Cicero too). Bacon does express qualified agreement with Cicero's unified approach to knowledge:

> Nevertheless I that hold it for a great impediment towards the advancement and further invention of knowledge, that particular arts and sciences have been disincorporated from general knowledge, do not understand one and the same thing which Cicero's discourse and the note and conceit of the Grecians in their word

> Circle Learning do intend. For I mean not that use which one science hath of another for ornament or help in practice, as the orator hath of knowledge of affections for moving, or as military science may have use of geometry for fortifications: but I mean [that]...sciences distinguished have a dependence upon universal knowledge to be augmented and rectified by the superior light thereof, as well as the parts and members of a science have upon the Maxims of the same science, and the mutual light and consent which one part receiveth of another. [19]

Bacon later specifies his points of difference with Cicero:

> A man should be thought to dally, if he did note how the figures of rhetoric and music are many of them the same....The figure that Cicero and the rest commend as one of the best points of elegancy, which is the fine checking of expectation, is no less well known to the musicians when they have a special grace in flying the the close of cadence. And these are no allusions but direct communities, the same delights of the mind being to be found not only in music, rhetoric, but in moral philosophy, policy, and other knowledges, and that obscure in the one, which is more apparent in the other, yea and that discovered in the one which is not found at all in the other, and so one science greatly aiding to the invention and augmentation of another. And therefore without this intercourse the axioms of sciences will fall out to be neither full nor true....[20]

The "footsteps of common reason," as Bacon calls such axioms of first philosophy in the Advancement, will bind together diverse subjects such as rhetoric and moral philosophy by making explicit the common principles that underlie them. Bacon is clearer in the Advancement (in a passage on first philosophy not connected with Cicero) where he cites the same examples as those above and mentions new ones. Such axioms as "unequals added to equals make unequals" are applicable to both mathematics and justice; Bacon asks,

> Is not the ground, which Machiavel wisely and largely discourseth concerning governments, that the way to establish and preserve them is to reduce them "ad

> principia," a rule in religion and nature, as well as in civil administration?... Is not the delight of the quavering upon a stop in music the same with the playing of light upon water?
>
> Splendet tremulo sub lumine pontus.[21]

Bacon's goal of reducing such correspondences to principles may seem impossible to us: indeed he never explains specifically how these principles might be arrived at. It should be clear, however, why Cicero is a force in his mind to oppose Copernicus. Bacon, even by attempting to distinguish his idea of first philosophy from Cicero's idea of true eloquence, has shown the similarities between them. He ends his list of examples with a quotation from Virgil, "Under the trembling light glitters the sea," thereby indicating that it is just the natural basis of the images and tropes men of letters are so good at making that first philosophy must investigate. Bacon says, "I see sometimes the profounder sort of wits, in handling some particular argument, will now and then draw a bucket of water out of this well [of common axioms] for present use; but the springhead thereof seemeth to me not to have been visited."[22]

By making clear and rational what appears to be mere analogies philosophia prima will in fact be the true realization of eloquence. The text of science, in other words, aims at a kind of "apocalypse or true realization" to use Bacon's own words in a slightly different context, of literary texts, of the world of letters whose ideal of eloquence Bacon reapplies to the search for truth. First philosophy

will unseat eloquence from its high position as the uniter of knowledge and make it a branch that considers presentation and persuasion only, but which also uses the common axioms that flow from first philosophy, and hence can be connected with other arts and sciences not only as their means of presentation but because it employs identical natural laws and formal patterns. Bacon's modernity, which rejects the past and intends to start from immediate observation, ends up by including all of traditional wisdom as the product of natural processes. Bacon's book of myth interpretation, the De Sapientia Veterum (1609) takes the point of view that the mythmakers had certain fuzzy insights into natural principles, and that interpretation means retrieving these principles in clear and rational terms. Eloquence, however, still remains a model for the new idea of unity. A passage similar to the above is used by Anne Righter to show Bacon's true poetic lights in defense of L. C. Knights's attack.[23] Bacon's point in the passage, however, is to reject poetry as a means of discovery, as a medium for the inquiring spirit. For Bacon the poetic "observation" (one might call it) can only become valuable to discovery by being reconstituted within the orderly and comprehensive system of science. But having gone this far, Bacon's assertion of modernity specifically against traditional texts needs qualification: transformation is different from rejection. Poetry, as the very organization of the Advancement shows, is not "officially"

a part of the new science at all, yet in explicating the new knowledge Bacon finds it necessary to resort to examples from poetry. In fact he sometimes seems to base his modernity, one that he thinks can rival Copernicus's, on values and powers he finds connected with poetry and eloquence.

Bacon's examples of similitudes that might be explained by first philosophy seem in spirit if not in detail to be in line with the traditional medieval views of the great chain of being (such as those eloquently expounded by Richard Hooker in The Laws of Ecclesiastical Polity in 1600) , in which natural, human, and divine worlds display levels of organization that correspond to each other in considerable detail. The eloquent speech puts a subject in its proper place in the orderly cosmos using a welter of analogies or metaphors such as those detailed by Bacon. Bacon does limit the degree to which the first philosophy connects corresponding parts and processes in the universe together. He rejects particular enthusiasts of the correspondences between the human body and the universe at large for instance.

> ...the ancient opinion that man was microcosmus, an abstract or model of the world, hath been fantastically strained by Paracelsus and the alchemists, as if there were to be found in man's body certain correspondences and parallels, which should have respect to all varieties of things, as stars, planets, minerals, which are extant in the great world.[24]

Bacon does not deny the idea that there is some set of principles of correspondence that connect the disparate realms of the universe together. Until these true principles are

discovered by scientific method Bacon admits ignorance and in strong terms castigates those who see the world through the "enchanted glass" of assumed correspondences between the mind and nature.

Bacon's search for the laws of nature has important relations to Renaissance ideas of eloquence and the spirit of the studia humanitatis.[25] It is these affiliations, as they relate to the concept of the literary text, that we are concerned with. In Bacon's vision scientific texts provide a higher and truer synthesis than that achieved by the poets and philosophers. Eloquence is, as it were, realized in its true and original condition as actual laws governing the relationships of things or ideas. This attempt at transformation of the ideals of eloquence requires a new type of text.

2. Incompleteness as freedom

As mentioned above, the reformative task Bacon sets for himself is tremendously difficult. He prophesies the transformation of ordinary discourse but has at hand only ordinary discourse to work with. As he is uncompromising in his insistence on radical reformation, he is also uncompromising in his insistence on avoiding the framing of systems of philosophy without due adherence to a wide range of facts which one man alone cannot hope to encompass. Even less can one man perform all the data-processing involved: many men over many generations are required. But Bacon never managed

to get much help. The result, predictably enough, is the endemic incompleteness of Bacon's works. Bacon's new kind of text seems always just getting started: its newness is manifested mainly in Bacon's claims, his statements of intention, and his exhortation, while the actual transformation of the ideals of eloquence into specific principles are never achieved.

Bacon sees himself as the proclaimer of a new method, as one who must guide others in scientific research. Hence he begins works, one supposes, simply to suggest the kind of inquiries and the kind of subjects he is talking about. Again, the emphasis on unity in Bacon's conception of science, to take another approach, means that in fact no scientific work is really complete until all are. Only then can first principles, which shed light on all other principles, possibly be discovered. But in Bacon's case works which inadequately realize their projected plans are in such a majority in all categories (not just in the scientific) that they must be viewed as fulfilling some unstated predetermined pattern.

We have already examined a kind of incompleteness in chapter three: the absence of coherence in Bacon's discourse on tradition and innovation , and we have hypothesized the lack of resolution in the Essays. These problems are also characteristic of the Instauratio and of many of Bacon's other writings. Two general etiologies are suggested in this study for the characteristic structure of Bacon's texts. The first is the emphasis on openness to development of

knowledge along unpredictable lines, the second the emphasis on closing off development to protect an initial assertion of originality from being compromised by possible revelations of the traditional basis of its contents. In both cases the difference from literary discourse, as defined above, is crucial. Bacon's incompleteness *per se*, remarkably enough, has not been a subject of previous study. Our discussion of the first meaning of incompleteness supplements existing interpretations, however, as will be indicated. The discussion of the second meaning in part three of this chapter offers a new perspective.

First, the extent to which the projected *Instauratio* (i.e., the *Instauratio* as described in the 1620 prefatory material) comprises the heart and much of the bulk of Bacon's work should be noted. Material from works which are fragmentary is used again in the *Instauratio*, which collects and organizes much of what Bacon had written before. Thus some unfinished writings have a place in an ongoing work that, it is hoped, man will someday complete. Brain Vickers in fact says of Bacon's writing habits generally that "after the *Advancement*, which sums up much of his thought to that date...there is no single work of Bacon's which does not incorporate parts of earlier work."[26] The *Instauratio* is the final subsumption of these re-rewritings.

The *Valerius Terminus*, which deserves but has not received a separate study, is Bacon's earliest mapping-out

of his survey of existing knowledge and its deficiencies, with sweeping suggestions for improvement. It exists in fragments only. Its theme is repeated in the complete, if rushed, Advancement of Learning, and is undertaken again in the fragmentary Descriptio Globus Intellectualis (1612). The expanded version of the Advancement, the De Dignitate, was published in 1623 and represents the first part of the six-part Instauratio--its only complete part. Part Two, the Novum Organum (on the method of science) also has origins in the Valerius Terminus, and echoes some of the early work's passages. The Novum Organum and the prefatory material to the Instauratio display careful reworking of the phrasing and ideas of many earlier works (listed below, pp. 169-70). Part Three, which is to provide natural histories of all phenomena (i.e., lists of observations and experiments with a low level of organization upon which the methodical induction process is to be applied to produce laws) is represented in the 1620 volume only by an introduction (the Parasceve, which is again distilled from past work) and a list of subjects for histories. It was to collect data for this part that Bacon abandoned his studies on method. Much of Bacon's earlier writings in natural history, as well as what he wrote after abandoning the Novum Organum, can find a place in spirit, if not always in terms of Bacon's formal requirements of data collection, in Part Three. Almost all of these works are incomplete and most are mere fragments

or "directions for works." The massive collections of data required by Part Three naturally make it impossible for Bacon to move beyond it. The next two parts exist only as they are described in the 1620 Plan of the Work, which echoes the earlier introductory fragments "Scala Intellectualis" and "Prodromi sive Anticipationes Philosophiae Secundae." Four is to provide sample applications of the method; Five is to give the fruits of Bacon's own "wit" in coming to possible conclusions without using the full method. All of the material for these parts is written in the modulated prophetic key and in the general terms of Bacon's other prefatory works. Part Six, mentioned in the Plan of the Work, is the exercise of the method upon the "histories"; it exists in vision only and its originator depends on future generations to give it shape.

To return to Part Three, it is represented by fragments, sketches, or beginnings of collections of facts on motion, heat and cold, minerals, compounding of metals, light, weight, sound, and magnetic attraction; and more formidable but still incomplete histories of density and of winds, the latter published in 1622 (Historia Ventorum)with prefaces to five other natural histories that are never undertaken. "More or less complete," according to Ellis, is the Historia Vitae et Mortus, a compendium of much contemporary lore containing Bacon's reflections on a problem not often considered theretofore to be a pressing one for a good Christian: how to

prolong our earthly existence. (The work has been said to be important in the development of physiology).[27] Another work of natural history, the collection of heterogeneous facts called the Sylva Sylvarum, is "complete" only in a structural sense. It traverses ten general headings and ends with exactly 1,000 different sets of observations. It does not conform to the open-ended scheme of Bacon's idea of the scientific text, which takes its structure not from preconceived plans but from natural facts themselves, and its reliance on at times almost mythological lore (a defect of all the histories) is so great that Ellis in his introduction does not believe Bacon intended the Sylva to be a direct contribution to Part Three. The work was Bacon's last, and shows his drive to see his conceptions carried past the preliminary stages. Perhaps it represents wish-fulfillment more than anything else--though it achieved posthumous popularity. Another popular work, the Essays, which themselves went through two processes of revision and expansion, can also be considered to contribute, again in spirit more than in actuality, to the plan of the Instauratio. They have been thought to present data for the category of moral knowledge "Regiment and Culture of the Mind"[28] outlined in the De Dignitate, and do, of course, as "attempts," present varying observations on subjects for which firm conclusions are seldom offered.

The conception of the text that Bacon tended toward manifests itself outside of the works Bacon's editors take to be

part of the Instauratio (not that these other works necessarily bear no relation to the plan for renovation of knowledge). Bacon proposed a vast History of England from the Union of the Roses to the Union of the Crowns. The first book, the History of Henry VII (1622) is complete; the second on Henry VIII is an introductory fragment; the other books are nonexistent. Of the two myths to be discussed in the De Principiis atque Originibus only one is studied, and not fully. The Maxims of the Law (1596-7), Bacon's most important legal work, is complete but only a remnant of the general review and recompilation of English law that he proposed. The History of Great Britain is an introductory fragment; the Temporis Partus Masculus is one chapter of a three-book work; the New Atlantis is incomplete, as is Of the True Greatness of the Kingdom of Britain. The incompleteness of the New Atlantis, it has been pointed out, reflects ironically the similar condition of its model, Plato's Critias;[29] but the complicated problem of the relationship of scientific progress to social and individual well-being (the unstated crux of the New Atlantis) is perhaps deliberately and necessarily avoided by Bacon.[30] The general unwillingness to come to a synthesizing conclusion and the tendency to leave matter in suspension exemplifies Bacon's essential belief that subjects must be explored with an "unceasing forward movement," as Vickers says,[31] and the exploration kept free for unknown developments. Of Bacon's important non-legal writings

only the De Sapientia Veterum stands as a fully independent and finished project.

Bacon's view of the text of science as normally incomplete finds a partial rationale in his revolt from the humanist veneration of texts. His extreme conception of science calls for a virtual takeover of human shaping judgmental powers by the regularities hidden in the labyrinth of nature. His encyclopedia, the Instauratio, is different from its sixteenth-century predecessors (such as Agrippa's, Telesio's, and Patrizi's) in that Bacon in effect proposes to hand his pen over to nature at some point and have her complete it. Man's need, Bacon says, is for experiments which will give rise to inventions. The action of natural experiment and the results derived methodically and automatically therefrom will supersede the written texts of philosophers and poets and put those texts in their proper place. Bacon with his exhortative text attempts to set up the conditions for this action by mankind and by nature.

Renaissance and medieval veneration for the text expresses itself in the adherence to the ancient idea that nature herself, like the sacred biblical word of God, is a book (if not also a writer). Natural phenomena are thus emblems and hieroglyphs which are to be deciphered to reveal their moral message and to make use of their occult powers. Thus the courageous lion or crocodile's tears may become the subjects of a moral discourse or poem accompanied by a

picture or emblem. Bacon himself even suggests one version of this idea in the passage below (which is meant to display another similitude for the search for axioms of first philosophy).

> So if the moral philosophers that have spent such an infinite quantity of debate touching Good and the highest good, had cast their eye abroad upon nature and beheld the appetite that is in all things to receive and to give; the one motion affecting preservation and the other multiplication; and again if they had observed the motion of congruity or situation of the parts in respect of the whole, evident in so many particulars; and lastly if they had considered the motion (familiar in attraction of things) to approach to that which is higher in the same kind; when by these observations so easy and concurring in natural philosophy, they should have found out this quaternion of good, in enjoying or fruition, effecting or operation, consenting or proportion, and approach or assumption; they would have saved and abridged much of their long and wandering discourses of pleasure, virtue, duty, and religion.[32]

In its 1350 German translation a medieval encyclopedia is given the title, by another extension of the nature-as-book metaphor, Buch der Natur--explicitly, one supposes, it would be Book on the Book of Nature. This lack of distinction between truth as read in the book of nature and as read in authoritative texts (between what Gaston Bachelard calls the phenomena and the bibliomena) is important to Michel Foucault's characterization of much of pre-seventeenth century thinking. His comments at least do seem to illuminate the kind of interchangeable veneration of authoritative, traditional texts and of nature-as-text that Bacon, even with the concern for the correspondence of natural and

ethical world he expresses, is revolting against. (Bacon himself was, after all, a great simplifier of the history of culture). Speaking as if he were a representative but unusually thoughtful sixteenth-century individual, Foucault imparts these sentiments:

> God, in order to exericse our wisdom, merely sowed nature with forms for us to decipher...whereas the Ancients have already provided us with interpretations, which we need do no more than gather together, were it not for the necessity of learning their language, reading their texts, and understanding what they have said...The discourse of the Ancients is in the image of what it expresses; if it has the value of a precious sign, that is because, from the depth of its being, and by means of the light that has never ceased to shine through it since its origin, it is adjusted to things themselves, it forms a mirror for them and emulates them: it is to eternal truth what signs are to the secrets of nature (it is the mark whereby the word may be deciphered); and it possesses an ageless affinity with the things that it unveils. It is useless therefore to demand its title to authority; it is a treasury of signs linked by similitude to that which they are empowered to denote....Nature and the word can intertwine with one another to infinity, forming, for those who can read it, one vast single text. [33]

The "book of nature" comes to be a fighting term for all those--from Protestants to extreme skeptics such as Montaigne to natural "scientists" like Paracelsus and Bacon himself--who wish radically to <u>contrast</u> natural and experimental knowledge with the overblown opinions of non-scriptual authorities. Bacon goes further than the others in attempting to construct a type of encyclopedia of nature that actually requires for completion natural directives perfectly obeyed by collective human action. In a sense he returns to the position of Foucault's meditative man, who sees the equi-

valence of texts and nature, but for Bacon the scientific text is seen as a part of nature rather than vice versa. Experiment and invention replace the text. Scientific knowledge must be recorded and disseminated, but it is written, as it were, by the hand of nature by means of the collective hand of man after the primary action of discovery is over. Bacon's incompleteness points toward this textless text.[34]

If nature is the book written by God, writers are, of course, "second creators" who make a world that imitates nature or God's act of creating nature. Even the Instauratio has six parts like medieval hexaemeral encyclopedias organized on the basis of what God made on each of the six days of creation. The completeness of a text, as has been pointed out, mirrors the teleology of the larger world:[35] all things, say both Aristotle and St. John, fulfill their nature by tending toward God and in the end, perhaps, will be taken up again to His bosom. But in Bacon's ideal text we have no second creator and no imitation in the above sense. Natural principles arrived at by Bacon's method are not representations of nature fashioned by a man who acts in God's place. They seek a more certain and actual comprehension than is implied by the words "mimesis" or "poet" ("maker"): they seek in this sense, to be nature and to grow from nature as creator, to become one with what they represent. Again, however, the irony of Bacon's contrasting claims presents it-

self, since the claims to charity and self-effacement (i.e. self-effacement of the writer as second creator of an ordinary book of nature) are balanced by claims to priority and originality that imply that Bacon is Prime Mover of a truer universe than ever a poet sang.

By some miracle we are to expect the work begun by Bacon to wipe out the distance between fallen man and nature, a separation that every conventional text repeats and consecrates in its little, lonely, spider-web world. In "On a Drop of Dew" (written 1640's) Andrew Marvell presents an emblem for this isolation of the text (and of its maker). The drop mirrors the greater world but longs to be evaporated into it. Bacon's ideal text is an evaporated one. All men may write it and it merges with the nature the old texts only mirror. To keep dry for Heraclitus was the difficult task of human life. He associated moisture with the intractable earth and the passions and needs it spawns. In borrowing his phrase "dry light" to describe the disinterest required by the scientist, Bacon points out the movement of his own reform: it "closes with nature" as an invisible vapor rising from the universe of literary texts and permeating all nature. The impossible aspiration of the poem to restore the ruined world and close the gap between man and nature through the Word, becomes also Bacon's impossible goal, though he seeks a wordless word. Not that one can deny the alchemical origins Rossi finds for Bacon's demand for certainty and his ascetic

method: but there is another, literary context for Bacon's attitudes.

Renaissance preoccupation with the "correspondences" between man and nature undoubtedly contribute to the importance of eloquence as a means of harmonizing knowledge. The adage, for instance, often quite like an emblem, can be based on or refer to an observation from the book of nature. Erasmus in his so-called Adagia of 1500 seeks to help others to eloquence, and his collection, like other works of his, was everywhere in the literate world of the sixteenth and seventeenth centuries. He displays some of the attitudes identified by Foucault, but with a much different tone. He speaks, in effect, of knowledge as fixed in the infinite labyrinth of the authorities' texts, and complains during the course of his remarks on the "Labors of Hercules" adage about the infinite work and thought he believes is required to bring to bear all the ideas pertinent to even a single adage.

> Certainly, whoever considers what immense travail and what infinite difficulties this collection of adages (however imperfect) has meant to me, will be much less impatient....To find out the meaning of an adage you must either guess or search out the interpretations in ancient authors. And in which authors? Not in this one or that one or a certain few, as happens in other subjects....A life-time would hardly be enough to explore and examine (in both languages) so many Poets, Grammarians, Orators, Dialecticians, Sophists, Historians, Mathematicians, Philosophers, and Theologians (simply going over their names would wear a man out), and not once only but over and over again, as the subject requires it, one must push up the stone of Sisyphus. [36]

Interpretations lead to other interpretations and the process

of knowing is never completed, hedged perhaps with mystery but definitely with exhaustion. Erasmus's view of the immensity of his work accompanies the statement that his labors, although they may produce good for others, are uninspiring to him and demand close adherence to the subject-matter and the checking of the impulse to add something of his own genius. One can find in Erasmus's passages both attitudes that disgust Bacon and that inspire him. It is easy to see how Erasmus's description of the Herculean labors of the humanist scholar could have helped form Bacon's idea of himself as a toiling, humble, disinterested, and selfless scientist of the lowly natural fact, the fruits of whoose labors, in terms of either practical invention or knowledge of natural principles, he himself will never enjoy.[37] Erasmus says,

> In other [types of] books there is often room for the mind to operate, there is the pleasure of discovery or creation, there is the possibility at any time, in any place, of completing a part of the work by sheer mental activity; and of hastening on your project by the quickness of your brain; here you are fettered to the treadmill, you cannot budge an inch, as they say, from your texts. You waste your eyesight on decaying volumes covered with mold, torn and mangled, eaten into everywhere by worms and beetles, and often almost illegible; in short, anyone who spends long over them may easily bring on himself decay and premature old age....[38]

Bacon's natural facts are like the hieroglyphs of the book of nature in that they contain hidden meaning which the right method can elicit. They have mystery and a potentially infinite associability with other facts in the total natural "history" Bacon envisages, although the mystery exists only

to be dissolved finally by the arrival at laws of nature. This possibility of escape from the world of endless analogies as interpreted by eloquence (requiring both intellectual inspiration and drudgery) draws the stiffling Bacon, and he attempts to create a self-sustaining point of departure. Erasmus's "similitudes," hieroglyphs that comprise a universal language, thus become Bacon's "footsteps of common reason" to be deciphered by science and to be used with skill Erasmus would have admired in Bacon's Essays and elsewhere. Bacon's dream is of an immediate intuition of natural fact that requires no intellectual or imaginative interpretation, and that through method leads automatically to abstract laws and to inventions. The existence of this process in a textual form becomes an intermediate convenience lying between two poles of intuitive perception and applied scientific laws in action. The method so unites perceiver and perceived that the tragic distance between representation and nature is eliminated. Nature will carry up the incomplete, visible part of Bacon's text to the secret truth itself, and man and nature will be united, a goal "higher than anything on the earth, or anything that is of the earth." Bacon's erected sail of expectant incompleteness waits for this natural wind.

3. Incompleteness as defense

Bacon, indeed, desires once for all certain knowledge,

a clear break with tradition, and a viable new position. Above all, a beginning must be made, since the emphasis after the beginning of the scientific enterprise is on what one may not do. Development and completion of works can be a threat to this solidity of position, for the courageous will to break away from tradition may not be accompanied by the ability to do so (and surely is not in Bacon's case). From this point of view Bacon's work is not exemplary just of openness to development. The incompleteness that proclaims itself as openness and appears to be such conceals a protective turning away, a refusal to extend and hence vitiate the initial godlike moment of creation and assertion, a conscious or unconscious recognition of the impossibility of finding means of elaborating the plan that do not encompass and destroy it. Destruction could occur, surely, by subjecting the utopian vision to careful, rational considerations; but also by revealing the covert origins in tradition of the self-consciously new beginning. This opposition of assertion and formal development is the intratextual dimension of the problem of modernity. Elaborating a "moment" of assertion in an extended work will place qualifications on the assertion, because the new must still be represented with the language and ideas of the old. Brian Vickers, stating what is probably a consensus view, says, "Bacon's constant drive to revise and improve was not a fussy expression of indecisiveness, rather the sign of an intellec-

tual horizon which was always expanding, of a reach which invariably exceeded the grasp and left not over-written books but unfinished ones."[39] Bacon was impulsive, not indecisive. But I am suggesting that alongside this great reach was the primary desire to make a discrete point of departure that exists first of all just to manifest its own difference, its independence as an act of creation from historical determination, and that the fragility of Bacon's departure, the prospect of its engulfment by the syncretism of humanistic eloquence, necessitates an extreme boldness and freshness for which thoughtful elaboration would be fatal.

One could define a separate category of Bacon's works under the heading of beginnings. They exist either as prefaces only or in a decisively unfinished and still brief condition. They might even be collected in a volume, which would show the striking similarity of some of the entries, regardless of what aspect of the new learning they introduce, and the exact repetition of particular passages. The beginnings find an effective culmination in the 1620 volume in the prefatory material to the Instauratio and to the Novum Organum, Book I of the Organum itself, and the preface to the Parasceve. Yet much of the 1620 material went through "at least twelve" revisions of its own, according to Bacon's biographer-chaplain William Rawley. Besides these works, this "genre" would include the following:

Phaenomena Universi

Abecedarium Naturae

Filum Labyrinthi sive Formula Inquisitionis

Prodromi sive Anticipationes Philosophiae Secundae

Partes Instauratio Secundae Delineatio et Argumentum

Tempus Partus Masculus

De Interpretate Naturae Proemium

Scala Intellectualis sive Filum Labyrinthi

De Interpretatione Naturae Sententiae XII

Aphorismii et Consilia, de Auxiliis Mentis, et Accensione Luminis Naturalis

Letter and Discourse to Henry Savill touching Helps for the Intellectual Powers

These works are in a sense all the same work. They comprise a gesture of beginning, a deliberate moment of self-assertion that defines the central theme of Bacon's work. They are made up of, first, the rhetorically constructed stance in opposition to tradition. For instance:

> Francis Bacon thought in this manner. The knowledge whereof the world is now possessed, especially that of nature, extendeth not to magnitude and certainty of works.[40]

Along with this opposition comes the hopeful promise of emancipation from the past. These works explore the nature of the fresh beginning, yet in another sense they are repetitions of unsuccessful attempts at an impossibility, a truly fresh beginning. But in burying the past and prefiguring the future they create a present whose end is really only self-preservation. Generation is the purpose of these strong pronounce-

ments, but their development has been "sacrificed to celibate individuality."[41] Copernicus and Galileo, with less demands on the absoluteness of their starting points, could elaborate on their stances of opposition using mathematics and observation guided by the hypothesis that Bacon spurned. Bacon cannot do this, nor can he suffer the diminution of power that the terms of tradition offer for him. Bacon's beginnings express again and again the will behind the choice of vocation voiced in one of their most distinguished examples, the three-page De Interpretatione Naturae (see chapter two above, p. 72), but they can never move beyond this recognition of calling to more concrete realization of its dictates. Perhaps, however, the drama of choosing and possessing a Calvinistic "calling," the statement of an intention that explicitly demands that all other intentions, whether carried out or not, be referred to it and defined in its terms, is the necessary kind of assertion that "the times" demanded of many. Much of what Bacon intended to do or have others do in science and his very fashioning of intentions and assertions was carried out or repeated by others of the Enlightenment, and in his name--in spite of his method and his prejudices. What was unnoticed by Boyle, Diderot, and Kant (and could not have been fathomed by Bacon) was the continuing presence of tradition that stands behind Bacon's forceful creation of an ego and a positivist epistemology.

Bacon's abandonment of the Novum Organum, from this point of view, indicates not just a freedom and openness to development. The two books of this work are composed of so-called "aphorisms." Book I begins with some of the finest examples of aphorisms ever written. By the end of this book, the units have lengthened and have become more like paragraphs. Book II begins with shorter paragraphs composed of a high proportion of pithy, definite-sounding, aphoristic sentences. At the point where Book II is abandoned, the organizational unit is the length of a short chapter, several pages long. The Novum Organum presents Bacon's method. Book II attempts to define scientific goals (the discovery of "forms"), gives an example of the performance of a partial induction (on the nature of heat) and begins what promises to be a long and detailed account of ways in which the observer can discern more significant facts from the limitless breach of natural perceptions (these ways are called the Prerogative Instances). Then Bacon stops writing, embarks on a program of experiment and observation, and never goes on again to the eight other "helps to the understanding" (see II, xxi). Two ironies present themselves here. The prerogative instances, not to mention the other "helps," seem to be becoming too complex and unmanageable themselves, and what they are actually doing is qualifying the ideal of pure induction. The vision of union with nature, in other words, seems in danger of being

lost in the labyrinthine complexities of a new scholasticism, with a jargon all its own (although one of uncommon picturesqueness).[42] The expanding structure of the "aphorism" that makes up the Novum Organum proves not to be a vital and developing module but one that loses the impetus of its strong beginning in a marsh of complications and quibbles. The opening vision is preserved by not continuing the development and not confronting obstacles that would make the reader and perhaps the writer question the whole enterprise.

R. Tarselius nicely harmonizes Spedding's remark that "the habit of self-assertion was not at [Bacon's] command" with his own observation that "it is very seldom that a writer... manages to impart to the reader the force and the validity of his theses in such an unmistakable way purely and exclusively by his manner of expression."[43] Tarselius specifies one point of Bacon's peculiarly forceful style of assertion, the "characterizing will": "by using a phrase like, e.g., all colors will agree in the dark he has stated a universal truth rather than given his personal view or presented an observation of his own."[44] By such rhetorical means Bacon takes a definite stand that can exist independently of tradition and upon which a structure of facts could be built. (Pure rhetoric naturally becomes more necessary when antecedents are disowned.)

Just as he repeats beginnings and continually tries in his style of writing for immediate universal assent, Bacon

also repeats favorite sayings, often metaphorical, that with great imaginative pith seem to induce immediate approbation. For instance,

> Time is like a river, which has brought down to us things light and puffed up, while those which are weighty and solid have sunk.

According to Vickers this comparison appears six times in Bacon's work.[45] Significantly, two appearances occur in the same volume, the Instauratio of 1620, one in the preface and one in the Novum Organum. Such repetitions are not unusual.

> For man is but the servant and interpreter of nature: what he does and what he knows is only what he has observed of nature's order in fact or in thought; beyond this he knows nothing and can do nothing.

This statement appears near the end of the Plan of the Work in the Instauratio and then a few pages later as the first aphorism of the Novum Organum. With such repetitions Bacon displays his emphasis on the definiteness and intractability of the truly firm beginning. Such repeated aphorisms serve something of the function of slogans, which provide an unquestioned truth that one can fall back on.

Bacon's repeated beginnings do not seem to result in a better understanding of the relationship of the individual and tradition, but aim at the perfected sharpness of the blind departure from tradition. The vocation Bacon chose was really the mastery of this departure and burial, this assertion of the freedom from the obligations to the fathers. Bacon's habitsof composition, of course, were no doubt affected by

the practical exigencies of his life. He continually had to "start over" because it was during vacations from parliamentary, judicial, or court duties that many of his philosophical, literary, and historical works were composed. His abandoned beginnings are like rituals that again and again assert his overthrow of his literary and philosophical parents and birth from his own soil. They act out a primary natural process (birth, or the "re-birth" achieved or at least sought by the hero of literature) just as rituals do. Also like rituals, they are not subject to critical analysis by their participant: Bacon does not better understand the full nature and limitations of acts of beginning by repeating them, but only learns better how to perform them more effectively and single-mindedly.

Bacon did not intend his many kinds of beginnings as broadsides to stir the powers-that-be to academic action. Many of them were not published by him at all. His preoccupation with making beginnings and improving upon them suggests an obsessive, ritualized pattern of actions. Like the neurotic , Bacon's behavior in this respect might best be thought of as a kind of symbolic action that requires interpretation. Like many asserters of modernity, the compulsive repeater performs acts that to him seem spontaneous and original but that, if examined in the light of his past actions and experiences, fall into a pattern of unconsciously determined

behavior. According to Freud he keeps acting out in different terms something that happened to him in the past (a "trauma"). For instance, continual failures in love affairs, financial endeavors, or other projects, while in every case attended by circumstances that appear to be beyond the individual's control, can add up to a pattern that finally must be ascribed to an unconscious will to repeat some overwhelming frustration. Repetition occurs in order to inure the nervous system against the shock of the traumatic experience and its possible recurrence.[46] Understanding the forces behind such repetition--if that can be done--obviously is the individual's first step toward ending the chain. But it is just such understanding that the true modern denies to himself or cannot achieve. He knows, at least during the critical time in which he is fashioning his modern theory or composition, no history or genealogy, or only one that is defined and used entirely as a tool of his consciousness. Claims of modernity serve a protective function against the chaos of history, yet the self-consciously modern position can further isolate its maker and render him more vulnerable. The same is true of the compulsive act. While its ultimate purpose is to protect the psyche from the devastating effects of possible recurrence of the traumatic experience, it also works against the wishes and needs of the individual. Thus no progress of understanding of the past is made through repetition of the trauma, nor is any made through Bacon's repeated beginnings. The speaker in Bacon's beginnings has

undergone a "trauma"--metaphorically speaking--that stems from the fragility of his own existence and power to act in the world of texts and language, i.e., the generally humanist background (including a large infusion of Aristotle) of the educated Elizabethan. (In chapter one of this study possible conditions for such a crisis in a prospective author of that age were briefly pointed out.) Freud's myth of the revolt against the "primal father" explains a kind of compulsive act involving ritual and is a plausible representation of the kind of difficulties that could produce a body of works as incomplete, yet complete in their own way, as Bacon's. Like the "death instinct" hypothesis discussed in the introduction, the "primal horde" story can be seen as a powerful symbolic representation of the characteristic limitations facing explicit moderns like Bacon. The ritual of the sacrifice, in Freud's hypothesis, is a symbolic repetition of the killing of the primal father, who controlled all the women of his tribe (or "horde," since the group had no polity other than the father's tyranny) and denied sexual access to the "sons." The attitude of the "sons" after their acts of murder and incest is ambivalent: they are glad to be free from the oppression of the father but are guilty about what they have done, still revere the father (who now, they think, wields power from the beyond), and recognize the practical need for incest prohibitions. The ritual sacrifice of an animal, as a repetition of the murder, affirms the sons' own independence and power to

act but also provides a means of both propitiating the ancestral father and securing benefit from him for due performance of rites. In the sacrifice the revolt is affirmed but so is the dependency. Thus at each sacrifice the father is again killed but buried respectfully and with honors.[47]

Bacon's relation to tradition likewise contains such ambivalence. Bacon kills and lays to rest the figures of the past but does so, as we have seen (ch. 2), in a way that tries to preserve his reverence for them at the same time. Bacon is trapped in the problem of this relationship of self-assertion and past directives. Just as the sacrificial killing is only symbolic, so Bacon's continual beginnings are pseudo-attacks that never get beyond generalities and intentions, and that never overcome the continual presence of the "fathers" in Bacon's mind. Bacon's "burials" of the fathers in his manifestoes actually provide memorials that in effect keep the memory of tradition alive, for they always point to a powerful adversary who holds the field and has yet to be displaced.

Bacon's goal is to escape the confines of the literary text, yet he repeats his frustration of ever doing so completely. True--and impossible--modernity would mean starting from an original unclouded perception of the natural fact (nature is defined in the Novum Organum, II, i-ii as only bodies in motion). This perceptual contact, by means of method, carries man upon the road of time (the revealer of

truth), not upon the road of wit, toward some final apocalyptic union of man and nature. Bacon prepares for this journey over and over by repeating the act of burial and new initiation. However Bacon uses old means to make his new stand, just as the sons reinstitute the sexual rules they revolted against and place their father-ancestor over them as the nominal keeper of tribal law. Bacon's stand is based on rhetoric drawn from keen insight into and knowledge of a rich rhetorical tradition, his idea of unity of knowledge has one source in the unifying eloquence of the poet and the tireless humanist scholar, and his scientific enterprise, as we shall discuss in the next chapter, affords a kind of will-less and wit-less sublimation of the story of the hero and vision of the prophet. Thus Bacon's scientific work, with its repeated beginnings and traditional elements, suggests a ritual cycle of recurrence as well as a rational, linear progress. Once again, it is Bacon's denial of his own natural repetitiveness (i.e., that he has antecedents, that he in fact transforms and restates ideas of discourse already given him) that means he must repeat in a somewhat compulsive way. One cannot really say that his repeated beginnings are debasements: how fortunate that he worked so hard to perfect the beginning of the Instauratio and of the Novum Organum. But the gain of hardness and brilliance through his assertion of modernity is also a loss because Bacon has distorted the natural virtues of repetition: its promotion of fresh insights into problems

dealt with again and again. Even the list- and map-making typical of the compulsive is mirrored in Bacon's conception of empirical data as vast cross-referenced lists; Karl Popper maintains that the inductive method should be called "induction by repetition."[49]

If one at all considers Bacon from the point of view of tradition and modernity, one's guiding aim must be appreciation of both the etiologies presented here for Bacon's incompleteness and more generally for the "thoughtlessness" of which incompleteness is a part. The antinomies of freedom and determinism or of nature and history, upon which the two views are based, are hardly resolved by Bacon. But the two views are suggested by the openness and inadvertence with which Bacon presents conflicting commitments to both rebellion and tradition. He thus provides a paradigmatic picture of the struggles and contradictions of modernity and of creative discourse generally. Bacon's thoughtlessness, as it were, allows the reader to achieve insights[50] about the process of writing and about human action. "We never see our ideas or our freedom face to face," concludes a critic studying another great innovator.[51] Just so one finds in the combination of forces making up Bacon's text a different freedom and a different limitation from those which he saw himself.

Notes

1. Bacon's freewheeling use of rhetoric for gaining assent to his proposals is the theme of James Stephens's Francis Bacon and the Style of Science (Chicago: University of Chicago Press, 1974).

2. The deficiencies of Bacon's conception of science and method have been thoroughly discussed, and by scores of authors. See Ellis's comments in the "General Introduction to Bacon's Philosophical Works," and, besides the works of Farrington, Rossi, Anderson, and Jardine (especially pp. 114-119), C. D. Broad, The Philosophy of Francis Bacon (Cambridge: Cambridge University Press, 1926).

3. IV, 408; I, 617.

4. Lisa Jardine's recent analysis of the background of Bacon's views on the classification of the branches of learning forms the basis of the discussion here. See Francis Bacon: Discovery and the Art of Discourse (Cambridge: Cambridge University Press, 1974).

5. IV, 373; I, 580.

6. Physicke against Fortune, as well Prosperous, as Adverse, tr. Thomas Twyne (London: 1579), fol. 8v.-9r., quoted in Petrarch: Four Dialogues for Scholars, ed. and tr. Conrad H. Rawski (Cleveland: The Press of Western Reserve University, 1967), p. 186.

7. See Eugenio Garin, Philosophy and Civic Life in the Italian Renaissance, tr. Peter Munz (New York: Harper and Row, 1965), pp. 17, 22, and Jerrold E. Siegel, Rhetoric and Philosophy in Renaissance Humanism: The Union of Eloquence and Wisdom, Petrarch to Valla (Princeton: Princeton University Press, 1968).

8. See On Christian Doctrine, tr. D. W. Robertson, Jr. (New York: Bobbs Merrill, 1958), IV, 13 & 15 (pp. 138, 142-43).

9. See Charles Trinkaus, In Our Image and Likeness: Humanity and Divinity in the Italian Renaissance (Chicago: University of Chicago Press, 1970), II, 562.

10. Bacon's complex attitude toward eloquence and the "rhetorical culture" of the Renaissance was of course part of a general re-evaluation made by many others also. Besides the works cited above, see, among many others, W. J.

Ong, Ramus, Method, and the Decay of Dialogue; W. S. Howell, Logic and Rhetoric in England, 1500-1700 (1956; rpt. New York: Russell and Russell, 1961); Morris W. Croll, Style, Rhetoric, and Rhythm (Princeton: Princeton University Press,); R. F. Jones et al., The Seventeenth Century: Studies in the History of English Thought and Literature from Bacon to Pope (Stanford: Stanford University Press, 1951); Robert Adolf, The Rise of Modern Prose Style (Cambridge: Massachusetts Institute of Technology Press, 1968).

11. Garin, p. 18.

12. The Boke Named the Governour (London: Dent, 1907), I, xv.

13. Jardine, p. 38.

14. Jardine, p. 33.

15. Jardine, p. 26; see also pp. 17-58.

16. Advancement, II (III, 402-03).

17. Valerius Terminus (III, 229).

18. III, 228.

19. III, 228-29.

20. III, 230.

21. Advancement, II (III, 349).

22. Advancement, II (III, 349).

23. "Francis Bacon" in Essential Articles for the Study of Francis Bacon, ed. Brian Vickers (Hamden, Ct.: Archon Books, 1968), pp. 304-11.

24. Advancement, II (III, 370).

25. The relation of Bacon's scientific vision to humanistic grammar and rhetoric has been discussed in two articles in Studies in the Literary Imagination, IV, No. 1 (1971). Margaret Wiley, "Induction and/or Rhetoric," pp. 65-80, attempts to show an identification of humanistic rhetoric and induction on the part of Bacon rather than a transformation of certain aspects of rhetoric by the new science as I attempt to show here. Her notion of Bacon's science as a "rhetoric of works" highlights the arts of discourse as models for Bacon's science, in which technology is primary. Fr. Maurice B. McNamee, "Bacon's Inductive Method and Humanistic Grammar," pp. 81-106, offers valuable comparisons of grammatical methods of textual

interpretation and Bacon's inductive method (see n. 37 below).

26. Francis Bacon and Renaissance Prose (Cambridge: Cambridge University Press, 1964), p. 203.

27. II, 93-94.

28. By R. S. Crane, "The Relation of Bacon's Essays to his Program for the Advancement of Learning" in Essential Articles for the Study of Francis Bacon, ed. Brian Vickers (Hamden, Ct.: Archon Books, 1968), pp. 272-92. For a contrary opinion see Jardine, pp. 227f.

29. Warman Welliver, "Questions of Intent: An Inquiry into the Meaning of Some Ostensibly Incomplete Works of Plato, Dante, Poliziano, Lorenzo de Medici, and Francis Bacon," Diss. University of Chicago 1966, p. 155.

30. Peace Among the Willows: The Political Philosophy of Francis Bacon (The Hague: Martinus Nijhoff, 1968).

31. Francis Bacon and Renaissance Prose, p. 203.

32. Valerius Terminus, II, 229-30. Another aspect of Bacon's view of the correspondence of natural and human worlds is taken up by Alfred North Whitehead in Science and the Modern World (1925; 3rd ed., New York: The Free Press, 1967), pp. 41f. Whitehead points out that unlike members of the dominant schools of modern Western philosophy, Bacon does not limit "perception" to man but assumes that all natural bodies set in motion have some "perception" of the moving force.

33. The Order of Things [Lets Mots et les Choses]: An Archaeology of the Human Sciences, tr. anon. (New York: Random House, 1973), pp. 33-34. Lynn Thorndike has remarked: "It was felt for a time... that a mere recovery of the correct Greek texts, shorn of all glosses and commentaries, would solve every scientific problem" (quoted in Charles Cochrane, "Francis Bacon and the Advancement of Learning," Diss. Columbia University, 1953, p. 62).

34. See Michael McCanles, Dialectical Criticism and Renaissance Literature (Berkeley: University of California Press, 1975), pp. 39-40.

35. See Frank Kermode, The Sense of an Ending: Studies in the Theory of Fiction (New York: Oxford University Press, 1967).

36. M.M. Phillips, The 'Adages' of Erasmus: A Study with Translations (Cambridge: Cambridge University Press, 1964), pp. 195-96.

37. McNamee (see n. 25 above) shows the parallel between

Bacon's method and Juan Luis Vives's influential method of textual interpretation (expounded in De Tradendis Disciplinis, 1531), which called for the erasing of all preconceptions in the mind, emphasized the practical benefits of knowledge and both careful scrutiny of text and of nature (pp. 82-92).

38. Adagia, p. 198.

39. Francis Bacon and Renaissance Prose, p. 203.

40. "Filum Labyrinthi sive Formula Inquisitionis," III, 497.

41. Edward Said, "The Novel as Beginning Intention" in Beginnings (New York: Basic Books, 1975), pp. 79-188, uses such terms to describe the novelist's problem of defining and creating a fictional world. Said finds this problem mirrored in the dilemma frequently faced by the nineteenth-century fictional hero, who rejects marriage and family in order to make some individualistic quest that preserves his identity but not his seed.

42. E. g., "Instances" that are migratory, clandestine, heteroclite; Instances of the lamp, door, and finger-post.

43. XIV, 568.

44. "All Colors Will Agree in the Dark" in Essential Articles, p. 295.

45. III, 227, 292, 503; IV, 15, 72; VI, 502.

46. Beyond the Pleasure Principle in The Standard Edition of the Psychological Works of Sigmund Freud, ed. and tr. James Strachey et al. (London: Hogarth Press, 1955), XVIII, pp. 35-38, 40.

47. Totem and Taboo in Works, XIII, pp. 141-46.

48. On man the repeater see E. W. Said, "On repetition," The Literature of Fact, ed. Angus Fletcher (New York: English Institute, 1975).

49. Objective knowledge: An Evolutionary Approach (London: Oxford University Press, 1972), pp. 3-4.

50. Michael McCanles, Dialectical Criticism and Renaissance Literature, p. 220, speaks of the total "dianoia" of a work (in the use of the term he follows Northrop Frye) as capable of going beyond or contradicting whatever meaning may be intended by the author.

51. Maurice Merleau-Ponty, "Cezanne's Doubt," Essential Writings of Maurice Merleau-Ponty, ed. A. L. Fisher, tr. H. L. and P. A. Dreyfus (New York: Harcourt, Brace, and World, 1969), p. 251.

Chapter 5

Cupid Hatched by Night: Bacon's Transformed Poetry

> Is it possible that in the time you have been with me you have not yet found out that all the adventures of a knight-errant appear to be illusion, follies, and dreams, and turn out to be the reverse? Not because things are really so, but because in our midst there is a host of enchanters, forever changing, disguising, and transforming our affairs as they please, according to whether they wish to favor or destroy us.
>
> --Don Quixote

1. Introduction.

In the last chapter we saw that, contrary to his statements, poet' and scholars' ideas of eloquence do not just serve a decorative function in Bacon's writings on science, they help define the goal of science as a rationalization of eloquent, metaphorical discourse. We also saw the gains and losses in Bacon's paradigmatically modern (i.e. blind and incomplete) program for carrying out this transformation from one kind of text to another as if he were molding a completely new beginning. Here I shall go on to suggest, more specifically, possible connections of Bacon's science with different kinds of literature, and shall focus on allegory which, as Sir Philip Sidney implies, is all but synonymous with poetry in Bacon's time and before.[2] Bacon's scientific goals lead him to launch in the Instauratio Magna a kind of encyclopedic realization of many of the literary genres of his time.

The attempt to find important sources for scientific method, goals and theories in the forms and goals of poetry is both very old and very new. Bacon himself was at least willing to entertain the idea that the poet Orpheus was the first philosopher; today a common, if indemonstrable, idea is that language was originally metaphorical rather

than strictly literal and denotative. The terminology of any specialty often remains effective through the growth of new meanings from old by an often metaphorical process. In the introduction (see n.16) I outlined some of the scholarly ventures into the area of artistic and poetic models fro scientific theory and method, but the present study remains, as the reader will soon discover, definitely exploratory. I merely discuss some similarities between Bacon's science and the poetry of his time. My "conclusion" is highly un-Baconian: it represents the logical working out of my hypothesis on the basis of facts that at this beginning stage of inquiry may not be fully defined, digested, and verified.

Bacon claims to find little use for the conception of allegorical poetry as the discovery of hidden truths. He identifies science, we have seen, as that which is concerned with the invention rather than the presentation of knowledge. Indeed Sidney in 1583 and Edmund Spenser in his epistle prefixed to The Faërie Queene (1590) both emphasize, along with their fellow humanists mentioned in the last chapter, a poetic goal of setting forth known principles of virtue rather than participating in an inspired discovery of truth hidden or unknown before.

But in Spenser's case, at least, such an emphasis is misleading, due in part to a characteristic modesty: he finds it appropriate to liken his work to the popular exempla of Xenophon rather than to Plato's deep inquiries. Spenser's elaborate invocation to the muses for inspiration immediately following his epistle provides a contrasting emphasis. One difference between Spenser's "dark conceit" of allegory and Bacon's "dry light" of science is that to the former truth can best be preserved and sought out in its natural mystery while to the latter allegorical mystery stultifies and thwarts the search for the important truths. But we shall see in the end that Bacon's program for scientific discovery--however he might shudder at the suggestion--requires precisely an elaborate method of preserving meaning in its natural mystery. Bacon's modernity, with its energetic program of restraint, its blindness to the past, the intellect, and the imagination, preserves the principle of enlightenment through enfoldment that underlies allegory.[3] Thus it is not surprising that Bacon audaciously adapts Orphic, Neoplatonic, and Christian mysteries in his interpretation of the birth of Cupid (who represents the universal laws of nature) from Night (Bacon's modern method of induction by negation). But before making a few remarks on Bacon's

interpretation of this mythic motif I shall point out the projected Instauratio Magna's relation to allegory and allegorical epic in terms of general structure, the nature of the hero and of the scientist, and the growth and development from "pastoral" world of union with nature to triumphant "heroic" world and its analogue in Bacon's conception of the growth of knowledge. I shall also discuss Bacon's characterization of his work as "georgics" and the relevance to his work of the epithalamium, a poetic genre based on ritual. In discussing the first two points I shall rely on Angus Fletcher's theory of allegory, particularly on his notion of "daemonization." My purpose is also, however, to suggest how Bacon's modern science not only transforms aspects of the allegorical but also carries out its transformations in a way parallel to those performed by other moderns on their predecessors' work. In fulfilling this purpose I shall refer to some of the "revisionary ratios" Harold Bloom uses to describe the transformations typical of modern literary history: kenosis, daemonization, and askesis, and shall discuss Bacon's essential identity as a "counselor" rather than a "prophet."

A common view of literary and scientific historians is that allegory "gives way" or "dies out" in the course of the

seventeenth century and is replaced by science and more rationalistic discourse.[4] Michel Foucault, with his interest in exposing the discontinuity in schools, ideas, types, and periods that have previously been assumed to be homogenous or sequential by intellectual historians, retains and even accentuates this conception of one discrete type of discourse that subsides with the rise of another during the seventeenth century.[5] Such an assumption can make for clumsy interpretation of transitional figures, and who is not transitional in some way? A strong assertion of modernity such as Bacon's itself attests to the continuing power of the traditional avatar; my aim is to consider not the exhaustion of allegorical models but their appropriation of them by the unwitting modern writer. On the other hand, Jacques Derrida with his "deconstruction" of the texts wishes to expose another discontinuity, one which lies behind the fallacious assumption of textual and authorial coherence and autonomy.[6] Likewise Foucault prefers to think of language itself, not the writer, as the cause of a given work.[7] My purpose is not primarily to expose Bacon's blindness by showing his derivativeness, pointing out the ideas, habits, and systems of thought already traced in his would-be mental tabula rasa, but to appreciate in its complexity an extreme case of

of the writer's necessarily blind but still partially effective process of giving new meaning to old forms and ideas. While Bacon's dependence upon the idea of "presence," that is, the independent, immediate, and self-created reality of his thought as well as of the reality of the things he perceives and thinks about, can be undercut by the critic, Bacon's assertion of presence must also be appreciated as the substantial quickening and novel realization of traditional elements, a grappling with the essential problems of man-in-culture.

Jean Piaget studies the child's "gradual coordination of assimilation schemes" during the development of its different perceptual or "assimilative" powers.[8] Piaget offers this approach to perception as a model for the understanding of a variety of phenomena in the humanities and social sciences.[9] One of the relevant "assimilation schemes" important for the development of Bacon's modern consciousness, I suggest, is provided by the norms of allegorical poetry. While I do rely on the general assumption that Bacon, like everyone else, has internalized certain patterns of thinking that he is more or less unconscious of, I do not think that one could give a psychological and cultural account of precisely how these norms became coodinated with others (for

instance those of magic, Aristotelian and Ramist logic, memory theatre, millenarian Protestantism, the practical bent of civic humanism, etc.) and come to make up the main features of Bacon's science and of his supposedly autochthonous modern consciousness. Piaget is able to give such an account for the development of human perception, a process in which the child's perceptual operations become, like some of the influences on Bacon, second nature and fade into the unconscious. Nor can I even venture to say to what degree Bacon is influenced by his own reading of literature on the one hand or how he responds to more generalized, tacit patterns of thought and representation governing his time and place. I wish only to draw some plausible parallels between certain poetic structures and the elements of Bacon's science and, with the notion of modernity, to suggest how Bacon could have gotten from one to the other. As argued in the Introduction, we need a better understanding of extreme, claim-making moderns like Bacon and more consideration of the influence of literature on science in Bacon's period.

2. Allegory and the Instauratio Magna as encyclopedic modes.

Especially after Giovanni Boccaccio's De Genealogis Gentilium Deorum about (1370), which elucidated a "poetic

theology" that transferred the principles of figurative biblical interpretation to secular texts, allegories and allegorical interpretation of classical texts could be seen as adventures of discovery that in their most ambitious forms attempt to interpret the order of the universe just as the Bible does. They too come to have an apocalyptic aspect, one relating to first and last things, presenting, as The Divine Comedy or The Faerie Queene do, a comprehensive allegorical picture of the world from its lower to its upper limits. Northrop Frye classifies such allegorical "analogies of revelation" under encyclopedic literature.[10] A different kind of encyclopedic tradition, having its structural roots, as mentioned earlier, in the biblical description of the six days of creation, stands behind Bacon's six-part voyage of discovery, and Bacon states his purpose in the Instauratio as the promotion of "an apocalypse or true vision of the footsteps of the Creator imprinted on his creatures."[11]

Our concern, however, is with the sense of "encyclopedic" as the synthesis of traditional and current forms and ideas. In Spenser and in Bacon, for instance, a powerful drive to define and structure an almost overwhelmingly rich tradition comes to be expressed in a virtually

unprecendented depth of allegorical significance on the one hand and in a comprehensive science on the other. The modern (i.e., in this case, Renaissance) reader's perception of differences between his world and that of the classical past gives rise to allegorical possibilities; if one allegorizes in his reading, so may he expect and encourage others to allegorize what he writes. But the eclectic and syncretic aspirations of, say, Giovanni Pico must themselves result in a complex, many-leveled literature that attempts to reinterpret and autochthonize the stories, arguments, and images of what was taken to be a rediscovered classical world.

One obvious means of encyclopedic synthesis involves the assimilation of lesser genres within the larger, later work. Both The Faerie Queene and the Instauratio are modern summations and systematizations of forms conceived originally to be separate. Such synthesis of genres becomes in fact a general trend in Elizabethan and Jacobean times.[12] Not only does The Faerie Queene combine several kinds of pastoral, satire, exempla, romance, epic, etc. in its philosophical, religious, political, and social allegory, but non-fictional encylopedic works such as Burton"s Anatomy of Melancholy (1620) are in many ways new forms built in large

part from old and often obsolescent ones.[13] Although one would never guess it from reading the Novum Organum, a Baconian natural history like the Historia Vitae et Mortis (1623) is in fact an attempt to revive as contributions to his portentous new enterprise the popular collections of miscellaneous anecdotes modeled on works by Pliny and Valerius Maximus. Bacon's sources for this particular history include, besides the work of these two men, collections by Roger Bacon, Fulgosius, Egnatius, Petrarch, and Ficino.[14]

Rosalie Colie points our that Sidney in effect designates poetry as the natural house for Cicero's Golden-Age genus universarum that can generate and include all genres and therefore all knowledge whatever.[15] But granted that allegorical epic and the Instauratio are encylopedic and deal with the problem of assimilating the past, can we derive any benefit from going further and attempting to see the Instauratio as an "apocalypse or true realization" not only of hexaemeral and Plinian encyclopedias but also of the different kinds of eloquent discourse Sidney finds united in poetry? Such a step is suggested by the "literary," the learned and rhetorically sophisticated character of Bacon's discourse, by his only partially successful but

determined attempt, analyzed in chapter four, to forge a new kind of discourse that avoids the pitfalls he finds common to all traditional means of expression and inquiry and by his own characterizations of his work, which suggest comparison with poetic genres. In the next five sections, then, I shall develop the proposition that the Instauratio dissolves and attempts to reconstitute and give new direction not only to its memorial and encyclopedic forebears in natural philosophy but also to the entire corpus of literary forms as a kind of modern, supplementary testment.

The problem of talking about the Baconian encyclopedia with respect to the allegorical encyclopedia is complicated by the fact that the questing hero and the interpreter of allegory both find their counterparts in the figure of the Baconian scientist. The scientist parallels the hero trying to achieve a wonderful goal, while at the same time the scientist's whole purpose is to find the one valid interpretation of the text of nature. This identity of scientist-character and scientist-interpreter mirrors the situation of the reader of the Instauratio: he is being exhorted to enter the quest for knowledge and hence to enter the textual world of the Instauratio, a world that seeks at once to emcompass all texts and all nature,

paradoxically and to supersede the limits of textuality through a connection with immediate intuition and practical life. As discussed in chapter four, the Instauratio, by disvaluing its own existance as a text and finding realization in the action of scientific experiment and invention, aims to merge again with nature just as it purports to spring from nature. The reader thus becomes the hero, is guided through all the realms of natural and historical knowledge, and is taught the wisdom that will enable him to overcome his enemies (the idols of the fallen mind) and to achieve his goal, reunion with the earth, marriage to the truth of nature through science. Of course some identification of hero and reader is part of every narrative, particularly where an allegorist aims at moving the reader to virtuous action and higher understanding, and where he presents his characters undergoing a learning process just as the reader does. Paradise Lost provides a good example of a work designed to subsume, complete, and transform previous epics and to be part of the unfinished real-life drama of mankind against Satan.

3. Allegorical and Baconian structures: the daemonic.

On the level of gross structure, allegory, like art generally, displays a superficial symmetry with science,

even as alchemy does with chemistry. Both are usually in some sense double worlds of "primary" and "secondary" qualities, with more particular and perceptual levels on the one hand that call for more general and abstract accounts of the states of affairs in those levels on the other. Thus Sidney can apologize for poetry as the unity of the particulars of history and the generalities of philosophy, while Bacon can praise natural philosophy and his own science for similar reasons.[16] But it is the nature of the daemonic in allegory that provides a basis for relating allegory specifically to Baconian science.[17] Unlike primarily mimetic literature, which presents life as it could really be lived, the action, characters, and images in allegory have a primarily daemonic sense, that is, they are under the rigid control of allegory's more abstract level of meaning and serve the purpose of illuminating that meaning, not to imitating nature. Angus Fletcher says, "the daemon of a man is his fate . . . his lot, whatever is specifically divided up and alloted to him . . . [In allegory a character] is narrowed to the function represented by his daemon."[18] Allegories, by this control from the beyond, tend to create "an endless series of divisions of all important aspects of the

world into separate aspects for study and control." Allegory actually depends upon an abstract world of laws that interpret, control, and determine the daemonized concrete worlds down to the most specific detail. The absoluteness and certainty in such daemonic control is nowhere more evident than in Bacon's science: in order to safeguard his modern autochthony Bacon, as we have seen, claims maximum certainty, thoroughness, and generality for the laws produced by this method.

One of the characteristic structural features of allegory is its tendency to present a random collection of seemingly unrelated situations and events that follow one upon the other as the hero progresses toward his goal. He may have any number of adventures, each one forming a distinct and complete episode by itself. The meaning that ties the episodes into a coherent pattern is not evident in the narrative but requires allegorical interpretation. The uniting figure is an intellectual one rather than one of plot or character.[20] Spenser's knights undergo adventures that bring out different aspects of their particular virtues and the vices that oppose them; the episodes engender progressively deeper explorations into the nature of glory, temperance, courage, despair, lust, and

the general problems of getting along in the world. The reader can also infer that the heroes in the end come to a quite metamorphic understanding of themselves as representative types; however the complexities of meaning, the truth in the allegory as a whole, can only appear when the implications of the series of more or less discrete events are drawn out on the more abstract, allegorical plane. The absence of depth, completeness, and coherence in this paratactical progression from one event to the next itself helps suggest to the reader a daemonic level of significance that is precisely what is needed to make the series meaningful. In a similar way the hallmark of Bacon's method is its initial reservoir of facts listed without interrelations upon which the scientist performs induction. Bacon begins his inquiry into the principles of longevity, for example, by listing facts concerning the preservation of "inanimate and vegetable bodies." For instance;

> In the eastern parts of Germany, at the present day, they make use of cellars as granaries to keep wheat and other grain. A covering of straw of some depth is laid on the floor below and round the grain to keep off and absorb the moisture of the cellar; by which means the grain is preserved for twenty or thirty years, not only for rotting, but (what pertains more

> to the present inquiry) in such a state of freshness as to make excellent bread. The same custom is said to have prevailed in Cappadocia, Thrace, and some parts of Spain. 21

Such isolated facts have little significance in themselves; it is now their relation to an unstated and as-yet-unknown certainty that gives them importance. The reader who knows what Bacon's "tentative conclusion" will be or who is familiar with prevailing theories of the time on animal spirits and longevity will be able to "read" the "allegorical" list of facts and guess the conclusion beforehand. But attempts to embed explanatory and generalizing connecting links within such collections of facts would spoil what we call their daemonic significance: their charge of potential meaning would be neutralized since, possessing elements both uncertain and of an incommensurable degree of generality, they would become useless for the methodical progression towards their secret rationale. In both the Instauratio and Spenserian allegory the sense that something is missing on the levels of discrete episodes or observations becomes requisite for the ascent to generalities.

In contrast, both mimetic literature and what we think of as modern science today display a plenitude on the narrative or observational levels. A major advance of modern

science beyond Bacon is the recognition that every fact already requires an interpretation, an "hypothesis" about the possible nature of things: thus the level of concrete observation is both preceded and accompanied by one of the abstract tentativeness. Likewise in the novel, for instance, the narrative level becomes a focus of attention to a greater degree than in allegory, since it can bear an opaque subtlety of both concrete detail and of thought contributing to its total representation of life. Certainty in both cases is sacrificed for this plenitude. The narrative or observational level in allegory and Baconian science may have at times complex and unclear correlatives on the more abstract plane, but the narrative level is definitely governed by some concepts, vague though they be. On the other hand mimetic literature and today's science can both be said to be based on Aristotle's norm of probability: on the making of theories, hypothesis, reality as it might well be.

As an archetypal modern scientific hero, Bacon himself displays some of the characteristics of the allegorical hero. Here too an apparant lack of depth is the key to the distinctive nature of both these kinds of heroes. The allegorical hero is possessed by a daemon in the sense that,

unlike the characters in more realistic fiction, he is a personified abstraction or a representative type and hence is capable of acting only in an extremely limited way.

> If we were to meet an allegorical character in real life, we would say of him that he was obsessed with only one idea, or that he had an absolutely one-track mind, or that his life was patterned according to absolutely rigid habits from which he never allowed himself to vary. It would seem that he was driven by some hidden, private force; or, viewing him from another angle, it would appear that he did not control his own destiny, but appeared to be controlled by some foreign force, something outside the sphere of his own ego.22

Among the founders of what we today call science, Descartes preferred the subtleties of the armchair to those of the laboratory and Galileo placed his ingeniousness and the principles of mathematical reason above experimentation as well as before it in the sequence of the scientific method; Bacon on the contrary finds his model in the image of the scientist willingly controlled by the necessities of his data and arriving automatically at his conclusion. The ethos of the model Baconian scientist as we have seen, is of a <u>virtus</u> that denies itself; if fictionalized, such a figure would be a transparent allegorical character through which hieratic meanings can portend, one who is daemonically controlled at all

times by a rigid and restraining method. It will not seem surprising in view of the discussion in the last chapter that Fletcher suggests compulsiveness as the natural "psychoanalytic analogue" for the allegorical character (Freud tossed off obsession, paranoia, and hysteria as the "caricatures" of religion, philosophy, and the mimetic aspects of art respectively).[23] The automaton-like repetitive behavior of the compulsive, the allegorical hero, and the Baconian scientist as they attempt to fit problem after problem into the same formula, their withdrawn and channelled emotions as they follow the dictates of absolute standars of behavior, all suggest control by daemon-like agencies. All three must overcome the constant temptation to abrogate their ascetic dedication and violate important taboos. For Bacon such indulgence means breaking away from the rigid method, following the Idols of the Mind, and putting forth his own proud, confusing, and fanciful explanations for events. The force of Bacon's modern assertion is tied to this compulsive and unthinking obedience to the daemon Method; this is the necessary price he seems willing to pay for his aura of modernity.

In the last chapter a kind of compulsiveness evident in

Bacon's repeated beginnings was discussed. These abortive assertions of modernity are themselves episodic, and like the retired Bacon's incredible and Herculean resolve to publish one complete natural history each month suggest the episodic feats of the daemonized allegorical hero. But this kind of compulsiveness or daemonization, since it more directly involves a continuous battle with tradition rather than with temptation, is closer to the related idea of a daemonization occurring in the face of overwhelming predecessors characterized by Harold Bloom in The Anxiety of Influence. Before considering Bacon's problem of modernity under this aspect and in terms of the allegorist's parallel task of synthesizing traditional texts and his modern thinking, however, let us further explore the structural parallels of Baconian science and Renaissance poetry.

4. Pastoral and epic.

If we change the terms of our comparison somewhat, we can find a model for methods of inquiry in natural science, both Baconian and otherwise, in the characteristic interplay of pastoral and epic in Renaissance allegory. (For the moment I am using "pastoral" in a wide sense to include the georgic as well as garden and Golden Age motifs).[24]

In the fiction and poetry of Bacon's time the education of the hero frequently goes through successive stages: in a closed and apparently ideal or archetypal natural world he gains insights into such questions as honesty and deception, the ideal and the real, innocence and experience, art and nature, and contemplation and action; then he moves back into the larger heroic world of battles, courts, and marriages, where he finds he has learned enough to perform his destined task or where a new set of problems requires new adaptations. What seems to be the daemonic repressiveness of Bacon's methodical prescriptions looks somewhat different if we consider it in the context of the fictional hero's growth and development by means of his movement through pastoral and heroic regions of Renaissance plots.

In English literature Sidney's Arcadia (1591) presents this progression on a grand scale; Red Cross Knight in The Faerie Queene, I, learns his own identity in the course of his adventures, having begun as a plowman and ended as a knight. Sir Guyon in Book II learns from his experiences in a false garden of pleasure. The Garden of Adonis in Book III, the origin of all growing things, provides the perfect environment for Amoret, for instance, to grow up in except

that she at first finds herself somewhat unprepared to withstand the challenges to her natural goodness the world outside the garden makes. The pastoral sojourn, in some ways more real than the outside world and in some ways less, provides an educational perspective for Shakespeare's characters in As You Like It, The Winter's Tale, Cymbeline, The Tempest, and, if we include "hard" views of natural origins, in King Lear and a number of other plays. The New World as represented in Michael Drayton's "To the Virginian Voyage" (1619) or Andrew Marvell's "Bermudas" (written 1640's) offers an application for the notion of an ideally harmonious growth to perfection from an ideally pristine natural beginning. If we include the realm of sport and game, Roger Ascham's Toxophilus (1545) in explaining the principles of archery uses this quasi-pastoral activity as an elaborate emblem for living a virtuous and successful life as a gentleman. Such pastoral worlds offer closed and controlled settings in which the true nature of things is either evident or can be explored with courage and insight. As part of the hero's process of coming to wisdom they provide explorations of the origins and first principles of nature and of the self.[25] The creation of a "modern" identity for the Western poet,

characterized by his use of imagination rather than inspiration and by a more profound rendition of the poet's reverie, longing, and suffering, has been said to be the specific achievement of Virgil within the peaceful retreats of his pastoral Arcadia in the Eclogues.[26] Virgil's "beatus ille" or "happy man" appears again in the country-house poem of Bacon's time, and finds both identity and peace retiring in the bosom of nature.[27]

Bacon, of course, concerns himself with finding a natural, immediate, and origianal source for knowledge. In declaring his modernity he searches, like many a fictional hero, for the kind of innocence from which one can learn wisdom, a paradox Bacon had discussed in one of his "sacred meditations," "The Wisdom of the Serpent and the Innocence of the Dove" (1597), and upon which his whole scientific enterprise is based. Bacon's vision of nature and the pastoral vision share the ideal of harmony between man and nature. The word "instauratio" implies, for one thing, a return to an Edenic state before man lost his direct contact with nature: this notion of union with nature informs both the beginning and the apocalyptic goal of Bacon's enterprise. But as they actually exist, Bacon's scientific works can be said to consist of epic hopes and pronouncements along with pastoral beginnings.

Bacon himself draws the parallel between an uncompromising empiricism like his own and pastoral perspectives when he calls Bernardino Telesio's a "pastoral" philosophy. It was from Telesio, his most important precursor among modern natural philosophers, that Bacon's idea of perception and intuitive knowledge seems to have developed.[28] The criticism implied by Bacon's epithet "pastoral" is precisely that Telesio's philosophy, in Bacon's view, supplies no means of developing beyond the primary level of immediate intuition of facts.[29] Bacon himself provides the will to go beyond, but his method is both unworkable and incompletely described, and he too is short on results.

In its more limited sense as a particular genre of poetry concerning shepherds, Thomas Rosenmeyer characterizes the pastoral world, beginning with Theoritus, as made up of "a series of discrete units, each to be savored for its own sake."[30] The disconnected quality of thought and form supposedly captures the beauty of nature and of unsophisticated people, besides making pastoral a natural vehicle for allegory for George Puttenham, the pastoral "eglogue" is allegorical by definition).[31] But the pastoral is generally not the place for unbridled emotions, since it must preserve the sophisticate's distance from the life he is writing or reading

about. The detachment natural to pastoral allows the reader to accept its essentially stereotyped world without jarring his sensibilities. Rosenmeyer compares pastoral's typical structure and detachment to the empirical analysis of experience practiced in Albert Camus's novel L'Etranger.[32] There indeed bare reportage of facts serves the Baconian function of witholding judgments and conclusions about the nature of events. From this point of view Bacon's natural histories aspire like Camus's novel to what Roland Barthes calls the styleless "zero degree" of writing, which is designed to allow an unbiased presentation of the subject or to allow truths beyond the consciousness of the author to manifest themselves.[33] Such writing, if undertaken in earnest as Bacon, at least, does, attempts in effect to find a real stylelessness to replace the highly conscious mock stylelessness of pastoral. Such lists of facts are meant to be valuable because they are "at the brink of operation" yet preserve a detachment and methodical control.

> The sun-beams whott to sense.
> The sun-beams not whott, but rather conceived to have a quality of cold, for that the greatest colds are noted to be about the full, and the greatest heat about the change, Qu. The beams of the stars have no sensible heat by themselves; but

> are conceived to have an augmentative
> heat of the sun-beams . . .34

Here at the beginning of an inquiry on heat and cold the sensory experience seems almost to defeat the analytical function, and a charming banality combines with sophisticated detachment. As the pastoral artist often does, Bacon cuts away the full range of human intellectual, emotional, and imaginative responsiveness and by a highly detached and "stylized" or methodical means attempts to prepare for the effortless reception of the simply and styleless-ly real. Paradoxically, only by highly polished method-ological spectacles can this immediate reality be apprehended wisdom known to Theocritus.

Sophisticated allegories like Spenser's feature explorations of moral, political, and religious questions and the "testing" of different attitudes about such questions within the controlled precincts of the pastoral world.[35] Thus the young but sober swain Piers of the May eclogue in The Shepheard's Calender (1579) advocates a Puritan position against old, worldly, May-game-loving, Catholic Palinode. This dialectical exploration of the subtleties of an issue parallels Bacon's willingness to suspend judgement and consider various possibilities:

his own Essays are such explorations of differing perspectives.[36] But the congruence of Bacon's particular ideal of science with pastoral poetry must be qualified. As a scientist Bacon in the end concerns himself with an inductive process that eliminates "wrong" answers and insures entrance into the secret gardens of natural law. The difference is partly one of subject matter: Bacon's discussion of morality, for instance, is generally not concerned with what is right (much has been said, he thinks, about that already) but with how definitely to get people to do the right things.[37] However for Bacon the goal of "union with nature," of knowing the nature of anything (in the sense of its "form" of its "nature-engendering-nature" as discussed in the Novum Organum, II, i-iv) means "knowing" in a rather final sense. The dialogues of pastoral debates have different goals from those of the logical machines of either Ramus or Bacon. Bacon's modernity requires first of all a means of limiting and directing inquiries. The kinds of "explorations" and "tests" of attitudes and beliefs that Spenser or Shakespeare perform in the pastoral environments they construct frequently do not lead to specifiable syntheses.

Book VI of The Faerie Queene (1595), The Legend of Courtesy, provides an interesting but by no means unique parallel with the Instauratio. Courtesy, the special virtue of the hero Sir Calidore, has become today just a question of manners, but for Spenser and his audience it is the difficult intuition and importation of the spirit of nature's harmony and naturally generous human impulses into all areas of the witheringly complex and deceptive world of high culture. Calidore is confronted with a number of different representations of natural sources of courtesy, from the dallying lovers Calepine and Serena to the Salvage Man, the hermit, and the Graces and Colin Clout. The poem offers a closed, "laboratory" environment into which these variations of stock characters as well as typical plot-motifs and iconography can be injected and the mixture allowed to develop and ferment in novel ways. Calepine and Serena enact a primary version of courtesy as Spenser sees it, sexual union; in their manner of doing so they neglect a secondary but crucial aspect of courtesy, discretion. Disaster results. The reader and, implicitly , Sir Calidore, must judge the meaning and future usefulness of what is found in these poetic "experiments." Only after his daemon, Courtesy,

is unfolded and reviewed for him in the different episodes can Calidore face his primary epic labor, defeat of the Blatant Beast. Bacon too envisages such a progress from discrete encounters with different aspects of the immediate and natural to the "heroic" level of natural law. As in the case of the interrupted lovers, there is not always one right answer that defines courteous and discourteous behavior for Spenser; rather there usually tends to be an illumination of the complexities of the problem. To a large extent Bacon's method reflects this openness, this willingness to entertain heterogeneous narrative "data" and apparent contradiction on the allegorical plane, but Bacon's scientific goal finally goes beyond literary, dialectical richness: as a hero the scientist must know the right answers before the quest can be ended.

The Faerie Queene as a whole is a kind of courtesy book in that Spenser means it to provide a guide for the virtuous courtier and gentleman. The Instauratio in a sense is also a courtesy book--a genre Bacon actually contributed to in an unorthodox fashion with his Essays--or rather a transformation of that ubiquitous Renaissance genre into what could be considered its scientific realization. The benefits of Bacon's science, like Spenser's

courtesy, are eminently practical and social; the Instauratio counsels the gentleman on the proper handling of what indeed came to be, after the Interregnum, his properly fashionable activity: the leisurely discussion of and sometimes the search for scientific knowledge.[38] But Calidore achieves his heroically courteous goal, while Bacon never moves except in exhortation and surmise much beyond the inspiring vision of harmony. Bacon too seeks a discipline that can overcome the fetters of epistemological etiquette by bringing the fresh air of nature into the dark and cramped minds of so-called wise men. Just as Sir Calidore must apprehend the simple virtues of country life in order to realize the ideal of courtesy in the sophisticated world, so the Baconian scientist must turn to the "anonymous tinkers" who up to his time have been responsible for the major technological advances of man. By so doing the scientist can learn to see and construct again within the framework of his larger, orderly scientific program. Sir Calidore's retreat among shepherds and vision of dancing Graces on Mt. Acidale provides the final preparation for epic battle by its metaphysical depiction of the nature of universal harmony. The shepherd piper Colin Clout, to whose music the Graces dance, represents the possibilities of human

creative powers in gracious accord with the powers of nature. It is at least plausible to believe that Bacon himself has also had some Acidalean vision of intuitive harmony with nature which guides his insistent modern vision.

5. The georgic.

Bacon at one point likens part of his scientific enterprise to neither the pastoral of the epic, but to the georgic. This characterization, while clearly a rhetorical gesture that serves the needs of a particular moment, nevertheless provides a perspective on the Instauratio's covert relation to literary modes.

> Virgil . . . got as much glory of eloquence, wit, and learning in the expressing of the observations of husbandry, as of the heroical acts of Aenas:--
>
> Nec sum animi dubius, verbis ea vincere magnum Quam sit, et angustis his addere rebus honorem. [And well I know how hard it is to win with works a triumph herein, and thus to crown glory with a lowly theme.]
>
> And surely, if the purpose be in good earnest, not to write at leisure that which men may read at leisure, but really to instruct and suborn action and active life, concerning the husbandry and tillage thereof, are no less worthy than the heroical descriptions of virtue, duty, and felicity.39

Bacon seeks to surpass the fruitless "heroic" discourses of

philosophers and poets who merely present ethical ideals. A scientific approach, he goes on to say, can foster understanding of the human faculties and the stimuli that dispose men to good actions rather than ill. This practical inquiry is therefore a "georgic." The georgic is traditionally distinguished from the pastoral for a similar reason: the latter concerns love and (usually) repose in nature's lap (activities of shepherds), the former offers a guide to productive work upon nature (what farmers are supposed to do). Thus Bacon criticizes Telesio for a method that begins with the immediate particulars of nature but does not combine this "pastoral" innocence of the child with the productive capacity of the man. Bacon's conception of the georgic might best be viewed as a transcendence or realization in scientific terms of the pastoral-epic opposition, a collapsing of those two moments into a single continuous movement of discovery from intuition to law to machine to man relieved and restored, just as the Baconian virtus attempts to collapse the conflict between wit and time and between pride and humility.

The georgic, established as a more or less independent form with the works of Hesiod and Virgil, combines several

features that could prove attractive to Bacon for designing the text of science.[40] (Hesiod's Works and Days was available in early seventeenth-century England in George Chapman's translation of 1618). The georgic concerns contented labor upon an agricultural retreat; it offers useful information for the farmer but its didacticism, particularly in Hesiod, may become primarily moral as it delineates a conception of the good life and, as in Virgil, may be overbalanced also by description and the tone of elegy. The georgic is written in heroic verse and in a somewhat encyclopedic fashion can ramble freely over many subjects, including mythology and topical issues as well as miscellaneous descriptions and epigrams concerning farm life. Its emphasis on humility, practicality, and labor, and its miscellaneous content parallel the aphoristic form of Bacon's Novum Organum and his lists of facts in the natural histories, his concern with humility and simplicity as both moral and epistemological virtues, and his pragmatism; most of all, however, the didacticism of the georgic poet, particularly Hesiod, parallels Bacon's role as a counselor to men on how best to arrange their earthly affairs in present and future. On the other hand, nothing could be further from Bacon's energy and progressive

optimism than Hesiod's cautious and unambitious retirement. Likewise the ideal state for the Epicurean, stasis, which is celebrated by Virgil and by his model for nature poetry, Lucretius, combines the ideal knowledge of nature's secrets with quiet seclusion rather than with experiment invention and with a great, public and collective scientific enterprise. But this difference can be reduced when we reflect that the epic verse of the georgic still suggests a certain spacious and public air of grandeur: in Virgil's case it becomes, like Bacon's natural histories, a preparation for epic achievement (the Aeneid); on its part Baconian ambition, as we have seen, depends upon continual denial of its own ground. In fact Bacon, it might be said, moves toward a kind of paradoxical "epic cultivation." It is as if he thought the scientist could, by quietly and diligently seeding, plowing, and harvesting, one day plow over the whole world and thereby become the hero who conquers it. Marvell provides a portrait of one such figure in his poem on Cromwell: a humble gardener transformed almost by magic into heroic conqueror. "As if his highest plot" had always only been "to plant the bergamot," as if by steadfastly planting Bacon wondrously but naturally, without ambition or intellectualism, could become like

Cromwell both the gardener of a kingdom and the most subtle plotter in it. Bacon's georgic attempts to move beyond the subtle and static interplay of ideas developed in the sophisticated pastorals of Elizabethan England. This georgic means to move in a humble and steady fashion toward its heroically non-heroic, apocalyptic goal of certain truth. Thus pastoral and epic, the "empirical and rational faculties" that respectively observe nature and conclude upon it, are reconciled.

In Bacon's age man moves between the pastoral paradise of Eden and the apocalyptic epic of the resurrection. Bacon's science too attempts to recover the true human nature lost at the fall and fully redeemable on the last day. As the realization of pastoral and epic forms Bacon's georgic provides in its recognition of human limitation a discipline for achieving to some degree the ideal world that literature, as discussed above in chapter four, imitates but remains alienated from. It combines the humility and immediacy of the pastoral with the nobility of the epic; it expresses both the freedom and the bondage of the modern. The eighteenth-century popularity of the georgic, beginning with John Dryden's 1697 translation of Virgil, attests to the existence of a parallel, if trivialized, belief held

in the first modern scientific era that epic verse and an idealized natural setting can provide a suitable medium for practical knowledge and practical inquiry.

6. Epithalamium and the ritual basis of allegory and Baconian science.

The epithalamium concerns the beginnings of things and is part of a larger ritual, the marriage ceremony. Bacon's method itself, which seeks to replace the texts of philosophers and poets, is also, as Karl Popper--disparagingly--remarks, a kind of ritual designed to bring about the harmony of man and nature, since it depends more upon the automatic observance of rules than on creative thought.[41] Northrop Frye in adapting Sir James Frazer's studies of ritual for literary criticism, says,

> Rituals cluster around the cyclical movements of the sun, the moon, the seasons, and human life. Every crucial periodicity of experience: dawn, sunset, the phases of the moon, seed-time and harvest, the equinoxes and the solstices, birth, initiation, marriage, and death, get rituals attached to them.
>
> The impetus of the magical element in ritual is clearly toward a universe in which a stupid and indifferent nature is no longer the container of a human society, but is contained by that society, and must rain or shine at the pleasure of man . . . Poetry imitates human action as total ritual, and so imitates the action of an omnipotent human society

> that contains all the powers of nature within itself.[42]

At the most general level Frye focuses on the theme of universal harmony and of the universe's intelligibility and control by men as the common aims of ritual and literature. Baoon himself says of the Instauratio:

> The explanation... of the true relation between the nature of things and the nature of the mind is as the strewing and decorating of the bridal chamber of the mind and the universe, the divine goodness assisting, out of which marriage let us hope (and be this the prayer of the bridal song [epithalamium] there may spring helps to man, and a line and race of inventions that may in some degree subdue and overcome the necessities and miseries of humanity.[43]

Bacon specifically refers by "epithalamium" to the Novum Organum, the methodology which begins with a statement of the true relation of the mind and nature. In Bacon's time the epithalamium still possesses strong ties to its origins in the marriage ritual. The metaphor of marriage is used elsewhere by Bacon to describe the goal of his science: he wishes to correct "an unkind and ill-starred divorce"; he hopes "that knowledge may not be as a courtesan, for pleasure and vanity only, or as a bond-woman, to acquire and gain to her master's use; but as a spouse, for generation, fruit, and comfort."[44]

As a great admirer of King Solomon, Bacon by his epithalamium metaphor refers to the Song of Solomon, the allegory of the marriage of Christ to the Church. The marriage Bacon looks forward to is modeled on that one and serves a similar redemptive function. In his "Epithalamion" (1595) Spenser fully develops the function of ritual as presenting a harmony between man and nature that is described by Frye and alluded to by Bacon. The written parts of the Instauratio, indeed, are like an epithalamium in that they sing of a harmonious marriage of man and nature and actually move to prepare for its consummation, just as the bridal song is an actual part of a marriage ceremony and generates a future by contributing to innumerable generations of offspring. Spenser's poem displays a complex orderliness that, as in The Faerie Queene, parallels Bacon's scientific hope. The twenty-three stanzas plus one envoy and the 365 long lines are the grossest of many structural features that make the "Epithalamion" a comprehensive microcosm of all time, a metaphorical attempt to enclose time in a human ritual lasting exactly twenty-four hours.[45]

Likewise the Instauratio seeks to unite man with the truth that is revealed through time, and seeks to do so by a method that involves the obedient, unquestioning performance

of specific "ritualistic" patterns. Instead of a closed, symmetrical structure, however, the Instauratio and the Novum Organum in particular are attempts at exponentially expanding ones. Instead of being the metaphorical microcosms of nature they are the beginnings of a synecdochic merging with nature: a ritual, as it were, that no longer imitates the natural harmonies but becomes continuous with them as scientists carry out experiment and make inventions according to method.

The ritual aspect of Bacon's modernity both restrains and liberates. On the one hand Bacon's methodological precepts suggest the strict and orderly reduction of nature to mechanical laws, and his repetitious habit of composing primarily beginnings suggests the strict orderliness of compulsive behavior as the trance like repetition of frustration experienced in the act of achieving autonomy (see chapter four). As such the ritual does serve or attempts to serve the necessary function of closing off and defining the limits of the modern's consciousness. On the other hand ritual is associated with the free abandon that is another elemental aspect of the festival and pageant. The marriage ceremony, for instance, provides an opportunity for festive abandon that in effect celebrates and recreates,

just as the formal aspects of the ritual do, the vital generating spirits of nature. In this regard Mikhail Bachtine offers the Rabelaisian "carnival spirit" as the origin for the open, undogmatic, self-critical, perpetually becoming and unfinished nature of modern science.[46] For Bachtine the institution of science sometimes seems paradoxically to have turned away from the vital forces of "ambivalent festive laughter" by virtue of its narrow rationalism even as its spirit derives from these forces.[47] If it is the spirit of the carnival that "fertilized the Socratic dialogue" (the foundation of critical philosophy) and "freed it from one-sided . . . seriousness,"[48] this spirit seems also to be reflected, however modulated, in Bacon's aspiration to free inquiry and to an aphoristic, undogmatic, and sometimes antithetical style. These Baconian traits are compatible with the open and uncompleted quality of the dialogue and with the festive spirit of some ritual occasions as well as with their orderliness.

7. Mystery in allegory and Baconian science.

The figures of allegory serve both to conceal and reveal; as Bacon puts it, allegory or "Parabolical Poesy" "tendeth to demonstrate and illustrate that which is taught or delivered, and . . . to retire and obscure it: that is,

when the secrets and mysteries of religion, policy, or philosophy, are involved in fables and parables.[49] Analogies help to make difficult truths clear; but deep truths about man, nature, or God can sometimes be only understood in parables and enigmas, which preserve truth from trivialization. The process of allegorical interpretation reflects, as Spenser implies in The Faerie Queene, VI, Proem, v, and as Richard Crashaw affirms in his "In the Glorious Epiphany of Our Lord God," the essential nature of the process of insight as a movement beyond the surface of things to the virtues within that appear as if only "through a glass darkly." At the same time only "the few" can interpret allegories: they can conceal from the multitude knowledge that would be unintelligible, repugnant, or dangerous. Allegorical readings, like allegorical writings, also provide ways of dealing with problems of modernity. The modern interpretation of a classical work can achieve considerable freedom to derive from his subject ideas meaningful to this own age by assuming, as the ancient Neoplatonist Porphyry does in his Homeric Questions, that the classic was in fact intended to be read allegorically, and should be treated as a mystery to be deciphered. Such typological readings are the basis of the Christian interpretation of the Old

Testament as well as of Neoplatonic hermeneutics, which together form two principal bases for Renaissance ideas of allegory.[50]

It is natural that one as cognizant as Bacon of the mind's limitations and of the evils of uncritical traditionalism would find ways of preserving truth from wrongheaded and self-seeking assaults highly desirable. Thus his methodical and "automatic" design for interpretation of the text of nature, featuring a "negative" method of "exclusions." The account of induction in the Novum Organum, II tells us that the only sure way of finding the essential attributes of a given thing or quality is to eliminate gradually and methodically from the catalogue of observations all the attributes, which only sometimes appear in conjunction with the thing or quality. One will be left at the end with the essential attributes, and the final answer will be the more certain because one did not posit the attributes but actually found them alone left at the end by means of the method of exclusion. Bacon's allegorical interpretation of the Cupid-hatched-by-Night motif in the myth of Cupid directly juxtaposes the principles of enigma in Neoplatonic ideas of allegory with the principles of induction by negation. Bacon's collection of myth interpretations, the

De Sapientia Veterum (1609), as well as his other attempts at myth interpretation, find hidden in Natalis Conti's Mythologies (1581) and other similar sources Bacon's own scientific principles and his political and social beliefs. Bacon's myth interpretations show his desire to find an allegorical means to make his truth available to "the many" who would not be able to follow or who would not be interested in or inspired by his scientific writing,[51] and show his general interest in modernizing by reinterpretation as well as by more iconoclastic means. The interpretations also show how willing Bacon is to use conceptual schemes from other areas of discourse, such as allegory; but, as in the example to be considered below, indicate the limits of Bacon's modern independence from the conceptual and methodological models provided by allegory, models he intends so coolly to turn to his own liberated purposes. In his interpretation of the figure of Night, Bacon shows his characteristic tendency to try to redefine traditional forms boldly according to his own first principles.

Bacon's first interpretation of the motif of Cupid hatched by Night, in the De Sapientia Veterum, will not detain us. The story that Cupid was hatched from an egg

of the mythical being Night, signifies here according to Bacon that the first principles of nature, the laws or harmonies and sympathies that govern the world (i.e. Cupid, "that impulse of desire originally impressed by God upon the primary particles of matter, which makes them come together, and which by repetition and multiplication produces all the variety of nature")[52] will never be known by man. They are shrouded in darkness, known only to God and, if to man, only through faith and inspiration, forces available to poets and divines, but not to scientists. Bacon's second, more detailed interpretation in the De Principiis atque Originibus (1621) finds that with the birth from Night the ancient mythmakers refer to some inductive method that like Bacon's own depends on negative "exclusions" to discover the truth. According to Bacon the myth implies that by using this method the essential natural principles may be discoverable up to the point where they are lost in the unknowability of God--but we can't be sure until we try.[53] "Night," then, stands in the first place for the necessary darkening of the intellectual and imaginative forcefulness of scientist. A veil of darkness surrounds the Baconian inquirer, carrier of the dry light, and shrouds and protects the truth he seeks from his own destructive nature.

Bacon's interpretation treads over a hoary tradition of Orphic, Neoplatonic and Christian glorification of Night as symbol of divine mystery and power and as the paradoxical medium for insight. Perhaps Bacon got considerable pleasure out of such an ingenious turning of tables. The English "School of Night" of the 1590's, for instance, with its interest in mystical allegories and Platonic mathematics, saw something quite different from empirical observation in this emblem of obscurity.[54] So did "Horapollo" in the popular hermetic text, Heiroglyphica (1551), where the words of truth are compared to dew falling at night.[55] The theological level of allegory, which concerns the divine mysteries hidden in the darkness of figures, is most relevant to Bacon's interpretation of Night. Donne in a sermon of 1621 quotes St. Timothy: "God, who onely hath Immortalitie, dwells in luce inaccessibili, in the light that none can attain to."[56] Thomas Traherne's later seventeenth-century poem, "Night," brings out many of the emblematic significances and celebrates the inspirational powers of darkness, pointing out for instance that Nicodemus carried on his search for God by night. Pseudo-Dionysus's via negativa, a method of spiritual progression toward a hidden God, provides a possible reference for Bacon's

connection of Night with his own method, affirmation by negation. Bruno, with a docta ignorantia stemming in part from Nicholas of Cusa (1401-64), in Degli Eroci Furori (1565) considers the highest state of divine erotic enlightenment to be only another form of blindness. In his discipline of enlightenment, poetry plays an important part, Bacon, it appears, takes a myth concerned basically with poetic and mystical religious conceptions and asserts that the mythmakers were actually attempting to signify by the figure of Night an extreme and reductive method of natural inquiry like his own. He has thus, in this interpretation, reversed the hierarchy of knowledge completely and has kept and transformed the paradox of understanding through obscurity upon which allegory is based: natural science has become the fulfillment of religious wisdom rather than vice versa, and scientific method becomes the fulfillment of allegorical and mystical approaches to truth.

Bacon chooses Aristophanes's particular version of Eros's birth from the several included by Conti, Bacon's source in this case.[57] Aristophanes had made this version part of his paradical avian genealogy in The Birds (ll. 686-705), though what conception of the origin of things Aristophanes was making fun of by putting it in the mouths of birds is not

known.[58] For Bacon and the Renaissance, however, Aristophanes's version was obviously Orphic. Three reasons for this are that in Bacon's time the Orphic writings were taken to be genuine and hence pre-Aristophanean; the key element in Aristophanes's version is the primal Egg, which in Orphic cosmology contains Phanes, the homunculus of light and love who creates the universe; Aristophanes gives Night a primary role as mother or at least fosterer of the world-egg. Although Conti mentions Night as an Orphic deity, he has little to say in his "Eros" article about Night as the source of Orphic wisdom. There need be no particular source for Bacon's interpretation of Night, since its gnostic symbolism was so well known, but one interesting possibility is Giovanni Pico's commentary on the Orphic hymns. Pico, whose endeavor is to synthesize allegorically the different religious and philosophical traditions he is familiar with, is able to show that several different conceptions of God the Creator, including the Orphic, involve the idea of <u>counsel</u>. Thus Plato and the Old Testament call the true God "Counsel"; pseudo-Dionysus, following the biblical identification of Christ and Logos, the Word, calls Christ "the angel of Counsel"; Avicenna calls the first cause of the natural universe (what Bacon is seeking)

the "counselling cause"; this cause is identical with the hidden supreme deities of both the Orphics (Night) and the Kabbalists (Ensoph), and the "counsels of Night" are said to be the original sources of Orphic wisdom.[59] Bacon with his negative method claims the inspirational power of the higher Darkness as his own, with the qualification that Bacon's darkness is precisely the abjuration of inspiration and all speculative and willful intellectual activity. His darkness, as it were, is truly emptied. He seeks not precisely the secrets of Night but those of Cupid (the light of nature): for him Night has become a method of investigation, a way of approaching Cupid, or rather a way of giving birth to him. In effect he seeks the "counsels" or the laws of nature from the very source of nature itself, Night. This statment must be qualified since the ultimate source of the universe in Greek mythology is Cronos who, allegorized as "Time" by the Orphics and others, becomes for Bacon the revealer of scientific truth in opposition to "wit," needing only, it would seem, the natural method of exclusion in order to operate. We could say that Bacon has in effect internalized the divine, counselling cause of the world as his way of looking at the world. He has done this, one would think, much as for St. Paul Christ is within and

a Christian is in Christ. Or, as Milton's Adam hopes for a paradise within, an anchor, as it were, in the original condition of nature that continues to define Adam even as a fallen and exiled individual, so Bacon the modern aspires to an inner darkness, a Night of strenuously achieved libidinal absence that defines him. By this identifying act of self-appropriation through self-negation Bacon liberates himself from tradition and history. He has taken within himself the principle of the "counselling cause" of the universe, and the great figure of Orpheus, who received the counsels of Night, is fulfilled in him. Bacon thus transforms the allegorical and religious idea of hidden meanings at once into a humbler version that expunges intellect and imagination, and into a more expansive form that raises him and his science above the endeavors of all poets and theological commentators.

In the terms of Bacon's new mythology allegorical obscurity represents the character of figurative language in the fallen world: that language provides substitute words for the true, exact, powerful words which can no longer be spoken. By means of tropes, which point to something beyond what is present on the page, allegory is itself an emblem for the absent, unfallen, longed-for condition; and

by appropriating the powers of Night Bacon wishes to supersede this condition. ("Hair of the dog" is a basic principle in biology as well as sympathetic magic: cowpox keeps away smallpox). Bacon's scientific method, however, can just as well be seen as another fall, another step taken in the same direction as allegory: his method radically intensifies the limitations under which man as scientist operates, demanding the repression of the usual forms of heroic virtus, the further absenting, in effect, of that wholeness and restoration of humanity that is, ultimately, Bacon's aim. This paradoxical progression-through-limitation displays the general process of modernity discussed in the Introduction: hoping to attain wholeness and integrity, the modern attempts to locate an independent point of departure from tradition, but in doing so must sacrifice awareness of his actual relation to the powers of tradition, thereby relinquishing wholeness and integrity. Bacon's "blind" method of science indeed reflects his attempt to overcome, forget, and blind himself to tradition. Breaking the link with tradition involves breaking the one with the self. In Bacon's interpretation of the myth of Cupid, God the Creator, as Night, hides himself. To achieve his own restoration man must, like God at the Creation, withdraw from history and from himself.

Bacon's view of a paradoxically withdrawn Creator as paradigm for his own modernity strongly suggests Harold Bloom's particular characterization of modernism as a phenomenon modelled on the sixteenth-century Lurianic Kabbala's version of the Creation.[60] (Pico, as we have seen, identifies the Zoharic Kabbala's Ensoph with Night). Bloom's "Ein-sôf," like Night, creates out of his own absence. Having contracted to a point (the modern's "point of departure") Ein-sof creates the universe in the empty space from which he withdrew. The modern, Bloom says, tries to contract and reduce his precursors in order to make a space for himself, but in so doing contracts and reduces himself too. Bacon, we have seen, provides an example of this process, but it will be easier for us to consider in somewhat different terms the way he transforms his literary and philosophic precursors in subsequent sections.

8. Bacon's renewal: kenosis and daemonization.

Regardless of the difficulties the reader may be experiencing about the above attempt to relate Bacon's science to poetry, we can speak of general kinds of transformations that Bacon seems to perform upon whatever traditional elements are important to his work. In chapter one and in the

preceding section we noted the paradoxical attitudes displayed by Bacon in his claims to humility and disinterest on the one hand and priority and importance on the other. By such modulations Bacon attempts to distinguish his work entirely from tradition. We must now attempt to find in these attitudes the characteristic transformations Bacon has to perform on the materials of tradition, materials that continue to shape, or misshape, his own discourse in ways he cannot recognize because of his exclusive modernity. The fact that I will borrow concepts from critics of modern poetry to describe these transformations, thereby implying that Bacon's stance toward tradition is similar to that of many modern poets, does not of course limit the relevance of these concepts only to the influence of poetry on Bacon.

Bacon's case mirrors the situation of poets and other literary figures of the Enlightenment and after as described by Harold Bloom and the modern or modernist figures described by Paul de Man.[61] Such modern figures also attempt to assert their originality in the face of a rich and dominating tradition that actually influences them and even becomes the source of their inspiration in ways they cannot comprehend precisely because of their blinding intention to be original. Bloom's terminology may prove helpful in understanding Bacon's science

and its literary and philosophical milieu. De Man's notions of modernity as a permanent phenomenon in literary history provide a justification for extending the principles of Bloom's analysis beyond its native historical period. For Bloom, modern literary influence operates according to the Freudian theory of culture history touched upon in the Introduction: attempts to be original are actually frustrated attempts to return to a primal state of libidinal wholeness; for Bloom the modern poet's very force and substance derives from parent literary figures who are closer to the source. Bloom's view of the entropy of visionary energies, as each poet feeds off the successively diminishing legacy from the past, is comparable to the common "degenerationism" of Bacon's day. Bacon himself employs this idea in the service of his modernity; it is Bacon's optimism about the possibilities of overcoming the general slide of nature and man that one, with Bloom, might question. Bacon's use of the "stream-of-tradition" metaphor specifically recalls the Freud-Bloom hydraulics of historical descent: "Time is like a river, which has brought down to us things light and puffed up, while those which are weighty and solid have sunk"; more severe yet, "it is hardly possible at once to admire an author and to

go beyond him; knowledge being as water, which will not rise above the level from which it fell."[62] Like most moderns, Bacon wishes to return, as the English humanist Thomas Linacre's motto has it, "ad fontes," but his success, as we have seen in discussing his relationship to modern claim-makers, his ideas of eloquence, and various aspects of literary form, is at best partial. Instead he seems to perform certain types of revision and renewal of tradition, particulary the ones called kenosis and daemonization. These, like Bloom's other "revisionary ratios," offer the modern his independence at a price.

In discussing kenosis and daemonization we need principally to put into other terms what has already been said. Kenosis and daemonization correspond to Bacon's two paradoxical types of claims: the former to simplicity, humility, selflessness, and disinterest and the latter to importance, priority, and originality. They also form the two moments of Bacon's frenzyless heroic frenzy. "Kenosis" means "emptying" and is used by St. Paul to describe what God did when He became man: he divested himself of His own nature and took on a mortal aspect, and then humbled himself again and "became obedient unto death." Just so, Paul says, "Do nothing from selfishness or conceit, but in humility

count others better than yourselves."[63] Bacon the scientist, of course, empties himself of the "wit," the forceful power of creativity, necessary to philosophers, poets, and all men of letters. He "creates," if that is the right word, on a humbler plane by giving himself up to the forces of time, and does so out of purely selfless motives. But besides such noble intentions, Bacon is also motivated by the need to escape from the domination of tradition. Christ's kenosis is "a pattern that no poet whatever could bear to emulate, as poet":[64] but it is available also as a strategy for the modern writer. In humbling himself Bacon more subtly performs a kenosis of the idolatrous and prideful texts of the past from which he derives substance. Wallace Stevens, Bloom says, "empties" Keats (among others). Stevens finds very little of the intimate solace of the autumn in John Keat's "To Autumn"; rather, in his own rendering of Keat's vision in The Auroras of Autumn, his speaker finds himself far below what has become a distant and austere sublimity.[64] In a much more extreme way the Instauratio, insofar as it is the beginning of a "true and humble" fulfillment of traditional texts, empties them also: it divests them of their distinctive metaphorical and metaphysical character, finding them to be the eloquent but insufficiently

circumspect precursors to the process of perception, comparison, and induction of facts and to the trails of the scientific investigator--to a revolutionary, encyclopedic georgic. The implication of Bacon's kenosis is that like his own natural histories, which are only beginning collections of facts, the poets' and philosophers' texts only skim along the surface of things, though they seem to do much more. To Bacon these texts are collections of fragments such as Virgil's observation noted in chapter four that the glittering sea projects trembling patterns of light--of allegorical processes and structures--that wait to be put together and fulfilled by natural philosophy. Stevens can claim for his work that in comparison with Keat's it faces more steadily the hard facts of the natural cycle and the limits of human possibility. In the same way Bacon can claim that he "faces facts," or the lack of facts available to the scientist of his time: moreover, unlike his predecessors' work, his remains humbly incomplete and open to further development. Paul's notion of kenosis, like the "lowly wisdom" celebrated by ancient authors of pastoral and georgic, and like the notion of man's state of nature, includes the ideal of a radical innocence that makes one capable of profound insight from one's unique vantage point.

Thus Sir Calidore and Bacon learn through their assumed innocence, and the pastoral world becomes a natural vehicle for satire, providing an origin also for the ingenu character whose presence puts all vice and corruption into high relief. Bacon and his science proceed not "from the fountain" but have irrevocably carried somewhat downstream from the great tradition synthesized by Renaissance humanists. Bacon seeks an authenticating humble home expressing his proper lowliness with respect to this tradition, for the ever-more-difficult demand for synthesis and his own desire for integrity prevent him from attempting another syncretic approach. From the vantage point of this lowliness he can criticize those above him in the genealogical stream of texts.

Like the modern poets Bloom describes, Bacon has the covert goal of emptying the precursors' visions of their grandeur; this kenotic function is matched by a compensating expansive movement of daemonization. Bacon's reduction of his precursors stems from his acute perception of them as dangerously controlling, inexorable and inhuman forces stultifying the growth of knowledge and of the individual, and threatening the health of society. From his point of view they are daemonic forces, ruling the man of the present like the abstract level of meaning rules the actions

of the allegorical character. In the response of daemonization, such as in his grandiose claims, he presents himself as the counter-daemon who confronts and defines the discourse of the past that seems to make him in its image and prevent him from achieving his own identity. Here too the great modern, Paul, provides an instructive model. Paul offers the convert liberation from the "daemons," the supernatural beings who move between men and gods in the Hellenistic world and play a large part in determining the fate of individuals through astrology, divination, and other means. They are all to be replaced by (a) the one intercessor, Christ, through His kenosis, and (b) the convert's ethical imitation of it. Bacon can hardly claim that his literary integrity derives from the agency of Christ, for he spends great pains in divorcing rational inquiries from religion. But his alternative seems to be tragic, since in order to control, or seem to control, the daemonic Idols of the Mind that have ruled before, he himself becomes dehumanized as much by himself, a counter-daemon, as by the daemons of the past. Thus his apparently compulsive, repetitious beginnings, all of which attempt to make forceful rhetorical statements defining his independence from the past, suggest that he is controlled by his modernity itself, a prior necessity he feels for

separating from the insistently disruptive past. He feels this necessity with such intensity that it hinders the practical and rational achievements he worthily undertakes. He has in this respect negotiated a movement of individuation that forces him to withdraw from the self as well as from tradition.[65]

Bacon's invectives against, for instance, Plato, are remarkable for the exhilarating vitality of their attack. They epitomize the necessary destructive phase of the radical modern. They are also remarkable not in that they contain truths about Plato that we often forget, but that taken all in all Plato's Socrates strikes us in all ways as so much more human a character than Bacon's polemicist in Tempus Partus Masculus or than the interlocutor of the Instauratio prefatory material, and yet the polemicist berates Plato with daemonically inflamed passion in the name of humanity:

> . . . that mocking wit, that swelling poet, that deluded theologian. Your philosophy, Plato, was but scraps of borrowed information polished and strung together. Your wisdom was a sham which you imposed by an affectation of ignorance . . . But you had at least the merit of supplying table-talk for men of culture and experience of affairs, even indeed of adding grace and charm to everyday conversation. When, however . . . you taught us to

> turn our mind's eye inward and grovel before our own blind and confused idols under the name of contemplative philosophy; then truly you dealt us a mortal blow.66

In opposing so vehemently Plato's disdain for practical science Bacon reveals the weakness of his own position, which is based on restraint and withdrawal from the self and almost, in the above passage, alienation from the self pursued so steadfastly by Plato. The heroic furor here is indeed fighting against the ravages of time that has placed Bacon's creative spirit so thoroughly downstream from the engulfing world of Renaissance literary discourse and Renaissance syncretism. That world could in its zeal produce its own modern daemonic dehumanizations by means of allegories, and perhaps Bacon refers to these as much as to Plato himself: Ficino, for instance, while producing a fascinating reading of Plato's Symposium, is hardly the life of the party--in fact he spoils it completely by trying to resolve on an allegorical level of interpretation all the conflicting opinions of its participants.

Lionel Abel suggests that tragic protagonists be thought of as what he calls "daemons" in that they possess godlike strength, resolve, and readiness for any consequence. If Bacon in his struggle to be modern displays such a daemonic strength and resolve, he never undergoes the tragic

recognition of his true nature and of his essential situation in the world, a recognition that the tragic daemon is capable of having because of his genuine strength. Bacon's recognition would have been, somewhat like Oedipus's, of his true origins, of the impossibility of his achieving his goal of priority, of the limitation he has imposed upon himself by denying his own humanity. Georges Poulet speaks, in effect, of the tragic awareness of limitation the explicitly modern writer is peculiarly fitted to have: "I am above all attracted by those for whom literature is--by definition--a spiritual activity which must be gone beyond in its own depths, or which, in failing to be gone beyond, in being condemned to the awareness of a non-transcendence, affirms itself as the experience and verification of a fundamental defeat."[68] Bacon does not attempt to go beyond literature "in its own depths," but in the terms of what is finally a non-existant kind of text he fails to create. The recognition and affirmation of a "fundamental defeat" is left for the readers, who can affirm and accept the contradiction inherent not in Bacon's particular modernity but in modernity generally, a condition which everyone has always faced.

To a certain extent we can say of the speaker in the 1620 volume that even if he does not appear in pristine originality from a daemonizing cloud of from a kenotic manger as he pretty nearly claims, like Bloom's "strong poet" he

> survives because he lives the discontinuity of an "undoing" and "isolating" repetition, but he would cease to be a poet unless he kept living the continuity of "recollecting forwards," of breaking forth into a freshening that yet repeats his precursors' achievements.69

The magnitude of the strength makes exploring its qualifications worthwhile.

9. Bacon's renewal: from prophecy to counsel.

If the Instauratio is a kind of encyclopedic testament of Nature, we might look at the tradition of biblical prophecy for relevant background. Bacon has from the mid-1700's been called the "prophet" of science, and his supposedly prophetic qualities have been the subject of scholarly analysis.[70] My aim is to consider how the transformations discussed up to now can be applied to Bacon's relation to the prophet, who is himself a kind of modern (see the Introduction). Just as the prophet relays the words of God, he also recollects and reinterprets the past: he attempts to see the future as the fulfillment

of the essential values and directions of his culture in response to a present crisis.[71] Thus John of Patmos and Karl Marx both construct eschatological prophecies based on ideas, myths, and aspirations characteristic of their (in part) common tradition. Bacon, while retaining a connection to the tradition of prophecy, strains the prophet's critical link with the past. He attempts to solve the problem of modernity by cutting himself off both from inspirational powers and from the sources of meaning in tradition. The stance he takes in doing this can be defined, in his case, as that of the counselor.

St. Augustine expounds the Vulgate's use of "instaurare" in Ephesians 1:10. The word refers, he says, to the reestablishment of the plenitude or "fulness" of heaven, the full complement of angels lost when the rebel angels fell. This use of the word in announcing the age of science thus suggests that he speaks on the model of a prophet of apocalypse.[73] The religious connotations of the word and of Bacon's enterprise are picked up by Bacon's friend Sir Henry Finch, who, a year after the Instauratio was published in 1620, put out an enthusiastic and patronizing work of scriptural exegesis entitled The World's Great Restoration or the Calling of the Jewes, and (with them) of all the

Nations and Kingdoms of the Earth, to the Faith of Christ. Abraham Cowley's ode, "To the Royal Society" (1667), calls Bacon a new Moses leading man to the promised land of science. But if Bacon derives strength from comparison with a prophetic patriarch who launches a divinely sanctioned enterprise, he must also repudiate the connection in order to preserve the very sanctity and uniqueness of his own enterprise. He shuns the excited declamations of the prophet possessed; as a peacemaker in the religious controversies of his time he protests that, unlike those who attempt with vanity to imitate the prophets of antiquity, all should follow the primitive Fathers of the Church, who did not assert but merely gave "counsels and advice"--all that we need.[74] Apparently for him Christ's coming decisively alters the prophet's role. Thus Bacon characterizes himself as a "herald, or trumpeter," not a "combatant" in the wars of truth. He appears merely "as a guide, to point out the road; an office of small authority and depending more upon a kind of luck than upon any ability or excellence"; he wishes to found no school or sect.[75] The prophet "emptied" through Bacon's kenosis becomes the counselor, the role through which Bacon can assert his independent modernity.

Bacon is a counselor outside the sphere of natural philosophy also. His non-assertive science requires the humility of the non-combative good court counselor, who, as Bacon says in the essay "Of Counsel," holds the key to the success of failure of his prince's affairs. Bacon also tells us in that essay, and in different words in the essay on friendship, that "The greatest trust between man is the trust of giving counsel." The Essays themselves, of course, are subtitled or counsels. Bacon's scientific writings, rather "barren of works" themselves, exhort and counsel others to go about developing scientific knowledge. Bacon's political ambitions were often directed toward securing a place of intimacy as counselor to Queen Elizabeth and later to King James, both as an end in itself and to further his scientific plans by gaining royal support. (In this respect he resembles not Moses but Joseph, the counselor to Pharoah who led his people into Egypt). As we saw in discussing his myth interpretations, Bacon models the scientific creation of knowledge and of inventions, and his own self-creation as a modern, on Night, the "counselling cause" of the universe. The humble role of counselor comes into its daemonic inheritance with this figure. The ancient prophetic oracles, who are directed by Apollo's

daemons, are offered by at least one writer on prose style as one of the archetypal sources for the aphoristic mode, a style used often by Bacon. The Roman Silver Age "modern" writer, Seneca, an important stylistic influence on Bacon, thus in his Stoic pronouncements comes to simulate the voice of an oracle or prophet.[76] For Bacon the aphorism aims to reproduce an intuited fact unmediated by any controlling consciousness that might fall between the reader and the portentous utterances of Nature, who is a daemon to end all daemons. The speaker, as it were, effaces himself out of the picture, as if scientific writing were disembodied and depended on destroying the concept of a man speaking. The synthesis of facts is to be made by nature and time, not by the presence that the prophet summons up, but by an absence.

Unlike the ordinary prophet, Bacon's prophecies can only be fulfilled if he persuades people to try his method. The outstanding characteristic of Bacon's identity as counselor is thus that he comes to depend upon others to realize his own worth. He is able to assert his independence from the tradition of prophecy by becoming a humble counselor, but his message after all concerns the terrific dependence

of men on men. His assertion of independence becomes a gospel of scientific cooperation: knowledge will increase, he says, through the small and methodical contributions of many investigators through several generations.

Bacon's subdued version of the prophetic voice also seems to derive its character from the Wisdom Books of the Bible and from apocryphal books such as The Wisdom of Solomon and the Book of Sirach. The age of the major Old Testament prophets ends, after all, not with the Christian era but with the beginning of "modern," post-exilic biblical history, when the critical aspects of discourse and the institutional aspects of religion make themselves felt through priests and sages who claim no divine inspiration. The particular figure of interest to Bacon is "Solomon," supposed author of the Wisdom Books and for Bacon the ideal king, sage, and natural philosopher. (One of his specialties, was botany, which he studied "from the cedar upon the mountain to the moss upon the wall").[77] The importance of the style as well as the values of the so-called writings of Solomon for Bacon has hardly been touched by scholarship. But the zeal for wisdom as the bringer of earthly happiness that is expressed in The Wisdom of Solomon, the skepticism of Ecclesiastes, and the aphoristic style of the writings

as a whole match Bacon's essential concerns. His frequent allusions to Solomon, as in the name of the utopian scientific institute in the New Atlantis ("Solomon's House"), his explanation of thirty-four of the Proverbs (of "Solomon") in the De Dignitate (VIII,2), and of a lesser number in the earlier Advancement of Learning, attest to the nourishment he derives from these writings. In moving from inspiration to critical reason these writings help Bacon establish his modernity. Bacon, of course, goes further: even Solomon's wisdom and judgment were divine gifts. Not only does a divine exhalation not pass through him, but, on the model of Nocturnal divine enfoldment, Bacon "counsels" scientifically by a contraction and restraint of his energies, not by a release of them.

10. Conclusion.

An essential element of the increasing complexity and repressiveness characterizing Freud's view of civilization is sublimation, in which desire is forced by cultural institutions into more and more complicated and cerebral routes, resulting in less and less complete satisfaction. Bacon's kenosis and daemonization both contribute to what we could call in Bloom's terms Bacon's general askesis or sublimation of eloquent discourse.[78] The ascetic seeks,

through isolation and discipline, to purge himself of unclean or alien elements. By purging his mind of the four Idols and attempting to overcome the daemons of conventional discourse--including the fictional world of battles, progresses, loves, and heroism--Bacon subjects himself as a scientist to a severely restraining discipline and attempts to achieve pure knowledge by pure method for purely charitable purposes. "The mind itself is but an accident to knowledge; for knowledge is a double of that which is"[79]: in this way Bacon as a young man asserts the primacy of knowledge and the epiphenomenal status of intellect and imagination. But in his work the level of purely rational discourse is achieved, in part, by a disciplined attention of the energies of literary and prophetic discourse, which on closer examination seems to be actually prior to his clear and distinct perceptions or reason. Bacon himself at least affirms the historical priority of poetry by saying: "as hieroglyphics were before letters, so parables were before arguments."[80] Kenneth Burke finds that Hesiod's georgic, Works and Days, displays a reversal of the usual literary priorities: the "conceptual critical" faculties have superseded the imagination. This reversal supposedly takes place because

the speaker's energies are constrained by feelings of resentment: his occasion for writing is both to reprimand and give advice to his brother, whom he accuses of cheating him.[81] Bacon's "georgic," the lowly-wise, didactic world of the Instauratio, results on this reading from the impossibility of Bacon's finding a place for himself in the uncontrolled, lush, and cloying expanses of Renaissance polite letters. His assertion of modernity becomes both a liberation and a resentful defensiveness. From this point of view Bacon's asceticizing discipline of the encyclopedic georgic dissolves and reconstitutes the imaginative plane of discourse--metaphor, image, plot--within the abstractions of natural law.

Nietzsche calls science the last expression of the "ascetic ideal" he finds dominating civilization: a kind of repressive, pseudo-sacred discipline subverting and controlling the energies of life.[82] If such a view has validity when applied to Bacon, neither it nor Bloomian transformations supply adequate analyses. Bacon, like Nietzsche himself, also aims at a "freshening," a "forgetting," in Nietzsche's terms, that affirms the spontaneity of life against culture and tradition even if it results in a certain amount of incoherence.

As Bacon complains that "men have been kept back by a kind of enchantment from progress in the sciences by reverence for antiquity, by the authority of men accounted great in philosophy, and then by general consent,"[83] and exhorts that the mind be "thoroughly freed and cleansed"[84] so Nietzsche exposes the man who "cannot leave himself behind on the threshold of the moment and forget the past, who cannot stand on a single point, like a goddess of victory, without fear or giddiness."[85] By means of their common vantage point of isolation from the intellectual worlds of their time and with their sharp aphorisms both these moderns revolt from the overly "historical" (as Nietzsche puts it) consciousness of the past that dominates their respective ages.[86]

In trying to find conceptual models to sum up the metamorphic relationship of Bacon's work to poetry we might also look at the idea of "transcendent form." Angus Fletcher applies this concept to the baroque structures of Milton and defines it as "any poetic structure that by design includes more than its traditionally accepted generic limits--the classical limits of its genre--would allow it to include."[87] We find such structures "exploding outward from the containing frame, transcending limits formerly

accepted."[88] They seem to aim at a complete synthesis of possible experience from the perspective of the choosen genre. In our terms they reach a point of departure, an assertion of modernity, after an arduous, virtuoso synthesis of tradition. Bacon's science offers a negative, "anti-baroque" version of the transcendental form. He begins by attempting (over and over again) to work outside classical and contemporary forms. The fragments of Bacon's natural histories indeed seem to be the remains of some "explosion" of the contained world of literary genres--but fragments whose unifying synthesis lies in the future, not any new composition actually made by Bacon. Appropriately enough, transcendent forms tend to appear when an author "has apparently exhausted all the natural resources of his art."[89] After the explosion the Instauratio is to bring together and reconstitute literary forms.

The idea of modernity as an attempt to assert independence from a past that is in fact generally repeated and renewed in the "original" assertion offers a common denominator for discussion of scientific and literary history. It reveals the parallels between poetry and science with respect to the problematic presence of tradition, which in different

proportions both fosters and stultifies. Bacon, at the high price of methodological impracticality, attempts to explore the nature of the fresh beginning and to establish new ways of being new in a parallel but more radical way than, say, Spenser in pastoral interludes or than the Romantic and Modernist poets Bloom speaks of. His partial achievement of this difficult task makes up, perhaps, for his inadequacies as either practicing literary artist or practicing scientist. If, as has been suggested,[90] a primary way in which science differs from literature is in the nature of its commitment to tradition, in the degree of freedom the individual practioners enjoy, Bacon's single-minded attempt to be modern goes an appreciable way toward establishing that difference, while it reveals at the same time underlying parallels in the modernity of the two areas of discourse.

Bacon's relation to literature and poetry is important because he aims to create an entirely new disclosure, and, as his own work shows, the "norm" of existing discourse in the Renaissance is eloquent and poetic. But his modernity, of course, is also, and perhaps more directly, the function of his relationship to philosophers and

scientists such as Machiavelli, Montaigne, and Telesio, whose ideas have been considered in this study only in connections with their own claims to modernity. Aristotle as he was seen by sixteenth and seventeenth-century English eyes overshadows any analysis of influences on Bacon, being indeed a kind of shadow-figure whom Bacon from the age of sixteen both reviled and emulated. Nor can Bacon's fellow eloquent atomist Lucretius, who seems to be enjoying his own liberation from daemons, be forgotten.

> I am blazing a trail through pathless tracts of the Muses' Pierian realm, where no foot has ever trod before. What joy it is to light upon virgin springs and drink their waters. What joy to pluck new flowers and gather for my brow a glorious garland from fields whose blossoms were never yet wreathed by the Muses round my head. This is my reward for teaching these lofty topics, for struggling to loose men's minds from the tight knots of superstition and shedding on dark corners the bright beam of my song that irradiates every-thing with the sparkle of the Muses.91

Perhaps the influence of these and other figures, as well as that of literature both on Bacon and on other scientists, can be reconsidered with the help of the perspective on modernity developed here and elsewhere. I hope that the present speculative analysis of Bacon can further the study of other explicit asserters of modernity in whatever field.

Notes

1. Miguel de Cervantes, Don Quixote, tr. Walter Starkie (New York: New American Library, 1964), pt. I, ch. 25 (p. 243).

2. For Sidney poetry is not "affirmatively" but "allegorically and figuratively written." See An Apology for Poetry, ed. F. G. Robinson (Indianapolis: Bobbs-Merrill, 1970), pp. 57-58.

3. Elizabeth Sewell in The Orphic Voice attempts to show this in a different way.

4. See, for example, Michael Murrin, The Veil of Allegory: Some Notes Toward a Theory of Allegorical Rhetoric in the English Renaissance (Chicago: University of Chicago Press, 1969), ch. 7 (pp. 167-198). Murrin, of course, is only speaking of allegory in rhetorical and poetic forms rather than as a mode of thought or a model for methodical investigation.

5. The Order of Things [Les Mots et Les Choses]: An Archaeology of the Human Sciences, tr. anon. (New York: Random House, 1970), chs. 2, 3 (pp. 17-77).

6. See, for example, "Différance" in Speech and Phenomena and Other Essays on Husserl's Theory of Signs, tr. David B. Allison (Evanston: Northwestern University Press, 1973), pp. 129-61.

7. The Archaeology of Knowledge, tr. A. M. Sheridan Smith (New York: Harper and Row, 1972), e. g. p. 210.

8. Structuralism, tr. Chahninah Maschler (New York: Harper and Row, 1970), pp. 91-92.

9. Main Trends in Interdisciplinary Research (New York: Harper and Row, 1970), pp. 24-25.

10. The Anatomy of Criticism: Four Essays (Princeton: Princeton University Press, 1957), p. 315.

11. IV, 33; I, 145.

12. See "Inclusionism: Uncanonical Forms, Mixed Kinds, and Nova Reperta" in Rosalie Colie, The Resources of Kind: Genre Theory in the Renaissance, ed. B. K. Lewalski (Berkeley: University of California Press, 1973), pp. 76-102.

13. The Resources of Kind, pp. 79-82.

14. See Ellis's introduction, II, 94-99.

15. The Resources of Kind, pp. 19-21 (see De Oratore, 1.6).

16. See An Apology for Poetry, p. 27, Bacon's statement of his intention to unite the "empirical and rational faculties" in the Preface to the Instauratio (IV, 19), and Bacon's transitional passage from the books on history and poetry to those of philosophy in the De Augmentis, III, ch. 1 (IV, 336).

17. Allegory: The Theory of a Symbolic Mode (Ithaca: Cornell University Press, 1964), p. 59.

18. Allegory, pp. 59-60.

19. Allegory, p. 59.

20. Allegory, pp. 67-68.

21. II, 116.

22. Allegory, pp. 40-41.

23. Allegory, ch. 6 (pp. 279-303).

24. On the complexity of Renaissance pastoral see the Introduction to English Pastoral Poetry: From the Beginnings to Marvell, ed. Frank Kermode (1952; 2nd ed. New York: Norton, 1972).

25. See among others Renato Poggioli, The Oaten Flute: Essays on Pastoral Poetry and the Pastoral Ideal (Cambridge: Harvard University Press, 1975); A. Bartlett Giamatti, The Earthly Paradise and the Renaissance Epic (Princeton: Princeton University Press, 1966).

26. Bruno Snell, "The Discovery of a Spiritual Landscape" in The Discovery of the Mind: The Greek Origins of European Thought, tr. Thomas G. Rosenmeyer (1953; 2nd ed. New York: Harper and Row, 1960), pp. 299-302.

27. See Maren-Sophie Rostvig, The Happy Man, vol. I (Oslo: Norwegian Universities Press, 1962).

28. R. L. Ellis, "General Preface," I, 49-56; see also I, 269.

29. The Advancement of Learning, II (III, 366).

30. The Green Cabinet: Theocritus and the European Pastoral

Lyric (Berkeley: University of California Press, 1969), p. 47, and see ch. 3, "Simplicity," pp. 45-64.

31. The Arte of English Poesie, ed. Gladys P. Willcock and Alice Walker (Cambridge: Cambridge University Press, 1936), p. 38.

32. The Green Cabinet, pp. 45-47.

33. Writing Degree Zero, tr. Annette Lavers and Colin Smith (New York: Hill and Wang, 1968).

34. III, 644.

35. See Patrick Cullen, Spenser, Marvell, and Renaissance Pastoral (Cambridge: Harvard University Press, 1970).

36. See Stanley Fish, "Georgics of the Mind: The Experience of Bacon's Essays" in Seventeenth Century Prose: Modern Essays in Criticism (New York: Oxford University Press, 1971), pp. 251-80.

37. The Advancement of Learning, II (III, 419-20).

38. See Christopher Hill, The Century of Revolution, 1603-1714 (1961; 2nd ed. New York: Norton, 1966), pp. 247-48.

39. The Advancement, II (III, 419).

40. The discussion of the georgic below is indebted to L. P. Wilkinson, The Georgics of Virgil: A Critical Survey (Cambridge: Cambridge University Press, 1969).

41. The Logic of Scientific Discovery, tr. anon. (New York: Hutchinson, 1959), p. 279n.

42. The Anatomy of Criticism, pp. 105, 120.

43. IV, 27; I, 140.

44. IV, 19; I, 131. III, 295.

45. For a thorough analysis see A. Kent Hiett, "The Daughters of Horus: Order in the Stanzas of Epithalamion" in Form and Convention in the Poetry of Edmund Spenser, ed. William Nelson (New York: Columbia University Press, 1961).

46. Rabelais and His World, tr. Helene Iswolsky (Cambridge: Massachusetts Institute of Technology Press, 1968), pp. 122, 118.

47. Rabelais and His World, p. 118.

48. Rabelais and His World, p. 123.

49. The Advancement, I (III, 344).

50. See The Veil of Allegory, ch. 2 (pp. 21-53).

51. James Stephens's central theme is Bacon's acute awareness of the different levels of sophistication of his audience. See Francis Bacon and the Style of Science (Chicago: University of Chicago Press, 1975).

52. VI, 729.

53. De Principiis atque Originibus secundum Fabulas Cupidinis et Coeli... (V, 461-76; III, 79-93).

54. See M. C. Bradbrook, The School of Night: A Study in the Literary Relationships of Sir Walter Ralegh (Cambridge: Cambridge University Press, 1938).

55. The Veil of Allegory, p. 37.

56. Sermons on the Psalms and Gospels, ed. Evelyn M. Simpson (Berkeley: University of California Press, 1963), no. 6 (p. 143).

57. Natalis Comitis Mythologiae (Venice, 1581), IV, xiii (pp. 265-73).

58. The Presocratic Philosophers, ed. G. S. Kirk and J. E. Raven (Cambridge: Cambridge University Press, 1957), pp. 44-46.

59. Conclusiones... de Modo Intelligendi Hymnos Orphei, quoted and discussed in Edgar Wind, Pagan Mysteries in the Renaissance (1958; 2nd ed. New York: Norton, 1968), pp. 276-281.

60. See Kabbalah and Criticism (New York: Seabury Press, 1975).

61. Harold Bloom, The Anxiety of Influence: A Theory of Poetry (New York: Oxford University Press, 1973); Paul de Man, Blindness and Insight: Essays in the Rhetoric of Contemporary Criticism (New York: Oxford University Press, 1971).

62. Preface to the Instauratio Magna (IV, 15; I, 127).

63. Phillippians, 2:1-8 (Rev. Standard Version); see The Anxiety of Influence, pp. 91-92.

64. The Anxiety, p. 91.

65. The Anxiety, p. 107.

66. Tempus Partus Masculus, tr. Benjamin Farrington in The Philosophy of Francis Bacon (Chicago: University of Chicago Press, 1964), p. 64.

67. Metatheatre: A New View of Dramatic Form (New York: Hill and Wang, 1963), pp. 2-10.

68. Quoted in J. H. Miller, "The Geneva School" in Modern French Criticism, ed. John K. Simon (Chicago: University of Chicago Press, 1972), p. 294.

69. The Anxiety of Influence, p. 83.

70. William Sessions, "The Hunt for Pan: Bacon's Use of the Imagination," Diss. Columbia University 1964.

71. On the nature of the prophet and his analogue, the inspired poet, see Angus Fletcher, The Prophetic Moment: An Essay on Spenser (Chicago: University of Chicago Press, 1971); Michael Murrin, The Veil of Allegory.

72. Enchiridion, 62 (16); see Gerhart Ladner, The Idea of Reform (1959; 2nd ed. New York: Harper and Row, 1967), pp. 277-78. Benjamin Farrington implies that Bacon's use of "instauratio" refers to the dominion over the earth promised to man in Genesis (see The Philosophy of Francis Bacon, p. 22, and Bacon's own remarks above in ch. 2, p. 53). In fact "instaurare" seems to imply at once "full realization" and "return to original state."

73. The important link between religious thought and the rise of science has been established by, among others, R. F. Jones, Ancients and Moderns: A Study of the Rise of the Scientific Movement in Seventeenth-Century England (1936; 2nd ed. St. Louis: Washington University Press, 1961); Ernest Tuveson, Millennium and Utopia: A Study in the Background of the Idea of Progress (Berkeley and Los Angeles: University of California Press, 1949); and, recently, Charles Webster, The Great Instauration: Science, Medicine, and Reform (London: Duckworth, 1975).

74. VIII, 75-76.

75. De Dignitate, IV, ch. 1 (IV, 372; I, 579); Novum Organum I, 116-117 (IV, 103-05; I, 211-13); preface to the Novum Organum (IV, 41; I, 153).

76. Huntington Brown, Prose Styles: Five Primary Types (Minneapolis: University of Minnesota Press, 1966), pp. 72-73.

77. See The Advancement, I (III, 298-99).

78. The Anxiety of Influence, ch. 4.

79. "Mr. Bacon's Discourse in Praise of Knowledge" (1592), VIII, 123.

80. The Advancement, I (III, 344).

81. Attitudes Toward History (1937; 2nd ed. Boston: Beacon Press, 1961), pp. 80-83.

82. See The Genealogy of Morals, III, 23-25.

83. Novum Organum, I, 84 (IV, 81-82; I, 190).

84. Novum Organum, I, 58, 35 (IV, 69; I, 170. IV, 53; I, 162).

85. The Use and Abuse of History, tr. Adrian Collins (Indianapolis: Bobbs-Merrill, 1957), p. 6.

86. The Use and Abuse of History thus parallels The Advancement of Learning.

87. The Transcendental Masque: An Essay on Milton's Comus (Ithaca: Cornell University Press, 1971), p. 116.

88. The Transcendental Masque, p. 117.

89. The Transcendental Masque, p. 116.

90. Harold Bloom, Kabbalah and Criticism, pp. 86-87.

91. De Rerum Natura, tr. Ronald Latham (Baltimore: Penguin, 1951), IV, 1-9 (p. 130).