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MULTILINGUALS AND SUCCESSFUL LANGUAGE LEARNERS:
COGNITIVE STRATEGIES AND STYLES OF APPROACH
TO LANGUAGE LEARNING IN ADULTS

by

RUTH MARION GRAEME RAMSAY

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1977

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Abstract

MULTILINGUALS AND SUCCESSFUL LANGUAGE LEARNERS: COGNITIVE STRATEGIES AND STYLES OF APPROACH TO LANGUAGE LEARNING IN ADULTS

by

Ruth Graeme Ramsay

Adviser: Professor Edward H. Bendix

Ten monolingual and ten multilingual adults were exposed to an unfamiliar language, with the goal of learning as much as possible of the language within a limited time period. It was presumed that the interacting pressures of time and quantity to be learned would force participants to seek optimal strategies, as perceived by them, in this self-instruction task. Their initial strategies were examined to discern regularities that might mark two resultant groups: "successful" and "unsuccessful" learners. Several hypotheses are offered, predicting that certain skills will be manifested in the successful group. It is also predicted that the majority of "successful learners" will come from the multilingual sample. A summary of earlier studies on multilingualism, and a synopsis of tests of cognitive style are given. Relation of the "critical period" to adult multilingualism is considered, Implications of the findings and further research are suggested.

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I also wish to credit, in public, the part played by my cheering squad, Professors F. Fulton Ross and Robert H. Stanley, and other colleagues at Hunter College.

My statistician, Ms. Penny Liberatos, and my respondents have any claim upon me they wish; they are, after all, celestial beings. As evidence, I cite their superhuman patience.

Unfortunately, I have no one to share the onus of weaknesses or errors in thought. I did them by myself.

This dissertation is dedicated to Constance Ramsay. She taught me strength.

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CHAPTER ONE

There are at least two reasons for an interest in adult foreign language learning: the first is the need for more data on the processes which go on in a learner's mind, elucidation of which (it is presumed) would aid in development of superior teaching techniques, as well as in a better understanding of the cognitive processes of memory, storage and retrieval of information; the second is the light that might be cast upon the theoretical puzzle of the "critical period" in language acquisition (Lenneberg, 1967). There are also those who are interested in the general human ability to use signalling systems and those who are concerned with the social use of language (e.g., Firth, 1964; Hymes, 1964; Smith, 1966; Cicourel, 1972). Christophersen (1973), among others points out that much knowledge of the social structure underlying language becomes prominent when one looks at the adult user of a foreign language. These broad theoretical issues underlie current studies of language structures, processes and acquisition, since the concept of cognition and cognitive activity is so intertwined with human language.

It is not the purpose in the ensuing pages to investigate these broader themes directly. The intended goal of this research is to examine possible differences in cognitive style, i.e. schema of mental organization of language data, and approach style, i.e., ini-

tial strategies and metalinguistic assumptions called upon as aids in processing when there is no specific prior information to draw upon. The procedure for carrying out this project was basically one of observation of two particular groups of adults as they entered a language learning situation involving a language totally unfamiliar to them. The two groups comprised ten adult multilinguals and ten adult monolinguals. When they had completed their study they were tested for accomplishment in the task, and on the basis of this test, they were re-grouped into "successful learners", and "unsuccessful learners", a new classification.

Using this performance-based dimension, the records were examined to determine what correlations, if any, existed between the histories, approach styles, cognitive styles and degree of success in their attempts at self-instruction in the target language. In short, this is an exploratory study - an attempt to gather data from adults with several previous language-learning experiences who are undergoing the strain of having to deal with a new language system. The hope was that this experiment would suggest further, more detail-oriented research into the variables that affect the ability of adults to learn new languages. The purpose is to generate data, and with them to construct plausible, not just imaginable, hypotheses in an area where known facts are barely sufficient to get beyond speculation. The hypotheses initially introduced in this chapter are primarily heuristic and intentionally general. Formulations of finer-grained hypotheses in the light of obtained results are given later

in this study.

The selection of the two specific experimental groups was done in the belief that the multilingual sample should, *prima facie*, contain a large proportion of successful learners; the monolingual sample should include a good number of unsuccessful participants. The unsuccessful group which ultimately emerged from the testing did include all but one of the monolinguals, but the successful group contained only half of the multilingual participants.

Understanding of this study requires a brief survey of three phenomena: multilingualism, language-learning in adults, and the construct of "cognitive style." Each will be reported in turn, following which, this chapter will conclude with the heuristic hypotheses for the experiment.

MULTILINGUALISM - THOSE WHO HAVE MANY LANGUAGES

A BILINGUALS

If the process of learning a language is to be investigated, an optimum point of entry should be the investigation of those who have demonstrated the capacity to learn another language than their native tongue. Bilinguals are those who have the use of two language systems: two lexicons, two sets of syntactic and pragmatic rules, and two non-isomorphic repertoires of semantic space. The degree of mastery in each of these two languages which entitles one to the classification "bilingual" varies from theorist to theorist. Haugen (1953) identifies a bilingual as one who can produce meaningful utterances in two (or more) languages. Others feel that mastery in both languages is required in order to classify a speaker as "bi-

lingual." Ervin-Tripp and Osgood (1954) make a division of bilinguals into compound or co-ordinate bilinguals. Compound bilinguals are those who have acquired both languages in the same external context, and who use both in overlapping situations of interaction with speakers of either language. The belief was that these speakers of two languages had, in essence, one "suprasystem" comprising both languages. The co-ordinate bilingual was one whose two languages served differing arenas of interaction; the languages were kept discrete both in acquisition and in use. The difficulty in this formulation is that in practice bilingualism is not divisible into such a dichotomy. Bilingualism, however defined, is manifested on a continuum. The segmentation of daily activities forces a segmentation of language use for many bilinguals. However, bilinguals are indeed to be numbered among those who have learned languages, and a good review of the literature may be obtained by consulting Haugen (1956), Weinreich (1953), Ervin-Tripp and Osgood (1965), and Lambert (1972).

There are problems, though, in using bilinguals as a population when investigating adult language learning. It must be noted that many of the authors cited use the term "bilingual" to mean any person who speaks more than one language. Many other authors use the term "multilingual" to refer to any one with more than one language. Throughout this study a distinction will be made as follows:

a "bilingual" is an individual who speaks two, and only two, languages with enough fluency to sustain normal adult social interaction.

a "multilingual" is an individual who has the ability to sustain an adult level in normal social interaction in any one of three or more languages.

This distinction is essential to the hypotheses to be introduced later.

Rejection of bilinguals as a sample for this study.

Since the focus of this research is the adult's processes of language learning, it is important to realize that many (possibly even most) bilinguals do not acquire either of their languages in their adult years. Even those whose second language is learned let us say in college, tend to study a language with which they feel some affiliation through descent, i.e., the language of a grandparent, or a language heard in childhood.

Moreover, bilinguals are not necessarily voluntary students of the second language which they use. The economic or social pressure which is applied to the children of immigrants is very strong. The same is true for those who re-locate as adults. Educational practices also foster cases of reluctant bilingualism.

The third reason for using a study population other than bilinguals is the difficulty of disentangling the effects of bilingualism from those of bi-culturalism. Studies such as those of Lambert (1972), Gardner (1966), and Tucker (1973) all emphasize how greatly motivation to learn language is affected by cultural factors.

Finally, there is a great deal of practice and social learning available to bilinguals, on an ongoing basis. This gives even the slower learner opportunity to improve his skill.

B MULTILINGUALS

Some of the above-mentioned confounding variables can be eliminated by drawing upon multilinguals in the sampling.

- 1 The issue of how voluntary the study of a language is becomes clearer when dealing with those who have studied four, five, or more languages. It seems fair to presume that this degree of exposure to languages is voluntary in most cases.
- 2 In a similar vein, the impact of *anomie* as a result of language study must certainly be reduced. It is far less likely that social or cultural disorientation would be engendered by a need to identify with speakers of a target language when it is the fourth or fifth language that one has studied. The degree of social commitment to the society of the target language cannot be so great at that point.
- 3 From (2) above, it follows that the attitude in multiple language learning relates far more to the task than it does to the language under study at any given moment.
- 4 The learning process for the multilingual must be, at least in part, an experience of the adult years; there simply is not either time or opportunity during childhood for large numbers of people to become multilingual. This statement must be tempered, of course, by consideration of the country of origin of the multilingual.
- 5 The multilingual has less opportunity for extensive social occasions in which to develop his skill. Time may make practice a luxury. To maintain fluency , the multilingual may develop additional strate-

gies, capabilities, and emphases.

6 The individual who has become multilingual through academic instruction, *ipso facto*, must recognize to some degree that languages have system and structure. The issue of transfer of training may enter here. Awareness of the abstract notions of paradigm, idiom, regularities, rules, and so on, should be present by the time one has had academic exposure to a third or fourth language.

Prior research involving multilingualism.

As stated earlier, the confusion between the terms "multilingual" and "bilingual" occurs throughout the literature. The most extensive studies are those of Andersen, Vereecken, Vildomec, and the group participating in a special (1966) issue of *Social Inquiry*, including Kloss, Hunt, Haugen, and Ferguson. While none of these deal specifically with the processes and strategies involved in learning multiple languages, a brief summary of each follows.

a) *Studies in Multilingualism* (1969), edited by N. Andersen

Simon titles his chapter in this collection, "Multilingualism, a comparative study," but he makes no distinction between bi- and multilingualism. The orientation of the study is primarily political, but he suggests that there are both social and political reasons for multilingualism. If one works next to another group who do not speak one's language, there is bound to develop some degree of bilingualism since the communicative urge is so strong. When the situ-

ation is repeated with others of yet another language, or when the political structure is built out of many language communities (his example is the Austro-Hungarian Empire), then multilingualism may flourish. He adds the opinion that "conflict between language groups does not appear so long as predominantly agrarian illiterate language groups have members of an educated elite who share a lingua franca." (p. 11) Pointing out that there is no Swiss language, Simon declares that "citizens of the Swiss nation simply take it for granted that the educated Swiss have to become fluent in languages other than their own, especially if they aspire to a career in the service of their government or school system." (p. 18)

He then discusses the other well-known European multilingual communities of Alsace/Lorraine and North Schleswig, as well as areas of Denmark and Finland. His conclusions are that multilingualism is no issue

- ...in agrarian societies that are predominantly illiterate under an elite group that share a lingua franca...
- in societies absorbing multi-lingual immigrant groups as long as no claims for official recognition of the alternate languages appear...
- where contending languages...are territorially separated...
- when even the least educated know the languages of their fellow citizens...
- when the intra-societal language of highest rank is of a lesser rank abroad...
- when foreign relations, class conflict, religious disputes, and racial strife do not compound language tensions. (p. 25)

This chapter is followed by three chapters treating of bilingual communities. The final chapter is by K. Ishwaran, and is titled, "Mul-

lingualism in India." His opening statement says that it must be emphasized that "multilingualism is an all-pervading element in the Indian atmosphere, affecting every aspect of the country's life." (p.122) He states that educationists prefer the use of English, but political considerations dictate the support of regional languages. His conclusion is that multilingualism as a political position requires tremendous educational exposure for all citizens. He notes that Tagore had said that dependence on regional languages could "only produce a nation of clerks." Finally Ishwaran says that he feels that the elite need a single lingua franca, which will provide time for a national language to grow without damaging the use of regional languages. Implicit throughout is the conviction that, wherever necessary, more than one language can be learnt. India's educational system is built upon the same premise.

b) Quelques considérations sur le polyglottisme (1966)Vereecken.

In this study, J.L. Vereecken, a Netherlands psychologist, says that 1) language is one of the most important means of acquiring mental impressions of reality, 2) the first linguistic influence is the mother tongue, 3) rebellion against the maternal influence may take the form of the rejection of the maternal language, hence, 4) the polyglot may be, in essence, a linguistic Don Juan. He adds that "accent, rhythm, and intonation must be imitated and become the property of the subject by a process of identification... which perhaps is the reason why it is so difficult to undo an accent." He

too considers that one must, in order to absorb another language completely, take in its culture, becoming bi-cultural, or even losing one's original culture. Nowhere does he discuss the good language learner who is interested in the task *per se*. In fact he does not discuss cognitive approaches at all. He takes for granted that affective affiliation will ensure good language learning - and polyglotism.

c) *Social Inquiry* , 36 (2), 1966. (edited by Stanley Lieberman)

The first article, by Heinz Kloss, deals with ten variables to be considered when examining multilingual communities:

- 1 types of speech communities
- 2 number of languages used by individuals
- 3 types of personal and impersonal bilingualism
- 4 legal status of each language
- 5 segments (strata) of populace involved
- 6 type/degree of individual bilingualism (compound/coordinate)
- 7 prestige of languages involved
- 8 degree of cultural distance between languages
- 9 indigenusness of speech communities
- 10 attitude toward (community) linguistic stability.

Quite clearly the orientation here is toward the community, not the individual, and toward community use of two or more languages rather than the process of individual multilingualism.

Hunt's article, "Language choice in a multilingual society" is a substantiation, with examples, of an earlier work by S.N. Herman, "Explorations in the Social Psychology of Language Choice" which suggested that language choice may be affected by three main categories: social situation, personal needs, and immediacy (urgency). His conclusions are drawn from an investigation by questionnaire of Filipino

graduate students. These questionnaires elicited assorted motives for language study: anticipatory socialization (which might be equivalent to integrative motivation); over-conformity; and sporadic interest. These are not necessarily representative origins of multilingualism in other nations; one must consider the political circumstances for the Filipino student. There were, Hunt found, periods of vacillation, retreat and withdrawal from language study, as well as evidences of adjustment and integration of a second language system. This study is again an attempt to find motivations and affective results connected to multilingualism. These are pertinent and interesting studies, but they do not necessarily offer much enlightenment insofar as approach or learning techniques are concerned.

Haugen's chapter, "Semiconmunication: the language gap in Scandinavia" reported research, by questionnaire, carried out on 900 Danish, Swedish, and Norwegian subjects, whose names were taken from the telephone directory. The questions treated with such topics as the amount of contact subjects had with other languages; self-estimates of adaptibility in adjusting to another dialect or language; affective or aesthetic responses to the sounds of each language in Scandinavia; extent of instruction in languages; such demographic factors as age, occupation, sex, birthplace, residence history; educational level, and whether the respondent listened to broadcasts, or otherwise exposed himself to other Scandinavian dialects or languages.

The first conclusion was that professionals had far more opportunity for outside contact. The second result showed that social class had an effect on attitudes towards speakers of other communities. The percentage that sought media for contact with other languages varied, by country from about 20% to 50%. Approximately 60 - 65% reported understanding one of the other languages reasonably well, while a higher average (about 75%) thought that they were easily comprehensible by the speakers of the other Scandinavian languages. A high proportion of the respondents did not prefer their own tongue, for acoustic-aesthetic reasons.

Somewhat less than 50% of the respondents felt that books and programs of the other two countries should be translated for educational purposes. Linguistic relationship without isomorphism proved irritating to many, and often the solution of choice was to retreat to the use of a non-Scandinavian language for rapid intelligibility in interaction with members of other Scandinavian communities. Note that again the assumption is that any educated person will naturally have recourse to a repertoire of languages.

d) *Multilingualism*, (1963) V. Vildomec

By far the most important study of individual multilingualism is that by Věroboj Vildomec, who is himself at least a quadrilingual. His data were gathered by questionnaires sent to the International People's College in Elsinore, Denmark; the University of Strasbourg, and other such "multilingual milieux." In addition, Dr. Vildomec

distributed questionnaires among his own students and selected acquaintances. In all, 470 questionnaires were distributed, with 61 replies received. As is to be expected, the respondents were predominantly middle-class and well-educated persons, many of whom were emigrés or students.

The main thrust of his enquiry was the interference between and among languages, as well as other forms of influences from one of a multilingual's languages to another. In addition to an extensive review of the slim literature on multilingualism, and besides his analyses of interference errors, Dr. Vildomec included some biographical data on the respondents. He also listed their languages and their attitudes towards these. The final tabulations comprised responses from some 40 individuals who replied to such questions as: number of languages spoken, languages in which a reading knowledge only is claimed (which Vildomec calls "passive knowledge"), number of languages forgotten, and number not spoken but in which there is some comprehension, information on the first language of parents and of respondent. (The questions themselves contain interesting assumptions.) He lists his respondents' ages at initial exposure to other languages, and their replies to queries about preferred methods of instruction, and attitudes towards multilingualism itself. His findings, while only peripherally connected to the hypotheses of this study, are of interest. They represent the first in-depth examination of individuals with a knowledge of more than two languages.

The average number of languages that his respondents habitually used was four. Two people claimed septilingualism, three claimed sexilingualism, thirteen claimed quintilingualism, thirteen also claimed trilingualism; eight made frequent use of four languages. These were all in the spoken mode. Vildomec points out that there seems to be a constant in that the written mode is usually one less than the spoken. The average age of respondents was 35 years, 4 months. The average age at which respondents heard any language other than that of parents was about 6 years, with the range going from birth to 16 years. Vildomec says, "There does not seem to be any marked correlation between the number of languages known and the age at which study was begun." One interesting concept that Vildomec introduces into the area of multilingualism is that of "vividness". He points out that a language may assume vividness due to emotional factors, to recent use, or to situation. This vividness may increase the fluency and expressive bonding capacity in any of the multilingual's languages at any stage in their use. In this regard, one cannot establish a permanent ranking of one's languages according to fluency, since this is constantly shifting. This intimates a flexibility of cognitive approach to language as an instrumental or an affiliative tool. It would seem probable that this flexibility and awareness are stronger in multilinguals.

A second concept that Vildomec looks at briefly is the relationship between "figure-ground" studies and the metaphor of figure-ground as applied to language.

The general pattern of a sentence can...be interpreted as a "background" and a particularly important full word as a "figure". [*Full word* here is a lexeme or content word, as opposed to a function word, which is non-denotative. RR] The mutual interference of languages in the sphere of unstressed empty words, and in sentence patterns, could be interpreted as an interference in the sphere of "background", but the interference in the sphere of dominant full words...in the sphere of "figure". It would doubtless be discovered that in the sphere of dominant full words, which are always distinctly and loudly pronounced, the interference has often the form of a mutual phonic attraction...In the sphere of sentence patterns and unstressed empty words, the phonic aspect of interference does not seem to play such an important part. (p. 66)

REPRESENTATIVE STUDIES OF ADULT LANGUAGE-LEARNING VARIABLES.

Each study of adult language learning has only investigated a single variable, or has been in support of some philosophic stance.

Typical studies of the following variables will be summarized:

- methods of instruction
- motivation
- attitude of the learner's culture
- aptitudes
- communicative or sociolinguistic factors
- personality type
- affect
- development or maturation
- cognition.

A VARIABLES IN METHODS OF INSTRUCTION

A frequently mentioned dichotomy in the literature of language instruction is that between the "inductive" and "deductive" approach to classroom second language instruction. Seliger (1975) defines the inductive method as one which assumes that the "learner absorbs

and internalizes better when he has discovered the underlying abstraction for himself." The inductive method is the foundation of most audio-lingual courses in languages. The initial support and impetus for this approach came from the recognition that this is essentially the way children acquire their language. The deductive method is based on the belief, says Seliger, "that rules and abstractions should be introduced from the beginning of the lesson." The deductive method has, in the past, prompted paradigmatic drill with the expectation that the student will eventually recognize occasions for appropriate use of the rules and structures which have already been trained. The presumption is that language skill grows from a set of habits laid over a cognitive ability for analogy and creativity.

In this debate, one finds underlying assumptions about the nature of the language learner. These lead to advocacy of one or another method of instruction. As Seliger says (1975) in discussing the literature on method, "One premise is the assumption that all learners are the same with regard to the learning strategy which they use in acquiring a second language."

Seliger himself found that immediate recall results of a group of students who were assigned to one or the other method were not significantly different, but that three weeks later, the long-term recall of the deductively taught group was significantly greater.

David Wolfe (1967), in discussing methods of teaching, asserts

that, between the child and the adult language learner, there is a distinction that is developmental in origin. He indicates that this difference is verified by the fact that children learn a second language without benefit of formal instruction, whereas it is "rare", he says, for an adult to do so.

Vygotsky (1962) claims language learning cannot be detached from social processes and other mental activity. His position is that the adult learner must carry with him (into the learning situation) all his prior experience. Since the child does not have any great amount of life experience, this leads to speculation whether an adult can gain knowledge of a second language by a process similar to that of a child acquiring either first or second language knowledge.

Two other methodological positions require differing degrees of involvement on the part of the student. One is the "Silent Way" of Caleb Gattegno (1963), in which the student is led to experience concept and form simultaneously, with no translation involved. The other is the command, or physical involvement, approach, developed by Asher and Price (1967). This method uses imperatives in the target language, to which the student must respond by actually performing the order.

Teaching method does not seem, however, a sufficiently important variable to account for the level of an individual's foreign language proficiency. Despite the proliferation of teaching methods, there has not been a proliferation of adults with a high degree of

fluency in a foreign language. Neither in England or in the United States can one say that educational exposure to any method is sure to result in a fluent second language speaker. It is necessary to reiterate Seliger's point that not all learners are alike, nor are they all likely to respond to a single technique. No matter which of the various teaching techniques and philosophies are applied, some adults do learn another language. Some fail, whatever the technique or method. While teaching method is important in second language learning, it is obviously not the only, and probably not the prime variable.

B THE VARIABLE OF MOTIVATION

DeLaunay (1970) reminds us that "when everyone [in historically earlier periods] had to know a second language, it seems that everyone learned it." This line of thought led Gardner and Lambert to formulate a theory of motivation in foreign language learning which introduced the concept of *anomie* (social/cultural disorientation) as a factor in degree of proficiency. This theory assumes that the successful foreign language learner "must be prepared to adopt various aspects of behavior which characterize members of another linguistic and cultural group." Elsewhere Lambert and Gardner (1972:2) say that "advancing towards biculturalism in this manner could have various effects on different language learners." The experience may be interpreted anywhere along a continuum from exhilarating to threatening, even as cultural imposition. Lambert and Gardner clearly ho-

nor the traditional division of language learners into those who learn for self-benefitting purposes (instrumental learners) and those who learn another language in order to affiliate, to whatever degree, with the culture and speakers of the target language (integrative learners).

It is certainly true that psychological reactions to the speakers of a language may color the attitude towards the language itself. This is particularly the case when the native and target languages are in social or political juxtaposition of some sort. Despite this, there are many students who study a language without any specific attitude toward the speakers of it, but who have feelings about the language, *per se*. (*Vide* Sanskrit, Latin, Akkadian, Classic Greek); to say that one must accept biculturalism as a concomitant of learning is extreme. One must understand the culture in order to use the language appropriately - this does not mean that one must accept the culture. (There are excellent Arab students of Hebrew, and *vice versa*.) Moreover, there are those who yearn to identify with some culture other than their own but cannot learn the language, and those who despise the speakers of the target language but acquire it anyway. This is an interacting, but not a critical, variable.

C ATTITUDE OF THE NATIVE CULTURE AS A VARIABLE

The cultural milieu dictates in both subtle and overt ways what the received attitude towards intercourse with outsiders is to be.

In national or cultural groups which demand a high level of language learning proficiency, there are pragmatic reasons for, and ample opportunity to use, this proficiency. The Scandinavian countries, the African countries, Switzerland - all come to mind at once. Use for, not requirements in the abstract, would appear to be a critical impetus for language learning. The United States, while offering and making mandatory (although decreasingly so) language study in secondary schooling and beyond, does not have an historical climate that encourages this skill as useful or socially desirable. Recent census figures (1975) show that only one-tenth of the population of this country is able to speak a second language. Of this number, a large proportion are non-native speakers of English, i.e., English is their second language. The balance of those who can speak another language are almost all persons who have, for diverse reasons and by various means, acquired Spanish. The learners of languages other than English and Spanish in the United States are so few as to constitute a negligible fraction of a percentage point. Use is a potent prod.

Despite this climate, which is not evidenced by the U.S. alone, there are those who successfully learn languages beyond their native tongue; some even do so through self-instruction. Other cultures feel that language learning is a natural skill. The U.S.S.R., Sweden, Denmark, Germany, Scotland, and the Balkan countries all have more stringent foreign language requirements for school-leaving certificates, and higher enrollments in language classes. Those citizens

of these countries whom we encounter as visitors or immigrants seem to have a functional grasp of the language. Admittedly, these may represent the more successful students, with the less successful ones fearful to embark on interaction in a strange situation. There also appears to be a varying perception, among nations, of the degree of identification of the language with the culture. All recognize language as a medium, but some (e.g., Italy, France, England) are unable to separate the two at all. Others can be Greeks, Scots, Poles, or whatever their heritage is, without regarding foreign language use as a diminution of their traditionalism. (Of course, this is not the case when their native tongue is forbidden in the classroom.) It is not probable that any other culture would have a total success rate in foreign language learning, any more than in literacy. There are individual differences in learning, always.

Lambert, Gardner, Barik, and Tunstall (1963), and Lambert, Frankel, and Tucker (1966) found that communities of speakers of one language had strong evaluational attitudes towards speakers of another language, and that these attitudes affected the rate and degree of learning of the second language. The point to be made, however, is that members of these communities do show successful learning rates along a continuum, and the question still to be asked is: What accounts for the proficiency of those on the upper end of the continuum?

D APTITUDE AS A VARIABLE

In 1956 Carroll found language aptitude tests to be poor pre-

dictors of adult language learning performance; in fact, there was a noticeably weak correlation between "aptitude for foreign languages" and classroom achievement. By 1958, Carroll had come to view aptitude as a "relatively stable characteristic of the individual" and listed its components as: the ability to code phonetic material for later identification, retrieval and use; the ability to use grammar, i.e., a sensitivity for arrangement of forms in a language; inductive capacities; memory capacities; and flexibility in translating written symbols to auditory ones and from there to meaningful concepts.

Lambert (1963) adds "cognitive flexibility" to this list of aptitudes, while Pimsleur (1963) included the ability to identify mechanisms of parallel functions in first and second languages. Nevertheless, Spolsky (among others) points out as late as 1970 that "In all studies...the correlation of measured aptitude and success in language learning has been quite low."

Other aptitudes which might relate predictively have been suggested, e.g., musical ability, hearing acuity, pattern recognition ability, vocabulary size in the native language, and native language fluency. That these factors are involved in language learning has been accepted in varying degrees. It is possible that they are necessary conditions for language learning - but none has been shown to be sufficient. This complex task cannot be reduced to either a set of aptitudes, or to attitudinal or motivational orientations alone.

E COMMUNICATIVE AND SOCIO-LINGUISTIC VARIABLES

Alatis (1976) quotes a section from a private communication from Earl Stevick (p. 266) in which Stevick proposes a term for a well-known phenomenon - unwillingness to speak for fear of making a mistake - *lathophobic aphasia*. This begins to move toward regarding the task from the point of view of the learner, a point of view both logical and long neglected. The learner operates within a societal framework as an individual and, one presumes, he intends to use his new language interactively. It has often been noted, frequently ruefully, that the subject matter of the classroom is not of great practical value in interpersonal interaction. Oller (1971) suggests that the student will show success in proportion as he perceives the knowledge he is acquiring as useful knowledge, and as his expectancies are matched. Levine (1976) uses a grid of the Halliday-Searle-Gregory type to outline some projected expectancies, but her material awaits testing.

Imhoof (1974) also finds extra-linguistic factors vital for predicting success in language study. The student's opportunity to practice, his orientation to the target language, the amount of previous exposure and the quality of that exposure to languages and language learning, the student's semantic space sensitivity (awareness that there is no one-to-one conformity in translation, and the amount of formal education the student has had all will play some considerable

part in the adult learners eventual level of proficiency. Formal education seems to change valence over time, in rather an inverted U-shaped function, gradually adding to the potential proficiency until a point has been reached such that the amount of time required to establish a learner in the highest ranks of formal education makes the student so advanced in years that he has lost a noticeable degree of flexibility. While it is true that the more educated one is - the older one is, there is a corollary development, i.e., the more educated one is, the more structured one's thinking, and the more one has been trained to learn in a certain manner. Imhoof, like many other scholars, also reminds the reader that living in the country is most helpful for learning a target language. He remarks that it is not only the practice, nor the submersion in the language that such residence provides, it is also the urgency of use - communication - that induces effective study.

F DEVELOPMENTAL SEQUENCE AS A VARIABLE

Work on the "universality of the order of morpheme acquisition" (Dulay and Burt, 1972; deVilliers and deVilliers, 1972; Bailey, Madden, and Krashen, 1974; Dušková, 1974) suggests the possibility of a natural sequence of acquisition of English morphemes in the adult student of English as a Second Language (ESL). Krashen (1976) speculates upon extending this possibility to imply a genetic component which

may be less "atrophied" in good learners. It is a common statement that children learn languages with greater ease than do adults (e.g., Valette, 1964; Krashen, 1973; Ravem, 1973), which lends support to the idea that the 'language acquisition device' may still be intact. Penfield (1964) suggested that the functional links in the speech areas of the cortex have been established by the age of puberty, and that use of the right hemisphere for additional learning is only truly possible in cases where there has been a bi-hemispheric language activity in childhood. (He suggests that a child bi-lingual uses different hemispheres for processing his two languages.) This early activity results in creation of a switch mechanism, so that either hemisphere retains the capacity to process language. The belief is that the left hemisphere is normally used exclusively for native language processing, and that other language processing must be carried on in the right hemisphere. The problem in this theory is that research is needed to determine how this alleged hemispheric separation is assigned in the case of bilingual offspring of bilingual parents.

G PERSONALITY TYPE AS A VARIABLE

Guiora, *et al.* (1972) considered empathy to be an important factor for positive language learning achievement. The concept seems worth considering, but "empathy" was determined by accuracy in identifying emotions portrayed in photographs of strangers, obviously a limited operational definition involving cross-modal interpretation. A language "ego" factor was also proposed, reminiscent of Weinreich's

"language loyalty".

Lukmani (1972), in addition to suggesting that instrumental motivation fostered successful language learning for Marathi students, also found a slight trend toward increased learning in cases where the student's self-image was firm.

This is in marked contrast to a position taken by Vereecken (1966), who felt that learners of multiple languages ("polyglots") were linguistic "Don Juans", seeking to confirm themselves as verbally skilled affiliators. Since Guiora *et al.* had suggested that confidence in one's linguistic identity was facilitative to language learning, these two positions are in direct contradiction. This contradictory state of affairs obtains in all attempts to find personality variables which could account for language learning skill.

H AFFECT AS A VARIABLE

Brown (1973), in speculating on affective variables in second language learning, said that the merging of affect and cognition produce the individual's style. The styles called *impulsive* vs. *reflective* may influence language learning. He bases this opinion on the fact that children who are conceptually "reflective" tend to make fewer reading errors than conceptually "impulsive" children, although the impulsives read faster. This study is a transition serving to introduce the relation of individual cognition to foreign language proficiency.

I COGNITIVE VARIABLES

Atkinson (1973) claims that good learners "can introspect with ease about a 'bag of tricks' for learning vocabulary items, whereas poor learners are incredibly inept when trying to describe what they are doing." p. 821) This finding suggests strategies for building vocabulary. Similar strategies for vocabulary retention are proposed by Ott, Butler, Blake and Ball (1973). None, however, suggest that there are "tricks" for acquisition and retention of syntax, or other higher levels of language.

Sodhi (1969) found that those whom he classified as "good learners" differed significantly from "poor" second language learners on a test of "set" extinction, even though there was no significant difference in the amount of time it took for each group to learn the "set" originally. Sodhi cites findings of Bzhalova that a "person who fixated 'set' with the minimum number of trials but who did not achieve adequate perception [set extinction]...manifested rigidity in personality, attitudes and displayed behavior, and hence had trouble when learning a second language."

This last finding, in conjunction with Imhoof and Jacobsen's suggestion (1974) that people with a broader cosmopolitan background, who have had experience with other cultures, are less prone to culture shock and are therefore better language learners moves in the direction of the research being reported in this paper. Before embarking on a full discussion of cognitive style, it is necessary to

turn to two recent articles on language learning.

J SPECULATIONS

Two articles, one by Rubin (1975) and one by Stern (1975) appeared while this thesis and its experiment were in process. These authors speculate that the good language learner is more willing to make linguistic guesses. They conjecture that the good learner is more able to tolerate confusion, shifting structures, uncertainty, and is able to adapt his expectancies in the learning situation. All of this indicates a high degree of cognitive flexibility, which they say is tempered with a sense of pattern and system; the approaches to areas that need routine and drill - such as vocabulary and verb paradigms - are orderly. Rubin and Stern hypothesize that good learners seek and use opportunities to interact in the target language; they create their own motivation. They deliberately involve themselves with the language, and employ memory strategies. The authors further speculate that the good learner attends to form while probing for supportive data for the inferencing which he freely does. Proficient language learners constantly search for meaning, they self-monitor, and have critical sensitivity to language use. They see language as having many functions and are not inhibited during the learning process. The hypotheses of the present study, independently arrived at, suggest much the same portrait of the adult who is good at learning foreign languages, while proposing an additional trait of cognitive style.

COGNITIVE STYLE

The concept of *cognitive style* refers to consistent tendencies in an individual's mental organization or encoding of complex phenomena. Data presented to the senses are perceived selectively, and are encoded mentally by the individual in the light of his past experiences, his own abstract systems, and his "set" state of mind at the moment of perception. While "set" is influenced by social and environmental context, by social role, and by cultural background, these patterns of attention and encoding are, nevertheless, a fairly stable facet of the personality of the adult. They constitute, on the whole, quite discrete categories of organizational modes among individuals.

Since the study of a language involves mental, i.e. cognitive, organization on many levels of sense data, it follows that modes of perception, attention, organization, memory storage and retrieval, reconstruction and use should reflect in some way the personal cognitive style of the learner. Outside of Brown (1973), the only studies which directly link cognitive style and language learning are the following:

Brown (1964) found that learners who attended to objective characteristics of words in a serial learning task tended to perform at lower levels than those who attended to representational processes; Schmidt (1965) found that associative sets (of words to objects) reflected "attitudes towards words." Subjects with an "object-referent set" gave more words scored as concrete in a word association test,

while subjects with a "conceptual-referent" set gave more definitions on an abstract level in an object sorting test. DeFazio (1971) discovered that "field independent" subjects were superior to "field dependent" ones in verbal comprehension. He also found that field independent males perceived more ungrammatical sentences than did field dependent males. He concluded that field articulators maintain a grasp of language not held by those with a global approach. The final study of language learning and cognitive style is by Harris (1972), and even this one does not deal directly with learning a second language, or beyond. Her conclusions are that skills used in the production and comprehension of speech are observable in non-verbal activity. The skills which she considers cognitive, necessary to language development and comprehension are: referencing, grouping, concatenation, interaction, embedding, and embedding with interaction.

The literature on cognitive style (a good overview may be found in Nisbett and Temoshok, 1976) describes many similar but not overlapping dimensions. These are usually defined in polar extremes, e.g., levelling-sharpening, field independent-dependent, analytic-relational, generalizing-particularizing, and reflective-impulsive. Other closely related concepts are those of category-width preference, and inferencing. Briefly outlined definitions follow:

1 *Levelling-sharpening* Levelling is the mode of assimilating new material to already existing structures. Sharpening keeps new material differentiated from the old, and maintains it distinct from

prior structures (Gardner *et al.*, 1952).

2 *Field independent-dependent* Field independence is a mode of perception in which an item can be "disembedded" from its surrounding field or more easily articulated as a separate entity. Field dependency is described as a tendency for parts of a complete presentation to be perceived as fused with the whole, rather than with discrete items, i.e., perception is dominated by the field in which the material is embedded. Psychological development has been traditionally regarded as progressing from lesser to greater differentiation (Witkin and Berry, 1975).

3 *Analytic-relational (global)* When presented with external phenomena, the person whose style is analytic bases his cognitive activity on differentiated portions of a member of a presentation group. This might be called an intra-stimulus response. The person whose style is relational categorizes sensory data according to some perceived relationship between entire members of the presentation group. This is, in effect, a response among stimuli. The perceived relationship may be thematic, temporal/sequential, or functional. Analytic persons process differentially for parts as well as wholes; globally oriented individuals (relationally oriented) respond in a non-reflective way to the material, treating it in its entirety (Kagan, Moss and Sigel, 1963).

4 *Generalizing-particularizing* "Generalizers tend to approach potentially meaningful material with a meaningful learning set to utilize information in supporting a decision..." (p. 38). Particulari-

zers, on the other hand, use presented elements verbatim, as opposed to the generalizers who transform and integrate presented material; "particularizers tend to approach potentially meaningful material with a rote-learning set..." (schwarz, 1972, p. 38).

5 *Inferential perception* Kagan, *et al.* in their later work (1963) added a third mode of organization of stimuli to their earlier analytic-referential dichotomy. This mode is an inferential approach, which groups items on the basis of inferred characteristics or inferred class membership. Presumed or partial characteristics of one member of a presentation group are used to link that member to others of the group who are also invested with these presumed characteristics. Each item presented is seen as an independent exemplar, and some trait is presumed or inferred to exist in common for all members of that group, e.g., "this one's running away fast, so he must be a crook; so is that one. They must be members of a gang;" or "this one's wearing a smock"(detail)"so he must be an artist"(inference about the whole).

6 *Category-width preference* There are consistent preferences for using broader or narrower categories in conceptualizing (Sloane, 1963). This category-width preference will, of course, influence test results in multiple choice questions, since broad categorizers accept approximations while narrow categorizers seek maximum differentiation. Bruner and Tajfel (1961) find consistencies in breadth of categorizing. "Narrow categorizers tend to be more sensitive to changes in the environment...the broad categorizer shifts much less and later." (p. 431) After discussing shift in categorizing in the face of stimulus change,

Bruner and Tajfel conclude:

In sum, reaction to change appears to be a strategy for dealing with the consequences of error. The narrow categorizer appears to prefer the risk of *reacting* and possibly being wrong. The broad categorizer prefers the risk of *not reacting* to change and possibly being wrong.

Looking at these styles of conceptualization and approach to cognitive activity, Messick and Fritsky (1963) determined that one cognitive style emphasized articulation of discrete elements, a second style seems to stress the articulation of figural forms, and a third style utilized background information in the learning of complex material. They also found a significant relationship between performance on their element-articulation task and performance on the Embedded Figures Test (Oltman, *et al.*, 1961) of figure-ground articulation. Both figure-ground differentiation ability and element articulation ability have been found to correlate with facility in overcoming cognitive interference.

The basic significance of the discussion on cognitive style is that individuals must, consciously or otherwise, develop encoding strategies when faced with the enormous quantity and types of material required for learning a new language. It follows that the way this material is organized should represent consistent tendencies of students; the question is whether there is a correlation of cognitive styles and levels of success in language learning, and whether these styles separate multilinguals and successuls as a population.

DEFINITIONS, RATIONALE AND HYPOTHESES

A DEFINITIONS

Following the theoretical position of Vildomec, monolinguals will be regarded as those who use one language in all their social interactions. Multilinguals are defined as those persons who use, or have used for prolonged periods in the past, at least three different languages for social interaction. They must, without assistance from translators or any written aids, be capable of sustaining conversations with native speakers of each language. In order to clarify and sharpen the findings, the extremes were investigated by exclusion of bilinguals from the study.

To establish some measure of level of achievement for the participants in this experiment, a final test was administered. (Questions on the exam, and techniques of scoring these are detailed in Chapter Two.) From these a total score was derived for each participant, and those who were in the top quarter in terms of score were operationally defined as "successful learners." The need for this category is clear when it is recognized that the purpose of the experiment was to isolate approaches to the task that are, in general, fruitful for the adult. The selection of the monolingual *vs.* multilingual sample was made in an attempt to yield a higher rate of successful learning.

Cognitive style is the individual's stable mode of organizational pro-

cessing, i.e., sorting, storing and retrieving information of a linguistic nature.

Approach styles are attitudes toward the task, definitions of the task, and points of entry and focus in the task.

RATIONALE

In the United States, as in England, there is a long and notoriously poor history of language learning by adults. Multilinguals in these countries do something that other adults do not do: they communicate using more than one language; they find the task of foreign language learning not an insurmountable one. They, as a sample, offer many interesting possibilities for the exploration of cognitive phenomena in language acquisition and use. Multilinguals, as a group, are a singularly uninvestigated group in the literature of language acquisition.

PRELIMINARIES TO HYPOTHESES

The choice of learning/instructional materials to be used; the tasks set by the respondents for themselves; styles of approach - whether broad or narrow; the strategies selected initially - whether imitation, translation, memorization of set phrases, memorization of vocabulary, memorization of syntactic forms, or any other strategy - should cluster for the successful learners. Cognitive style tests of the successful learners should indicate a pattern of balance between

analytical tendencies and relational or global tendencies, and between figure and ground differentiations. There should be no rigid adherence to a single style. The unsuccessfuls may not be so balanced.

There is a *caveat* however. The behavior required for language learning is of far more complex a nature than that needed to identify recurrent patterns, or to foreground one pattern out of two or three distractors, or "noise." Such experimentally narrow tasks are not broadly generalizable to language learning, and have, moreover, yielded diverse results depending on the administrator and the circumstances. If Vildomec's proposal is feasible, then successful learners and multilinguals will attend to function words, and their lexicon increase will occur almost incidentally.

FOCUS OF THE STUDY

Since there is so little research based on this population, it is premature to develop the usual fine-grained and molecular hypotheses and elegant experimental techniques that can tease out the subtleties that must differentiate these language learners from the general mass of language students. It is obvious that the design here is a molar, heuristic one, evolved primarily to generate data which may then be used as the base for developing more pointed hypotheses and detailed research. There is an intuitive feeling, expressed by many applied linguists, that personality components are strong indicators of language aptitude. Geissler (1938) mentions a dichotomy in

the types of young students : a the open minded, receptive, relaxed child who is a quick and ready learner, and b the self-centered or shy, contemplative type who is more tense and resistant, but who retains that which he does learn far better than his receptive counterpart. The cheerful and more global soul accepts non-analytically, and may not build those structures which enable him to recreate the information he had gained. Personality must be reflected to some degree in cognitive style, and must have some effect in language study as in other activities.

There is one additional fact about language, and its manifestation as speech, that should not be overlooked. A. R. Luria (1974, in English translation 1976) says, "Human cognitive activity becomes a part of the more extensive system of general human experience as it has become established in the process of social history, coded in language." (p. 162) This social, communicative function of language is clearly postulated by Vygotsky (Engl. transl. 1965, p.6): "The primary function of speech is communication [and] social intercourse. When language was studied through analysis into elements, this function was dissociated from the intellectual function of speech." Remarking that the need for a system of signs, e.g., language, arises from the urgencies of going beyond the most rudimentary communication he continues (same page):

According to Edward Sapir's penetrating description, the world of experience must be greatly simplified and generalized before it can be translated into symbols. Only in this way does communication become possible,

for the individual's experience resides only in his own consciousness and is, strictly speaking, not communicable. To become communicable, it must be included in a certain category which, by tacit convention, human society regards as a unit.

It is in this awareness of the social nature of language that there may be another difference between the monoglot and the adult who has both the inner drive and recognition of the value of a foreign tongue in communication. Use of speech and language involves competence in a signalling system and an intent to communicate (in the broadest sense of that word). Both the functions of speech, and the range of situations in which speech is deemed appropriate, useful, or efficacious, while seldom topics of conscious thought by the average adult who is neither a professional in the field or possessor of a pathology that draws attention to verbal communication, may underlie language ability. It is possible that those who do well with languages have a broader or more socially oriented view of the functions of speech and language, or a stronger need for vocal-verbal communication.

Accepted communication theory lists the following major functions of speech:

- 1) informative
- 2) persuasive
- 3) cathartic
- 4) phatic (contactive)
- 5) artistic
- 6) ritualistic/magical/religious
- 7) entertaining/playful/humorous
- 8) ego-identifying

(Hanneman & McEwen, 1975)

There is also the question of whether one sees speech as ego-oriented or Other-oriented, and whether it is considered more appropriate to communicate for denotative or connotative purposes. [Denotative, or objective, uses of language are those whose interpretations are generally accepted as representing a shared referent for the speech community. Connotative language is that which includes all the subjective meanings with which an individual speaker or hearer invests a statement. This would include emotional, artistic, or deviant uses of language.] By these definitions only the first - the informative - function would be judged as denotative. The other categories would constitute a continuum of connotative functions, with ego-identification and catharsis at the extreme end of subjective uses of language.

Successful learners should then have a stronger sense of the range of language use. Poorer learners should cluster around one or the other polar extreme of the functional range. Better learners may not only regard speech as a tool of communication, but may show more interest in other such tools. There is, to date, no quantification for an "urge to communicate", although symbolizing, as an activity in itself, be aesthetically pleasing to some. Given all this, the respondents in this study may show that successful learners are, however, less bound to the cultural constraints of their language. This freedom may be reflected in their scores on field dependence.

SUMMARY OF ORIENTATION

The present empirical study is not subsequent to extensive prior research, i.e., it is not a link in a chain. It is an initiating attempt to gather data concerning factors such as approach style and cognitive style with regard to language learning proficiency. The inclusion of multilinguals who learned languages in their adult years may add to our understanding of this complex task, and may give rise to revisions in a theory of a critical period for language learning. Multilinguals are interesting when one considers the intimate relation between cognition and language. They are useful for the immediate purposes of this experiment for several reasons:

- 1 - they may be considered a more sophisticated group of language learners with developed strategies,
- 2 - they are less likely to be prone to the effects of *anomie*,
- 3 - their experience may result in more eclectic methods for study than are available to the monolingual,
- 4 - as adults, they may be able to verbalize about the internal processes involved while they learn,
- 5 - they should have deeper task-orientation since they are unable to sustain as deep an intensity of affiliation to the cultures of all their languages as a monoglot would be. Language loyalty to four or more communities cannot be so intense a commitment.

HYPOTHESES

- I *In opposition to the theory of a "critical period" for language learning, substantial learning can occur, even in a brief time span, at moderately advanced adult ages.*
- II *In a foreign language learning task for adults, more success-*

ful learners will be multilinguals. The experience is transferrable.

III There will be a difference between multilinguals and monolinguals in cognitive style tests, and the same will hold between successful and unsuccessful learners.

IV There will be a difference in approach styles between monolinguals, and between successful and unsuccessful learners.

V The successful learners will be more field-independent, but will still show a balanced cognitive style.

VI The successful learners will sample a broader range of "learning tools", but will stay with successful techniques sooner.

VII Successful learners will defer decisions until they have built up larger amounts of information as a data base.

VIII There will be differences in both task- and self-evaluation.

IX Successful learners will evince more awareness of style and will perceive a broader range of functions of language than will the poorer group of learners.

X Successful learners will make early efforts to use the new language. Poor learners will be reticent and fearful of erring.

XI There will be significant differences between groups in the quantity of forms (lexical or syntactic) learnt in a brief period.

XII Degree of self-direction, and attitudes toward the task will differ between groups.

XIII Points of entry, focus, and information utilization will differ between groups.

The above hypotheses are to be tested through presentation of a language, unknown to participants. Participants will be divided into two groups: ten multilinguals and ten monolinguals. There is no expectation that either group will learn substantial amounts of the material, since the amount of information available will be so large as to force strategic approach techniques through time pressure. Cognitive and approach style, rather than accomplishment, is the investigative focus. Many results will only be weakly quantifiable. This is best explained by Andersen and Ausubel:

We are concerned with the...more complex kinds of cognitive processes generally referred to as the "higher mental processes." Behaviorism focusses on publicly observable responses and their environmental instigators...[but] consciousness is a "mentalistic concept" highly resistant to scientific inquiry... (1965, p. 55)

Data will, where possible, be treated parametrically; some can only be observed and reported for future investigation as more sophisticated techniques are developed. It is hoped to shed new light on the mind behind the "ear for languages."

CHAPTER TWO

TASK ANALYSIS

The learning of a language is a complex of actions and processes, carried on both internally and externally by the learner. The overt and underlying information that is presented to the learner must be processed on many levels, and there is no doubt that the processing is selective. The initial selection, the storing, the transformations, and tagging for later access are all essential procedures for acquiring the ability to perform efficiently in a new language. Following Resnick (1976), one may identify at least two kinds of capabilities, recognition of factors prerequisite to performance, and recognition of factors propadeutic to performance. Resnick stated that tasks thought of as necessary to or helpful in learning may be used to build hierarchies of objectives; but, significantly, he adds:

Studies showed that teaching in hierarchical sequence is the best way of assuring that all...[or almost all]...learned all the objectives. For the minority who were capable of learning the more complex objectives without intervening instruction, however, "skipping" of prerequisites was a faster way to learn. What these pupils did was...to acquire the prerequisites in the course of learning the more complex tasks. (pp. 67-68)

Implicit here is the recognition of at least two learning "styles". Since some of the tasks are, as previously stated, selection and categorizing, the issue of cognitive style is at least hinted at, if not introduced outright.

In the design of this experiment, the observations deal with processual data, in contradistinction to the more usual state data.

Focus is not on quantity of structures or information processed *per se* , although state data are used in defining successful learners in terms of their total achievement, as evidenced in the final "examination." The basic concern is to investigate selection and evaluation of the data received, and the preferred strategies of categorization and memorization, the self-assigned goals, the degrees of abstraction of material and relational networks established by the participants.

It is true that any arrangement of the language data is bound to represent some bias on the part of the investigator. The decision to present lexical items on cards, rather than in a "dictionary" arrangement, for example, will weight the respondents' attention in one or another direction. Resnick later addresses himself to this issue:

Most people use environmental feedback to simplify performance routines. They do not accept the routines they are shown as "givens", but rather as starting points. They invent even when we teach them algorithms...This... draws attention to the extent to which we...depend, in our normal instructional practices, on...invention and discovery by learners. Our instruction is rarely complete, and rather than striving to point out the...principles that underlie what we teach, we often choose less than the elegant instances and also expect learners to find the underlying principles for themselves. This suggests that differences in learning ability often expressed as intelligence or aptitude, may in fact be differences in the amount of support individuals require in making the simplifying and organizing inventions that produce skilled performance. Some individuals will seek and find order in the most disordered presentations, most will do well if the presentations ...are good representations of underlying structures: still others may need explicit help in finding efficient strategies for performance. (. 76)

This willingness to abandon the suggested algorithms, the preplanned organization of material, and so on, is due not only to environmental feedback, as Resnick suggests, but also to differences in cognitive style and in perceptions of the goal and the task. In initial encounters with any new natural language the amount of material to be processed seems overwhelming. It must be "edited" for attention on the basis of the individual's aims, expectations and concept of the task. These must be affected by his past experience and his cognitive style.

The accomplishment of language learning is achieved through the performance of a number of sub-tasks, some of which involve skills in common, others which do not. It is possible that a felicitous grouping of these skills is necessary to accomplish the goal. It is also possible that successful adult learners of another language have specific degrees of capacity in one or another of these skills which the non-learners do not. An analysis of the tasks, and an assessment of the possible differences between the "successful" and "unsuccessful" groups accounts for some of the performance indicators used in this experiment. The following are some proposed minimal capabilities which, to use Resnick's terminology, are "prerequisite" to performance; stated simply -- in order to learn a new language (or TL, target language) one must be able to:

- 1 hear
- 2 segment the TL
 - a- discover
 - b- remember (encode and recall)
 - c- utilize the memory rapidly

- 3 discover significant sound classes in the TL
 - a- remember these
 - b- recall them rapidly
 - c- produce these accurately enough for comprehension by others
- 4 identify and distinguish sound clusters (e.g., words) in the TL
- 5 produce these clusters accurately
- 6 associate content with these sound-group forms
- 7 distinguish those forms of the TL which
 - a- label items
 - b- represent, broadly speaking, actions
 - c- modify, qualify and otherwise delimit other forms of TL
- 8 encode and remember these forms
- 9 recall the forms rapidly
- 10 use these forms in contextually appropriate situations
- 11 reorder or combine these forms rapidly, accurately, appropriately
- 12 generalize these forms for new uses, new situations
- 13 create new arrangements to transmit or receive new information
- 14 see (14, 15, 16 are for purposes of formal learning)
- 15 relate graphic symbols to sound classes (remember and utilize)
- 16 insert into read material the paralinguistic, unrepresented signals

Those abilities which Resnick terms "propadeutic" to performance might be isolated as the ability to:

- 1 identify segments
- 2 identify sound clusters (e.g., "words")
- 3 identify the forms of the TL which label items or states, which represent actions or descriptions, which modify, delimit or qualify other forms, and which relate forms of each class
- 4 categorize all such form classes, abstract and codify them
- 5 arrange and organize all new information relevant to the task
- 6 determine the linguistic functions of paralinguistic cues
- 7 determine the affective and the social functions of paralinguistic cues of TL
- 8 restructure the existing repertoire to accomodate new information
- 9 recognize and correct or compensate for errors through feedback.

In addition to prerequisite and propadeutic capabilities, it might be of value to add some socio-cultural capabilities which will facilitate optimum performance:

- 1 Identify, remember and use the TL-defined functions of speech
- 2 identify, remember and use the spoken/written rituals, taboos, metaphors, games and other such factors of the TL

- 3 identify, remember, decode and utilize the supplementary and complementary non-language techniques familiar to TL users.

Although these capacities cannot be presumed to exhaust those useful capacities of language learners which make the accomplishment possible, the list does include many of the essential tasks which must be fulfilled if one is to learn a new language in such a manner that it may be used effectually when communicating with native speakers of TL over a variety of situations.

Which of these tasks are perceived by the different populations of this experiment to be the *sine qua non* when facing this broad goal? Some of the tasks are only separable formally, not in action; some may not be consciously recognized by any participant. Obviously, not all participants will analyze the task in a like manner, whether implicitly or directly. The hypothesized differences between multi- and mono-linguals (one experimental parameter), or those who learn more - and more accurately - in the task, and those who do not (the other experimental parameter), are offered here in tabular form. Included is a statement of whether the particular element was investigated in this experiment.

Task	Successful (prerequisite)	Tested	Unsuccessful
1	same	No	same (although adaptation levels may vary. Not tested.
2a	+	yes	-
b	+	yes	-
c	?	no	?
3a	+	yes	-
b	+	no	-
c	?	yes	?
4	+	no	+
5	?	yes	? (cluster simplification
6	+/=	yes	-/= experience)
7a	=	yes	=
b	+	yes	-
c	=	yes	=
8	?	yes	-
9	+	no	-
10	?	yes	?
11	?	yes	?
12	+	yes	-
13	+	?	-
14	=	no	=
15	=	yes	=
16	+	yes	-
(propadeutic)			
1	+	no	-
2	=	yes	=
3	+	no(?)	-
4	+/?	yes	+ (but not utilizable)
5	+	yes	-
6	+	no	-
7	?	yes	-
8	+	no	-
9	+	yes	-
(facilitative in communication)			
1	+	no	?
2	+	no	-
3	+	no	+

TABLE A. Differences predicted to exist between successful and unsuccessful learners

Numbers and letters refer to the sub-tasks listed in the text.
+ signifies that the category members are hypothesized to have this capacity in great degree, - implies that the capacity is low vis-à-vis the other group, and = signifies that there is no hypothesized distinction between groups. Numbers refer to tasks listed in chart on p. See text.

THE SETTING

All participants were introduced to an unfamiliar language by means of three videotaped thematically linked sequences. They viewed, via TV, common social interactions, acted by two adult native Basque speakers, male and female. There was no direct attempt at instruction or at directing respondents' activities. They knew that they were to attempt to learn the language by themselves. Each session was a private one, i.e., there were no group sessions. Only the respondent and the experimenter were in the small viewing room. The surroundings were reasonably pleasant, quiet, and comfortable. The times for each session were those chosen by the respondent. Actual method will be described at a later stage in this report. Suffice it to say, for now, that each session had a half-hour of time for working with the materials, including viewing a new scene, and the balance of the time was spent in 'paper-and-pencil' tests. The third, final, session concluded with the so-called 'final'.

In order for all participants to start from the same baseline, it was necessary to select a language which did not relate to the language repertoire of those in the experimental population. The use of an artificial language was ruled out because although its use would restrict the data for the learners (a desirable feature for economy of analysis for the experimenter), no natural language is free of historic effects, irregularities, arbitrary and idiomatic

features and other phenomena which await discovery. These eccentricities are not reflected in constructed languages. It is also a fact that all the artificial languages of which extensive descriptions are available have a strong Indo-European bias (Jacobs, 1947). Some participants in the experiment were speakers of non-Indo-European languages, which would have put them at a disadvantage if Ido, Novial, Volapük, Loglan or Esperanto had been used.

The language selected was Basque. This language is spoken in the Pyrenees, and has six mutually unintelligible dialects (Van Eyck, 1883): Souletin, Viscayan, Labourdin, Haute-Navarraais, Bas-Navarraais, and Guipuzcoan. It was this last dialect that was used in the experiment, and it was presented under the name used by its native speakers - *Euskera*. The language has borrowings from neighboring Indo-European languages, i.e., French or Spanish, but is not of the I-E family.

Since the name was unfamiliar, there was a reduced possibility of attitudes about the speakers of the target language (other than the individuals appearing on the videotape) affecting attitudes toward the language. Motivation, too, could not be presumed to be either instrumental or integrative for any respondents insofar as the target language was concerned.

The syntax of Basque is particularly complex with regard to nominals; most verb forms are quite regular. It is an agglutinative language, with suffixes indicating sentential relationships, pluralization, initiator of action, partition, and many other "case" categories.

The verb 'to be' has two forms: one as a main verb and the other as an auxiliary. There is a verbal marker for certain types of interrogative, mainly the subjunctive. There is marking for definite nouns, vs. an unmarked indefinite shown by use of suffixes. There is no marking for gender, but "adjectives" must agree in case and number with the words they qualify. Phonetically the vowel system is not unlike that of Spanish or Italian (there are no front rounded vowels in the dialect used in the experiment). Orthographically there is a combination tx which is puzzling; it represents [č] or [tʃ], i.e. the initial sound in "chair". There is also a distinction between two fricatives, both written z, with one being pronounced approximately like the English sound and the other being formed with the blade of the tongue quite low, resulting in a softer sound. The first of these is often devoiced, and there is an [s] in the language as well.

Word order is somewhat more free than that of English, but nowhere as free as that of, say, Latin. It is preferred to have the main verb end the sentence; quantifiers have an intricate system of placement. In short, Basque has all the quirks of any natural language, and these may be in some cases analogous to other languages, and in others so different as to cause difficulty or interference in learning. No respondent, therefore had any preliminary advantage.

The Respondents

The testees ranged in age from 21 to 61 years of age. Ten were

at least tri-lingual. (See Appendix for their languages.) Ten were either monoglot, or had a history of having failed in all foreign language study in school. Five were academics, two were dancers, one was a salesgirl, one a sewing machine operator, one was an *au pair* girl from Denmark, one was a nursery school aide, three were clerical workers, one was a stewardess, two were still students (undergraduate), one a housewife, one a waitress, and one active in politics.

The subject of the experiment was not concealed, since one going into a language learning situation cannot fail to be aware of the task. The participants were recruited by word of mouth; several participants suggested others. All the multi-linguals were intrigued by the opportunity to encounter an unfamiliar tongue. Those who were monoglot, or who had had no satisfactory experience with prior attempts at language learning were curious about their own learning patterns. All were volunteers, despite their busy schedules. Their co-operation is acknowledged with the deepest gratitude. Without their unstinting generosity and enthusiasm the whole undertaking would have been impossible. Each respondent was tested individually, in three seventy minute sessions, plus one post-session of one hour. All told, there were approximately 100 hours of testing and participation.

THE LANGUAGE INSTRUMENT

It is axiomatic that one cannot present language in a "culture-free" situation, since language is, *per se*, both a cultural artifact

and a transmitter of culture. Every effort, therefore, was made to construct a format for the presentation of the language that could be said to be "culture-fair", or "culture-common". Those of the respondents who were not native-born speakers of American English had all had in common the immigration experience. The native U.S. English speakers, it was assumed, had at least some vicarious experience with entry procedures, through watching television or film episodes of this event, if not through their own travels. Based on this premise, the script was drawn around airport arrival situations (country unspecified).

Three videotapes were produced * using the Guipuzcoan dialect. Two speakers of this dialect, Ms. Maria Luz Albizu and Mr. Henry Arana, not only enacted the roles in the scenes, but also assisted in the linguistic segmentation of the script, gave translation aid, and checked the structure of questions and all other materials based on their language. The original script, written in English, was given to Mr. Arana and Ms. Albizu, and they were asked to enact it as written. Subsequently they were requested to improvise the same basic scenes amending as they wished, to make the dialogue and content more natural for them. (Both have made frequent visits to their

*

Grateful appreciation is due to the T.V. Studio staff at Hunter College -- in particular: Susan Unger, Rick Russo, Nancy Wong, and Carlos (Bob) Din, for help far and above the duties of their positions. [Filming was done in November, 1975, using a Sony Model AVC 3400 camera and 1/2" videotape.]

homeland and were comfortable with the circumstances they were depicting.) This was the version actually used.

Scene I was in a Customs Office at an airport, with the female Basque speaker portraying a newly arrived passenger and the male Basque speaker playing the Customs officer. The scene was quite brief. (See Appendix B for English script.)

Scene II was ostensibly in an airport waiting room. The same woman appeared as the traveller waiting to be met, and the man was a friend or relative who came to escort her.

Scene III had a restaurant setting, and the man and woman were waiting to be served. They discussed what to order and then, while waiting, they looked at pictures of the family, and discussed them.

SELECTION OF TESTS

In this section there will be a brief discussion of the tests chosen, and the tasks given to determine both the style of approach, and the amount and type of information utilised.

The direct cognitive style tests, Embedded Figures; Kagan, Sigel & Moss test were chosen as being well-discussed in the literature (e.g. Witkin & Berry, 1975) and easy paper-and-pencil tests to administer. There are not many cognitive style tests; the best known is probably Witkin's Rod and Frame Test (1962) which requires a cumbersome apparatus. In any event, the RF test results have been correlated with those of the EF test. (See Stanes & Gordon, 1973).

The Schwartz test was drawn from the doctoral dissertation of F. Schwartz, supervised by Ausubel and is more verbally oriented, although there are severe problems in the scoring methods.

The CELT test (Partial) of English structures and Vocabulary was administered to all to assure a minimum level of English comprehension. It is a standard test of English for foreign-born.

A. SPECIFIC TASKS

The first task required utilizing prior life experience to identify components of a situation in which, for them, the language cues were minimal. This was to a) instill realization that this was a currently used natural language and b) see if and how respondents initially tried (using extralinguistic and/or prosodic cues) to map some kind of relationship between their own and the target language.

The second task was an attempt to probe for phonetic sensitivity. Throughout the literature, much mention is made of the fact that adult pronunciation is a matter of habit and almost unchangeable, and that adult listeners tend to hear phonemes of other languages as allophones of the hearer's native system. Respondents were given a recorded set of words, with both target language and distractor elements on the tape, and asked to "guess" which were members of the target language set. The distractors were English, Spanish and German words, so that the identification of "foreign" was one possibility, with the identification of the target language elements as an indicator of

greater aural sensitivity to phonetic differentiation.

The third task was to self-assign some goal - whether interim, preliminary, partial, or long term.

The fourth task was directly related to the third - to select an avenue of approach. As many as could be conceived of as feasible were made available by the investigator. There were aural, visual, inductive, deductive, direct translation, grammatical, and rote-memory aids. The materials were all made equally accessible, and no introductory material other than a listing of these was provided. No indication of the nature of post-testing was given, although many respondents later indicated that they had some kind of expectation based on school-experiences. These expectations, however, were not consensual.

The final task in the first session was a "memory for vocabulary" test, given first with prompts from English, and then repeated with prompts from the target language. The investigative purpose for this task was to have a base for comparing storage increase over time (multi- and mono-linguals), to have a lexical criterion for determining more/less successful learners, and to discern, if possible, styles of categorization for storing/accessing items. In addition, the task seemed to serve to fulfill expectancies of the participants; they foresaw some metric of performance.

The standard definitions of short, intermediate, and long term memory (Norman, 1970) are not quite applicable here. The vocabulary memory test in the first session may be considered as Intermediate

memory for novel items. The test in the second session is Long Term Memory for previously experienced items, and the test in the final session is prolonged memory, involving quasi-familiar items. The value of these tests lies in what they may reveal about patterns of organization, and about factors such as printed or phonetic similarity, or semantic interlocking as evidenced by errors.

In session II, the task that required the reading aloud of phrases from the dialogues served to indicate if any degree of aural phonetic memory for the unfamiliar language existed (since dialogue read had been heard by respondents). The task also probed for both vocabulary and translation skills. Moreover, for those who recognized the format as a reading back of the script, the task itself served as a memory prompt for the situation they had seen earlier on the TV monitor.

The "final exam" that was administered in the third session served several purposes:

- 1- it gave some means of quantifying accomplishments
- 2- it indicated specific areas of weakness (or strength)
- 3- it was the most obvious test of the participant and, as such, forced him to employ what strategies and generalizations he had been able to build up
- 4- it used both active and passive knowledge, both visual and auditory processing.

Because of the several functions of this test, both the test and scoring technique will be described now.

The "final exam"

The test consisted of ten questions, covering translation from English

to Euskera and *vice versa*; sentence construction, oral description of pictures, scrambled sentences, error location and dictation. The two questions using oral description and dictation were obligatory. Respondents were free to select any others (or parts thereof) which they felt confident enough to attempt. They were also given the task of ranking the test questions in order of perceived difficulty. This was to be done after they took the dictation and gave the oral descriptions. It was made quite clear that each respondent was permitted to use all his/her materials and notes in the answering process. For the respondent, carrying out the ranking process before attempting to answer the remaining eight questions meant that each person had to use his own sense of his capacities and his own evaluation of what language learning tasks were more difficult, and which were easier for him.

One between-group comparison was facilitated by this task. The rank order assigned to each question was later compared a) to the actual rank achieved in the question, to show how accurate the self-estimate was, and b) to whether or not the question was indeed answered, which gave a "risk-taking" score; i.e., if a respondent answered a question which he had rated as fourth, third, second or first most difficult, he was considered as more willing to take the risk of making mistakes. Besides this, if the questions graded by the testee as "easy" were not answered, this gave an inconsistency score. (The two compulsory questions were, of course eliminated from "risk" or "inconsistency" scores.)

Question One:

A six sentence direct translation task, from given English sentences to Basque. These were cast in the standard form used in most language courses. The sentences were drawn from, or based on sentences in *Gramática del Euskera* by C. de Arrigaray, and were checked for correct formulation by Mr. Arana and Ms. Albizu. These tested for the use of definite and indefinite noun forms, for the verb of possession and the word order for same, for object marker, for negative verb form, for possessive now and pronoun and for demonstrative.

Each sentence was assigned a maximum possible score based on the number of nodes in its phrase-structure tree and on the requisite terminal string. The nodes were counted at one point each, and each element in the terminal string counted for 1/2 point. The actual score achieved was then divided by the possible score, giving a ratio score.

Question Two:

A scrambled word order test containing two Basque sentences. Tests of this nature are used in teaching English to non-native speakers, since word order is so vital in English. The sentences depended on inflectional markings, since they were semantically susceptible to alternate arrangements if one was guided by base meanings alone.

One point was scored for each correct position; each position was scored since some words could be interchanged, e.g., modifier and noun. Any order that was semantically acceptable was given

one point, even though it might result in a later unacceptable phrase. Maximum score was derived by adding all correct position points, plus one point each for semantically correct phrases. The achieved score was again divided by the maximum score to convert to ratio values.

Question Three:

Three questions were asked, in Basque. One was a yes-no question, one (a duplicate of a phrase which had been encountered in both script and videotape) requested the student to sign his/her name, and one required an ordinal, and a cardinal number or a "yes-no" answer. This question required two steps from participants --translation, then constructing a response. It was believed that the second question asked (Sign your name) might be responded to as a recognized whole phrase, or ritual, since a literal translation is not quite clear in meaning.

The base score was arrived at by assigning a point for each component of a minimal answer and then summing the number of correct response components. To this base score was added an additional score, calculated by dividing any elements in attempted expansions by the number of such elements correctly used. The total score was therefore a composite of mandatory and expanded answers.

Question Four:

Five sentences for direct translation, Euskera to English. These sentences, drawn from de Arrigaray, were on a far more sophisticated

level, requiring knowledge of the verb + participle construction which is used for the present tense in Basque; the ergative marker; plural object marker on the possessive verb; the genitive (possessive noun); first and third persons plural verb forms; noun-modifier agreement and order; and vowel elision on the conjunction 'and' which is conditioned by the terminal phoneme on the previous word. Given all the materials, it was theoretically possible to answer this question, but, in consideration of the time that had been allotted for study, it was deemed impossible to answer correctly and completely. The purpose was to determine what approaches, if any, would be taken by respondents. It was also felt that it would take great confidence in the quality of one's learning to attempt this question.

Each correct inflection and each location (correct placement of a word) was valued at one point. Bear in mind that vocabulary materials were available at all times, therefore no credit was given for lexicon. Actual correct responses were divided by possible correct responses, yielding a ratio for those sentences attempted.

Question Five:

Called for paraphrase of a sentence. Two lexical paraphrases were possible, as was an inversion of the elements of the compound subject. Use of a single word to replace the compound subject was valued at one point, inversion of the two words comprising the compound subject was considered linguistically less advanced and was valued at .5, and one person, who wrote (in English) a partial direction for

paraphrase, got .2. This score was retained as a raw score for all respondents.

Question Six

This was not attempted by any participant, and hence was not scored. The question required selection of the one incorrect sentence in a group of eight.

Question Seven:

Sentence construction, free choice. The requirements simply asked for some sentences to be written.

Scoring was done by assigning a point value of one for each correct sentence, i.e., acceptable sentence, and one point for sentences that were acceptable except for incorrect verb order. The maximum score was set at two (arbitrarily -- since this was the average number created by those who attempted the task). It did not matter whether the sentences were original, or whether they were direct copies from the script or dialogues. The number correct was divided by the number possible.

Question Eight:

Creation of two questions required. Again this could be achieved either by imitation of the dialogues, or by novel production. Word order, in Basque involves either a question word, roughly analogous

to our "wh- words", or by a verbal question marker, plus rearrangement of the word order.

Each correct question was valued at one point, regardless of the technique used. Those with the verb misplaced were only given half-credit, since elliptical questions were not listed as acceptable in the rules, nor were there exemplars in the dialogue. Assuming, then, that two correct was the maximum, the ratio conversion was again calculated, i.e., number correct divided by maximum possible.

Question Nine:

Four sentences to be written in Euskera from dictation. This technique has drawn much attention in the past decade in the literature on language testing (cf. Brodkey, 1972, Oller, 1972, Tarone, 1974, among others). Dictation can test morphemic segmentation, spelling and semantics -- all aurally. All the words used in this question had appeared on the TV presentation, and the morpheme boundaries had also been seen graphically. Spelling, too, had appeared on the printed page. It was felt that this test was fair, since all had had equal opportunity for exposure to the sources of information, and it offered a chance to assess the aural mode.

To score the dictation, each letter, each correct segmentation, and each correct word or inflection was given one point. No attempt was made to assess the total semantic value of what was written because there was no example of such a metric in the literature. However, there were some interesting results which will be discussed further on.

Again a ratio score was tallied.

Question Ten:

Required oral communication by the respondent in order to make it possible for the experimenter to identify which one of four pictures the respondent had chosen for attention. The description was to be given in Basque. This technique to elicit use of the language in an immediate communicative function is described in Palmer, 1972.

Unfortunately, like most other testing mentioned in the literature, criteria are given for foreign learners of English. It becomes necessary to adapt considerably when scoring for a foreign language. In addition, in such a brief period of study it is not expected that one will master enough forms to be communicative to anything like a native degree. Therefore, it was useful to score in such a manner that partial successes could be measured. The number of total complete tokens (including mandatory inflections) was counted for each respondent's attempt. Into this was divided the total types that were correct. The Carroll correction for length of discourse (1964) was then applied, producing a type-token ratio for accuracy, length and diversity.

Total Scoring:

The total score for each participant was determined by adding the scores for each of the nine questions. The only use that is made of these scores is that of ranking the testees for the purpose of assigning them to one of two categories: successful or unsuccessful

learners. Again, it should be pointed out that scoring was based on criteria excluding lexical memory. Word memory scores were arrived at by adding the totals of recognized or recalled Basque words, and those that were partially recalled, or showed some displacement of position effects; these totals were added over all three sessions. The percentage score was figured by giving all instances of recognition one point, all partial or displaced responses two points, and all words correctly recalled three points. These were, after summing, divided by a perfect score, i.e., total recall. This figure would have been 80 words times 3 sessions times 3 points = 720 points.

This score was called the "vocabulary memory score" and was used as a measure of lexical memory for scoring purposes. Patterns of memory and retention of vocabulary items will be examined in the discussion chapter.

Semantic Card Sort

In the post-session, respondents were given several additional tasks. One was a card sorting task in which they had to group a series of fifty cards, each with a single Euskera word and its English gloss printed on the card. These had to be sorted into categories of the respondents's own designation, with the only stipulation being that there had to be at least three cards in each category. When this had been done, respondents were asked to go through the task again, using a different set of categories. The intention was a) to determine the basis for categorization initially, i.e., whether relational,

inferential, or analytic; b) to have some test of category width; c) to discover what categories were selected, and whether there were consistent trends in organization when the unexpected and difficult second sort was demanded; and d) to determine how easily the "set" first established could become extinguished.

There is some evidence linking flexibility of set extinction to ease in language learning. The argument is posed as follows:

Schmidt (1973) says

Objectifying implies changing an experience into an 'object' of attention, taking it out of the flow of experience and thereby changing our emotional relationship to it, or putting it into a category and into a set of relationships. (p. 131)

Natadze, quoted by Cummins and Gulutsan (1975), says objectification through language establishes set in that "that which is designated by a word thereby already becomes objectified." That is to say, having a word for an object or concept focusses attention and relationship structures and networks on that which is named. It is locked into a set. However, with the introduction of dual naming, as in bilingualism, for example, there is a new cognitive activity in that the bilingual can more easily separate sound and referent. He becomes aware of the operations he can perform upon language, through speech, and he attends more to conceptual features, rather than to names. Leopold (1949) also made this point in discussing his daughter's cognitive development. Ianco-Worrall in her doctoral dissertation of 1970 empirically supports this theory. She found that the bilingual can, far more rapidly than the monolingual, extinguish

the set established by one language, and has, in fact, greater flexibility in switching from set to set both linguistically and cognitively.

Sodhi (1969), previously cited, found that set extinction speed was directly correlated to second language aptitude. In other words, the ability to abandon one set quickly and to take up, and function with another is, according to Sodhi, facilitative for second language study. Cummins and Gulutsan found, however, that there were no significant differences in establishment and extinction rates for set between mono- and bi-linguals. (They used haptic tests of weight and dimension; these hardly seem analogous or appropriate for language, it must be noted.) They did find that bi-linguals performed at a significantly higher level in both verbal and non-verbal intelligence tests, which they attributed to the bilinguals' ability to 'objectify' their conceptual and linguistic experiences. The card sort is, then, a linguistic test of flexibility of set extinction.

Post-session Memory Test

The post-session memory test was a long-term memory test. It included much of the same lexicon as the earlier test which had been run three times. It also contained other items which had been met in the vocabulary cards and/or dialogues. Most importantly, it contained one item which had only been peripherally perceived or presented. This was the word *agur* , which has been mentioned above. There has

been a small amount of experimental work done on the amount of information which people will seek before making a decision. (cf. Kernan & Mojena, 1973 , who have found that most people are willing to and habitually do make decisions on no more than three 'bits' of information.) It was surmised that successful learners would make use of, and attend to, more information from a wider range of sources than their unsuccessful counterparts in the learning task. Another probe to test this was the word *iztia* - 'vocabulary', a derivation from Euskera *itz* - 'word'. This was printed on the box of vocabulary cards run through during each of the three sessions.

'Flip' Test

Another task was the completion of a 'flip test'. This test is one built on the familiar shifting phenomena (such as the "figure/vase") of classic visual perception textbooks. The rate at which the first reversal of perception was made, and the number of flips that could be made in a ten-second period were both measured, as possible indicators of visual set extinction rates.

Kagan, Moss, Sigel Test

This test has been used with both adults and children for the last fifteen years and has been accepted as an indicator of cognitive style by many investigators. (See Messick & Fritzky, 1963 and Kagan & Wright, 1963.) It consists of four small figures, each of which is drawn on a different card against a distracting background. The subjects

memorize the cards and a nonsense syllable paired associate. When this memorizing has been mastered, the subject is shown a new set of cards, consisting of one of the figures (without background) separately on a card, or each background (without figure) on a separate card. To this partial stimulus, one responds with the nonsense word. The responses are analyzed to see if the greater proportion of errors is produced in response to the 'figure' or to the 'ground' of the original complete stimulus. This was yet another cognitive style probe.

Schwarz Generalizer-Particularizer Instrument

This final task was drawn from the instrument validated by and created by Fern Schwarz in her doctoral dissertation of 1972. Subjects are given paragraphs to read, and to summarize. Judges then score whether there is a greater attential to rote memorization of detail, or whether there is a greater emphasis on overall concepts and generalizations. To this dimension, in the current experiment was added an analysis of whether the material was treated objectively, or whether respondents added inferences and editorializations of their own. This was done in an effort to explore what the attitude was to incoming language information, i.e., whether it was accepted passively, non-evaluatively, or integrated into the personal conceptual and experiential system. There was also an element of set "acceptance" rather than extinction here. This completes description of test instruments.

Personal Histories

In addition, all respondents filled out the personal history form. (See Appendix)

THE PROCEDURE.

The following sequence was experienced by all respondents:

SESSION ONE

When respondents entered the test room they found an envelope on the table in front of them. The envelope, addressed to them, contained instructions to be followed for the session, and listed the equipment to be used, giving directions for its use. The instructions are reproduced in Appendix A, but for reading continuity they are summarized here: after a listing of the materials and learning tools, the respondent is informed that the task is to "start to learn Euskera. There is so much material that it would be impossible for anyone to learn all of it in the time we are allowed. Do not worry about this. No one is expected to accomplish a great deal. Our interest is in what you do in your approach to this new language experience."

There were three Phillips cassette tape recorders on the table. The respondents were instructed in their use, and were told that one cassette contained all further instructions, the second was to play back an audio dub of the sound portion of the videotape they were about to see, and the third cassette was to tape the experimental session, since "it would be both quicker and more accurate than having the

experimenter take notes." There were no objections expressed to having the sessions recorded.

Immediately after this introduction the first cassette was started. It began with the Euskera word "*agur*" , and thanks for the respondent's attendance. The word was not translated (it is used for greetings and leave-takings, salutations and homage --the Basque informant said that its closest parallel was the Hebrew *shalom*, although its meaning was best translated by the Spanish *reverencia*), but it did appear later in the words respondents were asked to translate.

Directly after the first viewing, respondents were asked if there was any sound, word or phrase which they could remember. Then respondents were asked to describe the scene as they understood it. Thereafter, the first test, phoneme identification, was given: a roster of words was presented and respondents were urged to attempt to identify those in the target language.

In each session respondents were given, after the initial viewing, a script of the scene. The script was written in Euskera, with an interlineal literal translation and a free English translation. There was an additional phonetic (I.P.A.) script, for those who expressed a desire for it. (Three people did so.)

For the next half-hour each respondent was left to his/her own bent in the study of the language. Vocabulary cards in both English-Euskera and Euskera-English (see Appendix G) were available as were picture cards with a bi-lingual translation of the concept presented in stick-figure drawings (Appendix H).

There was also a small "primer" (Appendix J). The videotape and audiotape were available at all times in this period for respondents' use. After half an hour, these materials were put away for the next session. (Each participant had his own set.)

The final test in the first session was a memory test for vocabulary. Prompts were presented in English to elicit lexical items in Euskera, and then (on another set of cards) in Euskera for translation back into English. The respondents were encouraged to attempt to list anything that came to mind about the prompt words -- the source from which they were recalled. Any guess as to meaning was welcomed. No verbal-vocal production was required at this session.

SESSION TWO

At the outset of this session respondents found their envelope of materials just as they had left it in the previous meeting. The first task they undertook was to go through the vocabulary prompts with which they had ended the earlier session. Following that they participated in two tests - one, an English vocabulary level and structures level test designed to test the proficiency of foreign students, and the other, the Embedded Figures Test (Oltman, Raskin, and Witkin, 1971).

When these tests, extraneous to the language learning task, were completed, the respondents were next shown videotape number two. In this scene, in an airport waiting room, the male was presented as a host national, coming to welcome and escort the traveller (the female Euskera speaker). They were depicted as friends of long standing.

The dialogue was again quite brief (twenty-two lines of dialogue - much of it using vocabulary from the first scene, or repetitions within the second scene). Utterances were slightly longer and more complex. Again, during the ensuing half-hour there was no direction given concerning methods of study or of goals or subsequent testing.

At the close of the study period, respondents were given "flip cards" with one single line of dialogue on each. (The lines were a serial presentation of the dialogue of the first two scenes.) The requirement was for the respondent to read each card, and identify any item which seemed familiar at any level - recognition, source recognition, translation recall, or partial recall (semantic or structural). This was the first production task on an oral level, as well as the first time that sentence level translation was demanded. Again, via the cassette, each individual was thanked, and the final word - like the first word that each participant heard - was *agur*.

SESSION THREE

In this apparently final session, respondents were again greeted in the target language. Again they were asked to respond to the prompt cards for vocabulary, in both languages. The next task was, as before, an explication of the new scene viewed, based on non-verbal cues. Also respondents were once again asked to cite words they could identify. This tape was considerably longer, with more complex structures and very little repetition of earlier vocabulary. The setting was

a restaurant - coffee shop, and the characters from the previous scenes were continuing the conversation begun in scene two. The material was obviously much more extensive. As in the prior sessions, the tape was re-run immediately without sound, and the respondent was required to give all the information about the scene he was able to discern. The the "study period" commenced, but respondents were told that it would be abbreviated to permit time for a final testing. (This was done to force use of what seemed to the respondent to be optimum strategies.)

After twenty minutes had elapsed, the respondent was asked to stop, and to push all materials to one side. An examination form (Appendix E) hereafter called the "final exam" was given to each person. Respondents were told that the first question was a dictation to be taken from the cassette. The next question was a communication task (Palmer, 1974), in which one of four pictures had to be chosen and so described that the experimenter would be able to identify it from the Euskera description. For this task respondents were permitted to use their materials and notes. After this, all ten questions in the examination were to be graded in order of perceived difficulty, with the understanding that all language materials were available for assistance during the test. When this ranking had been done, ten minutes was allocated for answering as many as possible of whichever questions the respondent felt willing to attempt.

To conclude, after being told that the experiment was over,

and after being invited to relax, respondents were questioned about what their expectations had been, and what alterations they would have made in their approaches if they had known at the beginning what they now knew about the language, the experiment and the examination, or, alternatively, what they would suggest to benefit the subsequent respondents. Again, the final word they heard in Euskera was *agur*.

POST SESSION

Each respondent was visited separately within a two-week period after the final session. Each, on request, agreed to additional testing and undertook the Schwarz Generalizer-Particularizer Cognitive Style Test (Schwarz, 1972). (Appendix C) In addition, each went through an extended run of the vocabulary prompts - this time in the target language only. Further, each went through two card sorts of new vocabulary items in Euskera, with English glosses. Either at the close of the third session, or at the beginning of the post-session, all were told about the language they had studied, and any questions they had that were answerable were answered.

SCHEDULING

Partially because of the voluntary participation, and in part because of the individual schedules to be considered in setting dates for four sessions of testing per person, all respondents were allowed to set their own times for each session. (It is a generally accepted academic belief that language study is best carried out on a fairly

regular basis, i.e., a minimum of three class hours per week is the lowest amount of time considered facilitative, and optimally these three hours should not occur at one sitting.) It was felt that the spacing of study itself might reflect some conscious or unconscious beliefs about the most advantageous spacing of study periods. It was also recognized that some people function at a higher mental level early in the day, and others do better later in the day. Work schedules also had to be accommodated.

Order of Administration of General Tests

The several tests that were given which did not relate directly to the study of Euskera (i.e., Embedded Figures, vocabulary and structure tests in English, and others listed in the Testing section) were given at the beginning of each session. This was done in order to permit participants to leave with the newly acquired Euskera information foremost in memory. The non-Euskera testing also helped to ease the way into the more concentrated effort of learning language without direction. There was also the possibility that non-successful learners would feel more frustrated and hostile after their half-hour study session, and that this mood would carry over into the tests if these followed the learning session. (In point of fact, many people did leave the session feeling somewhat "drained".)

Vocabulary acquisition testing was done 1) at the end of the first session, to indicate the retention level at preliminary exposure, 2) at the commencement of the second session, to determine

how much material had been retained after some passage of time, and under the ordinary intrusion of daily pressures, 3) at the beginning of the third session, to make it possible to typify patterns of memory and forgetting of each learner over a period of time, as well as to search for patterns of correction by the respondent over time.

All tests except the above, i.e., tests of language increments, were done following the study period. The "cognitive tests" preceded the study period.

PRESENTATION OF MATERIALS

The videotaped scenes have already been discussed. The audiotape (cassette) of the sound from the videotape offered a more easily manipulated medium of repeating the dialogue than the TV monitor did. Although all were instructed in the use of both of these, there was a necessary waiting period before one could run back the videotape. It is also known that some prefer to get language information by ear rather than eye, and there are those who memorize better with an aural presentation.

The vocabulary cards served in lieu of a dictionary. Putting each item on a separate card served several purposes:

- 1- it gave each individual the freedom to arrange the cards as seemed most desirable or efficient to him/her
- 2- it made it possible to focus on the techniques of drilling and preferred translation direction, i.e., English to Euskera or Euskera to English
- 3- since each card was independent - and numbered - it made it possible

for the experimenter to observe and record the use of the cards. Additions could also be made as desired by users.

(The structure of these vocabulary cards and samples of these are to be found in the Appendix.)

The primer (or reader) was designed to introduce certain syntactic forms, and vocabulary, in single step stages, by inductive technique. It was presumed that it could serve as an agent of expansion examples through the visual mode. No such parallel instrument was designed for the auditory mode. (See Appendix J.)

In addition to all the above materials, respondents were permitted to use direct questioning of the examiner if they so wished

All materials could be treated as desired by those using them, i.e., they could be marked, written upon, rearranged; they could not, however, be taken out from the testing office.

The experimenter was present at all sessions, both as observer and recorder, and as an information source, i.e., there was no initiation of interaction by the experimenter.

CHAPTER THREE

RESULTS

*

The data were statistically analyzed twice, once to determine significant differences in the test batteries between multilinguals and monolinguals, and again to search for statistically significant differences between those who had been successful in the learning task in the current experiment and those who were not successful. The former group ranked in the highest quartile, based on scores in the achievement test. Such ranking is the criterion for membership in the "successful learner" category, so the discussion will be initiated with an explanation of this quartile.

Assume, as an analogy, that some students have earned classroom grades which are distributed on a continuum. Where such grades show a normal distribution, it is academically customary to say that the top quarter of the class comprises those who have most successfully mastered the material covered by the examination (if the test was representative of the material assigned). The participants in this experiment can be said, in one sense, to have constituted a class of twenty individual students of Basque. The material on which they were tested was fairly represented in

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My deepest appreciation and gratitude is due to Ms. Penny Liberatos for her help in statistical treatment of the data. Her advice and encouragement surpassed any bonds of professional interest or friendship. Errors in interpretation are mine alone.

all the information to which participants had access in the process of independent study. Some of the test questions were more difficult, demanding considerable syntactic sophistication; others were quite easy and could, in some cases be satisfactorily answered by simply repeating some appropriate phrase lifted bodily from the script. The option of which questions, and how many, were answered and the actual scores achieved, provided some quantifiable measure of "success." Each question was graded separately, and a percentage figure was scored (see Chapter Two for scoring technique). The first step in classification of successful learners was simply to add individual scores for all participants and then to rank participants accordingly. The results of that process may be found in Table 1.

 Insert Table 1 about here.

The second procedure was to add to each individual score the percentage ratio score achieved on the vocabulary memory test, since this is a component involved in language learning. Again, the respondents were ranked for this composite score, with results as shown in Table 2.

 Insert Table 2 about here.

The third procedure was to rank respondents by score for each question, plus the memory test, and then arrange them in the

Resp.#	Q.#1	Q.#2	Q.#3	Q.#4	Q.#5	Q.#7	Q.#8	Q.#9	Q.#10	Total	Rank
*03	.709	.700	.500	.500	.200	.500	1	.726	1.925	11.341	1
*12	.727	.933	.667	.750	.200	1.5	1	.922	.913	7.612	2
*04	.650	.467	.917	.722	.200	1.250	.000	.832	1.918	7.599	3
*15	.444	.333	.467	.111	.000	.500	.750	.749	1.443	4.797	4
*19	.144	.600	.167	.694	.350	.000	.000	.959	1.201	4.115	5
11	.350	.000	.000	.139	.000	.500	.750	.844	1.327	3.820	6
07	.260	.000	.917	.444	.000	.500	.000	.645	.671	3.437	7
08	.623	.600	.000	.000	.000	.000	.000	.777	1.237	3.237	8
*01	.000	.633	.000	.333	.000	.000	.000	.854	1.336	3.156	9
*20	.242	.200	.167	.000	.000	.500	.000	.535	1.429	3.073	10
17	.610	.167	.000	.000	.000	.750	.400	.706	.895	2.988	11
*09	.009	.000	.167	.083	.000	.500	1	.425	.535	2.718	12
*02	.130	.000	.667	.222	.000	.000	.000	.654	.895	2.568	13
18	.952	.267	.000	.222	.750	.000	.000	.000	.426	2.517	14
*16	.000	.000	.000	.111	.000	.000	.000	.730	1.565	2.406	15
06	.305	.267	.000	.000	.000	.250	.500	.335	.680	2.337	16
13	.233	.133	.167	.000	.000	.000	.000	.819	.730	2.082	17
10	.623	.367	.000	.000	.000	.000	.000	.418	.633	2.041	18
05	.386	.000	.000	.000	.000	.000	.000	.402	.802	1.590	19
14	.117	.000	.000	.222	.000	.000	.000	.298	.817	1.514	20

Table 1. Summed test scores across nine questions, and respondents' rankings.

(* = multilinguals)

Resp.#	Mem.Score	Rank	Total Score	Rank
*03	.678	1	12.019	1
*04	.600	2	8.199	2
*12	.567	3	8.179	3
*15	.543	4	4.797	4
*19	.399	7	4.514	5
11	.464	5	4.284	6
17	.185	16	3.713	7
07	.164	18	3.601	8
08	.315	10	3.552	9
*01	.340	8	3.496	10
*20	.124	19	3.197	11
*09	.281	11	2.999	12
18	.250	12	2.767	13
*02	.186	15	2.754	14
*16	.206	13	2.612	15
06	.189	14	2.526	16
10	.423	6	2.464	17
13	.322	9	2.404	18
05	.171	17	1.761	19
14	.093	20	1.607	20

Table 2. Memory scores, composite test scores and rank orders.

(* = multilinguals.)

order of "the rank of all ranks." The results of this procedure appear in Table 3.

Insert Table 3 about here.

Thus, to return to the analogy with which the chapter began, the "successful", top quartile of the "class" was determined by the "grades", representing achievement on the "final exam." Since for a sample of twenty a quartile would be five, it is now necessary to clarify why a total of six "successful learners" are listed here.

It is obvious at a glance that respondents numbers 3, 4, and 12 are the most successful by any criterion. While respondent 15's achievement is not so spectacular as the top three, it too indicates a superior level of performance. Respondents 19 and 11, although they interchange for fifth and sixth rank, depending on the scoring structure used, are clearly superior in performance and are of a different group than any whose scores fall below this rank. There is a test, devised by Cattell (1966), which discriminates between discrete phenomena in factorial analysis. This test, the "Scree" test, when applied to these rankings supports the assignment of all six respondents to the group henceforth to be designated as "successful learners." It is, of course, clear that out of the top six ranks in this language-learning task, five participants came from the multilingual sample. This proportion is significant at the .05 level, and supports the second hypothesis.

There was also a trend in birth-order effect, in that first

Resp.#	Q 1	Q 2	Q 3	Q 4	Q 5	Q 7	Q 8	Q 9	Q 10	Mem.	Rank Avg.
*12	2	1	3	1	3	1	1	2	10	3	1
*03	3	2	5	4	3	4	2	10	1	1	2.5
*04	4	6	1	2	3	2	8	5	2	2	2.5
*15	8	8	6	11	6	4	4	8	4	4	4
11	10	14	11	10	6	4	4	4	7	5	5
*09	18	14	7	13	6	4	1	15	19	11	6
*19	15	4	7	3	2	11	8	1	9	7	7
*01	19	3	11	6	6	11	8	3	6	8	8
08	5	4	11	14	11	8	7	7	8	10	9
18	1	9	11	7	1	11	8	20	20	12	10
*20	13	11	7	14	6	4	8	14	5	19	11
10	5	7	11	14	6	11	8	16	18	6	12
*02	16	14	3	7	6	11	8	2	11	15	13.5
13	14	13	7	14	6	11	8	6	15	9	13.5
07	12	14	2	5	10	5	8	13	17	18	15
*16	19	14	11	11	6	11	8	9	3	13	16
17	7	12	11	14	6	3	7	11	11	16	17
06	11	10	13	14	6	10	6	18	16	14	18
05	9	14	11	14	6	11	8	17	14	17	19
14	17	14	11	7	6	11	8	17	13	20	20

Table 3. Rank of each respondent by questions, and Rank of all Ranks.
 (* = multilinguals)

or only children were more numerous among the successful learners at the .10 significance level($df=28$, $t = -1.724$). There was also a faint tendency for females to be more numerous among successful learners. Both these phenomena have been noted in the literature for some time past.

In the Embedded Figures Test there were no significant differences among groups.

There were no significant differences in the levels of achievement in the tests for competence in English structure and vocabulary. This might indicate that there were no biases in favor of the native speakers of English, in terms of the instructions or other material presented in English in the exam. There may have been, of course, deeper advantages in terms of underlying assumptions operating in the instructions; but in point of fact, the non-native speakers of English scored higher (in percentages) on the English tests, and close to the same proportion in the overall ratings for successful learners. Three of the "successfals" were native speakers of English; three were not. Of the "non-successfals," nine were speakers of American English as a first language; five were not.

The phoneme recognition test showed no significant differences between mono- and multi-linguals, but there was a tendency for successful learners to make fewer guesses -- of these guesses more were correct ($p. = .11$). That is, "successfals" had a higher number of correct guesses although overall quantity of guesses was similar.

There were design weaknesses in this test, however, and it is probable that there would have been stronger results favoring the performance of the successful learners -- and possibly the multilinguals -- if these weaknesses had been eliminated.

In the Schwarz Generalizer - Particularizer Test, there were problems of scoring and quantification. The methodology had to be altered for the present experiment. Each respondent was given three paragraphs (drawn from the battery used by Schwarz in her 1972 doctoral thesis) to read and summarize, in their own fashion. The paragraphs were excerpted from Frazier's *The Golden Bough*, and had been analyzed by Schwarz as having one overall generalization apiece, and three sub-generalizations each. She also had indicated that there were particulars mentioned in each paragraph, but did not clearly list what the number of particulars was, nor how they were defined.

A panel of five judges was asked to rate the summaries on five different aspects of cognitive style. (The judges were graduate Psychology students.) The ratings were made for each separate paragraph by each respondent, and were on a four-point scale (to exclude a middle position). These separate ratings were then summed for each respondent and tested for inter-judge reliability in rating. The criteria for scoring on each of the five judgments were typed and reproduced, and distributed to each judge. Following this, a typescript of respondents' summaries and a scoring sheet were dis-

tributed to the judging panel. The inter-judge reliability was high; intra-class correlation was .8277.

The five categories judged were:

1) Response orientation to generalities (specified for the panel) vs. details (specified for the panel). The eliciting paragraphs were given to ten English and Journalism graduate students, who determined what items constituted "particulars." These were in turn, checked by a member of the Psychology faculty at Hunter College.* The judges then rated each respondent for "generality" vs. "particularization" using Schwarz's designations of generalizations for the paragraphs and the more specific list of particulars drawn up by the students of English and Journalism. This dimension was presumed to indicate a style of treatment of information determined by cognitive bias.

The results of the analysis showed no significant difference between multilinguals and monolinguals, and a small, but not significant difference between the successful and unsuccessful learners. It is apparent that this dimension needs much sharper operational definition, but it is worthy of further examination, once a reliable definition and methodology have been established.

2) "Neutrality". This was defined operationally as expression, or lack of expression of a personal attitude toward the material of the original paragraphs. Evaluative words, such as "weird", or expressions such as "I can't believe this is serious/true," were considered to be non-neutral. Summaries dealing with the material

* My thanks to Prof. J. Baumrin for her assistance.

without evaluating its content were considered neutral. There was no distinction in attitudes of neutrality between the multilinguals and monolinguals. There was a very strong trend, approaching significance ($df = 18$, $t = -1.705$, $p < .106$) for the successful learners to refrain from evaluational attitudes toward the material that they had read, and for unsuccessful learners to include personal judgment about the material. The required task, presented as a memory test, was to write a precis of the three paragraphs, and no evaluation was requested.

3) Concern for linguistic style. The scale for rating this factor was a three-point one: *stylistically oriented*, *average*, *non-stylistically oriented*. There was no criterion given to the panel, hence the judgments were purely personal, but they were reliable across all judges. Again, there was no multi-monolingual difference, but there was a faint trend toward differentiation between successful and unsuccessful learners, with the former more concerned with written style in English.

4) Inference. If the response summaries contained material that went beyond the information given, i.e., contained an extension of the subject matter which was obviously drawn from the respondent's own background knowledge, or if an overt conclusion was drawn which had been merely implied in the original paragraph, and this was expressed without any evaluational posture by the respondent, it was deemed to be inferential. The number of "inferences" was totalled across all paragraphs for each respondent. Again, the successful learners tended

strongly to relate incoming, or new, material to prior knowledge, whereas the unsuccessful ones did not ($df=18$, $t=1.915$, $p<.072$).

5) Actual errors in memory. This was a rating of inaccurate reporting, in the summary, of some fact given in the original paragraph. The monolinguals exhibited a faint tendency to remember inaccurately; there was no statistical difference between the successful and unsuccessful learners.

Category width, as determined by a post-session sorting task, was not a significant factor.

The Kagan, Moss and Sigel *Figure-Ground Test* gave evidence that monolinguals make fewer figure errors than multilinguals ($df=17$, $t=2.109$, $p<.05$). On the success/non-success axis, successful learners did make more figures; but statistically this was barely a trend ($p=.26$).

Initial attempts at *imitation of target language words* did reach significance: multilinguals did so more than monolinguals, ($p = .07$) and successful learners did so more than unsuccessful ones ($p = .03$).

Correctness of imitation of target language words was not different between multilinguals and monolinguals ($p = .24$), but was significantly so for the other dichotomy. Successful learners imitated significantly more correctly ($p = .03$).

Based on the respondents' initial descriptions of scenes, word counts, pronoun counts, and first person pronoun counts were tallied. They were non-significant for all groups.

There was a difference observed in orientation to words, although it could not fully be quantified. Two small pieces of evidence point to this:

a - monolinguals and unsuccessful learners more often processed non-verbal information - "gestures" --, or at least mentioned so doing in their initial efforts to understand the videotaped situations. Inaccurate interpretations of gesture predominated in both multilinguals ($p = .19$) and successful learners ($p = .06$).

b - monolinguals and unsuccessfuls mentioned sounds more often than words, and the same groups more often declared that they gained situation information from "tone of voice."

The *type-token ratio*, in Euskera, across all production tasks was significantly different between successful and unsuccessful learners, when Carroll's (1962) correction for length of discourse was applied ($p = .038$). Successfals not only used a larger vocabulary, but showed less hesitation in doing so, as measured by the number of accurate starts, i.e. hesitationless utterances ($p = .003$ for successfals, and $p = .15$ for multilinguals). "Accurate starts" was a measurement derived by listing and transcribing phonetically all Euskera utterances produced orally in the final exam description question (#10) by each participant, and then counting all those words which had no repeats, corrections, or gross errors in pronunciation, e.g. metathesis. It should be noted here, as well as discussed later, that no creative oral utterance of length was required until the third session.

A most significant finding, related to the two preceding topics, is that the successful learners all used *viva voce* practice throughout the learning sessions ($p=.033$). The multilinguals and monolinguals did not differentiate on this factor.

The spacing of attendance at the first three sessions was determined by the individual participant. This attendance choice was divided into three classifications of the intervals: *closely spaced*, no more than two days intervening between sessions, *optional delay*, (which in all cases was a gap of less than a week), i.e. broader intervals between sessions resulting from the participant's own volition, and *unavoidable delay*, spacing of three to six days between sessions which was caused by external factors. The difference on this variable was not distinct for the successful-unsuccessful dimension, approaching significance ($\chi=5.143$, $df=2$, $p=.07$) for multilinguals. The maximum delay for any successful learner was four days between sessions; nine of the unsuccessfuls (six monolinguals, three multilinguals) had optional delays of five days between sessions.

First choice of instrument(which of the prepared learning tools was used initially) yielded no significant differences, although some of the findings are indicative. There was no quantification for the instrument used most, except that of observation and notation. There were many cases of overlap, or use of two or even three at once.

The results on memory for words and memory patterns are of sufficient interest to be treated in a separate section.

There was a memory for words test at the end of the first session, and at the beginning of the next two sessions. The prompts were English glosses and the ideal responses were the Euskera counterparts. There were other levels of response possible: a statement of recognition (e.g., "I have seen this word."); a statement about where the word was encountered; some identification of an attribute (e.g., "It was a short word," or "It began with g."): any of these responses were categorized as *recognition*.

A second category was called *partial/displaced* and its members were identified several ways: accurate identification of some letter, or cluster of letters in the word, or an erroneous but comprehensible spelling; a semantically related word (e.g., *aizpa* - 'sister' as a replacement for *aita* - 'father'); a word of similar form (e.g., *eman* - 'give' instead of *emen* - 'here'); a word from a phrase with the meanings of the components obviously interchanged (e.g., *emen* - literally 'here', but glossed as 'name' based on the phrase *izendu emen* - 'your name here'); identification of any inflectional morpheme (*-ari*).

The criterion for the third category of word response was a totally spelling, and inflectional form, and gloss; such responses were classified as *recall*.

The changes in these categories for each prompt word over sessions were plotted to determine if any patterns in retention would emerge. (See Appendix F.) Several pattern types were identi-

fied. The procedure for typing recognition patterns was to assign recognition responses to level 1 (the lowest memory performance), partial or displaced responses to level 2 (considered to be higher than mere recognition), recall was level 3 (the perfect memory performance). These designations then made possible two treatments of the memory responses: a - the summing of the memory response values across all prompt words was divided by an ideal score, yielding a ratio score for memory. This was added to the scores of the final exam questions. This constituted the memory component, since all materials were allowed as reference during the exam, to measure performance other than memory; b - the levels were also used to graph changes in memory for each word over the three sessions, indicating visually types of incremental and decremental retention patterns. These patterns are defined in Table 4.

 insert Table 4 about here.

Analysis of memory patterns in Table 4 gave the following significant differences between the successful and unsuccessful learners:

Pattern*	<i>df</i>	<i>t</i> -test	significance
hi-consist	18	5.892	.001
ortho incr.	18	2.698	.015
imprv rcov.	16	6.756	.001
equal rcov.	16	2.662	.018
immed decr.	18	-1.339	.198 (n.s.)
lo-consist.	18	-3.271	.005

Other categories showed no significant differences.

* See table 4 for pattern definitions.

<i>CATEGORY NAME</i>	<i>GRAPH</i>	<i>PATTERN</i>
Hi consistency	—	start level 2 and maintain start level 3 and maintain
Lo consistency	—	start level 0 and maintain start level 1 and maintain
Delayed increase	↗	start level 1 or 2, maintain, increase in Session III
Orthogonal incr.	/	increase in even steps across Sessions
Early increase	↗	increase between Sessions I&II, maintain
Delayed decrease	↘	maintain level between Sessions I&II, drop at least one level in Session III
Orthogonal decr.	\	decrement in even steps across Sessions
Early decrease	↘	decrement between Sessions I&II, main- tain thereafter
Equal recovery (Positive Bow)	✓	start at some level in Session I, drop in Session II, return to initial level in Session III
Improved Recov.	✓	start at some level in Session I, drop in Session II, surpass initial level in Ses- sion III
Partial recov.	✓	start at some level in Session I, drop sharply in Session II, rise to a level below the initial one in Session III
Relapse (Negative Bow)	∧	increase levels between Sessions I&II, drop back to original level in Session III
Deep relapse	∧	increase levels between Sessions I&II, drop below original level in Session III
Partial relapse	↗	increase levels sharply between Sessions I and II, drop to a level higher than the initial one in Session III.

Table 4. Retention memory patterns over three sessions, categorized by charting movement among four levels, non-recognition (Level 0), recognition (Level 1), partial/displaced memory (Level 2) and perfect recall (Level 3) between sessions, for word responses to prompts.

As has been mentioned previously, the raw memory score of each participant was a part of his total "final exam" score. The prompts used for this score were only those that called for the recall of the target language words. The reverse situation, i.e., presenting Euskera prompts and asking for English glosses was not used, since it would not tap as complex memory tasks, and would not yield the partial/displaced data, which was felt to be a potential source for cognitive information if carefully analyzed. In addition to this raw memory function, however, the data may be looked at for frequencies in response categories. These frequencies show overwhelming differences between successful and unsuccessful learners: the successful learners have significantly larger numbers of responses in both the *recall* and *partial/displaced* categories, and a slight tendency (although not a significant one) to superiority in *recognition* (see table 5).

insert Table 5. about here

These data on memory have been presented at length because the act of remembering is a cognitive one, and lexical memory plays a large part in language use. In adult language learning it probably is as important as acquiring skill in the use of syntactic structures. While word-formation is fairly transparent in Basque (at least more so than in English), adult speakers are not often perceptive in this area, and hesitate to use what may seem like immature neologisms in a target language.

Pattern	<i>df</i>	<i>t</i>	significance
Hi consistency	18	5.892	.001*
Delayed increase	18	0.472	n.s.
Orthogonal increase	18	2.698	.015*
Early increase	18	-.447	n.s.
Improved recovery	16	6.756	.001*
Equal recovery	16	2.662	.018*
Partial recovery	16	-.184	n.s.
Partial relapse	16	-.787	n.s.
Relapse	16	0.687	n.s.
Deep relapse	16	0.548	n.s.
Delayed decrease	18	-.561	n.s.
Orthogonal decrease	18	0.852	n.s.
Early decrease	18	-1.339	n.s. (trend).198
Lo consistency	18	-3.271	.005*

Table 5. Significance levels of differences in memory patterns of increment and decrement over three sessions.

* Statistically significant.

A final word on the statistical analysis should be offered here: since the various tests in the battery were exploring different aspects of the language learning task, or different skills, each was treated with a two-tailed test, using Fisher's t . This is a powerful parametric test. The decision to use parametric, rather than non-parametric tests was made in the light of the small sample. Fairly probably, a one-tailed test could have been used in many cases, and stronger significances would have resulted. Given the small sample size, it is appropriate to be somewhat wary about drawing large generalizations, but even in those variables where significance was not achieved, there was a consistent tendency for the two groups on the successful/unsuccessful dimension to cluster independently of each other. This predicts that a larger sample may well support the position that successful language learners, at least in the United States, constitute a separate population.

CHAPTER FOUR

DISCUSSION

A *COGNITIVE STYLE TESTS*

Comparing the EFT and KMS tests in terms of the dimension they are probing, one finds that the EFT is less specific in defining conceptual or cognitive style. The premise behind the EFT is that individuals who focus more on intra-stimulus foreground detail (called "figure") are less strongly influenced by the surrounding situation or context (called "ground") and are more analytic in overall cognitive style. The implied generalization is that they are less easily socially influenced. This, however, may not necessarily follow. Riley and Denmark (1974) question the assertion that Witkin's concept "field independence" varies independently of intelligence, age, sex, or social class. Witkin himself has said (1963) that Kagan's use of the term "analytic" and his own use of it refer to two very different concepts. This indicates that the exact status of "field independence" as a construct remains to be clarified.

In any event, the lack of significant differences between groups on the Embedded Figures Test is not surprising. The test is one of identification of simple geometric forms embedded within increasingly more complex forms. The figure-ground differentiation is not highly symbolic in nature as language is, and the components in the test, geometric shapes, seemingly have no hierarchical re-

relationships, and the mode is not analogous to language at all. Anastasi and Cordova (1953) have said

It cannot be assumed that verbal and non-verbal tests measure the same functions because the specific abilities called into play by these two types of tests may, and probably do, differ.
(p. 14)

There is very scant evidence of correlation between the EFT and other tests of cognitive style, with the exception of the Rod and Frame Test, which is a kinetic test of proprioceptive orientation in a distorted visual field. The absence of any statistical correlation between the EFT and the Kagan, Moss and Sigel Figure-Ground Test in this experiment ($r = -0.292$) is an indication that the tests tap dissimilar phenomena. The only reason for inclusion of the EFT in the present study was the paucity of "cognitive style" instruments in general. It becomes more and more apparent that this concept needs sharper delineation and definition, yet the recognition that there are individual "sets" in mental organization and perceptions points up an important variable in adult language learning.

The KMS Figure-Ground Test does use a spoken response, which brings it closer to the mode most involved in language use. It is true that the responses are "nonsense syllables" used as identity tags for the figure patterns to be recalled, but in the present experiment, Euskera words were used instead of nonsense syllables. The current finding of greater figure error production in multilinguals seems to be more closely related to the "analytic style" suggested

by Kagan than to figure-ground differentiation, since Kagan includes the social attitude toward others in his opposition "relational/analytic." He speculated that the analytic person was likely to err in figural differentiation because of his intra-stimulus processing and focus. The "global", or relationally oriented person was more concerned with relationships -- those between objects; objects and people; or people and other people. In brief the global person's perceptions are oriented towards social relationships and, by extension, how he himself is located in a relational network.

In the KMS test there was a significant level of figure identification error from multilinguals ($df=17$, $t=2.109$, $p<.05$) when compared to monolinguals. There was only a tendency toward greater error in figure memory on the part of the successful group ($p=.26$). The use of many languages by the multilinguals, involving as it does contact with strongly different social expectations (based on the variations in socio-cultural background between interactants), would have to encourage awareness of the relational level in order to promote more successful interaction. As Ager (1976) points out, real knowledge of a language includes an assessment and skill in use of "register" (appropriateness of language use determined not only by situation, but by the relationship of the interacting persons).

Sensitivity to the factor of interrelationships is not sufficient, however, to assure skill in foreign language learning. The expression of such factors is often accomplished through formal linguistic mechanisms (e.g., see Brown and Gilman, 1960; Hymes, 1972,

Ervin-Tripp, 1973). This, in turn, requires some analytic skill in formal details. It is in this *balance* of style that the successful learner may have one advantage. This point will be developed at a later point in the discussion.

The question of focus on particulars or on generalizations in the summarization of linguistically coded information would surely seem to be appropriate in the study of adult language-learning processes. The Schwarz Generalizer-Particularizer test, modified as previously stated, was used, yet there was no statistical significance. There are several possible causes for the failure of the test to produce information:

- 1 - The material was visually presented - and at a point in the study when oral production had gained in importance
- 2 - The reading matter in the test was totally unrelated to the Euskera situation, and may even have been a distraction
- 3 - The original scoring system used by Schwarz was not clearly reported. As a result, a four point scale had to be created for the judging panel in this experiment. In so doing, this experimenter may have designed in a filter that obscured information. Scale positions one and two were collapsed, as were positions three and four, to give a dichotomous judgment, but an alternate evaluative "set" may have been thus created.
- 4 - More data might have been elicited through use of paragraphs based on the experimental videotaped scenes.

- 5 - In any projected future analysis of the data already gathered, an alternative may be to judge *spoken* summaries for generalizations, particularizations, inferences and neutrality attitudes, since there is more immediacy, hence less time for censored thought.
- 6 - Individuals may, at first impact, notice details or generalities, but subsequently recode them, or adapt their report style in response to assumed "demand characteristics." This style may, or may not represent the respondent's own cognitive style.

Some of the above suggestions are contemplated as a future study since the construct that Schwarz proposes in her dissertation is not one to be dismissed lightly.

The final test of cognitive style *per se* was the comparison of numbers of categories in the card-sorting task. Recall that fifty cards were presented to each participant, with the sole instructions to "sort these into as many piles as you wish, with the single proviso that each pile must contain a minimum of three cards." The cards to be sorted each had a single word centered in bold-face type. None were duplicates. Underneath, in smaller type was the respective English gloss. The lexicon from which these words were drawn overlapped that of the study materials in many instances, but there was a larger proportion of totally new vocabulary. It is probable that the presence of this new vocabulary drew attention to the English glosses and these became the items governing the categorizations. In addition, there were several clear-cut categories (for English speakers),

e.g., kinship terms, natural phenomena, and so on.

When the task was finished, the respondent was asked to give the criteria for membership in each category. Next, the respondent was asked to carry out the task a second time, using different criteria. for the sorting. Both sorting sets of categories and their rationales were recorded, by hand, in the respondent's presence. The analysis of category types is not related to this section, but what is of interest is the lack of any significant difference between groups on this task. This may have been due to the externalization, through speech, of the rationalizations for the style of sorting. The respondents, realizing that the second sort would also have to be explained, may have edited their choices to conform more to what they perceived as standard social expectations. This test will be re-administered with no report of rationales for the first run, to see if more creativity results. It will also be given in English in the first session, and in the third session it will again be administered using familiar Euskera vocabulary. These two will then be compared.

One interesting finding did emerge, capable of many interpretations: the participants who produced the largest number of categories on the first sort were the non-native speakers of English. No attempt will be made to integrate this finding in the present study.

B *PERIPHERAL DATA FROM THE COGNITIVE STYLE TESTS*

Using the material from the Generalizer-Particularizer test, four additional ratings were required from the judges; two of these

were significant, and one was a trend that suggests a need for development of more precise tests of this variable. The rating called "neutrality", which showed the successful group to be significantly more non-evaluative, indicates that early judgment about either the material or one's image while learning is probably not facilitative to the learning process. This is intuitively reasonable; the ability to suspend judgment is apparently of great value when one begins to study a new system of social symboling. If one is overly conscious of the need to maintain a social image, that preoccupation precludes attention to subject matter. If one is diverted by evaluation of surface forms or one's own progress, the larger view, requiring a grasp of both details and their insertion into a broader system, gets lost. Concentration on the subject in hand and understanding of it without any need for assessment seems to be an ability manifested overwhelmingly by the successful group.

Successful learners were rated as using significantly more inference when recalling the presented material. This suggests that this group is willing to bring as much prior experience as possible to their study. This is not so much a matter of "levelling" as of relating, or seeking all possible ways of integrating new information. This belief was supported when the one successful monolingual said, after the first session, "I keep thinking of the word I am looking for in this new language in French although I failed French." The broader language experience of the multilinguals, *when used by*

them, was apparently most helpful. It now becomes necessary, in view of the last statement, to consider the cases of the five multilingual respondents who did not do so well as the one successful monolingual. They did not utilize their experience; emotional barriers against integration of new language information existed for these five.

1) Respondent 16, native language German; second language Russian (compulsory); third language English. As a child, beginning at age eight, she was required to study Russian in school. She reports that it was a matter of pride among the children to do poorly. She, however, felt alienated from her playmates for various social reasons, and she did not approve of their style of life. In consequence, she says, she felt obligated to do well in school, even in language study. She has considerable training as a musician, and has a self-described history of surface conformity and underlying rebelliousness. She says she spoke Russian outside of school too. In her late twenties she emigrated to the U.S. She has lived here for the last thirteen years; by the time she had been in the U.S. eight years, she began to lose German vocabulary. She did not seek out opportunities to speak German although she used it as a disciplinary language with her offspring. By her tenth year here, she often made noticeable syntactical errors when speaking German. She has no desire to maintain her German, although she wants training for her children in that language.

She has little call for her ability to speak Russian now,

but speaks well, still, although with an adolescent vocabulary. She reads in Russian for her own pleasure, and she understands sung Russian. Her conversational tone in Russian is several tones higher than her pitch in English which, in turn, is higher in pitch than her German. She has had *no* formal training in English. She speaks well and fluently, albeit with a slight trace of final voiced stop devoicing, some backing or raising of /æ/, and occasional Germanic melodic patterns.

Her entire nature is very reserved and although she was a voluntary participant, she frequently would not answer questions other than indirectly. In the vocabulary tests, she did not write words that she knew, but simply marked them as "recognized." When she reported this, she was asked why. Her response was, "I don't want people to know which words I really remembered, It might be very revealing."

This reticence, her reluctance to use one of her languages, and the artificial lowering of her memory score, all make her less than an ideal example of a multilingual. If her data had not been included in the multilingual sample (the same is true of #2), behaviors which have appeared in the analyses as "trends" might well have reached strong significance.

2) Respondent #02 was also a reluctant bi-lingual, although a willing tri-lingual. She and her family were refugees, arriving in the U.S. when she was about seven. She had difficulty adjusting to the new language in school. She is shy, sensitive, and is very concerned with "pride." Her father was an officer, a military man.

Her first language is Spanish, her second is English, and the third is French. She reads well in French, and has several good friends with whom she uses the language socially. She says she is eager to go to France. In addition she has studied Latin and Hebrew, with good grades. She is "pleased about her ability to learn languages," but "never thought about it till this experiment." Her approach style to the task was summed up in her statement, "Now I must go about this methodically, and not waste time. I will begin with memorizing the grammar." She spent almost the entire first session on the "grammar cards" and was quite dismayed at being asked to go through the vocabulary memory task. Her syntax score on the final exam was almost the lowest of all the multilinguals. Her score on the KMS test was strongly relational. She appeared to rely on written rote drill as a study technique. She re-wrote all the rules and forms, *verbatim*, on the same cards on which they were printed, even though she knew she could keep the cards to do with as she wished. She never vocalized in Basque.

3) Respondent #09 is Danish. Her other languages are English, German, French, and Latin. She had been in the U.S. for one year prior to participating in the experiment, living in the home of a Danish-American family. She uses Danish and English daily in many contexts. Her English shows very little Danish phonetic influence, somewhat more syntactic influence, and she evidences great facility in rephrasing to get around vocabulary gaps. At the time of this

experiment, she was enrolled in a college course in linguistics. Her stay was to end about two months after the date this study concluded, and she was looking forward to going home. She confessed she was quite homesick, and although she had enjoyed her stay, she much preferred the year she had spent in Germany. She was quite polite about her warm feelings for her hosts.

She regarded having a repertoire of languages as natural, logical, and necessary. Her training had been in the "read, translate, memorize" tradition. She reported that no opportunities were ever given for the first five years of class for students to speak in the target languages, although she used English and German with her school chums both for practice and as a secret language.

4) Respondent #20 had a similar background, although she was in a different age bracket. She too had Danish as her mother tongue, although the dialect was not at all standard. She had learned standard Danish at school and had also studied English, German and French. She reported being fascinated by English -- in fact by all foreign tongues -- at an early age. She stated that, "everyone was aware that Danish didn't count on a world scale," and that study of other languages was a matter of course. The choice was structured, and one's first foreign language studied determined all subsequent ones. She is married to a Danish-speaking American, and is rearing her child to be a complete bilingual.

5) Respondent #01 is American, has studied Russian, French, Arabic, and Swahili. She is "fascinated" by languages and admits to

reading foreign dictionaries for pleasure. She volunteered as a participant out of interest in the study, but was one of the respondents whose sessions were widely separated. Just as the sessions commenced she developed serious physical problems. She continued through to the end but admitted that the pressure from these circumstances may have affected her performance. It was too late to replace her in the experimental sample, but her results may have led to some statistical distortion of the multilingual population's unity.

C *DEMOGRAPHIC FACTORS*

The proportion of firstborn or only children among the successful learners approached significance at the .07 level. This was the only birth order examined statistically, but the personal histories indicate that those successful learners who were not only ~~or~~ first-borns, were first-born of their sex. Consideration of this finding will be deferred until the more general part of the discussion, since familiarity with another experimental result is involved.

The importance of place of birth is not so influential as is the issue of home language and schooling. For the record, however, three of the successful learners were, and three were not, native born Americans. Ten of the unsuccessful learners are native born Americans and four unsuccessful learners are not American. Six multilinguals are not American-born; four are. The monolinguals, of course, had to be native speakers of English -- otherwise they would not have been able to follow instructions. There was no correlation between the

number of languages spoken in the home and the success rate of the participants, nor was there a correlation between number of languages spoken in the home and identification as a multilingual.

Interest areas seem to be fairly evenly divided, with two trends detectable. (Interest areas were recorded for childhood, adolescence and adulthood, by asking for listing of hobbies, favorite activities at each age level, and play patterns.) The multilinguals, and the successfals yet more, mention reading as an interest from the earliest stages of childhood. Reading, daydreaming, puzzles, solitary walks are dominant activities in the history of both these groups. In contrast, the monolinguals and unsuccessfuls mention games, sports, (active ones), photography and collecting much more. Overall, most participants reported themselves as shy or timid; few said that they were outgoing or particularly social in childhood. A more evocative query would have asked for an average number of playmates with whom respondents interacted in a specified period of time. The leit-motif of the multilinguals was that of solitude, but not loneliness; the far more often mentioned friends and play, or they mentioned being lonely.

All of the foregoing comparisons, drawn from the personal history questionnaire, contribute very little that is clearly a factor in the ability to learn languages. The more introspective, contemplative life-style that seems to typify the multilinguals may well be related in some fashion to opportunity and time to develop the skill, but it tells little about the components of that skill.

The one outstanding difference is the multilinguals' reiteration of and stress on concern with and enjoyment of reading and, secondarily, doing puzzles.

There were no patterns in education common to any of the experimental groups; the same is true of community make-up. One aspect of the language study of the successful learners is of interest: all of the successfals had free choice of the language(s) to be studied; ten of the fourteen unsuccessfuls did not have any real option about the language they first studied. In response to the question, "Did you, at the time of study, feel the study or the language to be personally useful to you?" nine multilinguals responded "yes" while only four monolinguals reported having felt the language study as being of any use to them. One unsuccessful multilingual and the successful monolingual reported that they had not perceived knowledge of another language as beneficial when they were studying a language in school.

In some measure, this perception may be the product of hindsight on the part of the multilinguals, although another question and response sequence appears to support the finding as genuine. When asked to what they attributed their ability to speak more than one language, the multi-linguals answered in ways that could be classed as xenophilia or a desire to interact with those of another group. Interestingly although perhaps predictably, the bulk of the respondents expressed virtual certainty that the causes of their degree of success or failure were external. The successful learners did attribute much of their success to regular, constant practice. Their behavior

substantiated their belief in the value of practice. The factor mentioned most often by the unsuccessful learners was fear, either fear of humiliation or fear of the teacher, with humiliation predominating. (The exact word appeared on six of the questionnaires.) The second most frequently alleged source of failure was poor training in native language structures, i.e. "grammar". The third factor was a tie: lack of confidence or lack of opportunity for interaction in the language. The need "to talk" with others is obviously a powerful incentive in language learning.

D APPROACH STYLES

In the first task, i.e., the description of the content of the videotape after first viewing, monolinguals and unsuccessful learners said more often that they had used "gestures" as an aid to interpretation. (Facial expressions were not mentioned but respondents repeating "the story" mimicked the facial expressions of the actor with fair fidelity.) Germane to this finding is the fact that the multilinguals showed a tendency ($p = .19$) to mis-interpret gestures, and the successful learners made many more inaccurate interpretations ($p = .06$) of gestures than the unsuccessfuls did. The most obvious explanation of this phenomenon is that the multilinguals place greater emphasis on the verbal channel in communication and that the successfuls are so language oriented that they do not attend to kinesic differences.

An alternate interpretation might be that the monolinguals

and unsuccessfuls were (or are) so unconfident of their ability to operate in foreign language situations that they focussed all their attention on paralinguistic and extralinguistic decoding. In support of this position it can be reported that the monolinguals and unsuccessfuls both directly stated, in greater proportion, that they had based their judgments on "tone of voice". Only one successful learner mentioned using tone of voice as a guide for interpretation.

On a different level one can notice again the difference in approach to segmentation. The successful learners had a tendency to make fewer "guesses" on the initial phoneme recognition test. There was more accuracy in identifications on the part of the successful learners, but not to a statistically significant degree. It should be borne in mind, however, that the successful learners had larger language repertoires, and the distractor words in the phoneme test were in relatively well-known languages: German, Spanish and English. At least two of these may have sounded "foreign" to the unsuccessfuls, and the response may have been to anything "foreign-sounding".

Further corroboration for the difference in approach can be found in the behavior of the groups when asked if there was anything each could repeat back after initial viewing, or any comment that could be made about the language. The unsuccessfuls mentioned "sounds" of the language several times (this was prior to the phoneme recognition test); the successfuls made more attempts at repeating "words" ($p = .03$). The multilinguals showed a trend ($p = .07$)

in the same direction, i.e., segmentation of words as opposed to sounds. The fact that successfals were successful even at this early stage in attempts to repeat words after one viewing (correct attempts for successfals $p = .03$, for multilinguals $p = .24$) is startling.

Attendance also indicated that the two groups had differing approaches to the value of steady, close intervals of study. As has been previously mentioned, the participants had an option in scheduling the sessions. The multilinguals showed a strong trend toward close-interval scheduling, and the successfals not only significantly insisted on close scheduling, but did not postpone sessions, despite emergencies. The monolinguals optionally used more separation in terms of time between sessions, and the unsuccessfuls had unavoidable delays. It would be of interest to tease out whether they were unsuccessful because of the delay, whether they delayed because they were reluctant to face a situation in which they expected to do poorly, or whether coincidence was operating. None of the monolinguals were reluctant to participate in the experiment; all hoped to discover either a successful strategy, or to gain some insight into their language-learning problem. There is a fourth possibility, namely that the unsuccessfuls were not aware of the importance of steady, almost daily practice and study. The multilinguals, and even more, the successfals were quite firm about the need for practice.

This very approach fact of practice was another element of significant difference. *Without exception*, the successful learners in this experiment were physically and vocally active in their study

of Euskera. They moved around, vocalized, rehearsed intonation patterns and gestured. Above all, they approached their materials by speaking aloud with almost no self-consciousness. The unsuccessful group had two members who occasionally said a word to themselves, *sotto voce*; all others were silent in the target language.

E MEMORY

There have been studies relevant to the findings just mentioned concerning vocalization. Rowe (1972) found that if an item from an associated pair was repeated aloud as it was presented, it was recognized (after 64 other pairs had been presented) to a significantly greater degree than an item (word) that had been presented without immediately being followed by repeating it aloud. Murray (1965) found that intermediate levels of vocalization (whispering moving the lips silently) produced intermediate results in short term memory. Murray, Leung and McVie (1974) found words read aloud only once (Rowe's experiment required three repetitions of each word) were better remembered in short term memory, but that the effect was lost in secondary (long-term) memory. Murray, *et al.* also found that vocalization hindered the retention of stories. That is, stories were better remembered when they were read silently, rather than aloud. On the basis of these two findings, they concluded that "the effects of vocalization are confined mainly to primary memory." (p. 403.) Primary memory is defined as "the present contents of consciousness."

The differences in the level of words, and the level of stories

or paragraphs should, however, not be conflated; the work of Bransford and Franks (1972) and Just and Carpenter (1974) have shown that these are two unlike forms of processing. When the memory results for the successful learners in this experiment are taken together with the technique of vocal rehearsal, concluding that there is a connection is hard to avoid.

Approach styles to the task of memorization of vocabulary varied considerably among the successful learners. The one successful monolingual memorized vocabulary by using the picture cards paired with the Euskera to English cards, saying the glosses after the Euskera words, and then making semantic links, e.g., *gizon*- 'man' (repeated twice), then "*gizon-garçon-geezer-gentleman-man-gizon*." She also grouped relationship terms, numbers, and colors as drill sequences for herself. Her score was 5th highest of the successful learners' memory scores.

The sixth highest memory score among successful learners was that of respondent 19 who wrote and said items several times over, in groups of paradigms, e.g. *gizon-gizona-gizonari, etxe-etxea-etxeari*, treating other items for which he had examples in like manner. He also created etymologies for himself for a large number of vocabulary items, i.e. used a comparative approach, leaning upon the other languages he has studied. While his score was the sixth or lowest among the successful learners, it was the seventh highest over all subjects. (See Table 2.)

The sixth highest "memory score" of all participants was that

of respondent # 10, an unsuccessful monolingual. She concentrated on vocabulary to the exclusion of all else, but her score reached this rank with a very low proportion of "recall" scores. She had a "recognition" memory of almost 100%, i.e., she remembered having encountered the items during her study. Her claim was probably true, since she spent all of study session 2, and most of session 3 looking at the English to Euskera vocabulary cards.

Respondent # 12, the third in rank, vocalized along with the videotape, first shadowing, then simultaneously. He read the script aloud as he went through the taped scene, glancing ahead, then watching the actions as he spoke simultaneously with the actors. If at any point he was not pleased with the level of his parallel rehearsal, he stopped the tape, studied the phrase by repeating it aloud several times, and then returned to his simultaneous translation with the videotape. He used this technique for production of utterances, intonation, and some vocabulary. He never referred to the English to Euskera cards. In developing vocabulary he would read the script, and for words that did not "stick" after simultaneous production runs, he would use the picture or Euskera to English cards, saying them aloud over and over. He was the only respondent who did not refer to his written material at any time during the final exam. He made frequent brief references to the rules and forms cards, giving the impression of seeking confirmation of hypotheses as often as he sought information in the early sessions.

Respondent # 03 used a similar shadowing technique, but with

modifications. She read the script, after the initial viewing. Then she re-read the script (aloud), and then shadowed with, or accompanied the audio-tape while reading. After that, she covered the translation and read again, stopping to look up the meaning of words that she did not remember. She used Euskera to English cards exclusively, and read them aloud, without translation, and with no visible arrangement of the cards. She also repeated the utterance in which the word had appeared. Hers was the highest memory score of all.

Respondent # 04 grouped her picture cards in an array that spread all over the working area. They were arranged in hierarchical fashion, by meaning. The card for "left" was placed at the left edge; the card for "right" was at the right edge. What she called "home terms" were at the upper left with "house" at the top. "Relatives" were below that in a generational order and sex sequence; below these were foods and verbs of eating and drinking and sleeping. Numbers and colors were grouped in close contiguity, other verb forms were centrally placed. On the right of the verb array was the group of pronouns, demonstratives and interrogatives. With each group she included one or more of the "rules" cards. Her technique was to re-group the cards, e.g., taking one demonstrative and associating it with each noun in turn, in paradigmatic fashion, saying the result aloud as she physically shifted the cards. As she did this paradigmatic rehearsal for the fourth time, she merely pointed to the cards she was naming. She also used, in a most conscious fashion, mnemonic techniques. These were based on graphemic, phonemic, semantic or

comparative similarities or opposites. Her memory was visual, spatial, and semantic. When she was searching for a vocabulary item in the memory test, she would gesture in the direction of where the card had lain, close her eyes "to see it", and sometimes she would offer a semantically related word instead. Her score was the second highest for vocabulary memory.

The patterns of memory that reached statistical significance were those of high consistency (no loss), orthogonal increase (steady increment over sessions), improved recovery (a small loss with even greater recovery), equal recovery (a temporary loss with return to the original level in the third session). These patterns for the successful learners were reciprocated to a significant degree in but two areas for the unsuccessfuls: low consistency (no increment) and immediate decrease (rapid loss after the first session). The interpretation of these findings is that the successfuls started off on a higher level, built their word-store steadily, recouping what losses there were, and retained far better across all sessions.

What accounts for this? In part, the multi-phase activity associated with the learning; in part the utilization of the vocabulary for creative expression throughout all sessions, and in some measure the recognition that words were susceptible to "chunking" operations (Miller, 1956) based on many types of properties or characteristics of the words.

The three most successful learners balanced their time and attention between lexicon and syntax, frequently learning in both areas simulta-

neously. The other three successfulls spent time on each separately, with one (# 09) putting more stress on syntax, and # 11 and # 15 putting more stress on vocabulary.

No unsuccessful learners reported using mnemonics, although they may have done so. Overall, the unsuccessfuls had a radically different pattern for treating vocabulary. They did not speak aloud other than to attempt interaction, in English, with the experimenter. On the few occasions when a word was read aloud from a card, it was accompanied by a comment on the sound of the word. They often grouped their cards in the order English to Euskera, picture, Euskera to English for *each word*, resulting in one large pack of highly redundant cards, which they then read through silently. Most of this group, when they realized they would need their cards for the final exam asked to have the English cards separated and the Euskera cards arranged in alphabetical order.

The organization of memory, the economical processing of information, and the ease of retrieval clearly distinguishes the better language learner in this experiment. (Recall that the Schwarz test also shows a faint tendency towards inaccurate memory on the part of monolinguals.) The utilization of information, and the perception of potentially useful information may be important differentiating characteristics between good and poor foreign language learners. There is some literature on search patterns, perceptual "tuning" and information utilization.

Bruner, Wallace and Galanter (1959) point out that

"Much of learning...can be viewed as a task in identifying recurrent regularities in the environment and this requires either the construction of a model of this regularity or the employment of a model that has previously been constructed... (p. 208)

They suggest that regularities in the input may be hidden due to factors of cognitive complexity or to "noise" (in either the input or the processor) which masks the regularity. "Learning", they continue, "consists, in part, in separating the recurrent regularity to be identified from these interferers." Their hypothesis is that the explanation of how a person may disregard the noise in order to recognize the regularity depends on how he uses strategies and techniques "for weighing the relevance of different features of input..." They found that pattern interference is more disruptive to subjects if these subjects have already crystallized some model of what the stimulus should be. (p. 206)

This early judgment or early model-making was typical of the unsuccessful learner. An example: one unsuccessful participant discovered that *-a* in Euskera was analogous to 'the' in English. Since her model was crystallized in a form that "article precedes noun", she quite consistently placed a non-existent form *a-* before every definite noun. There was much in the corpus to disconfirm this hypothesis, but it was totally ignored. The construction of hypotheses, which was typical of the more successful learners, is not to be equated with the early freezing of these hypotheses into guiding models.

"Pre-tuning" is the term used by Carr and Bacharach (1976) for the process of very early perceptual selection. They propose that it is possible to institute, for short periods, a set, i.e., a perceptual sensitivity, in response to task demands. This is not to be confused with "preconscious orientation" which "is a long-term tendency to group conceptually meaningful relations among stimulus components." Potter (1975) found that such temporary tuning may modify the processing of information and may change the probabilities of perceptual recognition for certain classes or components in the presented material. One need not be explicitly aware for the process to be activated.

Wickens, (1970) found that subjects acquired "generic" knowledge of a presented word (such as its part of speech, gender or number) without being able to specify the word. Von Wright, Anderson and Stenman (1975) obtained GSR's in response to the semantic properties of unattended words in a dichotic listening task. This is evidence that category, class, or other supra-ordinate information is available at a very early point in input processing. Processing on a conscious level is thus permitted to concentrate on relevant detail, and more information is extracted per unit time due to the selective screening process. As Gibson (1963) points out

Instead of mere "receptors"...[the senses] appear to be systems for exploring, selecting and seeking ambient energy. (p. 12)

The senses, then, include attention as "A part of sensitivity rather than as an action by the mind upon impulses from the senses."

Erdelyi (1974) affirms that attentional mechanisms operate throughout information processing without conscious intervention, and that such necessary information will be processed and available for later stages as required. This process is not proposed as strategic in nature. The organism seeks environmental information relevant to its needs and goals in active fashion. It increasingly deals with obtained - not imposed - information. We have then a view of a perceptual system that can systematically vary in sensitivity by tuning the system to pass one kind of input more readily than another. Finally, Shallice (1972) says that

Conscious attention sets a goal and activates the most appropriate system for achieving that goal. It also sets satisfaction criteria which aid in terminating the activity when the criteria are met...
(p. 386)

In view of the model proposed by these authors, it seemed logical to contend that the successful learners have not only an unlike cognitive, i.e., organizing style from that of the unsuccessful learners, but also either a more robust "pre-tuning" capacity - or, more likely, a greater confidence in, and willingness to operate upon, this capacity as it pertains to language. Kernan and Mójena (1973) isolated search and information utilization styles: ritualistic, efficacious, and venturesome. The characteristics of each group are defined as follows:

- Ritualistic: unconfident, use much information, but with poor efficiency
- Efficacious: efficient in the handling of information, utilizing about 23% of available information, no unusual traits, implies that this is as much information as is commonly used
- Venturesome: made decisions on 15% of available data, risk takers, confident

While the divisions, as given, seem simplistic and coarse (assignments were made on the basis of willingness to guess the color of chips most represented in a jar, after selection of from 3 to 21 chips) the point that people use available information in varying degrees is well-taken. The finding that people increase the actual amount of information they use as more becomes available, but decrease the proportion of information with regard to what is available, is more than communicationally important. It is educationally of value to know if people use all the resources possible, particularly in language learning. This question, and the previous one of how much pre-conscious information is used, were addressed by two small tests during the course of this experiment.

F INFORMATION UTILIZATION

Among the English vocabulary cards was one with the word "mother" printed upon it, which lacked an accompanying Euskera gloss. There was, among the Euskera vocabulary cards one with the word "agur" printed upon it, with no accompanying English gloss. In the vocabularies in both languages the pair *itz* - 'word' appeared. On the box of test cards, for the memory test, there was an adhesive strip with the inscription "*iztia*" on it. No mention of this was made at any time. (The word is a derived noun; the suffix *-tia* 'place' is productive in the language, i.e. *muga* - 'border' and *mugatia* - 'border-place' = "customs office".)

In the final session, participants were told that four words had been omitted from their vocabulary cards. They were given blanks

and asked to fill them in. The Euskera words and English glosses were dictated to them, and the participants thus had an enforced active encounter with these probes.

As a part of the final exam, participants were asked to describe one of four pictures in such a way that the experimenter could recognize which one was the respondent's selection. The pictures were numbered in the upper corner. Not one person used this number as an identifying feature. One of the four probe words was *magal* - 'skirt'. In picture # 2, the stick figure representing a female was dressed in a red skirt. One successful learner, out of the total of four participants who selected that picture to describe, used the word *magal*. As he searched for the word "red" he also recalled it by remembering that it alone had been written in red ink on the vocabulary cards. (This had been done for all color terms, a fact which was remarked upon by five of the six successfals by the time they had used the cards for the second memory test. It was also mentioned by one unsuccessful learner as a cue she had noticed, and two other successfals asked why "some cards are in different colors", without perceiving the regularity of the connection between color term and color of ink.

Four of the fourteen successfals asked for the Euskera word for the vocabulary card with "mother" printed on it, although they had the Euskera cards at hand. Three other successfals searched through their Euskera cards for the gloss and wrote it in themselves. The successfals did not use the English cards and, hence, never encountered the omission.

The word *agur*, which had been given without a gloss, also was heard on the tape-recorded instructions, in both the first and final positions. One successful and four unsuccessful respondents asked for its meaning. They were told that it was untranslatable directly, but that it was more or less parallel to Heb. *shalom* or Sp. *reverência* in its privileges of occurrence. In the post session memory test this word was one of the prompts. Five successfals responded correctly for this word. No one else did. Another word prompt on the postsession memory test was *iztia*, which was correctly glossed by three successfals, and no one else.

These probes and the responses thereto clearly indicate that successful learners have not only the capacity to recognize regularities masked in "noise", but are also prone to use all the information they can, even if it has not been consciously, attentively processed. The successfals thought, often, that they were guessing when in actuality they were permitting "pre-tuned" processing into secondary memory. There is one further indication of the use of information, and of cognitive knowledge of language divergence between groups.

Recall that there were eight sources of information of the language available to each respondent: videotape, audiotape, script, primer (booklet), rules and forms cards, and three kinds of vocabulary cards - target language to English, English to target, and picture with both languages. The intention was originally for the experimenter to record the amount of time each of these learning "tools" was used. For several reasons, this proved to be impossible, although it may become

feasible in the near future. It was, therefore, decided to record the first learning tool selected by each respondent, as being representative of what they expected to find useful.

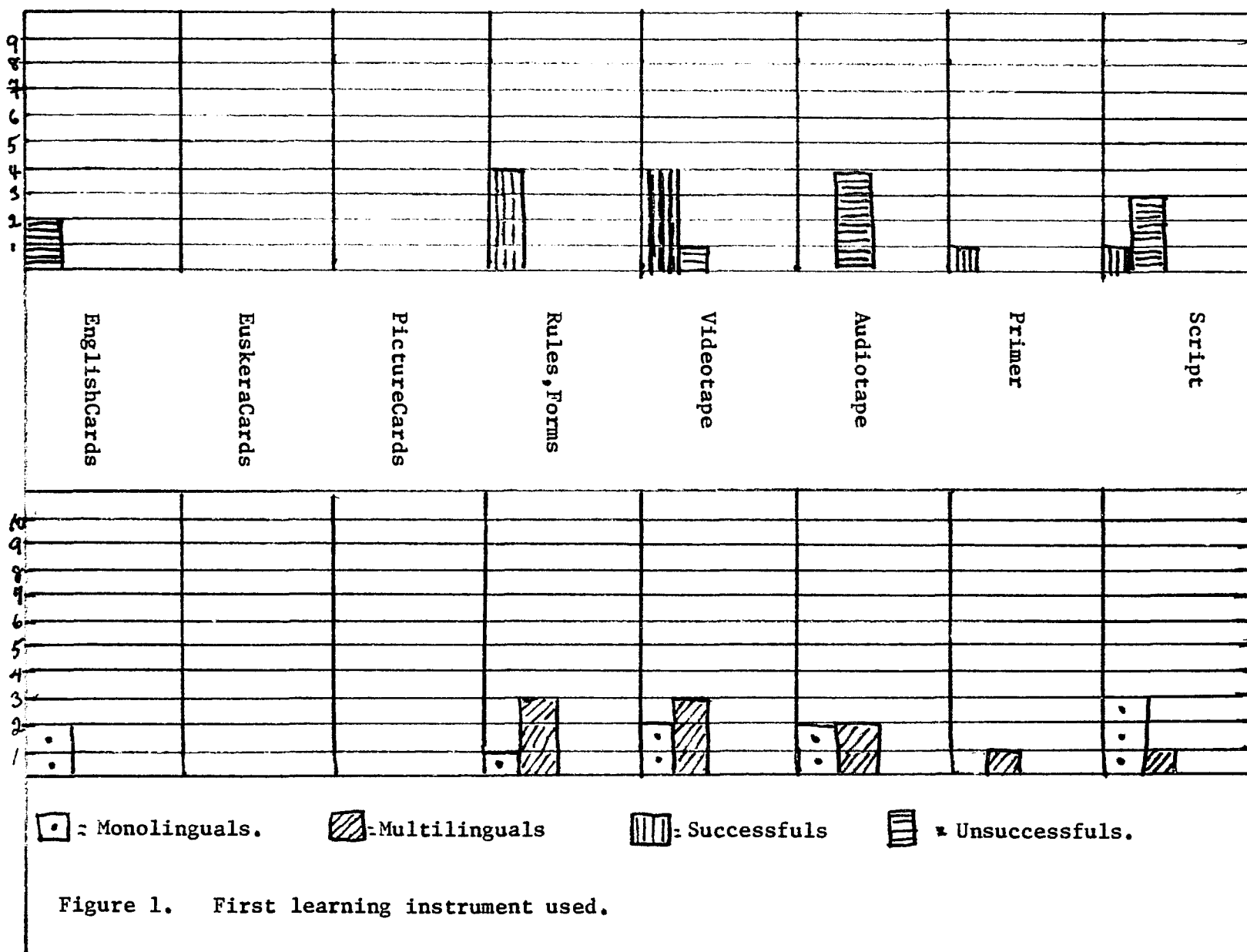
While singly, none of these proved statistically significant, there is an indicative cluster. It can be seen in Figure 1

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Insert figure 1 about here

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that patterns of first instrument selection vary between groups. The successful learners tend to use more "structured" sources of information (rules and forms) or multi-dimensioned sources of information (the videotape). In contrast, the unsuccessful learners started their exploration with English to Euskera cards, or a reading of the script (sometimes accompanied by the audiotape). It is almost as if the successfulls wanted to get the "feel" of the target language, and the unsuccessfuls were working toward translation skills. It is quite true that, during the course of the experiment, all participants shifted around considerably among the materials, but all had been informed of the existence of each of the instruments available to them, and their first approach was presumed to reflect some assumptions. It is also of interest that the multilinguals and the successful learners have some preconscious awareness of the usefulness of the exposure to a language *in vivo* (almost all participants averred that this was the best way to learn a language, i.e., by living with it, in it, surrounded by it), or



else they are more aware that languages have structure.

In opposition to the successful learners' pattern, eight of the monolinguals refused to look at the cards with rules and forms at any time during the experiment. Two stated directly, "I don't like these...I don't like grammar." Four others did not use the rules and forms until the third (final) session. One multilingual, mentioned previously, did use them as her second instrument, but in an unintegrative way. (See p. 115) She set herself the task of "learning the plural forms because they are always most difficult." Subsequent performance gave evidence that she had not mastered this self-assigned task at all. The monolinguals (two) went directly to the English cards, one spent a good ten minutes arranging them in alphabetical order, although her time (as she knew) was limited. Two monolinguals did not turn to any instrument, but conversed with the experimenter. One sustained this tactic for twenty minutes, until finally, the experimenter suggested that the respondent look at the pictures in the primer.

The primer proved so easy for the successfuls that they read it at one sitting; one successful, it is true, did use it as a reference in the final exam. It proved too difficult for almost all the unsuccessfuls. Two did manage to read in it, with one finishing it at the end of the third session.

SUMMARY

THE SUCCESSFUL LEARNER

The picture that emerges is one of a person strongly conscious of

language from childhood, an early and avid reader, with some feel for style in language and vocabulary (*viz.* the type-token ratio results), as a potential candidate for successful language learning in adulthood years. It seems fairly evident that the knowledge of one foreign language is, for this person, facilitative in the learning of another. If he has been bilingual in his childhood, other things being equal, he is more of a potential candidate for success in becoming multilingual in adult years than an adult monolingual would be. The successful learner is apt to draw information from all sources available; in his own past experience, spoken, written and comparative material. He relies less upon so-called "nonverbal" cues, with good reason - he is less accurate in interpretation of them.

He is likely to be the oldest or an only child, or the oldest of his sex. He is finely balanced between an analytic and a relational cognitive style. It is most probable that he started life in an analytic background, and upon encountering the global or relational style, used his analytic ability to understand and integrate some of the alternate style for his own use. (See Cohen, 1969 for an extended discussion of this point.) He is accustomed to a self-disciplined, structured approach to language study, and utilizes many mnemonic techniques, but supports all the strategies he can devise with intensive, constant practice. He is aware of the need for drill in the areas of lexicon, of syntax, and of register. He attempts, early on, to play with the language that is his target for learning.

He permits much subconsciously acquired information to rise

to the surface, and has the confidence to "guess" what is no guess. In the cognitive processes of language learning, there is a strong likelihood that the successful learner will, even on a pre-conscious level, have a more highly integrated structure (in the sense that this term is used by Schroeder, Diver and Streufert, 1967) In the areas of structure, of content, and of processing, the successful learner will be able to integrate and adapt language information in several different ways, rather than following a set of strict rules or some algorithmic routine. It is probable that, whatever the fashion in which the linguistic information is presented, the successful learner will accomplish to the same degree as he would for any other method or corpus. This is a result of his own ability to discern linguistic "noise" *vs.* patterns, connections and regularities. Of course, if the information is presented without interference, his speed of acquisition will increase. This capacity to integrate, to attach data to several mental schemata at one and the same time, enables the successful learner to absorb large quantities of vocabulary at a more rapid rate than his not so successful counterpart, who does not use as many modes of familiarization and recall.

The successful learner is not so concerned with task as with goal, i.e., the goal determines the Plan (Miller, Galanter and Pribram, 1960) and the sub-plans. *Not one* successful learner asked the question, "What do you want me to do now?" Nine out of the fourteen unsuccessfuls asked this question in one form or another. Only one of the unsuccessful multilinguists asked for direction.

Although the task-goal seemed to "pull" the successfals into activity, it is also possible that this group puts very different valences on sub-goals. Hertzog (1971) has proposed a demand-response hierarchy in the form of a tree diagram, in which task approaches can be decided at any node. Her claim is that the cultural milieu teaches the appropriate response pattern in this cognitive task decision flow. It is speculative, but possible, that the successful learner has been given either less training in his culture's traditional pattern, or has been exposed to other options early enough for the exposure to be effective. A third possibility is that he has found his cultural training less than efficacious, and is forced to search for other approaches.

One of the demographic factors seems to support this line of thought to some slight degree. The multilinguals and the successfals came from communities which were relatively homogeneous, in which there was a great deal of unstructured, solitary time available in the growing years, and in which the entrance of an "exotic" or foreign group was unusual and, most important, regarded by the respondent as "exciting", and enjoyable. The respondents were not insecure at being faced with a new way of thought or a new language. This pattern of excitement at the novel language has continued through to their adult life. Those two multilinguals who were poor performers in the experiment reported a distinct feeling of threat associated with their second language.

If the foregoing is at all valid, then the prognosis for foreign language learning in the United States is poor for the general

public, since there is not a pleasurable reaction to new life and thought styles, and there is some degree of overt xenophobia (recall the the successful learners all were self-reported as "xenophiles", without being rejective of their own group). Our educational approaches to symboling systems of any sort is, overall, grudging admission of their utility on an abstract level. This is true for language, mathematics, cyphers, music, codes, and other systems/notations. These are deeply pursued only when a concrete application for them arises. The successful learner, on the other hand, is intrigued by systems of this nature purely from a cognitive point of view. Like Mt. Everest they are interesting simply because they exist. Rather than a "language ability" one should perhaps investigate "communicative systems plasticity".

The successful learner is reasonably accurate in determining his own capacities at any given stage. Given the choice of questions to answer, the successfulls answered the questions very much in the order of difficulty in which they had ranked them before attempting the task. The inconsistency between original rank and attempted questions was much higher for monolinguals and unsuccessful learners. Unsuccessfulls both overrated and underrated their abilities to answer test questions. This, of course, could be in large measure due to their inexperience in the task. Let us now re-examine the tasks for language learning that were charted in Chapter Two. The following findings apply:

1. Isolation of segments: the less successful were more aware although

no more skilled at isolation of phonetic elements. The non-successfuls generalized the metathetical tendency in Euskera to a greater degree than the successfuls did.

2. The identification of words was clearly a superior ability among the successful learners, with the multilingual unsuccessfuls doing better at the task than the monolinguals.
3. Categorization of form classes was better accomplished by the successful group, although the verbal noun was never really mastered by any group. Multilinguals *per se* showed only a slight advantage.
4. no clear findings
5. Organization of information: there was an attempt by most participants to use some sort of organization; three of the successful learners had very high levels of external organization of their materials, three had no visible arrangement since all their activities were internal. They knew exactly where to look for information they had seen once before, however.
6. Determine linguistic function of paralinguistic cues: two successful learners and one unsuccessful one (monolingual) showed consciousness of the point.
7. Awareness of the social/affective function of paralinguistic cues: the monolinguals were more successful here.
8. In restructuring to accommodate new information the successfuls were most able to make accommodations, and did so rapidly. All others were, to some degree, rigid.
9. All groups used feedback, but the multilinguals (with one exception) were more sensitive to it.

Capabilities which would facilitate performance over a long term were not tested in this experiment. The picture just drawn is exclusively one of styles and strategies at the outset of study. Before turning to the implications of this study, and suggestions for further study, a review of the status of the original hypotheses is appropriate.

I *Contrary to "critical period" theory, adult language learning*

to a high level can, and does occur. Supported.

II *Multilinguals are advantaged in the task of learning foreign languages as adults.* Supported.

III *Cognitive style tests will distinguish multilinguals from monolinguals and will be predictive of potential successful adult learners of foreign languages.* Not supported. Data inconclusive; tests and definitions in need of sharpening and refining.

IV *There will be differences in approach styles between monolinguals and multilinguals; between successful and unsuccessful participants.* Supported.

V *Successful learners will sample more informational sources but will find and pursue effective techniques sooner.* Supported.

VI *Successful learners will be balanced in cognitive style, and more field independent.* Not supported. Data inconclusive.

VII *Successful learners will significantly defer judgment.* Supported.

VIII *Task and self evaluation will differ between groups.* Supported, but needs clarification.

IX *Concern with style and functions of language are indicators of attitudes correlated with successful learning.* Supported.

X *Early efforts to use the target language, and lack of reticence in involvement with the target language predict greater probability of successful learning.* Supported.

XI *Multilinguals and successful learners will both differ with regard to the quantity of material memorized in lexical items and*

syntactic forms. Strongly supported for successful learners; an evidence of trend in this direction for multilinguals.

XII *Self-direction and affective attitude toward the task will differ between groups.* Strongly supported for successful learners and weakly supported for multilinguals.

XIII *Points of entry, focus, and information utilization pattern and quantity will distinguish successful learners from poor learners.* Supported. Only point of entry and information utilization weakly separate multilinguals from monolinguals.

CHAPTER FIVE

IMPLICATIONS

The experiment was structured in such a way that there was no overt, i.e., verbal, demand for competence of a particular nature. Covertly, the fact that individual words were presented in a "memory test" at the end of the first session seemed to call for stress on lexical memorization. This (presumed) demand characteristic was responded to by many of the unsuccessful learners.

Selection of materials was governed to large degree by how the individual respondent perceived the task. Some expected that proficiency would be measured in written terms, subdivided into translation or composition. Others expected the proof of proficiency to be given in oral form, whether by rote repetition of phrases, oral translation, or recitation of word lists. Immediately remarkable was the fact that those who were not classified as multi-linguals were at a loss for initial goals, and many of them did not consider sub-goals or a *pro tempore*, exploratory approach. Three of these respondents actually said that the task was impossible, and that they had said that they were not capable of learning a language, and this proved it. (In these cases, a sub-goal was finally suggested by the investigator, and it was pointed out that no one could learn the language in this period of time, i.e., that the purpose was not to reach some criterion, but to construct some procedure, and test said procedure. Despite this, one person sat for twenty minutes,

totally inactive, and two others used talking and other distractive efforts for a considerable length of time before deliberately settling to work.)

Several participants were quite reassured to find that they were not required to refrain from talking, and a majority of the multilinguals eventually vocalized extensively - to themselves - while learning. Only three of the monolinguals did this. The successful learners (judged by ultimate performance in tests) asked very few questions, while the non-successful individuals frequently requested information - most of which was not utilized, judging by later events. Several of the multilinguals asked to take the materials home for further study; no monolinguals did. (No respondent was permitted to take any material away from the test site.) Almost all of the successful learners did report having rehearsed either vocabulary or the script to some degree between sessions. This rehearsal was often reported as involuntary. Non-successful learners also attempted to use or rehearse vocabulary, but only four of them claimed any degree of outside involvement with the experiment. The demand for recall or recognition was, of course, received with less tension when the request was for production in the more familiar language, and many respondents openly used the second run-through to check their performance on the first trial. (They were not allowed to alter answers, however. One participant would not list those items she remembered. She felt that to do so might be a disclosure of personality traits, but she was willing to check what she recalled having encountered -

and the medium whence it came.) Almost unanimously, participants verbalized a great sense of dropping off of tension at the end of the first session - indicating that anxiety, and fear of the unknown had played a part in initial approach. Seven of the multilinguals expressed enjoyment and curiosity to continue, voluntarily initiating a discussion of the next appointment; one monolingual likewise voiced interest.

All the better learners, and many of the weaker ones as well, were patently startled when they were reminded at the final exam that they were free to use all their materials when answering questions.

Anecdotally, it should be reported that several respondents, both successful and unsuccessful, did not choose to use their material in responding to the picture description task (the first production task presented). Several felt no need to do so (three successfuls), and two others refused to do so, saying "That's really cheating." These two were among the unsuccessful monolingual group.

The amount one can, or should, encompass in one's study is, perhaps, more clearly determined prior to the learning process in some cultures, and by some methods. Whether due to these influences, or to personal traits, some respondents set themselves goals that were unrealistically demanding, or else insufficiently ambitious. (One respondent decided, knowing that there were only three sessions, to learn one word per session. Another determined to learn the entire verb system in the second session.) Some set

criteria for their own performances that they felt were representative of either "general abilities" or "academic expectations".

The question of periodic self-evaluation must be addressed when discussing the non-learners, since it was a noticeable phenomenon, present from inception to conclusion of the sessions. It is, without doubt, a distracting factor, diverting attention from the task and channeling energy to reassurance rather than to learning. The concern for self-evaluation, and preservation of an image of one's capacities was used to delimit the task before any external information could support such judgment. Put more simply, for the unsuccessful learners, expectation based on past experience set present boundaries on commitment to achieve. Support for this is hinted at in the achievement score of respondent #07 who had had no language learning experience at all. She ranked seventh in the summed scores across all questions of the final exam.

It is clear that this "set" of image affects the cognitive style; it is a "self-fulfilling prophecy" that colors perception of the task or experimental characteristics. In more than a few instances, a respondent would turn and say, "See, I told you I don't have any language ability." The unspoken message seemed to be "I am proving my place in this self-imposed category of non-learner." This categorization may not be self-imposed, however, since grades are an early integral part of our educational system. This point, coupled with the finding that the successfuls deferred judgment, not only of their hypotheses but of their achievements,

would seem to suggest that an educational shift to self-paced testing, at least during the first year, would facilitate a non-judgmental atmosphere for the fearful or unconfident beginner.

Along with the discussion of goal or self-demand characteristics there should be some attention given to the role expectations of the adult learner. In our educational environment (United States in the 1970s) the over-learned adult role configuration seldom contains the designation of "student". In this ~~experiment~~ the designation of student had to be present, by the very nature of the design, but it was modified to be that of "self-taught" student - a fact which was commented upon as pleasing, by many participants. It would be of interest if one were to design a comparative empirical test for the effects of methods which eliminated the "set" of student, substituting role expectancy demand, e.g., "You will be working as a director when you use language T. If there occurs an improper delegation of a task what will you want to say, and how would you prefer to put it?" This directs the focus to the communicative aspect of the language, and to the adult knowledge of the social effects of language style. In addition this technique might aid integration of the new language into more than one cognitive structure, linking it to more than an isolated level of life experience.

Another pointed difference lay in the strategies used when respondents were involved in a memory search for words. The better learners memorize words, not as single items, but as members of collections or phrases. These collections are not analogous to classes

in the paradigmatic sense. Markman and Seibert (1976) postulate the existence of a grouping with relational criteria. They suggest that while objects and events may be grouped by abstract attributes into classes; i.e. intentionally defined, with exemplars being instances of the defining characteristics, there is another way of conceptualizing groups by specification of the relationships between members/components of this group. The set of members of a collection must contain at least two members; since the defining characteristic is participation in a relationship, there cannot be an empty or singleton set. The part-whole relationship for a collection is not isomorphous with that of a class. Classes imply hierarchies with parts being included in a higher whole - the class of dogs is included in the class of animals, but "children are not 'families'; they are not types of, examples of families although they are members of, or parts of families" (p. 563). The difference between objects and collections is a matter of degree of organization; the difference between class and collection is one of presence or absence of organization.

The successful learners, in a receiving, decoding situation, showed evidence of a strategy of determining meaning from the relationships of a few key words. They used some preliminary screening process that enabled them to select qualifiers and nouns in both subject and object relationships. They seemed to remember an auditory sequence by using one word, which they knew, as a focal coordinate for adjacent syllables (up to about five) on either side of the anchor

word. For example respondent #04, when looking for *lau* - 'four' in an attempt to count from one through eight, said to herself, *"nere.lau umeak "* (from script 3 - 'my four children...') and then continued her counting project. It is this kind of experience that young children have when they are two to three years old, i.e. they do not have single words pointed out to them as much as they have encounters with phrases, in which they must do their own segmentation. The relational approach, as Lois Bloom (1970) has shown, is present even in the one-word stage.

These arguments suggest another theoretical position, and application for same: the point of entry for adult language learners may be on a different level of the linguistic system than is the case for babies. The infant does seem to move upward in the hierarchy, from phonetics to phonology, to syllables, and so on. Perhaps the adult learner needs to enter at the phrasal stage, and only later move down to polish "pronunciation". Note that naive learners always ask friends for phrases to say in another language. It would be possible to test this by giving one group of learners separate training in phonology and articulation; while giving a separate group phrasal utterance training. If this position is correct, the phonology should prove to have been better learned during or after some experience with the language.

The logical application of this would be to alter the point of entry in the study of a new language to a semantic level.

There may be some relevance here to the Piagetian hypothesis that sensorimotoric operation is pertinent to development of language

skills. In any event the issues of active involvement with the elements of a language cannot be ignored. Gattegno (1963) and Asher (1974) have given evidence that this form of learning is easier, more productive and more enduring. There is evidence that the poor learners in this experiment showed the facilitative effect of activity with new forms too, although not nearly to the degree the good learners did. In one instance, respondent # 10 was looking at the card *nekatuta* - 'tired' just at the moment when the experimenter happened to yawn. She turned to the experimenter and asked "*nekatuta?* " and received the response, "*Bai*" - 'Yes'. Thereafter she used those words at any possible opportunity, and they showed up in her memory test as high consistent.

Gardner ~~has noted~~ that American students do not appear to have the skill or the opportunity [my stress, R.R.] to mix actively with members of another linguistic community. Hence, he says, factors of orientation and motivation are independent. It is exactly this removal from the communication environment that the successful learners counteracted by their multi-phased interaction with the target language. Using solo study time to acquire enough structure to be able to initiate interaction, and then switching to "on-the-job training" seemed to work well for this group of successful learners. It is quite conceivable that a language lab initiation would have failed to call into play the interrelational skills and strategies which proved so effective for them. Which

is the cause and which the result? Do they use the language because they have skill, or do they have skill because they use the language? Common wisdom suggests the latter, but in so complex a phenomenon as language learning this seems an over-simple answer. It is probable that the two behaviors interact, since they do in other symbolizing skills. The more one can do, the more one does do, or to put it in common form, "Nothing succeeds like success." However, the definition of success for the successful language learner may be in terms of communication, and not in terms of correct forms. This says much about the judgmental techniques used in language training in our schools. It is much easier to commit oneself to an activity which does not threaten one's self-esteem at every turn; the successful participants proved that commitment is an essential ingredient in learning language, not commitment to the culture of the community that speaks the language, but commitment to the language learning task and to the communicative use of the language. It is not necessary to disavow one's own language in order to acquire another one successfully. Language study must be presented as additive, not subtractive, not displacement but enrichment. Radical alteration of the current techniques of grading may be necessary to stress this point. No advocacy is made here for either an unstructured or non-graded system, but this is one area where good marks for effort might be in order. That is what occurs outside academic walls in language learning. The more one tries, the more one is attended to, which is

rewarding. Isolation is the penalty for inability to communicate.

Other complex communicative activities can be learned in adulthood: music, signalling codes, cryptography and so on. The critical factor is cognitive adaptability, rather than physical immaturity. That physical maturity may be accompanied by mental rigidity is all too often true, but it may be a function of the expectations and role-demands that are culturally imposed, and not of biology. The very orientation toward youthfulness that has arisen in the last twenty years in the United States may result in an increase in willingness to accept the mature adult as a student, as adaptable. This experiment can only be conducted on a large sociological and temporal scale. However, mere flexibility is not sufficient to guarantee successful language learning.

Since success breeds success, and since knowing what to look for and how to detect regularities is helpful toward accomplishment, and since accomplishment breeds confidence and commitment, empirical investigations should be undertaken to determine the usefulness of courses in learning how to learn, rather than, or prior to courses in languages. A simpler data-based anthropological linguistics course, a miniature field methods course with built-in communicative potential is the kind of thing being suggested here. Direct explanations of patterns in languages in general should be followed by examples, and "treasure-hunts" to find other cases and/or modified cases of the principal being discussed. The proposal is for cognitive, rather than cultural enrichment in language courses at the

early levels of study, and no topic should be dwelt on until mastery is reached. If it "doesn't go" try again - later. That is closer to the real-life nature of language, as so many of the child acquisition studies show (e.g. Brown, 1973).

It is apparent that memory is one important factor in the language learning process for adults. This immediately brings into focus all the selective, cognitive, integrative factors which are the stuff of which "memory" is made. As Bransford has pointed out and demonstrated well, the initial perception and treatment of language input may very well be acoustic and formal, but the retention of this input and its subsequent recall or utilization cannot be anything other than psychological. The number of the transformations which the sensorium must undergo is still unknown but that there is transformation on every processing level is axiomatic. Mixed with the problems of teasing out individual differences in processing, we have the distinctions in processing that are cultural in origin. Brodkey and Shore (1976) found two distinct cultural attitudes to language learning in "Anglo" students alone. Those who were "A" students seemed to "exhibit an enjoyment of writing for its own sake, enjoyment of literary work, rejection of Puritan [sic] constraints...self confidence and sensitivity to personal relationships." This personality profile was contrasted with that of the "C" achiever, who seemed to have a fear of working alone, a generally cautious, even pessimistic attitude about the possibility of his own improving, some "lack of awareness in their personal awareness... and a much stronger streak of Puritanism as an individual ideal".(p.158)

It is the contention of this study that much of what has been termed personality clusters can be traced to cognitive style, which, in turn, is affected by the community consensus.

After a reminder that psychological theory recognizes at least two aptitudes in learning: quantitative and verbal, Atkinson, Brelsford and Schifffrin (1967) list four parameters of memory processing:

1. the probability of acceptance of an item into short term memory
2. the number of items that can be held in STM at one time
3. the rate of transfer of information into intermediate memory
4. the rate at which information becomes available from intermediate memory.

Since Loftus (1971) found at least the first three parameters to be under the control of the individual through both his strategy-selection and the weight that such selection gives to each parameter, these parameters can, and do, show wide individual differences. Hunt, Frost and Lunneborg (1975) found that what they termed "high verbal" subjects did not tend to cluster items to be memorized [words] in the same manner as did "low verbal" subjects. In a naming task tested by Posner *et al.* (1971) subjects were to segregate stimuli [letters in allographic forms] by physical or name traits. Again, the results showed that "high verbal" subjects were faster at name access, while "low verbal" subjects relied on physical form access.

Despite all these findings, there remains the constant tendency to treat verbal ability as a monolithic unity, and to presume that this ability is biological in origin. When one adds to this the standardised treatment of learners as being all-of-a-piece in terms of

cognition, it is obvious that the failure to learn at a prescribed rate is built in to the educational structure. If, added to this mix, one completes the process by failing to utilize the normal communicative functions that make language a "vivid" phenomenon (using Vildomec's term), through failing to recognize the different rates of cognitive speed possessed by both individuals and cultures, and by making each student an isolated, solo learner who must use prescribed mental processes to mass-produce, along with classmates, the correct response; then we have no occasion for surprise when the proportion of student language-learning failures keeps mounting. The surprise is **symptomatic of** unwillingness to be realistic about the individual processes and experiences the adult student must carry with him. We must develop not only the techniques of learning for the student, but also the perceptiveness in the pedagogical structure to accept whatever method is most efficacious for the individual student. Teaching "methods" to teachers is a "band-aid application" procedure, but elimination of scholastic language study requirements is a total defection from academic responsibility.

Gardner's reminder (p. 133) is appropriate here:

How is it that some...can learn a...foreign language so easily and so well while others...find it almost impossible?...To say that one has to have an "ear for languages" is [no] answer...it is too easy to transfer mysteries to biology...why would not everyone have at least a minimally adequate [foreign] language profile?...history makes it clear that when societies want to keep two or more languages alive, and learning more than one is taken for granted, everyone seems to learn two or more as a matter of course.

The implications of the present study point to a position that, indeed, almost everyone can learn another language, but the approaches

to the student, the task, the purposes, and the range of materials and techniques, as well as societal, teacher and student expectations need drastic restructuring. The fault lies not in our biology, but in our educational selves.

If research is to be fruitful and applicable in the area of linguistics, language, and language teaching, it must reject **untested** assumptions of innateness, critical periods, built-in mechanisms and intuitions. Until such time as their existence is firmly established, it behooves us to look for cognitive and social or cultural influences upon a phenomenon which is cognitive, social and cultural in its employment - adult language learning.

SUGGESTIONS FOR FURTHER RESEARCH

The entire approach of this thesis has been to look for the common factors of success, rather than to explore failures. There is considerable value in such approaches as error analysis, but seeking the conditions for success should prove at least as fruitful. This mission is not an impossible one. Having said this, it is now in order to suggest empirical methods of examining such conditions as may be related to success as a norm, and error and failure as variance.

First, the possibility exists that adults have different perceptions of the overall values in receptive, as opposed to productive, processes. It may well be that the essential focus of incoming speech is semantic and informative, whereas speech production is

affective, affiliative, and in some sense cathartic. If so, the techniques of learning in dyadic or triadic groups should yield significantly better results than singleton learning. If such techniques serve to integrate information into a higher, more complex social set of schematic structures, and guarantee better retention of material that is functionally acquired, then testing situations may easily be devised which can measure such effects.

For example, if beginning adult language learners are grouped by threes, with a very simple set of instructions (in the target language) for manipulation of some box or other object, they will draw upon their past experience and orientation to treat this object in some manner. If the design is such that their treatment proves unproductive, they will have to turn to the instructions which may be in the target language. If these are in the possession of one member of the group, the other two will have to extract the information out of the target language message. This can be done by reference to assorted learning tools, e.g., dictionaries, grammatical explications, and so on. Participants will be in an interactive situation while attempting to solve the problem (a normal human activity). When the problem is solved, the two who manipulated the object, and the one who read the instructions, would each be required to go to other dyads and give the instructions from memory. This activity would test their memory and acquisition of the structures to which they had been exposed. The scores could then be compared to those of students who had worked alone, and to those of students

who had had standard instruction, using the same corpus. This procedure would demonstrate whether the social perception aids an adult learner.

Note that this situation uses the adult orientation to the activity, in that the problem is not easily solvable, requires complex processing, cooperative effort, and active, rather than passive student roles. The achievement reward is built into the task and group structure. This type of test situation could be planned to advance in level as the student progresses. Elements of tense, location, actor-agent-patient, and many others could be foregrounded by such techniques. (This is not unlike the work done by Eve Clark in eliciting childrens' knowledge of prepositions, sequence, and deictic verbs.)

One of the questions that requires an answer is "How did the activity aid the memory and accuracy of the successful learners?" The first answer was that the activity integrated the new information into several schemata, so that it was possible to retrieve more cues for the reconstruction of the original information. To test the possibility of this proposition, one might create three situations using the same information, 1) the control situation in which the information is presented only once, 2) the single-link situation in which the information is presented twice, but with only a single frame of reference for the new information, e.g., only one instance of the use of a rule, and 3) the multi-link situation, in which the information is presented with at least two separate instances of integrative possibilities. If the third situation resulted in a) greater retention

or b) broader application of the presented information, an integrative factor would be supported. As a parallel one might test for the number of integrations made by multilinguals and successful learners in language learning, as compared to those who are poor learners. The problem here is to filter out the effects of time. Only by constraining the time for response can one eliminate a "learning" effect due to the experimental question itself. One should, however, be able to design an experiment such that the respondents must make a choice between a reasonable and an unreasonable integration of some item of presented information in a minimal amount of time, alternated with a choice of reasonable integrations of the same material. The number of accurate (i.e., feasible) responses should correlate with the amount of the material remembered on a post test.

There is, however, an obvious correlation between activity, integration, and direct use of the target language with minimal recourse to one's dominant language. The successfals, it will be remembered, used almost no English, after they had assigned glosses. Recollection of forgotten items was achieved by reference to context, or by temporary "guessing." Successful learners even counted in Euskera, using their fingers, as one does when counting is carried on as an accompaniment to other cognitive activity. Successfals used Euskera words in phrases and groupings.

The non-successfals, by contrast, used English to describe target language information to themselves, over and over. This put them in the position of producing their own interference. They, in effect, set up an additional task, an additional load, in that the

translation step was always present; "paired associates" had to be rehearsed each time a phrase was constructed. The successfals may well have reduced this interference by abjuring the use of translation, by practice, and by their tendency to draw on echoic memory in those situations where they had to produce but had not yet been able to create, or develop, the rules needed. Their errors showed much less interference from English, being rather the use of an inappropriate Euskera form, or of overgeneralization. This is not to say that they had no interference from English, but their approach strategies seemed to reduce these interferences to a degree which was discernable even in one and a half hours of study.

Connected to the above is the fact that the successful learners made quite clear their need for large amounts of input data. They did not "delimit" themselves either in quantity of information or in task boundaries. They often would read through, or listen through, some section, and then "table" it and turn to something else but would then come back suddenly to the point at which they had stopped, and resume working with the original material, as if the additional information from another source had enlightened some aspect of the previous input. One might say that the successful learners gave the impression of analysing for the purpose of synthesizing, whereas the poorer learners had too small a data base to analyse, and too little information to synthesize. Moreover, the unsuccessfuls attempted these processes too early and then regarded their efforts as failure and *abandoned the data they had already processed --* and attempted another approach *de novo*. In other words, the successfals used their information interactively. The unsuccessfuls compartmentalized

both data and task.

Why should this compartmentalization have had such an effect on accomplishment in language learning? A new language is novel data upon which the mind may operate. Totally novel phenomena are looked at in two ways: in terms of *form* or *content*. "Intent to learn" has been shown to lead to heightened attention to content with an accompanying decrement in attention to form (Schneider and Kintz, 1967). If these two aspects, form and content, are reciprocals, then as the primary tasks are accomplished, abandoned, or "tables", they necessitate less attention. This is probably due to the integration, to some degree, of this initial information into the mental organization. The initial form and its absorption into some mental structure do provide some advantage in the learning task, since they form part of the framework into which later information must fit, or at least pass through.

Consider the acquisition of some information about form to be level I of the mental processing (this, of course, must include a small amount of information of content as well). If one adds more and more input in level I alone, there is no further processing to a higher level, the level of storage and marking for retrieval - level II. If one inputs a certain amount, and then shifts to a level II treatment of these data, before taking in more level I input, the process of integration and linking to other existing mental structures is activated, and can continue. This prepares the way for the next input from level I, and, additionally, creates criteria for the selection of more pertinent information from

the raw input at level I.

What is being suggested is that those who stay at level I and demand mastery of it before proceeding to level II may be likened to one type of jig-saw puzzle addict. This type of puzzle-solver sits with a group of pieces which were fortuitously grouped and keeps trying to add to this group. Other puzzlers gather pieces by class attributes (color, or other markings), sometimes going wildly agley, but increasing their probabilities of selecting related pieces. Yet a third type of puzzle fan will gather all the "edge" pieces together and make a frame into which all else must logically fit, and which gives clues as to how this connecting is best done.

The over-arching conceptual framework permits more freedom to shift back and forth through the levels of information available. In the case of language learning, this freedom to move within the overall concept, and the information that the concept gives about the value of each new datum encourages early use of the language, which results in more use and familiarity, which in turn should produce better performance. This need to operate at many levels is a hall-mark of the processing of "real-life" phenomena, aiding development and precluding boredom and the resulting fatigue "blindness" that often occurs in non-content stimulating jobs.

When one recognizes that "parallel transmission" is the norm for human information dissemination (in a communications theory sense), then it could be considered less than economical to process this information in a serial fashion. Parallel processing, except

when there is an anomaly or an ambiguity to be resolved, is the obvious way to input more information, and to retrieve it as well.

There is much research to indicate that the storage of verbal information, both words and syntactic structures, is done on a semantic basis. (See Morton, 1970 and Reicher, 1969 for example.) This is clear indication that meaningfulness is the type of tag that is used for whatever transformed material is held in long term memory. The retrieval of stored information cannot be a matter of random search, as many researchers (e.g., Fromkin, 1973) have shown by examination of such items as the "tip of the tongue" phenomenon, and slips of the tongue analyses.

This quality of meaningfulness is the hallmark of the kind of processing that the successful learners do. Rote learning and a failure to perceive the task itself as meaningful appear common perceptions among the unsuccessful learners. The area, then, that needs the most intense attention on the part of future researchers is that of creating a meaningfulness-awareness on the part of the adult language student. The adult who has functioned using a single language code (with dialectal modifications and registral variety held to a minimum) is not equipped to perceive another language as potentially meaningful. He may be willing to admit the possibility intellectually, but the visceral reaction is one of hostility. It is not enough to "educate" the monoglot as to the functions of alternate communicative systems, - he must perceive their utility for him on the experiential level. The liberal arts training in literature, music, dance, and philosophy is of value in developing an

alternate horizon and acceptance of other content systems as well as form systems - but it is usually presented too late in life and in too diluted a manner to be of great value. This would account for the fact that the preponderance of the respondents felt that the best way to learn was to be involved with - "to live in" - the culture. Involvement cannot be achieved through sporadic acquaintance with alternate ways of thought, but is an emotional submersion in circumstances which force recognition that alternate ways of life and thought are functional, viable, and demandingly meaningful - even ultimately rewarding.

If small experimental modules were developed, in several foreign languages, giving meaningful material in areas that were perceived by the participants as important, such as "treasure-hunt" clues, or avocational or "how-to" data, or news items of interest, the participants in such experimental groups should show greater interest in the materials which facilitated their understanding than would members of the control group in which the material was more standard. Not only would the interest be heightened, but the number of links for the securing of this information into the total mental structure would be greater. A broader base of knowledge is of considerable assistance in integrating new information. The more one's education "stretches" the mind, the more the acquisition of knowledge becomes its own reward. There is an aesthetic of curiosity; there is probably an aesthetic of symbolizing curiosity. The first research problem is to define this aesthetic and second, to uncover techniques that can utilize it educationally. For the adult

it is also essential to "legitimize" this aesthetic as a useful tool.

CONCLUSION

Adult learners of foreign languages do not necessarily use the same processes that first language learners use. As Roger Brown points out, second-language learning may be responsive to familiar sorts of learning variables and selection experiences that are not available to those involved in first language learning. (Brown, 1974, p. 135, ff.) Lenneberg's original proposal that children are innately programmed to operate upon linguistic input in such a way as to be able to extract the rules of the native language on the basis of partial exposure to that language, with this ability only available during a "critical period" of development (perhaps until physical puberty is reached) has been extended by some to explain the fact that many adults do not do well in a language learning task in their adult years.

This explanation does not hold water as soon as one thinks of the number of multilinguals that are found throughout the world. Bilinguality is a common phenomenon, but can have its roots in childhood experience within two language communities. The learner of languages who undertakes this learning project after he has passed the age of fifteen or so is not doomed to failure. There may actually be a fairly common limit to the number of languages in which one can function well, as an interacting adult in social circumstances, but the upper limit is not two languages. There is probably a falling off in facile use of foreign languages beyond the third (Plant, 1972,

p. 188), but until a clearer statement has been promulgated of what it means to 'know' a language, this point will have to remain moot. In any event, there are those who do, as adults, learn three or more foreign languages.

This experiment adopted a research style of utilization of a wider range of data, in preference to accounting in detail for performance in a limited range of tasks. The attempt was to support generalizations empirically, by educing findings whose relationships with each other would discourage the kind of overly simple explanations that arise when phenomena are investigated as isolated hypothetical constructs or experimental paradigms. The difficulty with such generalizations is that they may obscure the finer details of the many sub-systems that work together to produce the total results. It is essential to remember that similar results do not have to have common origins.

The assumption was made that the organizational style - the cognitive style - used by successful learners of foreign languages in their processing of the information available to them would differ from the style of the unsuccessful learners. The base for this assumption can best be explained by quoting from *Attention and Memory* by D.A. Norman (1969):

Evidently one cannot just go about memorizing things as they happen. One has to organize the material, group it into meaningful structures...and tuck it away into memory according to a formal, orderly plan ...The emphasis on the structure of stored material, whether imposed by rhythmic techniques, formally learned loci, or unique vivid imagery, indicates that difficulty in memorizing material has more to do with retrieval than with storage itself. If storage of information were the bottleneck, one would hardly wish

to use a mnemonic device which increased the amount of information to be stored...Yet...nowhere...can we find a system which tries to condense and simplify the material: every system enriches and adds to the information. The implication is that organization plays an important role in retrieval...Grouping, clustering, categorization; these principles are showing up ...everywhere. (pp. 117-120)

Such categorization or clustering is a function of the individual's own particular cognitive style. The findings have indicated, in this study, a difference of approach styles to the material available in a new language as demonstrated by two statistically proven separate groups: successful and unsuccessful learners. The differences were, indeed, differences in organization, attitude and accomplishment as measured by memory for words, and memory for and use of rules of syntax. All of these were made available to every participant, yet only one group was able to group, organize, retrieve and apply this information well. The confidence and interest with which the more successful learners approached the task was also observable before they began any actual processing. Whether these results would continue to obtain over a long range period is yet to be tested, but in a two-week, four day, five hour testing span, the increment of the successfals continued in an orthogonal manner, as did the decrement of the unsuccessfuls in the opposite direction.

The existing tests of cognitive style, or organization of mental schemata, are not adequate to deal with such complex problems as language learning, but evidence of styles of structuring mental Plans continues to mount. There is reason to believe that a balanced

use of analytic and relational groupings, combined with interest in communicative symbols, and active, unlimited use of a wide range of information makes language learning an adventure for many who are able to use the structures they have cognitively developed. The next step is to identify these structures, and find pedagogical methods of inculcating their use in all students who desire to interact through another language code.

There are, however, points beyond the pedagogical to be considered, theoretical and psychological problems in human language functioning. The use of language - speech - is now generally regarded as reflective of inner psychological processes. Psychologists, psycholinguists, and linguists find this a fully adequate reason for the study of human language, and human use of language. But the "common man" seldom regards speech in this light; he is not likely to notice his own speech at all, and that of others for only two purposes, sociolinguistic assessment of his interlocutors, and exchange of ideas with others. He is, in other words, aware of the utility of language.

Why, then should it be expected that knowledge of more than one language should be considered "useful?" Obviously this would only be the case when there were others with whom it was desired to exchange information, ideas, and social relations, and these others could or would not interact in the language familiar to the self. This rouses very basic emotions, however. There is a learned and an innate fear of the strange, the alien. Since there is so much iden-

tification (social identification) through language, strange speech becomes the badge of the alien - remember the origin of "shibboleth". A small mistrust seems to exist among many monoglots when they meet a multilingual, or even a bilingual who is comfortable and fluent in a second language, when these multilinguals or bilinguals are purely the product of adult language learning. Particularly in the United States, it can be accepted that one's parents may have had another language than American English. Of course, it is expected that the second generation child will be more fluent in English than any of the parents' languages, but it is understood that a foreign language may be used to carry on interaction with relatives who are "too old to learn a new language", i.e., grandparents and older relatives.

Is it possible that the assumptions contained in the above statement have historical and psychological reasons for existing? The "critical period" is a concept which, with reference to language-learning, has found greatest acceptance in a country which has no understanding of the potentials of the more mature years. For many historical reasons, as well as for currently commercial reasons, the younger population has always been important in U.S. history. It took youth and strength to wrest a living from undeveloped land; it took youth and strength, so we are told, to have the courage to leave for this strange country from familiar Scandinavian, Balkan, Irish, German or Mediterranean homes. In actuality, many of these immigrants were not young, not driven by adventure, but by desperation, and they

came with families, with their children, who then grew up here, learning to speak English because it was useful to them to do so. These immigrant parents also spoke some English, but not too well, in many cases; "too old" was the reason their children gave. Their children had become at home in the new culture, were "smart", and so the older people believed the myth of too old. Too tired, too busy, and too sorrowful may have been equally potent factors in the failure to acquire fluency in a new language in adult years.

In the current theory of the "critical period" there is an extension of this position. If this theory is accepted, then there is no purpose to be served by including language courses in school requirements. There are many who espouse this position. They point to the youthful geniuses in other fields, mathematics, music and so on, and say, "All creativity occurs in youth. Symbolic innovation must come before the mental processes have crystallized and become set." Yet we have not only the child Mozart, but the mature Brahms. There are those who are senile at forty-five, and those who are wondrously mentally agile at eighty-five. History lists many who came to new fields late in life. Why should language be so different?

It is the feeling of this researcher that it is not any less possible, inherently, for an adult to learn a new language than it is for an adult to learn mathematics, Morse code, music, semaphore signalling, or a new trade with its jargon. Since, however, language is so bound up with social attitudes, the prevailing social attitudes will dictate what one conceives of as appropriate learning ability.

If it is socially dictated that learning capacity stops at 15, 25, 30, or 35 -- it will do so, for the majority of people in that social group. Humans are adaptable, and as a species, gregarious. Retaining the ability to acquire new codes of communicating with others is a survival tool. Having learned one language, why should it be impossible to learn another? Clearly, it is not impossible. One of the problems lies in the fact that we still have no real definition of what it is to "know" a language. This is an urgent research need. We wander back and forth among the units of our linguistic constructs; phonology - is "knowing a language" the ability to speak using a clearly delimited repertoire of phonemes? It cannot be so, since native speakers do not; is it "knowing" if we never err in word order? Native speakers err; is it maintaining the speech patterns of the group one is with? Most native Americans find this "registral adaptability" beyond them beyond very narrow limits. The definition of knowing must be operationalized before a statement can be made about a cut-off period for learning a language.

It is true that the circumstances surrounding the acquisition of the first, and the learning of subsequent languages are not at all alike, in terms of motivation, input, time available, and so on. But there is evidence in the findings of this study that all learners, both successful and unsuccessful, attempted to use what they knew about language to aid in the task. The successfulls knew more. There is support here for the not-so-fashionable belief in "transfer of

training." Those studies that have purported to show that there is no transfer of training have typically been narrowly behaviorist studies, using nonsense syllables, trigrams, paired-associates, and the like. These are not representative language units. These same behaviorists have not seen fit to deny a "learning to learn" effect. It is recognized as a problem in all their experimental designs. Why then, should it not be operating in language learning? The transfer of training is not in small, isolated constructs, but in an overall learning attitude towards the possibilities in language phenomena. It is worth remarking that all the successful learners had some idea about the task, though the ideas were varied. The suggestion here is that the units of processing are, for adult learners, larger than is generally assumed to be the case, and are most probably representative of conceptual units, e.g., simple NPs, verbs, and elementary case relationships - processing is semantic. Adults know that linguistic meaning is not to be found in sounds, but in much larger units, sentences or phrases. Breaking these larger units down is a refinement, only possible when enough "ore" has been stored to enable one to separate what is dross, and what is valuable. Even an infant has a great deal more information gathered than is needed for the first utterances. It is suggested that this larger stockpile before processing may, in fact, be essential, and the poorer learners did not give themselves the submersion in data that they needed to perceive, unconsciously, the emergent patterns of the target language.

In the process of learning language as an adult, one must call upon some schema of Language. This is acquired by both one's individual experiences with language(s), and by what is passed on as tradition in one's society. The better learners had a flexible schema. It frequently grew out of freedom from societal tradition; note that they were largely introspective, and had time for solitary thought and musing. They had helpful experiences, e.g., they were fascinated by the strange, they were adept at word play in their native tongue, they met foreigners, they were not told that it was unusual to be able to learn. They were socially curious, and intellectually confident enough to enjoy the challenge. Their schema of language seems to have been built on the function of transmission of social meaning, rather than on either content or form alone as predominant. Because they were not critically focussed on the correctness of form, or the accuracy of content, they were relaxed and pulled into use, commitment, and activity. These factors then aided the general proficiency.

The proposal here is that, in terms of second language learning, the "critical period" is not related to biology, but to socialization. This is not to say that there is no slowing down in one's mental abilities with advancing age. It is clear that mental activity changes over time, but five or fifteen, or twenty years cannot be called an "advanced age". These are, though, important years in the

progress of socialization. This proposal is also not intended as a judgement of the theory of the "critical period" in first language acquisition.

To return to the possible factors in failure to learn languages, assuming that such learning is biologically possible well into the mature years: another construct that has been at least roughly defined, and that was referred to throughout the study, was that of "cognitive style", which has much to recommend it, but which needs operational definition, or finer testing. If one is going to test for style in organization, it is necessary to avoid simplistic dichotomies, and to begin to postulate styles along with the bases for their adoption by an individual. In devising tests of styles of mental organization, it will be necessary to present a large body of data, which are susceptible to many superimposed forms, all of which have clearly discernable consequents, so that they may be identified as symptoms of a specific style of organization. We have not yet reached this degree of sophistication in psychological research, but language data as the base for such cognitive style operation seems ideally suited. At this point it is premature to point to a specific "cognitive style" as a guarantee of competence in language skills, but it is not unfeasible that there may be an interaction between one's cognitive style and one's task analysis or approach. Task demands have to be encoded; this may be a source of failure to achieve.

Another source of failure may be in perception of motivation. For many, "need" may not be as adequate a motivation as "use". The pressure of "need" may be defeating, since need is external, whereas concepts of "useful" are largely self-defined. In school one "needs" or "wants" marks - a circumstance somewhat remote from using a language. There is room for much academic innovation in this area.

Yet another source for failure in language-learning may be in breaking up the task into sub-goals, if these sub-goals obscure, or substitute for, the larger goal of interaction and information acquisition. There may also be difficulties if sub-goals do not integrate with the supraordinate goals, e.g., perfection vs. communication. If there is no over-arching goal, study may never be successful. Interestingly, the usefulness of knowing languages was mentioned by all participants, but the usefulness of learning the particular language used is moot. Despite this, those who were successful at the task seemed to feel that they had done something of value to themselves, in terms of sustaining mental flexibility and skill.

The broad range of languages they knew seemed to give the respondents some feeling of alternate ways to conceptualize ideas. Perhaps what knowing languages imparts is not the details of any single language, but this vision of alternate ways of expression. If this is one of the values of multilingualism, this might be

gained by early exposure to alternate thinking and alternate forms of disciplined creativity.

It is also quite interesting that the unsuccessful learners had, in the main, no say in what their first foreign language was to be. This could be easily remedied in the early grades of school, and is a small enough detail to attend to without great expense. A rotation of some sort for several different languages and cultures as study and experiential topics might be arranged. If one tries on and has option in the purchase of a hat, or shoes, why not have this hold true for the study of language, which takes much of one's time, energy, and involvement for many years?

An important potential factor in the success or failure of the individual to learn may also be that individual's frustration tolerance, or patience. It was mentioned before that the better performers on the task were non-self-judgemental. They may well have realized that this "language learning business" takes time. With a more future-time oriented perspective, there may be less tendency to judge and evaluate at a premature stage in the development. Not all people move at the same rate in mental travel. Patience and ability to surmount frustration, or to avert it must be valuable in language learning. A lower sense of urgency may make the mental activity more fruitful. The skill must be built up slowly, piece by piece. A language cannot be learnt in a day, a week, or "ten easy lessons." The successful group enjoyed crafts, also an activity of paced, cumu-

lative achievement.

It is plain that the bias of this writer is that it is a natural activity to be able to learn language, and that this activity is a constructive one. The reasoning underlying this bias is that learning is not all of a piece; that in learning new sounds, we may stretch the confines of our echoic short-term memory, and sharpen our auditory discernment. In learning new vocabulary we establish new interactions between ourselves and the event-world we live in - we add mental color and nuances that are latent, or too delicate to be constantly in mind. A new word may be to memory what lemon is to a salad, adding piquancy or deepening awareness. New linguistic systems add new metaphors to communication, and a new aesthetic range, drawn from another language may not only enrich life, but act toward survival.

All of the above stresses again the social component of language. Experimentation on the nature of linguistic processing cannot enlighten us on mental functioning unless we permit our respondents to do those things they normally do with language, in ordinary situations, in ways they, by instinct or experience, do them. We must go to observation, data-gathering, and hypothesis generating, rather than to atomistic, molecular data-generation. Nonsense tasks are useless; there must be natural interaction between what is being studied and the learner. This relationship is inherent in language learning.

It appears that multilinguals, if there are not psychological barriers, have a conscious mental control of a schema, a schema of language that is flexible and creative, capable of multi-form organization, or else of an over-arching organization that is of interest to psycholinguists. Their short-term processing has more avenues of integration into long-term storage, their non-focussed perception is more accurately retentive. Successful language learners can utilize cross-modal and multi-modal information processing extremely productively. They use visual, haptic, kinetic, spatial, articulatory, and auditory input in a cooperative way which results in success in the language learning task. This is much what infants do, and indicates that all modalities of perception and cognition are linked to language, - not just hearing and vision. The telephone has shown us that hearing alone is not a satisfactory use of speech; neither is speaking without expression and movement. Speaking, using language, is a synthesis of all that is human. We will not catch the essence of the elusive thing called language 'til we spread our net wider.

Appendix A
Instructions to Participants

INSTRUCTIONS

Your purpose for the next forty minutes will be to start to learn the language EUSKERA. There is so much material that it would be impossible for anyone to learn all of it in the time allotted. Do not worry about this. No one is expected to accomplish a great deal. Our interest is in what you do in your approach to this new language experience.

On the table in front of you are the following:

- 1 set of English to Euskera vocabulary cards
- 1 set of Euskera to English vocabulary cards
- 1 set of picture cards
- 1 booklet with a story in Euskera (this is a picture primer)
- 1 set of cards with rules and forms in Euskera
- a cassette with the Euskera sound track from the videotape
you will be viewing
- a microphone and a tape recorder to tape the session
- assorted pens, pencils, and markers
- notepad, notebooks, and index cards for your use
- an instruction cassette

Near to you there is also a videotape monitor. On this monitor you can see and hear two speakers of Euskera who were filmed earlier. There is also a script in Euskera, and its translation. You may use

any and all of this equipment whenever, in whatever manner, and as often as you wish. These now become your personal property.

In the next session, all your materials will again be available to you, plus whatever else you can suggest that we are able to supply. At the end of each session some questions will be asked, and your replies will be taped. In the final session you will be asked to attempt some use of the language, - writing a few sentences, asking and answering a few questions.

All further instructions are on the cassette marked "Instructions".

Do not use any of the materials until you have started the instruction cassette and viewed the videotape.

Thank you very much for your help and participation.

Appendix B

Original scripts; Actual scripts Respondents' scripts with Euskera,
Literal English translation, Free translation;
Phonetic transcriptions.

ORIGINAL SCRIPT

Scene 1

A customs counter in an airport. No alphabetic signs, but directional arrows, and so on. Clear background...perhaps tile walls, with a non - distinguishable sign, a stack of "declaration forms; pens, etc. Perhaps one or two "extras" to stand in line behind Person A. Possibly a rope to divide the waiting passengers from the interviewee.

Cast: Person B (Customs Agent); Person A (Traveller)

A: Is this Customs? (As he moves to the counter, B looks up.)

B: Hello. Do you have your passport? Where is your luggage?
Give me the passport, please.

A: (hands it over)

B: (Looking at it) Is this your passport?

A: Yes.

B: Do you have anything to declare?

A: No.

B: Sign here. (A leans on counter to sign.) Stand there, please. (B comes around counter.) Come with me. (They move to the end. B points R.) Go there. Give him these forms. Understand?

A: No.

B: Go down there and to the right. Give that man these forms.

A: Oh. (Walks off to gather luggage.) Thank you.

ORIGINAL SCRIPT

Scene II

Airport waiting room. A lounge type set of chairs, ash-stands. Luggage.

Cast: Person A (Traveller; Person C (The Host - a native of the land)

C: Hello. Have you been waiting long?

A: (Getting up.) Maro! Good to see you. No, I just got through
customs.

C: (Looking at luggage.) Is all of this yours?

A: One, two, three... Yes, this is mine, but that's not.

C: How was your flight? How long was it?

A: Quite good. It lasted seven hours. I had something to eat
and I slept a little.

C: (Starting to take suitcases.) Then I guess you're not
tired, but would you like to stop for coffee, or wait till we
get home?

A: I would like to stop now, because there will be so much ex-
citement when we get to the house.(Picks up last suitcase.)

C: Fine! You look well...It's good to see you again.

They start to walk off.

A: Thank you. How is the family?

ORIGINAL SCRIPT

Scene III

Airport Coffee Shop. Tables, chairs, dishes, menu.

Cast: Person A; Person C; Waitress

C: What will you drink?
A: I'll have milk.
C: Anything else?
A: I'd like some pastry.
C: (to Waitress) Two glasses of milk and one pastry; and bring some fruit please.
Waitress writes order, and leaves, taking menu.
C: (to A) All four children are eager to meet you.
A: I only remember Lola. How old is she now? Five? Six?
C: No, she's eight. (He takes out photo) Here is my family...
A: Ah? Yes, I see she has grown. Who is this? The youngest?
C: Yes, tha's my baby.
A: She looks like your wife.
Waitress returns
C: Thank you. (Looks at bill) Ten...? Here you are.
Waitress says a sort of thank you and leaves.
C: Will you have a plum?
A: No, thanks.
C: Or an orange?
A: Yes, thank you. I'll eat it on the way.
C: Good. I would like to get going. (They finish and get up.)
C & A : (Towards direction of waitress.) Good-bye.

Scene One

[a'wɔldamuxat̪iːa]

Au alda mugatia?

[bãɫ || p°asap°ɔt̪ija + bajaldẽstɔ↗]

Bai. Pasaportea bai aldezu?

[βãɫ | d̪ũt°↘]

Bai, dut.

[t°ãũcẽɾæ k°↗]

Eta otsarak?

[βal°d̪ãɔdẽ↘]

Bai, daude.

[ɛs.ɛɾɛɾak°ɔst̪°ɛk°vβãld̪ɛs+ũ↑]

Ezer erakustiko bai-aldezu?

[ɛs.]

Ez.

[ɛsẽnd̪uɛmẽn↓]

Izendu emen.

[ɔ̃nd̪oda.#°oũɫɲ ↗õneɟ° + p°apɛlɔk° ↗arigisrõ̃nasiẽmã̃n.↘]

Ondo da. Orain, onek paperok ari gizonari eman.

[d̪ũi↗]

Dut?

[u.ɫɜcẽn↗]

Ulertzen?

[ɛs.]

Ez.

[ʋɾahũ:ŋ → *eskʷi'ald̪erãŋ + d̪əwãŋ + gi'sõŋaɾi + ?ẽmãŋ ↓]

Arajun, eskubi alderan dagon gizonari eman.

[sɾk'a'ɾi k'o a sk'o. ↓]

Ezkerikasko.

[sɾɾẽgã't'i?]

Ez oregatik.

Scene Two

[maritʃu + sɾɛʒberi ↗]

Maritxo, zer berri?

[ẽŋe βaɖa.]

Ene bada!

[õŋdo alcaɔdẽ. ↓]

Ondo alzaude?

[•ondo õŋdo ↘]

Ondo, Ondo.

[ɔst̪era õŋaẽŋ, el̪d̪ɛsɾu. →]

Ostera ona egin aldezu?

[ɔso ʒŋa. ↓ βost̪o ɔɾd̪u ↗ et̪o a fiãŋ et̪o a lo. ↓]

Oso ona! Bost ordu, eta jan eta lo.

[et̪o a õŋ. t̪o a lo ẽŋ al̪d̪ɛsɾu: ↗]

Eta jan eta lo egin aldezu?

[βai.]

Bai.

[ɔrd̥ə̃a_n et̥ʰe_nɔd̥e⁺_nek^oa_nt̥u_n t̥^o ↓]

Orduan etzaude nekatuta?

[es. t̥^oa βã t̥^oerre ↓]

Ezta bat erre.

[et̥ʰera k̥u_nt̥^oiã_nal̥jə_nd̥e⁺s_n ↑]

Etxera joatia nai aldezu?

[βã | et̥ʰe]

Bai. Orixe.

[ʔã_nd̥es⁺ia⁺t̥_nas⁺d̥ə⁺s⁺s⁺ε_nl̥k^oast̥ek^o. ↓]

An desiatuak dagos zu ikusteko.

[g^wast̥ẽ_n + g^wast̥ẽ_n ↓]

Goazen, goazen.

[ɛ_nɔre ʔε_narek^oa + ɔ_nek^oal̥d̥i_nɔã ↓]

Zure otsarak oyek aldira?

[βã[#] ʔau⁺ bat̥^o βi⁺iru ↓ bɪst̥^hε_nriis. t̥^oã_naria ↓]

Bai; au - bat, bi, iru; beste ori ezta naria.

[es. t̥^oã ʒ_nɔ_ni. a ↓]

Ezta zuria?

[ʔẽs:]

Ez.

[h̥õŋg^o al^rɣεra ↑]

Joango algera?

[βal | βal[#] g^was.ẽ_n⁺oas.ẽ_n ↓]

Bai, bai, goazen, goazen.

[et̥^ori.ẽmẽ_nd̥ik̥^oẽ + ẽ_n ↓] [es. k̥ε_nrik̥^o + es^o ↓]

Etorri emendiken. Eskerikasko.

Scene Three

[εστει ηαι αλδεστ ωεδ̃η↑]

Ezer nai-aldezu edan?

[εσ.ηε,ρ·ιfk°at' ↓]

Esne, piskat.

[εστει γι' γεγo↑]

Ezer geyago?

[γo]o+bāt° # γo]o↓]

Goxo bat? Goxo.

[ε]ηεβι(k'ə)εt°a γo]o]ok'ibāt°↓ εt°amad'a'ri+bāt°sruε+k°↓]

Esne bi, eta gozoki bat, eta madarik batzuek.

[ηερε'laω+ωmε̃ dε'sε,ε̃η· d]o]o]uik°o]t°εk'o↓]

Nere lau umeak desiatzen dagoz zu ikusteko.

[ηik°ε k°o]t°e°k°ωo_āsmōa βad'u'βa ↓]

Nike ikusteko asmoa badut, ba.

[s·m·at°+u]t°e+ d]t'ue.↓]

Zenbait urte ditue(dituzte)?

[ara→ ηερε+sēηdia ↓]

Ara nere sendia.

[ηik°+βεγo]ηit°a βαk'arik°εσταk'st°ε̃η d]t°ε̃η ↓ ηik°↓]

Nik Begoñita bakarrik ezakutzen dut, nik.

[āω s·ē'ηda.↑ βεγo]ηit°a d]aω↑]

Au zein da? Begoñita da au?

[ba.]

Bai.

0, azka luzatu da. Asko aundi egin da.

Bai.

Eta, zenbat urte dauzka: bost o (ala) sei?

Zortzi, zortzi urte dauzka. Au da --

0, bai, zure emaztean antz andia dauka.

Ah, zenbat da? Ezkerikasko. Artu ori.

Eskerikasko.

Ez oregatik.

Nai aldezu okeran bat?

Ez. 17

Nai aldezu madari bat?

Bai, ondo da! bai, ederki.

[ʔiḁiãŋʔ, ʔaŋŋʔgo + ɖexas + ɛə, t̪i, k̪ãn: ʔealde
Bidian jango degu, zergatikan etxealde

ʔaŋmbera: + ɖeqak̪i t̪i° ↓]
joan beara dagikeot.

[n̪ok̪ʔɛɛba + ʔaɪχ̃n̪uk̪ʔe. ʔɛɛra ʔh̃õŋgo]
Neuk ere ba naigo nuke etxera joango.

[χʷas. ẽn̪ ßaɪ ɛʔɛra ↓ ẽ: ↑ n̪d̪o d̪aχ̃o ↑]
Goazen, ba etxera. Ah? Ondo dago?

Scene One

- F. (1) Au al- d- a muga- ti - a?
This would-it-be-it-is border-place-the?
Is this Customs?
- M. (1) Bai. Pasaporti-a bai- al- d- e-zu?
Yes. Passport - the affirmative would-it-be-it-you-have?
Yes. Do you have your passport?
- F. (2) Bai, d-ut.
Yes, it-I-have.
Yes. I have it.
- M. (3) Eta otsar - a - k?
And luggage-the-pl.?
Any luggage?
- F. (3) Bai, d- aude.
Yes, they-are.
Yes, there is.
- M. (4) Ezer era-kustiko-ko bai al- - - - d-ezu?
Something-type-seeing-quality affirmative would-it-be-you-have?
Do you have something to declare?(i.e., to be looked at)
- F. (4) Ez.
Negative.
No.
- M. (5) Izen - du emen.
Name (vb) here.
Sign here.
- M. (6) Ondo da . Orain, onek paper-o -k ari - - - -
Well,it-is. Now, these paper(emphatic pl.) to-that-one
Alright. Now give these papers to that
- M. (6) gizon- a - ri eman.
man- the-to give.
man there.
- F. (6) D- ut...?
It-I-have...?
I must...? (=What do I have to do...?)

- M. (7) Ulert- - - zen?
Understand-ing?
Do you understand?
- F. (7) Ez.
Negative.
No.
Ari----- jun, eskubi alde-ra -n dago - - - - -an
- M. (8) There-to-going, right side-the-at the-one-who-is-at-the
There, at the right, where that man is; that one,
- M. (8) gizon-a - ri eman.
man- the- to give.
give them to him.
- F. (9) Ezker-ik-asko.
Thank-s- much.
Thanks very much.
- M. (9) Ez ore- - -gatik.
Not that because.
Not at all. (= You're welcome.)

Scene Two

- M. (1) Mari-txu zer berri?
 Maria-little, what new?
 Maria! What's new?
- F. (1) Ene bada!
 My goodness!
 My goodness!
- M. (2) Ondo al - - - - -zaude?
 Well would-it-be- you-are?
 Are you well? (How are you?)
- F. (2) Ondo, ondo.
 Well, well.
 Fine, fine.
- M. (3) Oster-a on-a egin al- d- - - - ezu?
 Trip- the good-the make would-it-be-it-you-have?
 Did you have a good trip?
- F. (3) Oso on-a . Bost ordu eta jan eta lo.
 Completely good-the. Five hour and eat and sleep.
 Absolutely great. Five hours, with food and rest.
- M. (4) Eta jan eta lo egin al- d-ezu?
 And eat and sleep make would-it-be-have you?
 And have you eaten and slept?
- F. (4) Bai.
 Affirmative
 Yes.
- M. (5) Ordu-an ez zaude neka- tu- ta?
 Hour-at not you-are fatigue(vb)-ed?
 Then you are not tired?
- F. (5) Ez-ta bat erre.
 Not-is one even.
 Not one little bit.
- M. (6) Etxe - r - a joatia nai al- - - - d- ezu.
 House-to-the going want would-it-be-you-have?
 Do you want to go to the house?

- F. (6) Bai. Orixe.
Affirmative. That very.
Yes. Exactly.
- M. (7) An desia-tu- az d-agoz zu ikust- e-ko.
There desir-ing-filled-with they-have you seeing-the-in.
Everybody there is eager to see you.
- F. (7) Goazen goazen!
That-we-may-go, that-we-may-go!
Let's go! Let's go!
- M. (8) Zure otsa-ra- ak oyek al- d- ira?
Your luggage-the-(pl.) these would-it-be-they-are?
Is this your luggage?
- F. (8) Bai; au bat, bi , iru ; beste ori ez-ta na-ri-a .
Yes; this one, two, three; other that not-is me-of-the.
Yes, this one, two, three; that other is not mine.
- M. (9) Ez- ta zu-ri-a ?
Not-is you-of-the?
It's not yours?
- F. (9) Ez.
Negative.
No.
- M. (10) Joango al- g-era?
Going would-it-be-we-are?
Shall we go?
- F. (10) Bail, bai, goazen goazen!
Yes, yes, go-that-we-may, go (subjunc.).
Yes, yes, let's go, let's go!
- M. (11) Etorri emen-dik- en.
Come here-from- in.
Come out this way.
- F. (11) Ezker-ik asko.
Thank-s many.
Many Thanks.

Scene III - Ikusteko Irugarren

- M. (1) Ezer nai al - d - oazu edan
 Something wanting would-it-be-you-have to drink
 Do you want something to drink?
- F. (1) Esne piskat.
 Milk a little.
 Some milk.
- M. (2) Ezer geyago?
 Something more?
 Anything else?
- F. (2) Goxo bat? Goxo.
 Sweet one? Sweet.
 A pastry..? A pastry.
- M. (3) Esne bi eta gozo- ki bat eta madari batzuek.
 Milk two and sweet-ish one and pears several.
 Two milks and one pastry of some kind and several pears.
- M. (4) Nere lau ume-ak desiatzen dagoz zu ikusteko.
 Mine four child-ren desir-ing they-have you in seeing.
 My four children are eager to see you.
- F. (4) Ni-ke ikusteko asmo - a ba dut, ba.
 I, too, sight intention-the do it-I-have,(emphatic).
 I, too, indeed intend to see them.
- F. (5) Zenbat urte ditue(dituzte)?
 How many year they-have?
 How old are they?
- M. (5) Ara nere sendi-a.
 There my family-the.
 There's my family.
- F. (6) Ni-k Begonita bakar-rik ezakutzen dut, ni -k.
 I do Begonita sole-ly knowing have, I do.
 I only know Begonita.
- F. (7) Au zein da? Begonita da au?
 This who is? Begonita is this?
 Who is this? Is this Begonita?
- M. (7) Bai.
 Affirmative.
 Yes.

- F. (8) O , azka luza tu d - a . Asko aundi egin d- a.
Oh, sprung long(vb) she is. Much big made she is.
Oh, she's shot up tall! She's become big!
- M. (8) Bai.
Affirmative.
Yes.
- F. (9) Eta, zenbat urte dauzka: bost ala(o) sei?
and, how many year she-has-them: five or six?
And -how old is she? Five or six?
- M. (9) Zortzi, zortzi urte dauzka. Au da--
Eight, eight year she-has-them. This is--
Eight, she's eight years old. This is--
- F. (10) O , bai, zure emazte-a -n antz aundi-a dauka.
Oh, yes, your wife -the-in likeness big -the it-she-has.
Oh, yes, she has a strong resemblance to your wife.
- M. (11) Ah, zenbat da? Eskerik-asko. (To waitress)
Ah, how much it is? Thanks many.
Ah-- how much is it? Thank you very much.
- M. (12) Artu ori.
Take that.
Take this. (This is for you.)
- F. (12) Eskerik-asko.
Thanks many.
Thanks a lot.
- M. (13) Ez ore-gatik.
Not for-that.
Not at all. (You're welcome.)
- M. (14) Nai al- d- ezu oker- a- n bat?
Want would-it-be-you-have prune-the-(obj.) one?
Would you like a plum?
- F. (14) Ez.
Negative.
No.
- M. (15) Nai al- - - d- ezu madari bat?
Want would-it-be-it=you-have pear one?
Would your like a pear?

- F. (15) Bai, ondo da; bai, ederki.
 Yes, good it-is; yes, lovely.
 Yes, fine; yes beautiful.
- F. (16a) Bidi-a- n jango d-egu, zer-gatik-an
 Way -the-on eat-more shall we, that- for
 Shall we eat on the way, because, to me, it's
- F. (16b) etxe-(a)- alde joan bear-a degu- kit
 house-the-in-the-area-of to-go need-the we will-to-me.
 necessary that we go to the house.
- M. (16) Neuk erre ba naigo nu-ke
 I(actor) even indeed preference would-have-had-it
 Indeed, I, too would have preferred
- M. (16b) etxe-(a)-ra joango.
 house-the-to going.
 to go to the house.
- F. (17) Goazen ba etxe- r- a , ah? Ondo da-go?
 Let-us-go indeed house-to-the, hunh? Well it-is?
 Let's go (emphatic) to the house,hm? O.K.?

Appendix C

Directions for Judging Panel

and

Paragraphs for Schwarz Test

JUDGING INSTRUCTIONS

1 Read the original paragraphs, and then read the paragraphs written by the writers who were asked to give, in 1 paragraph, what they got out of the originals.

2 Overall, for each writer, would you say there was a concentration on detail or on general concept? Rate each from 1 (most general) to 4 (most detailed).

3 List the total number of inaccuracies by each writer in the errors.

4 If you feel that the writer added material of his/her own, or went beyond the information given, list the number of times this occurred in the inferences column.

5 If the writer gave some indication of evaluation or reaction to what he had read, list these non-neutral events in the neutrality col.

6 If you think the response is clear in its ideas write yes under the clarity heading, if not, write no.

7 If you think the writer shows a concern for language and phrasing or words, give him a 3 in the style column. If you feel that the writer shows an average concern with writing, give 2, if none, give 1.

Writer Detail Errors Inferences Neutrality Style Clarity

<u>o1</u>						
<u>o2</u>						
<u>o3</u>						
<u>o4</u>						
<u>o5</u>						
<u>o6</u>						
<u>o7</u>						
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<u>19</u>						
<u>20</u>						

Your name _____. Please free to make any comments you wish on the reverse side of this sheet. Thank you.

DIRECTIONS

I am going to ask you to read a number of paragraphs.

In each case write whatever you choose about the content of the paragraph you just read that would indicate to another person what you got out of reading it.

Each paragraph is to be read once at your normal reading rate.

Please turn the page over when you have finished reading it, and do not refer back to it.

Name

Date

The intervention of the gods is sought in various ways in attempts to induce desired natural events. Sometimes the deity is rewarded if he succeeds and is punished if he fails. When the Chinese want rain they make a huge dragon of paper or wood to represent the rain-god and carry it about in procession. If no rain follows, the mock-dragon is torn to pieces. At other times they threaten and beat the god if he does not give rain; sometimes they publicly depose him from the rank of deity. If the wished-for rain falls, the god is promoted to a higher rank by an imperial decree. In April 1888 the mandarins of Canton prayed to the god Lung-wong to stop the continuous downpour of rain; and when he turned a deaf ear to their petitions they put him in a jail for five days. This had a beneficial effect. The rain ceased, and the god was restored to liberty. At other times the god is made to suffer the deprivation for which relief is sought. In 1857, a time of drought, the same deity had been chained and exposed to the sun for days in the courtyard of his temple in order that he might feel for himself the urgent need of rain. So when the Siamese need rain, they set out their idols in the blazing sun; but if they want dry weather, they unroof the temples and let the rain pour down on the idols. In other parts of the far East propitiation of the deity (sacrifice or offering) is attempted in the effort to influence the weather: a black pig is sacrificed to the Earth-goddess for rain, a white or red one to the Sun-god for sunshine. The Garos offer a black goat on the top of a very high mountain in time of drought.

Various ways of incorporating animal virtues are practiced by different peoples. When the Kansas Indians were going to war, a feast used to be held in the chief's hut, and the principal dish was dog's flesh, because, said the Indians, the animal who is so brave that he will let himself be cut in pieces in defense of his master, must inspire valor. The Miris of Assam prize tiger's flesh as food for men. Among the Papuans in New Guinea young lads eat strong pig, wallaby, and large fish. On the other hand, the Namaquas abstain from eating the flesh of rabbits, but they eat the flesh of the lion or drink the blood of the leopard. A Wagogo man of East Africa refuses to eat the heart of a hen, or the flesh of old animals. Other tribes worship animal parts that are considered the seat of various virtues. Among the mountain tribes of South-Eastern Africa whenever a lion has been killed, his liver which is considered the seat of valor; his ears which are supposed to be the seat of intelligence; the skin of his forehead which is regarded as the seat of perseverance; and his testicles which are held to be the seat of strength are cut from his body and baked to cinders. The cinders are sprinkled over the bodies of the tribe's youth by the priests.

Many customs illustrate attempts to manipulate the occurrence of marriage. In some parts of the Highlands of Scotland the last handful of corn that is cut by the reapers on any particular farm is called the Maiden. If an unmarried person gets the Maiden, he believes that he will get married before another harvest. The reapers often compete to get the Maiden. For example, one reaper might leave a handful of corn uncut and cover it up with earth to hide it from the other reapers, till all the rest of the corn on the field is cut down. Several others might try to play the same trick, and the one who is coolest and holds out longest obtains the prize. The objective of other practices was to prevent the consummation of marriage. During the Middle Ages and down to the 18th Century, anyone who bore a grudge against a wedding couple either locked a lock or tied a knot in a cord while the wedding ceremony was taking place. The lock or knotted cord was then flung into the water and had to be found, unlocked or untied, if the spell was to be broken and union possible. Still other practices attempt to bring about marriage with a particular beloved person. The ancient books of the Hindoos lay down a rule that a man in love should sit silent on a starry night under his beloved's window. When the pole-star appears, he should say, "To me Brihaspati has given thee; obtaining offspring through me, thy husband to be, love with me a hundred autumns."

Appendix D
Personal (Language) History Form

(Please feel free to answer or not, as you choose. This form is an effort to identify those factors which may have some bearing on your language outlook. It will, of course, be kept confidential. The answers you give will be helpful if they are as detailed as possible.)

Number of brothers and sisters _____ Your birth order (oldest, 2nd, etc.) _____

Number of caretakers (parents, grandparents, governesses, aunts etc.) _____

Languages used by caretakers (list all) _____

Languages known but not used by caretakers _____

Languages used in your communities or community _____

If you came from a monolingual home, what was your age at which you were exposed to a second language, what were the circumstances, what was your immediate reaction, and what was the language? _____

What were your preferred activities in early childhood? _____

What were your preferred activities in later childhood and early adolescence? _____

Do you now have particularly strong interests or hobbies, e.g. playing or listening to music, doing crossword or other puzzles, travelling, collecting? _____

What type(s) of education have you had? (Public, private schools, tutors, study abroad, etc.) _____

What language do you use with your most intimate friend? _____

With your mate? _____ Your child(ren)? _____

If you know a third, fourth, language, what was your age at initial contact?

How long did you study it, or how long were you exposed to it? _____

What were the circumstances under which you learned it and use(d) it?

What would you say your childhood pattern was: timid, brash, liked large groups, got along better with same age, older, younger, etc.? _____

What kind of a community did you grow up in? What were (to you) its chief advantages and disadvantages? _____

How do you feel about your ability to speak not to speak more than one language? _____

Why do you think you have have not this ability? _____

Would you want your child to learn more than one language? If so, in what way, and which language(s)? _____

If you had to learn another language now, what would you do to make it easier?

Do you feel that learning a second language interferes with, or makes more easy, the learning of a third. Why? _____

Did you have any choice in the language(s) you have learnt? _____

Did you, at the time, perceive the learning as having any useful application? Explain _____

What was your personal opinion of your teacher(s) at the time? _____

Would you please rank your languages in what you consider to be their order of successful learning.

Do you conceive of any circumstances in which you might be a more successful learner? Explain _____

What language would you like to learn? _____

If you can think of anything else that might shed some light on your language history, please add it here.

Appendix E

Final Test - Measure of Achievement

Name _____

Translate whatever portions of the following you can:

I

This is a house.

This is the house.

The man has a house.

This is the man's house.

Is this my house?

The other is not mine.

II

Here are two scrambled sentences. Unscramble them and tell what
they mean.

1 Dira amak adixkideen joango.

2 Da ama da ta gizon emakume aita.

III

Respond to these in Euskera:

Nai aldezu esne pizkat?

Izendu emen.

Which Euskera scene did you see today? The 1st? How many have you seen?

IV

Translate any 3 of these sentences into English, even if only in part.

Etorri dira alabak.

Adixkideen aitzak aurrak asko dituzte.

Semeak eta alabak onak ederrak izanen dira.

Lenengoak izango gera.

Loreok gorriak dira.

V

Can the following be said another way? More than one way? How?

Aita ta ama bi umeak dituzte.

VI

One of the following is incorrect. Cross it out.

Oker gozo dut.

Otzarak aundiak dira.

Aita ezta etxean.

Etxeak luzeak eta berriak dira.

Pasaporteak dira.

Gizona bi okeran jan egin da.

VII

Make some sentences of your own.

VIII

Ask me two questions.

IX

Take dictation.

1

2

3

4

X

Description :

You will see four pictures. Choose one. Put the others away. Describe the one you have chosen in such a way that I can select it from among the four. THIS IS TO BE DONE VERBALLY.

Appendix F

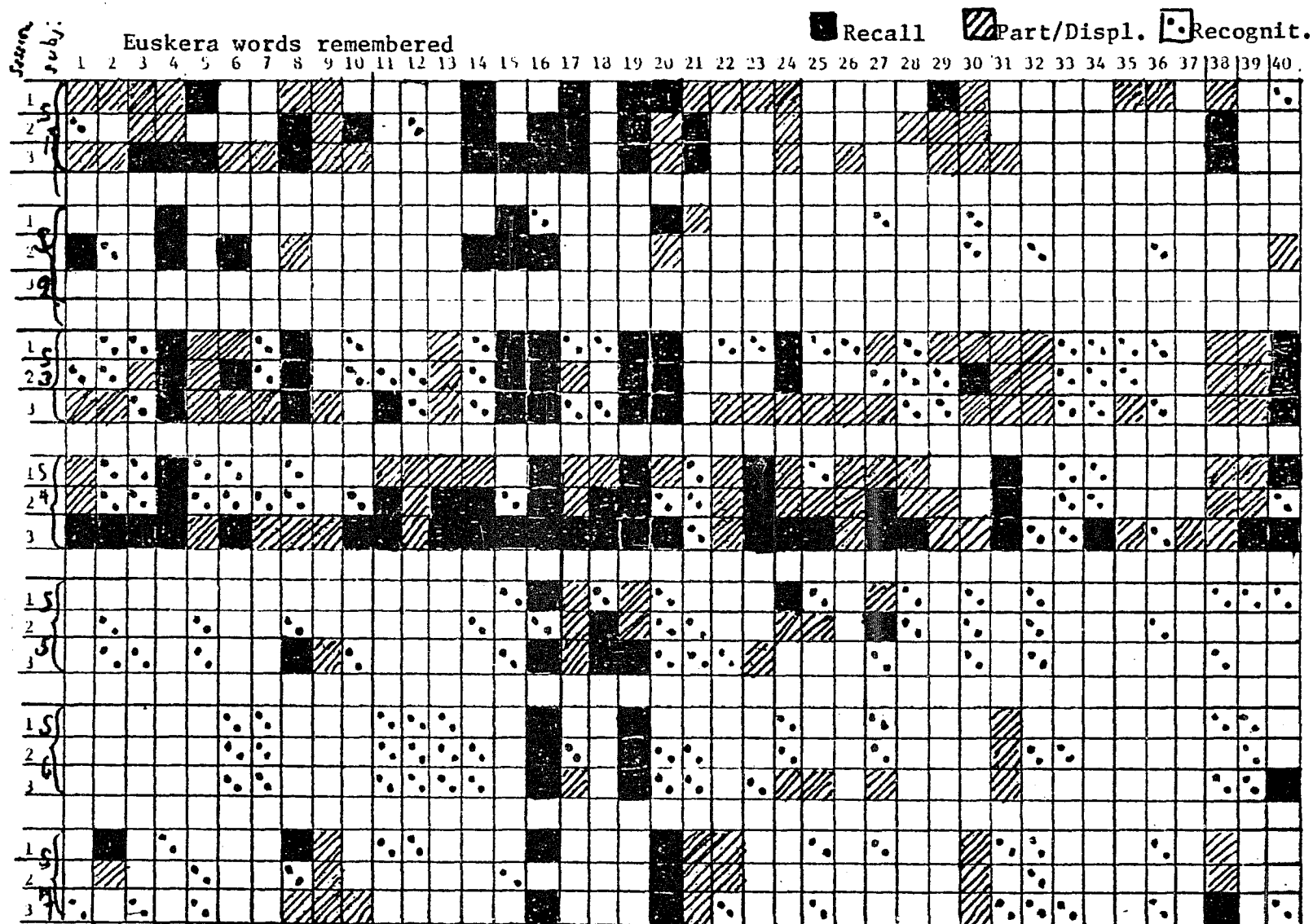
Word Memory Results, by Respondent and Session

Languages of the Respondents

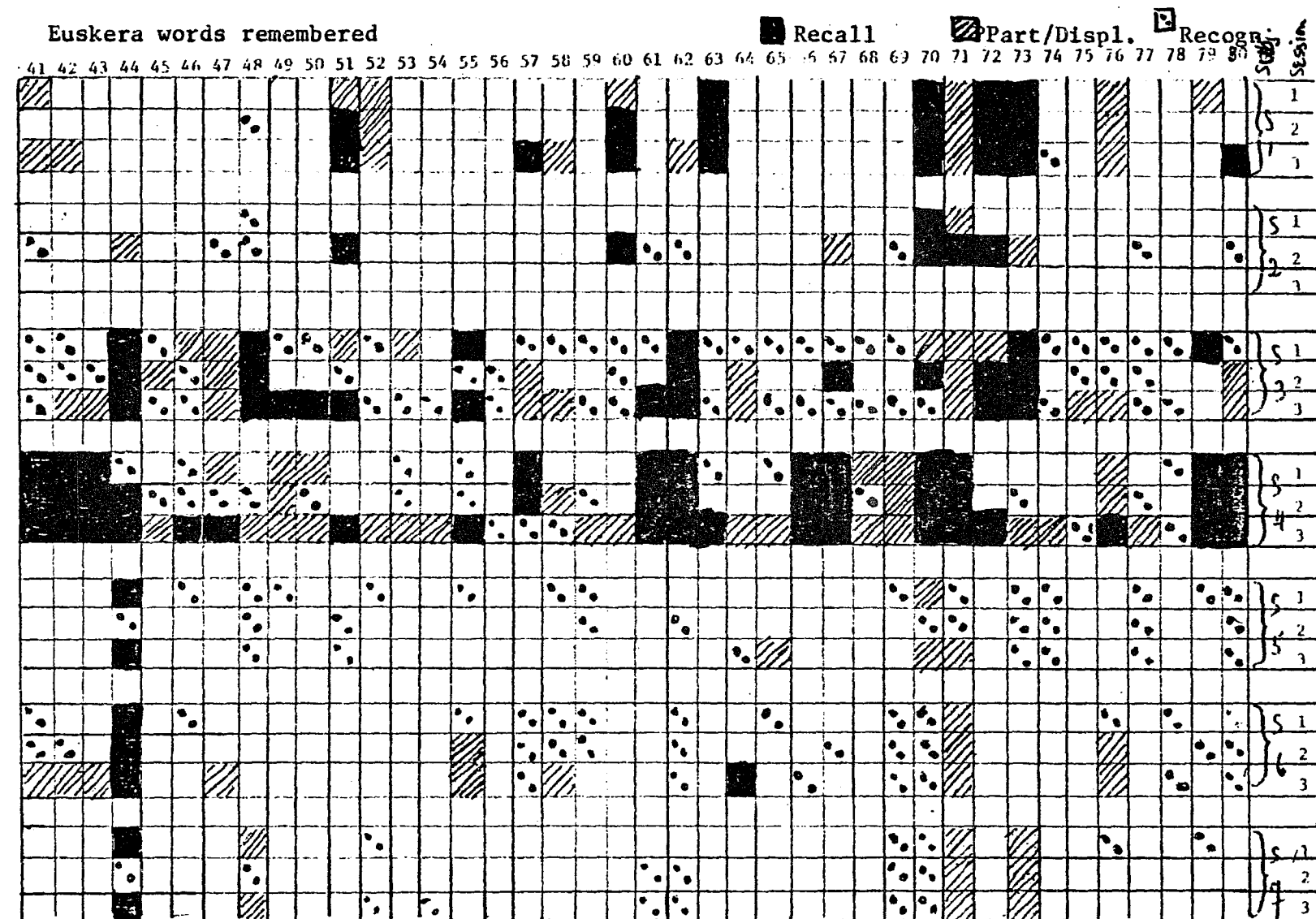
Resp. #	Lang.N	Lang. 2	Lang. 3	Lang. 4	Lang. 5	Lang. 6	Lang. 7
01*	English	French	Col. Arabic	German	Swahili	Latin	
02*	Spanish	English	French	Italian	Latin		
03*+	English	French	German	Spanish	Greek	Russian	
04*+	French	English	Spanish	Mod. Greek	Latin		
05	English	<i>French</i>	<i>Spanish</i>				
06	English	<i>Yiddish</i>	<i>French</i>				
07	English	<i>French</i>					
08	English	<i>Hebrew</i>	<i>French</i>	<i>Spanish</i>			
09*	Danish	English	German	Latin	French		
10	English	<i>French</i>	<i>Latin</i>	<i>Spanish</i>			
11 +	English	<i>French</i>	<i>Yiddish</i>	<i>Spanish</i>			
12*+	English	Persian	French	Italian	Arabic	Turkish	Russian
	Spanish						
13	English	<i>Latin</i>	<i>French</i>				
14	English	<i>Spanish</i>					
15*+	English	French	Italian	Russian			
	Spanish						
16*	German	Russian	English				
17	English	<i>German</i>					
18	English	<i>German</i>	<i>Latin</i>	<i>Spanish</i>			
19*+	English	Latin	French	German	Clas. Greek	Italian	Sanskrit
20*	Danish	English	French	German			

Language repertoire of participants. Italics indicate failure, inability to use.

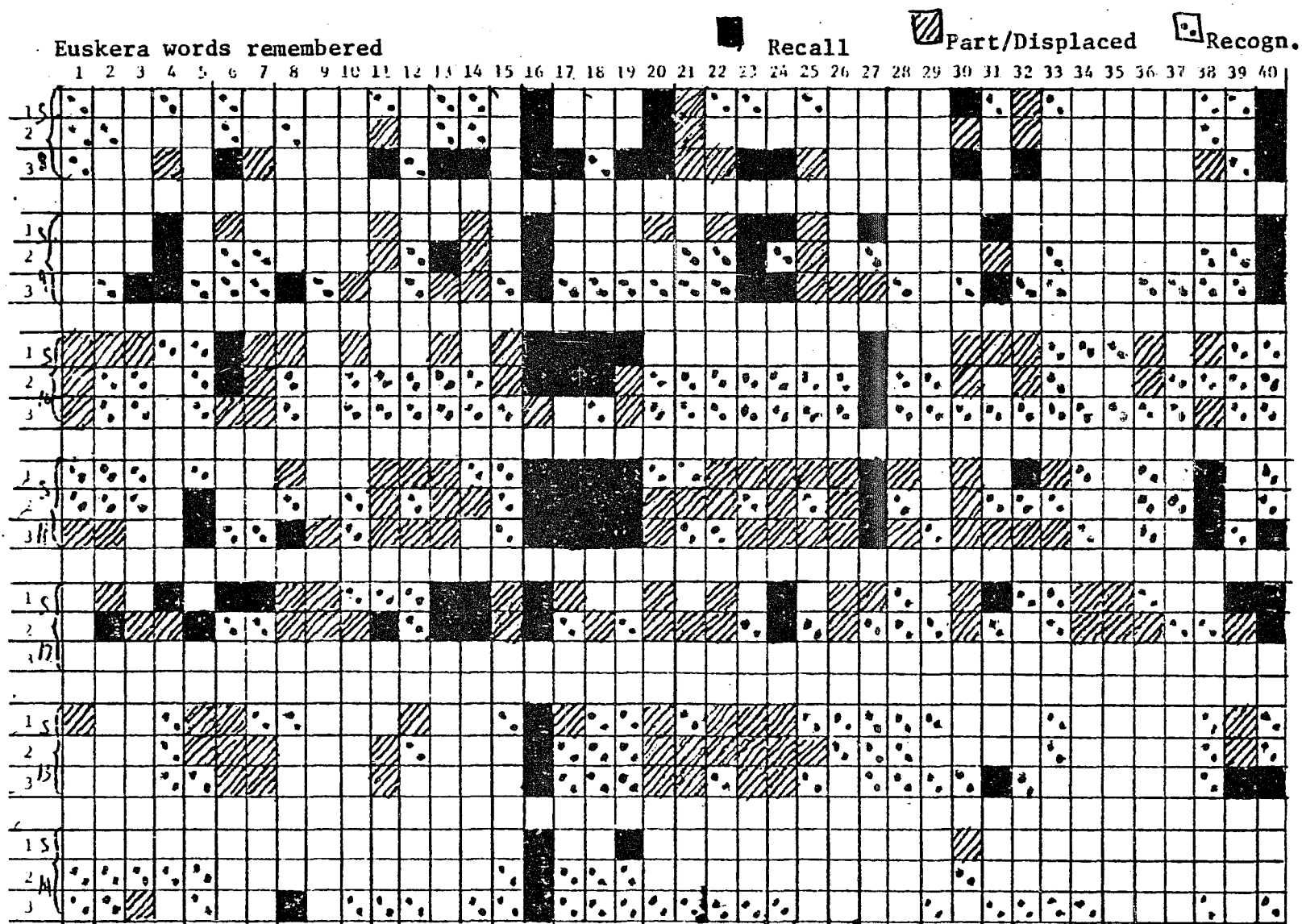
(* = multilingual, + = successful learner.)



Vocabulary Test Results- Subjects 1-7, all 3 sessions, words 1-40.

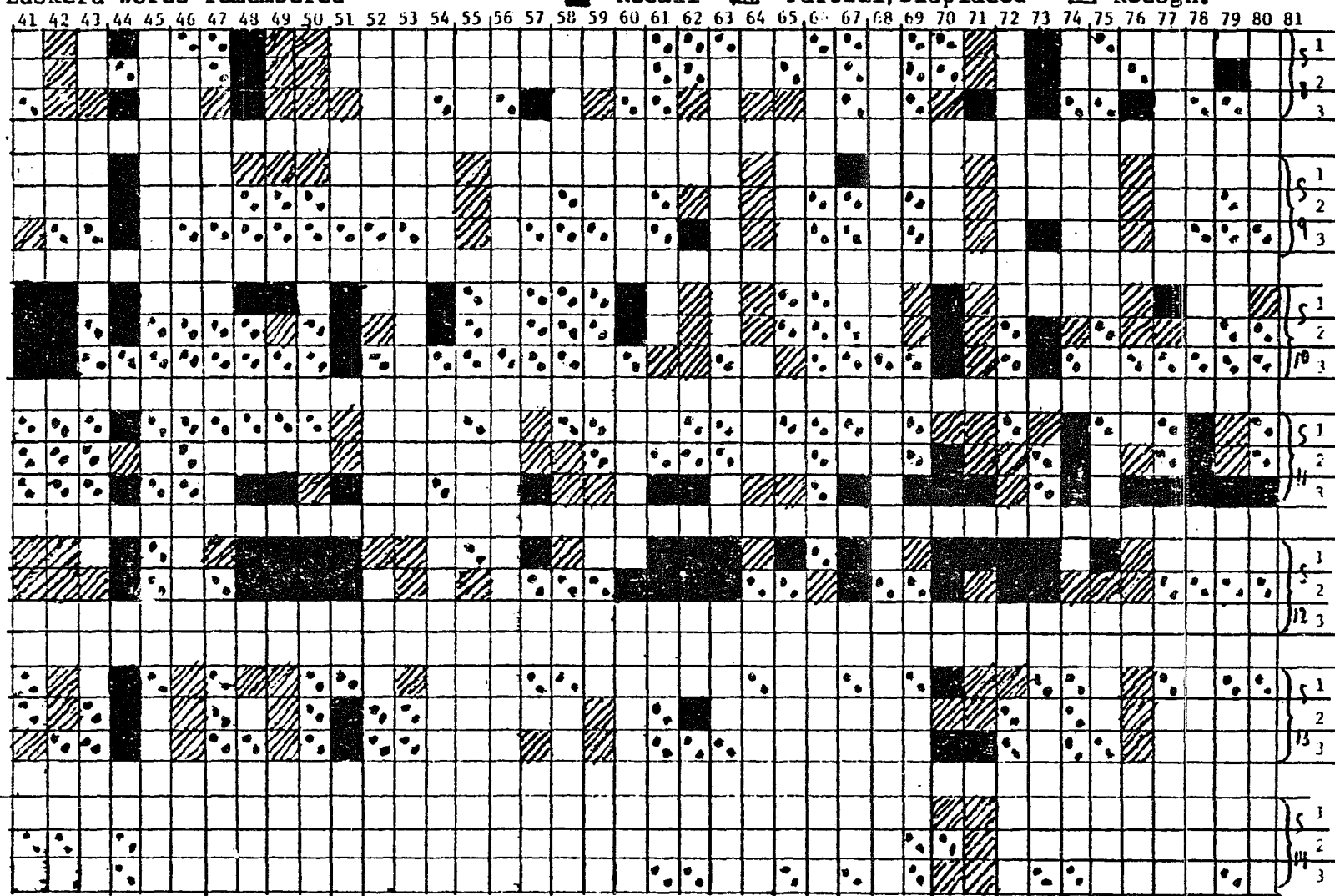


Vocabulary Test Results- Subjects 1-7, all 3 sessions, words 41-80.



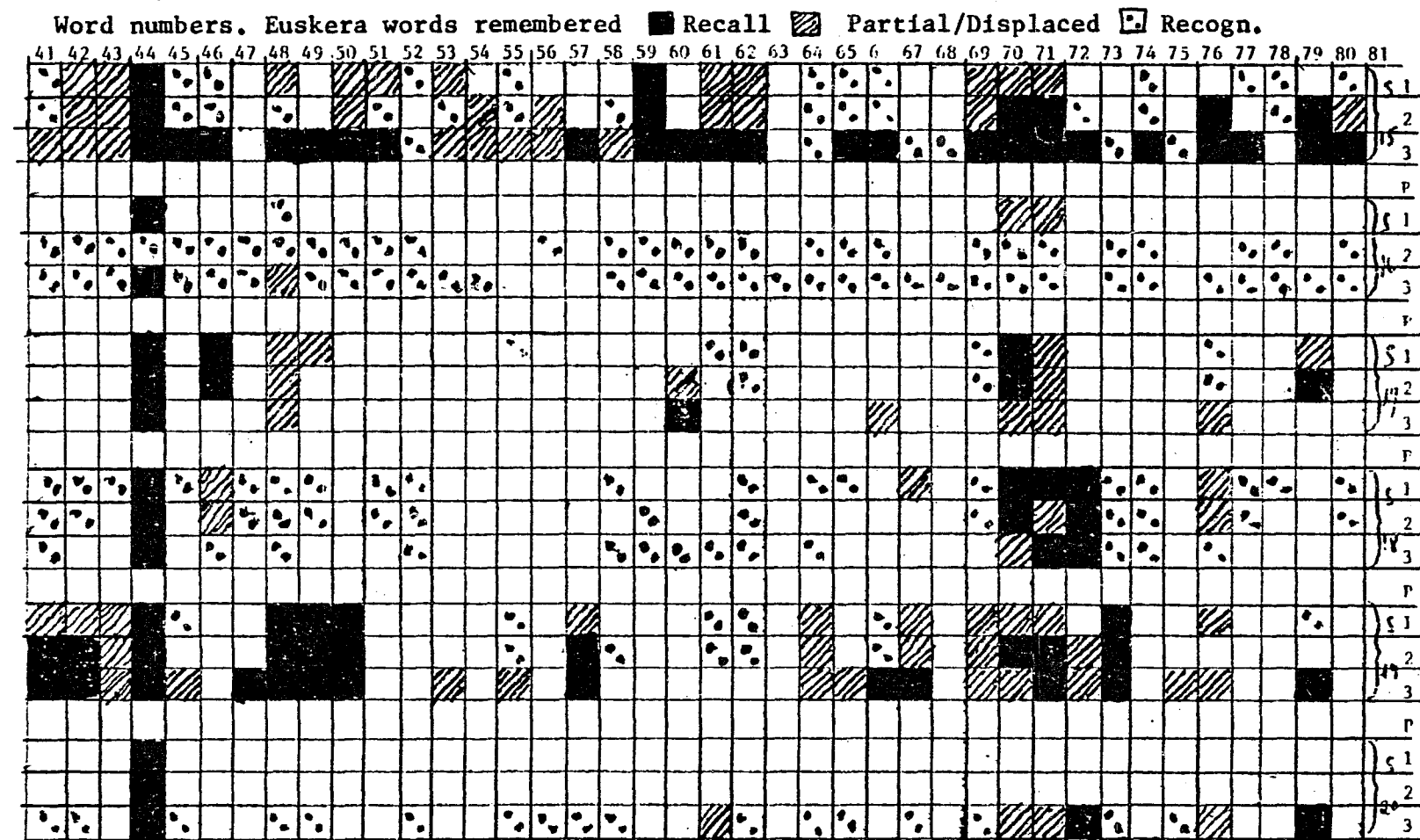
Vocabulary Test Results- Subjects 8-14, all 3 sessions, words 1-40.

☒ Recall ☒ Partial/Displaced ☐ Recogn.



Vocabulary Test Results- Subjects 8-14, for all 3 sessions, words 41-80.

Vocabulary Test Results- for Subjects 15-20, for all 3 sessions, words 1-40-



Vocabulary Test Results for Subjects 15-20, for all 3 sessions, words 41-50.

Appendix G

Eighteen sample Euskera-to-English Cards

sei

six

urte

year

zuqatz

tree

umeak

children

sendia

the family

aur

child

bakar

alone

bide

way

eder

beauty

edan

drink

oozo

sweet

esne

milk

qizona

the man

dira

they are

emakume

woman

emazte

wife

seme

son

alaba

daughter

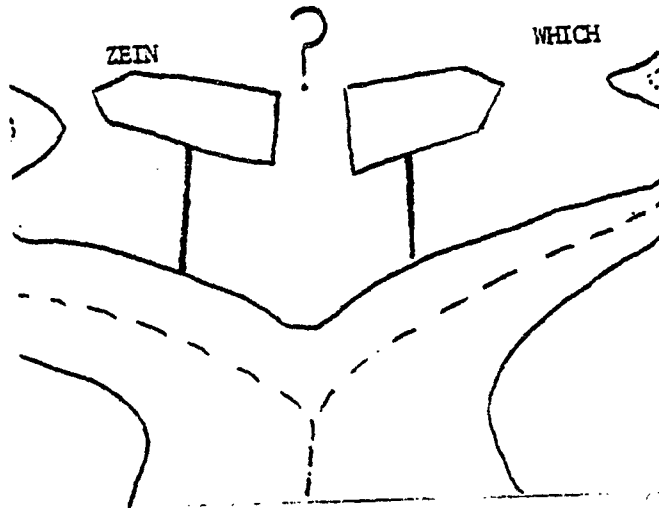
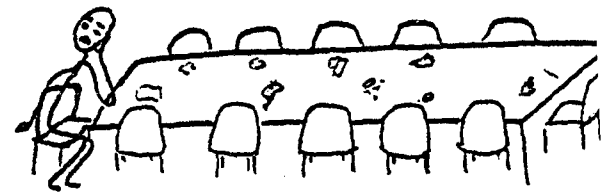
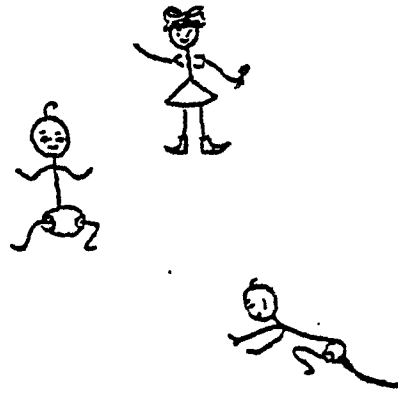
Appendix H
Sample Picture-Vocabulary Cards
Sample Rules and Forms

AURAK

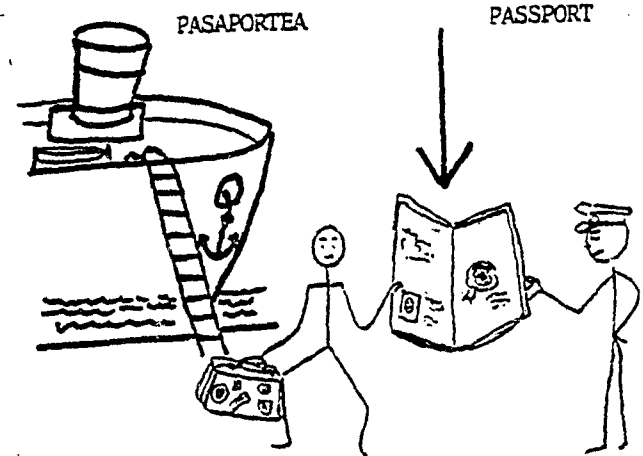
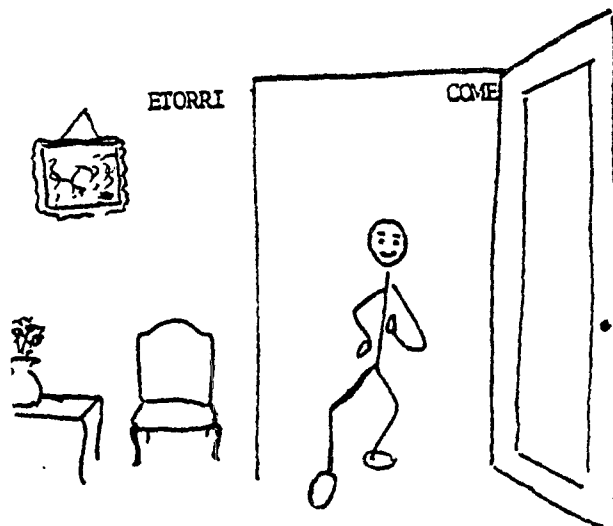
CHILDREN

BAKAR

ALONE

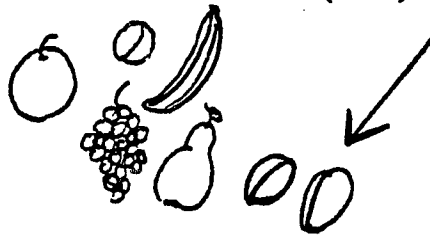


NAI



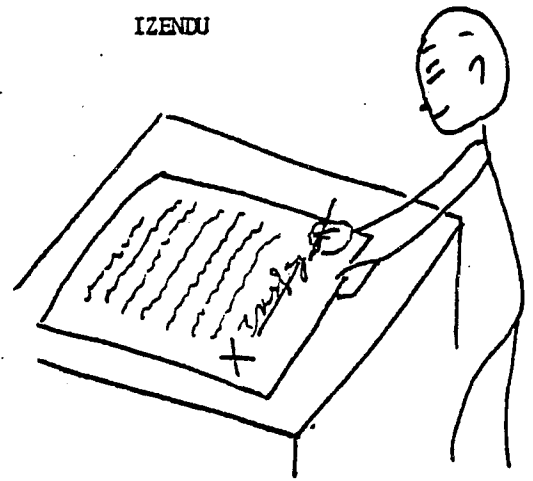
OKERA

PRUNE
(PLUMS)



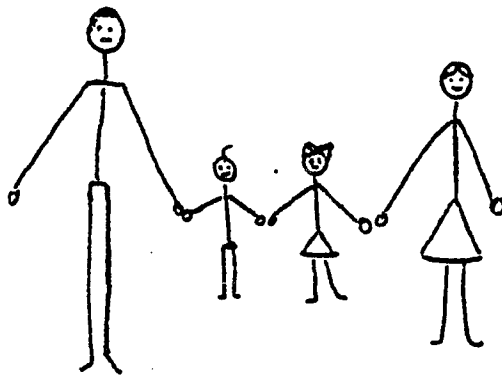
IZENDU

SIGN



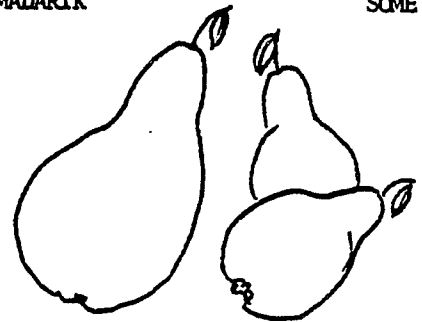
SENDIA

THE FAMILY



MADARIK

SOME PEARS



ETXE

HOUSE



ETXEAK

HOUSES



F 3

izan "to be", "being"

PRESENT CUSTOMARY
"I usually am", etc.

<i>izaten naiz</i>	<i>izaten gera</i>
<i>izaten zera</i>	<i>izaten serate</i>
<i>izaten da</i>	<i>izaten dira</i>

F 4

izan "to be", "being"

FUTURE
"I will be", etc.

<i>izango naiz</i>	<i>izango gera</i>
<i>izango zera</i>	<i>izango zerate</i>
<i>izango da</i>	<i>izango dira</i>

F 5

izan "to be", "being"

PAST IMPERFECT
"I was being", etc.

<i>Nintzan</i>	<i>Ginan</i>
<i>Zinan</i>	<i>Zinaten</i>
<i>Zan</i>	<i>Ziran</i>

(NB This is used as auxiliary)

R 8

The conjugation of most verbs is done by use of the verbal noun plus the appropriate form of *izan* or *egon*.

R 9

The noun plus the article -a may serve as the subject of a neutral verb. It may serve as the object of an active verb. It may serve as the attribute of a neutral verb.

R 10

- a) Proper names do not take an article when they are subjects, unless they are active agents. Then they take -k, (-ek) for nouns ending in a consonant.
- b) The plural may also use -ok to indicate additional energy in the phrase.

Appendix I
Sample Post-test Sorting Cards

26 aditu HEAR	17 sudur NOSE	18 aitona GRANDFATHER
19 amona GRANDMOTHER	20 eguzki SUN	21 illargi MOON
22 izar STAR	23 gaur TODAY	24 il TO DIE
25 jayo TO BE BORN	26 auntz GOAT	27 eman GIVE
28 agitu TO FOLLOW	29 magal SKIRT	30 makal WEAK, ILL

Appendix J

Primer

7



Zenbat lore?



Asko.



Loreak gorri, urdin eta zuri dira.



Loreak ederkia dira.



Maritxok loretara ikusten du.

8



Maritxo du "Eskerik asko" esango.



Aurak dute "Ez oregatik" esango.



Orain, Maritxo doa.



Agur.



5



Begoñita Mikelen eta Sararen alaba da.



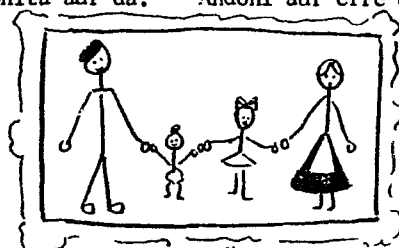
Mikel eta Sara alaba bat dute.
Mikel eta Sara sene bat dute.



Sara ta Mikel bi aurak dituzte.

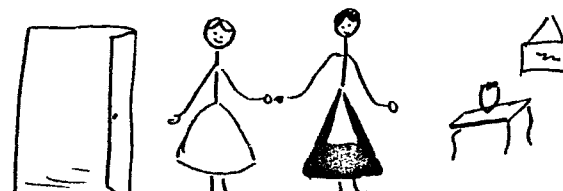


Begoñita aur da. Andoni aur erre da.



Mikel eta Sara ta Begoñita ta Andoni sendia bat dira.

6



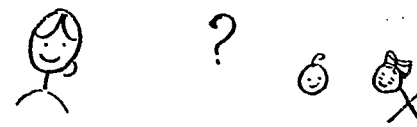
Maritxo Sararen etxean dago.
Enakumeak etxean dagoz.



Maritxo adixkideakin dago.
Maritxo adixkideakin ikusteko du.



Maritxo sendiaren adixkidea da.

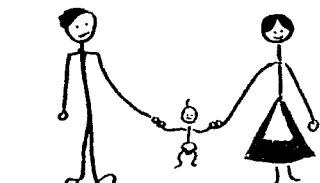


Nor Maritxo da? Maritxo Begoñitaren ama alda?
Ez. Maritxo ezta Begoñitaren ama; Andoniren amatxo da.



Aurak Maritxoari loretara enan dagoz.

3



Andoniren aita ta ama Mikel eta Sara dira.
Andoni gurasoak Mikel eta Sara dira.



Maritxo Andoniren amatxoa da.



Mikel eta Sara te Maritxo adixkideak dira.



Au Mikelen etxea da.



Maritxo Sararen etxera doa.

4



Maritxo Sararen etxean dago.
Emakumeak etxean dagoz.



Maritxo adixkideakin dago.
Maritxo adixkideakin ikusteko du.



Andoni aizpa du.



Begonita Andoniren aizpa da.
Andoni Begonitaren anai da.



Andoni Mikelen eta Sararen semea da.

1

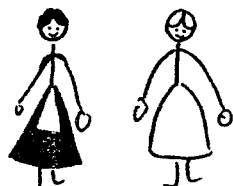
Au Maritxo da.



Maritxo emakume da.



Au Sara da.
Sara emakume da.



Sara ta Maritxo emakumeak dira.

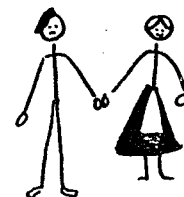


Au Mikel da.
Mikel gizon da.



Mikel emakume alda?
Ez, Mikel emakume ezta.

2



Mikelen emaztea Sara da.



Andoni aur da.



Mikelen Andoni semea da. Sararen Andoni semea da.

Mikelen eta Sararen semea Andoni da.



Andoniren ama Sara da.



Andoniren aita Mikel da.

Appendix K

Initial Responses to Videotaped Scenes I & II

Initial Interpretations of Videotaped scenes

Initial Responses to Euskera

(* = multilingual; Σ = successful learner)

01* It looked like stamping a passport or a visa of some sort. And the man was asking some sort of a question, I don't know what, and then told the woman to go to another man...take the papers and go to another man, it sounded like, and she said something like..'yes' (laugh) something - I assumed was 'yes' because it was [εç]^{*}, when he gave her instructions or asked her questions. One word that stuck in my mind was [p^hap^olɾə]. (asked why "directions".) His tone of voice and he turned his head away and pointed.// I was disturbed, I could not identify the language system at all. I kept thinking Swahili, but it wasn't like it at all.

02* The lady was coming into the country, and she was getting her passport stamped. The man told her to go to the door - to exit - and she didn't understand and he repeated it again. And [p^oapⁱer̃a] is one of the words I picked up. Formal. //Sounded Russian- has a[χ] sound.

03*Σ Checking her luggage, well -- preparing her...customs! So, checking if she'd bought anything...and he asked if that was all. She bent to her -- probably to pick up her luggage -- where her luggage would be checked, perhaps - looked at, yeah. The end he says, "Thank you." [sarigaso], you know, something like that word. I got 'thank you' from the intonation pattern. Otherwise I didn't get from the intonation as much as I would expect. I had certain expectancies of customs, but they weren't right away fulfilled, by anything, and I think it's 'cause the intonation patterns didn't conform to any-
* [εç] is here used to represent the lax front, non-high, non-low vowel and a low-blade, advanced [z], which, in Euskera, contrasts with[s].

thing that immediately told me what the questions were. A little like Greek, but an even intonation pattern.

04*Σ The passport...and also the word "passport" is almost the same because I recognized it. And also I heard [es:] and also [skeɣik^oask^ho].. There were other words that I distinguished, but I don't know them.

05 The man was some official...at a counter...stamping papers. And, well, it was...she had a lot of stuff. It sounded -- the TV sound isn't -- maybe it was a lobby or a terminal. Someone said [baj-baj]. I think perhaps Hindi, but they didn't look...Don't know.

06 Well, it looked like at first, it was a woman who was going to an airline terminal to get -- I guess, getting tickets -- and the man was asking her questions; and I remember distinctly the word [es:] which probably meant "yes". And I think he was giving her directions as where to go to catch the plane. (Why?) The word [baj] and the way he was pointing and the fact of the setting itself. It was very familiar to what I would go through at the airlines. (tone of voice?) Yes, by the man. The man probably asking her, "Do you have your ticket, or do you have a passport?"...something...I couldn't hear what was being said... yes, he asked her to give him something.//Oh, pretty much Chinese, -- I guess not, but Polish. Yes. (?) Don't you think so?

07 (Tape damaged, being repaired.)

08 Spanish. Only *some* of it sounds like Spanish -- just the sound [he³manop].// It seemed like someone was coming into a new country and they were dealing over a counter and he was giving her directions --- was it customs? or I don't know what it is and she -- he was giving her directions, that's all. She had papers and stuff. I don't think it was verbal or non-verbal; the way I'm thinking of it is -- it seems to me it was a foreign language, so it had to be another country. It had something to do with the paper. He gave her a paper and - um - tone of voice. He seemed a little -- he wasn't all that friendly; he was kind of - semi-official. He made me feel that he could make it difficult for her if he wanted to. It was an attitude also, like she was a foreigner. I had a feeling she wasn't a foreigner but there was something about him that was...bureaucratic.

09 In a hotel,...she...a lady came to check in and then the man showed her where she was-...after she checked in(?) because he pointed with his hand. He asked her something -- a question, by his intonation. I remember [es:].

10 An airport, the pieces of paper, it looked as though she bent down to pick up a suitcase, a signature. (Questions?) Yes, the man asked the questions -- 'cause he started it; and the way he said it was kind of a question and she was...mmm...tone...of voice. And then he said - I heard he said "understand". Said something very close to "understood", but I guess it was another word. Some kind of directions at the end, I think, 'cause he said it once, must've said something like, "D'you understand?" 'cause he said it -- he repeated

it twice. Something about going...to see s-, y'know, and then -- that's when she kind of moved down to pick up her suit case.// Not the regular Spanish -- Portuguese -- something like that.

11 Σ Sure -- [sɔ'ɾizesku] is probably "thank you" and I can't remember what the other one is...The only reason I remember that is because it sounds like [ɛv'karistoy] which is Greek, and that's the only word I know in Greek. Stamping the passport...he was telling her then where to go after she had her passport stamped, to get her luggage, she being much more submissive than him, both in nonverbal and also vocal, and him being the...he has the...like the elevator operators -- a small job and a very need...y'know, need for importance, and a straight back.

12*Σ She was being given directions to go write something. I recall the words for "yes" and "no" [ɛs:] and [nai], although I don't know, I don't know which one is "yes" and which one is "no" (laugh) and I heard a lot of [euskera] or [k'aras:].

13 Customs. Yes. She gave her passport and he stamped it and told her the next place to go. She had luggage. He pointed somewhere? Yes.// Don't know...lots of sibilant clusters [Iskoy,ɛskoy], and [bai], yes, [bai]. Oh, and [ɛs.] I think that's "yes". He was very abrupt.

14 She was applying for some official form... he used a stamp.. it could have been a passport or some kind of document -- official document. (?) I guess it was the tone. I felt she asked questions. //I don't know...I couldn't a-a-a-a pick it up...I couldn't dis-

tinguish anything he was saying. I knew he was a-a-a speaking and - but it was foreign. It was completely alien. And I think I was more concerned in trying to hear what he was tryin--he was saying rather than to observe.

15* Σ There were times when it sounded I could find -- that it sounded like English, there were parts, y'know, and then there were other times when it reminded me of - of something like - um - some sort of Romance language, but then, then it also sounded like, I don't know, a; Czech or something like that. It tripped which is why I thought of Romance at first, y'know, ['uskerə] and things like that. And then something about, to me it sounded like ['mano], like something -- he was pointing to the direction, y'see, and then he said, [pa'pero, 'p'ap'ero] 'paper' -- things like that. It's hard to say, and she kept saying like [es:, es:] and something like that was in response, and I thought "es" - "yes" but there are all sorts of little things it could be. It looked like she was - um - she was getting like some kind of a ---I don't know, first it looked almost like a passport or a licensing bureau -- something like that. She was applying for something, he was stamping papers, and then he directed her to go somewhere with those things, it seems. And also the thing he kept saying -- [mən] or ['mano] something like that. Yea. He pointed. Must be, like, "to the right", "to the left", something like that - um - although he might've been just sayi--, I don't know, because, I think it was direction. He might've just told her to "Take off." Well, he sounded like he was definitely giving instruc-

tions, and she was --- it sounded more like the way sales people talk - something - sort of like - um - a-a pattern that they kept using because they repeated words over again and it seemed to just rattle on. It wasn't conversation.

16* I think it was a passport...passport...what do you call it... office. The gentleman took the lady's pass and stamped it. He asked questions. He asked her to come back? // Finnish, Polish?

17 [agvʃ]? [agvʃ]. Slavic. She was picking up her welfare check -- trying to. He was a bureaucrat...the very business-like intonations he used. //Vowels and /s/, /k/.

18 I can't figure...well...airport? He's a pill....They talk so fast...She isn't very capable...oh, passport, stamping,go here,go there, whatever,goodbye,goodbye.

19*Σ Yes. [εʃ] and [bai]. It seemed to be a passport office. He said [pasapɔʃt], I think; and [pɔpɔero], [mon]? //Not like anything I know, maybe Gaelic a little, but no.

20* Eastern European// She was in some kind of office and had a book stamped. My first thought was a bank. Made a deposit or something like that - that kind of thing. Nothing in the room to see what kind of business it was. He was giving her directions of some sort, or explaining something- something to her afterwards. He pointed and then looked. And -- she was receiving. I didn't -- I was listening more to what - the questions -- and she was not that much. And that was where I got the impression that he was asking questions. It seems more to me now that he was just giving her directions. No

questions in the scene. A lot of /a/s in it...[ba], but I...no --
any particular words -- no.

Scene I involved the following visual cues:

Woman, with shoulder carrying case, two suitcases. Not young, neat.

Counter with forms of some sort

Man, well-dressed, self-assured.

Embosser, passport.

Woman's center-line facing slightly to the man's left at all times

Man - very direct gaze, interspersed with glances at papers
and slight thrust forward of head when asking questions.

Pen, signature, return of signed document to man

Man step aside from counter

Woman - defensive response, and on monosyllable, tilt side and up
of chin. Sharp closing of mouth

Man - first abrupt, then slightly slower reply. Whole hand point.

Woman - turns to go, speaking as she starts to leave, adjusting
bag strap and luggage

Man - looks after - completely neutral.

Auditory cues

(For content, see script) Background airport noises (Vienna, JFK)

No noticable intonation rise for questions.

Rapid tempo of response.

Man's diction sharp, crisp, not always clear.

Woman's softer, monosyllabic.

01* He came to meet her and said, "How are you, and how is everything, everybody, and how is your trip?"..."Do you have your luggage?" and she said, "Yes, it's all here - this is everything..." and...O.K. -- I don't know...it looked like it to me.

02* "Come," she asked, "how are you?" She counted to three. I guess he asked her for the family..."How many suitcases do you have?" "One, two, three." "Come, let's go." At the airport -- after customs.

03*Σ He said [esk°erik°ask^hov] again. "Thank you" - seemed to be 'let's go'. He kept asking how is this* person, that one...checking on-, and she was, like, saying, "Fine...and that one's fine." Questions like a formality of checking..."welcome...how are you." Greeting and asking how was the person.

04*Σ "Let's go, Mariette." She counted one, two, three and he asked about [høn, lo], 'eat' and 'sleep', 'yes', 'no'...something about [bexi].

05 A greeting of a man for the woman's arrival --- something - "This way."

06 Plane or some kind of transportation, but her friend picked her up, got her luggage, and asked if that was "all your pieces?" She said yes and, from motion of hand and tone of voice, "one, two, three."..."How was your trip..."

07 They were talking about the luggage. He was asking her if that was all her luggage -- I assumed. At the end, she said "Let's go."

* = multilingual; Σ = successful learner.

08 He met her and it was a reunion. (It was the same guy.) He took her bags and they went. She said, "Thank you."

09* I understood some of it when she said [at^hə han, et^oα lo]. [ono, dα] and also when he said [aldəsu:].

10 Did they mention "parents?" -- and "son" I heard. [ɔsoy] for 'completely'-- [loy] for 'sleep'... luggage...[ɛsk^h]?

11Σ "One, two, three...thank you." She finally got her luggage, she's waiting in the waiting room to be picked up. This nice man who (I'm not sure) was either an old friend or a husband, greets her. He asks "How as your trip?" She said, "Fine, fine, how are you?" and he says, "Fine". He says, "Is this all your luggage?" She says "I have three pieces."...something like that and he said, "Good. I'll carry them." She says "Thank you." He says, "Let's go." She said, "Don't mention it."

12*Σ All I got was that she was pointing out -- "yes, no, yes, no." and that he addressed her as [mɔrit/α]. It was a station.

13 Her friend or relative meets her at the terminal of some sort ...maybe he suggested that he take the bags outside -- I'm not sure.

14 He said "Maria, how are you?" "Fine, fine."... "How's the family?" ... "Thank you."

15*Σ [ɛu] 'you'...same man following the passport- He asked a question obviously about her health or something, or other people she knew...he was running down a list of questions. He asked, about "your luggage"...how much luggage or something and she said "one, two, three. The last word she said sounded familiar [ɛsk^oerɪsk^oo]--[baɪ]

a couple of times.

16* First meeting after a long time...very happy. Looked like somebody had to go - I don't know where - to his home, maybe. He invited her -- he took her luggage.

17 Having had the passport tape before,- she was waiting for the relative to come pick her up. He did, and was glad to see her, and off they go -- with luggage.

18 You're not supposed to think that's the same guy, right? I couldn't tell much. She was saying as he came up, "Hi, how are you, so glad to see you, what're you doing? How was the trip, whatever. How many pieces of luggage do you have...Are these..." -- took luggage from lady and walked away.// How can they live so close...the language be so close and not be alike? [#19 looked up Euskera after the first session. It is not easy to find; I don't know her source.]

19*2 He was greeting her after some absence...heartiness...She had this stuff down under the chair. He bent down to get it.

20 She went through customs and was sitting there and this is apparently the person who was meeting her there and greeting her and getting baggage...and "Come over there"...friends -- they were friends.

Visual cues - scene two.

Four pieces of baggage, chairs(plastic) ashtray stand.

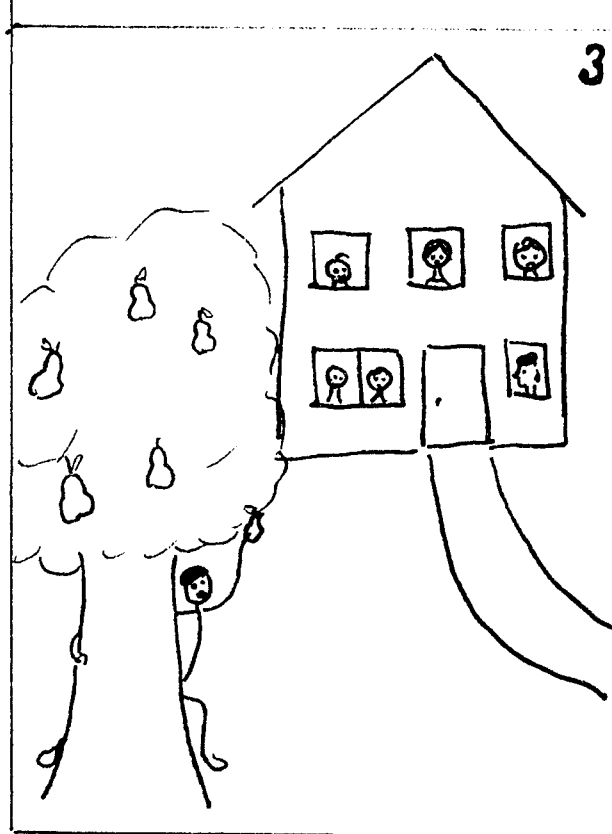
An embrace, counting gesture, dismissing gesture, distribution of things to be carried, slight push on her shoulder in exit direction.
Little eye contact.

Appendix L

Euskera Vocabulary for Memory Test

1	friend	<i>adixkide</i>	44	no	<i>ez</i>
2	father	<i>aita</i>	45	something	<i>ezer</i>
3	sister	<i>aizpa</i>	46	left	<i>ezker</i>
4	...?	<i>-al-</i>	47	is not	<i>ezta</i>
5	daughter	<i>alaba</i>	48	man	<i>gizon</i>
6	side	<i>alde</i>	49	the man	<i>gizona</i>
7	at the side	<i>aldean</i>	50	to the man	<i>gizonari</i>
8	mother	<i>ama</i>	51	red	<i>gorri</i>
9	godmother	<i>amatxo</i>	52	parents	<i>gurasoak</i>
10	brother	<i>anai</i>	53	seeing	<i>ikusten</i>
11	to the	<i>-ari</i>	54	word	<i>itz</i>
12	to	<i>ari</i>	55	name	<i>izen</i>
13	many, much	<i>asko</i>	56	vocabulary	<i>iztia</i>
14	this	<i>au</i>	57	to go	<i>joan</i>
15	child	<i>aur</i>	58	go	<i>jun</i>
16	yes	<i>bai</i>	59	first	<i>lenengo</i>
17	one	<i>bat</i>	60	flower	<i>lore</i>
18	black	<i>baltz</i>	61	border	<i>muga</i>
19	two	<i>bi</i>	62	customs	<i>mugatia</i>
20	is	<i>da</i>	63	who?	<i>nor</i>
21	is	<i>dago</i>	64	well	<i>on</i>
22	are	<i>dagoz</i>	65	good	<i>ondo</i>
23	they are	<i>daude</i>	66	these	<i>onek</i>
24	you have	<i>dezu</i>	67	now	<i>orain</i>
25	they are	<i>dira</i>	68	for what	<i>oregatik</i>
26	goes	<i>doa</i>	69	luggage	<i>otsarak</i>
27	I have it	<i>dut</i>	70	papers	<i>paperok</i>
28	they have it	<i>dute</i>	71	the passport	<i>pasaportea</i>
29	they have them	<i>dituzte</i>	72	of, -'s	<i>-(r)en</i>
30	woman	<i>emakume</i>	73	son	<i>seme</i>
31	give	<i>eman</i>	74	the family	<i>sendia</i>
32	wife	<i>emazte</i>	75	(verbalizer)	<i>-tu, -du</i>
33	here	<i>emen</i>	76	understand	<i>ulertzen</i>
34	type	<i>era</i>	77	blue	<i>urdin</i>
35	*see-able	<i>erakustiko</i>	78	how many	<i>zenbat</i>
36	also, too	<i>erre</i>	79	you	<i>zu</i>
37	say	<i>esan</i>	80	white	<i>zuri</i>
38	thank	<i>esker</i>	81	----	<i>agur</i>
39	right	<i>eskubi</i>			
40	and	<i>eta, ta</i>			
41	house	<i>etxe</i>			
42	the house	<i>etxea</i>			
43	to the house	<i>etxera</i>			

APPENDIX M
(Picture Probes)



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