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ECOLOGY OF ADULT LANGUAGE ACQUISITION

Proposal for Additional Activity

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1 Aims and scope of the project

Post-war migration in Western Europe has led to an accumulation of about 11 million people living in European countries, whose language is foreign to them. Their social and political status differ to some extent, and since there is no term equally applicable to all of them, we shall use "foreign worker" as a most neutral expression; it is meant to include family members, and "foreign" refers to language rather than to citizenship. Their foreign language acquisition and use is the topic of the project. It has two closely related aims giving at least partial answers to the following two questions:

1. What are the basic principles according to which foreign workers acquire the language of their social environment and what regulates the acquisition speed, e. g. slowing down or even total halt
2. How do they use the specific language forms, which they have acquired at a certain time in their daily interaction.

The first problem requires both a detailed analysis of the actual course of the acquisition process and an investigation of the various factors that determine or influence this process; the second question involves, among others, a consideration of the specific language needs and communicative problems of foreign workers.

The basic orientation of the project is linguistic and psychological, but it will necessarily include sociological research as well. Thus, it may be regarded as a language focussed counterpart to the planned ESF project on human cultural aspects of migration in Western Europe. It is not aimed towards the development of language teaching material, but it is expected to contribute to the scientific basis of language tuition.

The project should run over six years with a staff of about 15 scientists. It is planned as a comparative study in five European countries: France, Federal Republic of Germany, Great Britain, the Netherlands and Sweden, with the corresponding target languages French, German, English, Dutch, and Swedish. Six source languages are taken into account: Arab, Finnish, Punjabi, Serbo-Croatian, Spanish and Turkish. Since the ecology of learning is very different for children and adults and an investigation of both would be beyond the scope of the project, it is proposed to consider only adults, i. e. individuals whose acquisition process did not start before their 18th year. The option for adults is motivated by the fact that there is already an ESF Project on child bilingualism.

2 Background

2.1 *The problem*

The post-war migration in Western Europe has led to enormous social problems both in receiving countries and homelands. Many of them are closely connected with or even caused by language problems. As a rule, foreign workers do not speak or understand the language of their new social environment when they arrive there; a legal entitlement to language tuition- except in Sweden- doesn't exist by their daily living, they acquire what is most urgently needed, and some even get a certain fluency. But normally, their acquisition process is soon slowed down and even stops at a level that is very far from the language of the world they have to live in. This is a problem from a social, an educational and a scientific point of view:

- (a) It is obvious that foreign workers are strongly disadvantaged by their language problems; this concerns nearly every aspect of social life: from everyday contacts at working place or in leisure time to all institutional situations (authorities, court, education) and finally to their political rights.
- (b) Changing this situation would require, among other things, systematic and intensive language teaching programs. The chances for that are presently very poor. There are strong political obstacles, but there are also more educational reasons. The language programs, which are available, seem fairly inappropriate for different purposes and for different learning situations.
- (c) Most foreign workers acquire some often very restricted knowledge of the language of their social environment, but this mostly happens without explicit teaching (except to some extent Sweden). We may call this process "spontaneous foreign language acquisition". A careful and systematic analysis of this process could give us deep insights into structure and speed of foreign language acquisition and the factors on which they depend. These insights would not only clarify our conceptions of how languages are processed, just as in the case of many first language acquisition studies they could also serve as a basis for systematic and effective teaching. As long as we lack any real knowledge of what the regularities of language learning are, language teaching is nothing but an art which is more or less mastered according to the individual pedagogical gifts of teachers and to their practical experiences; but it lacks any significant scientific foundation.

A systematic investigation into process and determinants of the ecology of foreign language acquisition seems therefore important on social, educational and scientific grounds.

2.2 Statistical Survey

It is difficult to give any reliable statistical information about foreign workers and their relatives in Europe. The national statistics are often based on somewhat divergent principles, they are highly incomplete for family members, and they don't cover clandestine immigration, of course. This should be kept in mind in the following.

The survey given in table 1 is taken from the OECD's "Continuous reporting system on migration" (SOPEMI), 1978 report. It refers to working people only; in order to get an appropriate idea of the actual foreign population, the figures should be multiplied by a factor of about 2.2 (in France). It is about 2.5 in Germany it is about 2.0).

2.3 Previous research on foreign worker's language acquisition and behaviour

It cannot be said that literature on foreign language problems is small in size; but most of it deals with teaching problems only. Studies of the acquisition process proper are relatively new, and studies on spontaneous language acquisition of adults is almost a *qualité négligeable*.

Systematic studies on the language acquisition of foreign workers in Europe seem to have been done only for Germans. The most extensive project by now is the "Heidelberger Forschungsprojekt "Pidgin-Deutsch" (1974-1979) directed by Wolfgang Klein; it was restricted to Spanish and Italian workers. There is also a number of smaller projects dealing with speakers of Turkish, Serbo-Croatian and various Roman languages. For target languages other than German, there is almost no research, which would go beyond the scope of a thesis.

There are no cross-lingual studies for different target languages at all, and there are no systematic studies of communicative behaviour and social control in everyday life. In brief, there is an enormous gap between the social and linguistic importance of the problem, on the one hand, and the amount and intensity of research, on the other.

Table 1: Statistical survey of foreign workers in Europe

from:	Austria	Belgium	France	Germany	Netherlands	Sweden	Switzerland
Algeria		2.400	331.100			200	
Austria		3.700		75.000		2.400	24.100
Finland				2.900		103.00	
Greece		9.600		162.500	1.900	9.200	4.800
Italy	2.100	106.400	199.200	281.200	10.000	2.800	253.100
Marocco		22.200	152.300	15.200	29.200	600	
Portugal		3.900	360.700	60.200	5.200	1.000	4.800
Spain		27.300	204.000	100.300	17.500	1.900	62.700
Tunisia		1.900	73.000		1.100	400	
Turkey	27.000	17.000	31.200	517.500	42.400	4.200	14.900
Yugoslavia	131.000		42.200	377.200	8.000	25.800	25.400
Others	28.800	111.900	190.600	269.600	21.000	73.800	103.000
TOTAL	188.900	306.300	1.584.300	1.888.600	115.300	225.300	492.800

The table does not cover the United Kingdom, for which we have been unable to get reliable data so far

3 Selection of Source and Target Languages

In the background section above, some of the scientific and social reasons for studying the language acquisition of adult foreign workers have been discussed. Since it will not be possible to study all target and source languages, involved in European migratory movements, within the limits of the project proposed here, we suggested that the following languages be chosen: German, French, English, Dutch and Swedish. The most important reason for choosing these five languages are that they are spoken in the European countries which have the largest number of immigrants with non native languages as their first language. (German 5,7 mil, French 3,5 mil, English at least 0,3 mil, Dutch 0,4 mil and Swedish 0,5 mil). Further, they will, especially through the inclusion of Swedish, provide a basis for comparison between language acquisition under conditions where some aid and instruction is given and conditions where no such aid and instruction is given.

In the choice of source languages the following criteria have been taken into consideration:

- 1) Humanitarian and social concerns as estimated by the number of non-native source language speakers in a given target country.
- 2) Possibility for linguistically interesting comparisons e.g. the same source language should be studied with regard to the acquisition of more than one target language and the same target language should be studied in relation to the acquisition by learners of at least two different source language backgrounds.
- 3) Number of estimated newly arrived speakers of a proposed source language.
- 4) Existence of linguistic expertise for a source language in a given target country.
- 5) Existence of organisations for source language speakers which could be helpful in carrying out study.

On the basis of these criteria we propose that the following languages be chosen as source languages in the selected target countries.

Germany: Turkish and Spanish (or Italian). Turkish is chosen since the Turkish workers are the largest group of foreign workers in Germany. Since Turkish is a non Indo-European language, it provides an interesting basis for linguistic comparison. The estimated number of newly arrived Turkish speakers in Germany is still relatively high every year. Turkish linguistic expertise is available in Germany. Spanish is chosen as second language because there is a large number of Spanish speaking workers in Germany and because it, by way of comparison with the acquisition of French by Spanish workers in France provides a basis for estimations of the role played by typological similarity in language acquisition. The same holds for Italian.

France: Arabic and Spanish (or Italian): The most important reason for the choice Arabic is social and humanitarian - the large number of Arabic speaking workers in France. However, Arabic like Turkish is also interesting in that it is a non Indo-European language and thus very different from French. Criteria 3 and 4 are met by Arabic. Spanish also well satisfies the list of criteria and provides a basis for comparison with the situation in Germany.

England: Punjabi: Punjabi is chosen. Since it seems to be the non-native language with the largest number of speakers. Criteria 2-4 are also met.

Holland: Turkish and Serbo-Croatian: Turkish is chosen since there is a large number of Turkish speakers in Holland and since it would provide a good comparison with the situation in Germany (two related, but inflectionally quite different Germanic languages learned by speakers of a non Indo-European language). Criteria 3-4 are met. Serbo-Croatian is chosen primarily on the basis of criteria 1 and 2, i.e. number of speakers and possibility for comparison. In this case the comparison will be made with the acquisition of Swedish by Serbo-Croatian speaking workers.

Sweden: Finnish and Serbo-Croatian: Finnish is chosen for humanitarian and social reasons. Finnish speakers are the largest immigrant group in Sweden. Finnish is structurally interesting since it is non Indo-European. Criteria 3-5 are well satisfied with regard to Finnish. Serbo-Croatian is also chosen for humanitarian and social reasons. Further, it provides grounds for a comparison with the situation in Holland. Criteria 3-5 are comparatively well satisfied.

The proposed distribution of source and target languages is summarised in table 2.

This proposal sets a frame, which according to the experiences of the pilot year (see section 5.5) might undergo several changes. In particular, revisions in the following respects might prove to be necessary:

- 1) Short-term political and economical developments may lead to considerable changes in the immigration rate of particular groups; thus, it might be impossible to find enough informants for one or two of the planned source languages.
- 2) The number of Spanish immigrants is actually very small; if it does not increase again this is to be expected after Spain will have joined the EC - Spanish ought to be replaced by Italian.
- 3) In several cases (especially Arabic, the specific dialect of a source language has to be selected.

Source	Target				
	<i>English</i>	<i>French</i>	<i>German</i>	<i>Dutch</i>	<i>Swedish</i>
Arabic		x			
Finnish					x
Punjabi	x				
Serbo Croatian				x	x
Spanish		x	x		
Turkish			x	x	

Table 2 Source and target languages involved in project

4 Communicative language skills

4.1 General considerations

Normal communication is a very complex phenomenon. It involves a wide range of both verbal and non-verbal activities. In what follows we therefore propose to select some of the features which seem to us important in order to gain an understanding of spontaneous language acquisition. However, most of these features will also play a role for language learners who receive explicit language instruction. This can then happen either directly through the instruction or via situations the individual is exposed to outside of the instruction situation.

Our study will focus on verbal language and only include very limited aspects of non-verbal communication. More specifically, we think the following six aspects of linguistic communication could be fruitfully studied: phonology, morphology, syntax, and lexicon, discourse skills and the role of background assumptions. All of these six aspects will then be further investigated with regard to:

- (i) Both the form and the content of the target language utterances used by the foreign workers we investigate.
- (ii) Both the processes of production and comprehension of target language utterances by foreign workers.

- (iii) Regularities of the manner in which selected aspects of the target language are acquired.
- (iv) The influence of contextual variables such as need and opportunity to communicate on the acquisition and use of linguistic forms.
- (v) The influence of the linguistic background in the source language on the acquisition of the target language.
- (vi) The language learners (foreign workers) own degree of awareness of factors (i) –(v)

During the analysis of the empirical material that will be recorded, we will pay special attention to the techniques, which are employed by the informants to cope with the very great demands, which are put on them by the language acquisition task. Techniques of particular interest are such things as transfer of source language structures into target language, the use of standardised formulaic expressions, the use of reduction, ellipsis (simplification in general) innovation, intentional avoidance and substitution. All of these can be seen as examples of learning strategies which (adult) learners employ naturally without instruction. Since very little is known about such spontaneously occurring learning regularities in language acquisition, we hope that the kind of study we are proposing will also be able to make a contribution to the theory of language learning. This might, in turn, have some implications for the theory of language teaching since it does not seem too far fetched to suggest that language teaching could be made more effective by being based on spontaneously occurring patterns of learning.

In order to be able to study both the internal interaction between different linguistic aspects and the interaction between linguistic aspects and different contextual phenomena in language use and acquisition, we propose that the empirical base of the investigation is to be a number of situations where the foreign workers have to communicate in the target language. The situations will be focussed on phenomena which in some sense are typical and important in the daily lives of foreign workers i.e., such situations as negotiations with officials or employers, purchasing goods from a shop, contacts with a fellow target country work mates etc.

The situations will from a methodological point of view be of three types:

- (i) fairly naturalistic like asking a foreign worker informant for directions on the street

- (ii) different types of role-play like simulating a job interview between an informant and an investigator acting as employer and
- (iii) more experimentally controlled situations like systematic tasks involving reference to objects.

The situations will always be specified according to a number of different background variables, which we believe are important for the understanding of some particular type of linguistic interaction. We will use three types of specifications - rolespecifications, taskspecifications and stylespecifications. *Rolespecifications* concern the identity of speaker and listener and will include both social and psychological aspects. *Social rolespecifications* will be given in terms of such variables as sex, age, educational level, occupation, geographical origin (dialect) and ethnic group. *Psychological role specifications* will be given in terms of attitudes and emotions like friendly, aggressive, sad, impatient, helpful, hostile, shy, etc. The situations will also be specified with respect to the task or purpose of the interaction. As mentioned above, the tasks will be ones that typically might be of importance to foreign workers such as: Buying, bargaining, obtaining residence or work permits, asking a work mate for help, asking a stranger for route directions.

Since tasks usually involve a means-ends structure, they will often be specified in a means-ends fashion, e.g. buying something by bargaining for it, or relaxing with somebody by telling jokes.

Finally, the situations can be given more stylistic specifications in terms of, for example, politeness or formality.

Since it is convenient to describe the communicative situations involved. in the terms of tasks which are typical and important to our informants in their daily life, the situations will usually, when no full specification is required, be referred to by task labels. The variables are all meant to be such that they can be used both for giving instructions for role-play and for describing background variables in natural or experimental settings. This is illustrated by the following example of a perhaps not too untypical situation. A forty year old Dutch female shop assistant with only compulsory school education talks in Nijmegen dialect, in a somewhat shy and aggressive manner to a twenty-five year old male Turkish worker with a rural Anatolian background and 3 years of schooling, who in a patient and somewhat sad way, in broken Dutch, tries to bargain for a radio. They are both trying to be formal and polite.

The inclusion of variables such as those described above are intended to both give us empirical material for the description of a number of linguistic features to be mentioned below and to give us data on bow contextual variables, such as need and

opportunity to communicate, determine both what linguistic features are acquired and the manner in which they are acquired.

To summarise: An important idea underlying the proposal is that in order to investigate both language acquisition and language use a number of different communicative situations should be studied. The situations should be such that they involve tasks and features, which are typical and important in the daily lives of foreign workers. Methodologically, the situations will range from fairly naturalistic ones via clearer role-playing to experimental tasks. The data thus obtained will together with interview data be used for the analysis of certain aspects of the phonology, morphology, syntax, lexicon, discourse skills and background assumptions exhibited by foreign workers in their acquisition of a target language. This type of data will have the advantage of allowing at least some investigation of the complex interactions between specified contextual parameters and various features of the acquisition process per se and the successive stages of linguistic performance exhibited by the immigrant workers we investigate.

4.2 Aspects of linguistic communication to be investigated

We will now discuss some of the phenomena with regard to the following six aspects of linguistic communication skills that we want to study.

1. Phonological
2. Morphological
3. Syntactical
4. Lexical
5. Discourse skills
6. The role of background assumptions

This subdivision largely corresponds to the traditional linguistic view. Alternatives are possible, in particular alternatives, which are more based on semantic and functional categories rather than on the means by which they are expressed. Thus, we might ask which specific linguistic devices are used in order to express, for example, "deictic reference", "modality", "temporality", "information distribution" etc. It is precisely this approach we think to be most perspicuous and fruitful. But since there is neither a full list of such categories nor a generally accepted terminology, a presentation of the program along the more traditional line seemed to be clearer and more helpful. Within the different sections, we shall constantly refer to semantic and functional categories as those mentioned before.

4.2.1 Phonological

The acquisition of phonology seems to be particularly suitable for tracing out influences of different source languages; segmental, suprasegmental, and especially phonotactic features of the learner's mother tongue strongly bias the way in which he perceives and reproduces the sound patterns of the target language. The cross-lingual approach would also allow to study how general principles, like "perceptual saliency", and specific transfer processes interact. This also makes phonology a particularly apt topic for the analysis of "fossilization" and its cause. Is the fact that the constant accommodation process slows down and stops at a certain point caused by perception or by production problems? Fossilization is not restricted to Phonology, but in this domain, perception and production are most easy to control and to test.

There is one domain of phonological phenomena, which has been fairly neglected in foreign language acquisition studies, although its relevance is beyond any doubt; this is prosody. Children, for example, are able to copy the specific interaction patterns of a foreign language very soon. They seemingly do this without any great difficulties, whereas even in the case of very advanced adults, intonation constitutes a major obstacle, and it may well be that a great deal of what is realised as "foreign accent" is wrong intonation.

We expect that the analysis of suprasegmentals could also shed some light on the hitherto unexplained fact, that some foreign accents are acceptable, while others are stigmatised, and still others create actual communicative barriers.

Intonation also plays a crucial role in information distribution, and investigation of phenomena like word order or syntactic cohesion would be fruitless unless intonation is taken into account.

Therefore, it is planned to include prosodic phenomena, too, although their analysis is much more difficult than that of segmental properties.

4.2.2 Morphology

Morphology is the area of linguistics, which is concerned, with the study of minimal meaningbearing units. Such units are usually divided into those that have a more full content and those that have a more formal, structural role. The study of the units with more content is usually carried out within lexicology while the study of the units with a more structural role usually is known as morphology (in a narrower sense than above). In this sense, it is conventionally subdivided into inflectional and derivational morphology.

Below we will only discuss inflectional morphology and leave lexicology (and derivational morphology) for a later subsection. Structural morphemes can be studied from at least two perspectives. The first one takes as its point of departure the study of how a particular meaning is expressed in a given language and the second takes. As its point of departure the forms themselves and only secondarily their meaning. Both of these perspectives can be studied using naturalistic observation or more experimental approaches. In what follows a combination of these approaches will be suggested.

Since our aim is to make a fairly thorough analysis of the acquisition of some important aspects of language rather than to try to cover as many aspects as possible in a more superficial way, we have decided to choose one specific part of morphology as the primary object of our study. This part is that of morphemes connected with spatial, temporal and personal reference. In terms of traditional grammatical categories this will involve such things as prepositions, pronouns, adverbs, tense forms and case forms. This area is chosen since firstly, it is an area which is basic to linguistic communication and secondly, its semantic and morphological properties are rather well studied and finally, there are some nice experimental and semi-experimental techniques which can be used to study subjects' awareness and use of the categories mentioned.

Of particular interest in our study will be the methods by which language learners manage to overcome the difficulties of the learning task. Examples of such methods are simplification of either the semantic or the linguistic form system, total avoidance of certain morphemes or different types of morphological innovation. Phenomena, such as the introduction of formulaic expressions (e.g. instead of the auxiliary can) to replace a more complex morphology, will also be studied. Further, we will try to investigate some of the factors that determine the recalcitrance of such expressions during the language acquisition process. Special attention will in this connection be paid to such factors as linguistic background in source language and the subject's communicative needs and motivation with regard to the linguistic forms investigated.

4.2.3 Syntax

In syntax we have also chosen to cover some limited aspects in more depth rather than to do a general and perhaps more superficial analysis. The areas we have chosen are:

- 1) The structure of the nounphrase with regard to attribution, quantification and deixis.

- 2) Word-order with regard to modality and information structure.
- 3) Coordination and subordination with focus on constructions involving cause and intention.

The Nounphrase

Nounphrases are phrases that have a (pro) noun as main constituent. In most languages they have a fairly complex structure and therefore present a language learner with a range of difficulties.

The three aspects of nounphrase structure that we have chosen to study, i.e. attribution, quantification and deixis are good examples of such difficulties. In all three of them we will study how the learner acquires the various features of concord and word order with regard to affixes, articles, determiners, adjectives and relative clauses.

The three mentioned features of the nounphrase have also been selected, in order to set the morphological features of personal, spatial and temporal reference into a wider syntactic context. This means that some of the experimental techniques planned for morphology might also have a syntactic application.

Word order

We have already touched on word order in our brief discussion of the noun phrase. What are the parameters that determine a language learner's internal ordering of words in a nounphrase at the different stages of his linguistic development?

The same type of question can also be asked with regard to the sentence as a whole. In asking this question, we want to focus on two special functions of word order, namely the indication of information structure and modality.

By information structure we mean the manner in which a speaker signals which parts of an utterance carry more prominent and noteworthy information and which parts carry information which is more in the background (what is here called information structure has in other contexts been referred to by such labels as functional sentence perspective, communicative dynamism, topic-comment structure and theme-rheme structure).

Since the order of words in many languages is perhaps the most important way to signal such structuring of information we want to try to determine some of the factors that determine a language learners ability to master word order as an instrument of information structuring.

Another very important function of word order is to signal modality differences. We here take modality in a wide sense to cover what is usually known as mood (indicative, interrogative, imperative, subjunctive and optative) as well as different types of modal adverbials.

Just as in the case of information structure, modality can be signalled through other means than word order, e.g. by such means as intonation or various modal expressions: adverbials, verbs, particles, affixes. In most of the target languages, however, word order and intonation (cf. phonology) are the most important devices for indicating sentence mood.

Coordination and subordination

Finally, we want to investigate three aspects of complex sentence structure namely the development of explicit linguistic means for expressing causal, condition and intentional links through coordination and subordination. Since our informants are adult workers, they can be presumed to have acquired the concepts of causal and intentional connection and also to be able to express such connection in their own language. As a working hypothesis, we can therefore expect a successive series of increasing syntactic complexity, starting independent of the source language with the implicit expression of the connections by just listing two event descriptively and using the temporal relation between the two descriptions to convey the temporal relation between the events described and thereby also to convey a causal connection them. The series will end with explicit expression of the connections, independent temporal order, with the aid of conjunctions, complementizers and affixes. We will here investigate to what extent this development is affected by syntactic complexity. It might be the case that languages differ in respect to the cognitive effort required to acquire their systems of coordination and subordination.

4.2.4 Lexicon

One of the most urgent subjective and perhaps also objective needs for anyone acquiring a new language is the need for an adequate vocabulary. Again we have decided to limit our investigation to some restricted areas of vocabulary. In accordance with our general approach we will concentrate our study to such vocabulary areas or lexical fields which are connected with what we think are central life themes to the foreign workers. Such themes are, e.g. interpersonal relationships, money, business, emotions and alcohol.

Within these vocabulary areas we will study ways to cope with the lexical acquisition task but also possible conceptual developments due to differences in cultural background. In a similar way to the one described in the section on

morphology we can in lexical acquisition in general expect to find that acquisition strategies include such things as word innovations, so-called simplification (e.g. by referential overgeneralization the word car is used for anything that moves on wheels) or formulaic expressions. A careful investigation of the different semantic processes whereby different types of generalisation and simplification are attempted by the language learner are here of special interest, since they may be expected to throw some light on how in general conceptual structures are built up in a learning process.

The main explanatory variables to be considered will as before, be transferred from previous linguistic background, communicative need and opportunity.

4.2.5 Discourse skills

The next area of investigation is a very heterogeneous one, which has tentatively been labelled discourse skills. Here we want to investigate some less traditional parts of linguistic communication than those mentioned so far. In particular, we want to investigate both some aspects of the way in which discourse interaction between speaker and listener is organised and some aspects of the relationship between verbal and non-verbal means of communication. With regard to discourse interaction we want to study how turntaking routines are affected by language learning, e.g. how does inability to perceive utterance final cues affect turn initiation. Another interesting area is the ways in which different types of discourse are initiated and terminated. How are greetings, leave-taking formulas and opening and closing sequences learned? How are other typical discourse sequences dealt with? To what extent can we also here find avoidance, innovation and formulaic standardisation? Other important discourse skills are various methods to elicit and give feedback. Very little is known about how language learners acquire and master these. One interesting phenomenon is here the overuse of feedback elicitation by expressions like do you understand. Further, we will examine the role of (un) filled pauses, repeats, false starts, corrections, and interruptions. Besides the discourse skills just mentioned we also plan to study a small number of non-verbal components of discourse such as some aspects of facial gesturing, distance and orientation of speaker and listener and the division of labour between gesture and linguistic expression in the case of deictical reference.

4.2.6 The Role of Background Assumptions

Finally, we want to examine some of the ways in which presuppositions and background assumptions influence linguistic communication. This is important since the understanding and interpretation of linguistic utterances to a very large

extent seem to be dependent on prestored beliefs. For example, the sign swimming trunks forbidden is interpreted in one way if seen outside a church and in a different way if seen outside a nudist camp, the difference between the two interpretations being determined by the difference in expectation we due to our cultural background have with regard to churches and nudist camps. Since foreign workers in the target countries we are investigating can be expected to lack many commonly shared beliefs and notions it is of some interest to try to determine how this influences both their acquisition of language and their linguistic performance.

Background assumptions are involved in many ways in linguistic communication. More specifically we are interested in phenomena of the following type: We give an informant the task of describing his interpretation of a complex chain of the events involving 'a number of interaction features specific to the target culture. We in this way get data both on his specific patterns of interpretation and indirectly on the way in which they differ from patterns, which are common in the target culture. This type of data will then serve as a background for the more specific data on possible conceptual developments that we get from an investigation of the lexical and morphological development.

One of the ways in which one can obtain the type of data mentioned is by showing a short filmstrip and asking subjects to give an account of the story either after the film has been shown or, so to speak, on line while it is being shown. The film can be made to illustrate various phenomena about which we might have hypotheses. For example, a film depicting aspects of urban life in a target country could be shown to workers with a rural origin or vice versa in order to estimate the influence of the rural urban component as compared to other cultural factors.

5 Methodology

5.1 Introduction

The empirical basis for the project is a longitudinal study combined with a cross-sectional study. Both studies will be carried out in each target country for the two source languages selected in that country. The studies will be preceded by a pilot study and followed by analysis of the data and theoretical

5.2 The longitudinal study

The main effort of the project will be a 2,5 year long longitudinal study of the language acquisition of 10 groups of recently arrived immigrant workers. In every target country 2 groups of 4 informants will be investigated. The choice of a

longitudinal study is made since there seem to be very few studies of this type done on adult language acquisition and since a longitudinal study seems to be the best way of studying, firstly, the complex interactions between different features of a developing linguistic system and, secondly, of studying the interaction between the development of a linguistic system and features of the environment. The number of informants is low since it is very time-consuming to do the kind of detailed analysis of linguistic data that is required in order to set up and explain hypotheses about language acquisition. Transcription of only five minutes of speech takes several hours if it is to give a fair amount of phonetic information. Thus, if the investigation is to be done within reasonable limits of time and money, it is totally unrealistic to investigate the language acquisition of a large number of speakers (with different source and target languages) in detail for as long as 2,5 years.

5.2.1 Data collection

The data will be collected through monthly 1/2 hour interviews and videotaped 1 hour sessions every third month. This schedule is a compromise between scientific needs and practical restrictions. It might be changed according to the experiences of the pilot year in respect to length of interviews and intervals. As it stands, it means that there, in 2,5 years, will be 300 interviews and 120 videotape sessions per source language in each target country, and for all five countries 1500 interviews and 600 videotapes, i. e. 750 hours of interview material and 600 hours of videotape. The interviews will be conducted both in source and target language and concern things as daily life, cultural background and the cultural life themes referred to above (see lexicology). The videotape sessions will all be conducted both in the source and target language. The general structure of a videotape session will be the following:

The observations will be carried out in collaboration with target and source country anthropologists and social psychologists.

5.2.2 Selection of informants

Since it is important in a longitudinal study of the type proposed here that the study be completed for all informants, we will for each source language group select one extra informant, so that we will in fact have five informants for each group.

The informants will be matched with regard to as many relevant variables as possible, i.e. they will be matched according to age, educational level, literacy, geographical origin, ethnic origin, income level, skill in native language, skill in target language (should be as small as possible), purpose of migration, attitude to target language and target culture, purpose of learning target language, expectations about length of stay in target country. Further they will be matched with regard to living conditions (alone or with other source language speakers), number of

resident relatives, participation in target language teaching program, friends (ethnic belonging, occupation and education), leisure activity and social contacts with target language speakers. Sex and occupation will not be matched instead we will systematically confound these two variables by having two male factory workers and two female housewives without permanent job, but with enough social contacts in order to learn the language. This choice has been made since we think it is important to include both males and females in the investigation, but that it would be unfortunate to try to match males and females for occupation since male housekeepers and female factory workers are not so common. Further it would be convenient for our study if couples of males and females could be found to be matched with other couples.

5.2.3 Control group

As has been mentioned above the control effects of our study on the motivation for language learning are likely to be considerable. In order to at least have some measure of how great they are, we plan to compare each group of selected source language informants with a matched control group of 5 informants. The control group will be selected, interviewed and tested no later than 4 months after the start of the longitudinal study and again 2,5 years later. The same test and interview will in both cases be administered to our selected group of informants, so that an estimation of the size of the control effect can be made.

- (i) A 15 min. recording made in target language
- (ii) Informant is confronted with this recording and asked to:
 - a) Watch the recording in order to revive his memory (this is not necessary if confrontation takes place immediately after recording),
 - b) Watch the recording again and comment freely on anything, e. g. corrections, specifications etc.
 - c) Watch the recording a third time while being interviewed by investigator in source language about various features of original recording.

The original recordings will all be made in accordance with the principles outlined in the General Considerations to the section on Communicative skills above, i. e. they will focus on communicative situations which are typical and/or important in the life of an immigrant worker. As previously mentioned, the character of these situations will include fairly naturalistic settings as well as role-play and experimental approaches. The precise nature of the videotape sessions with regard to choice of situations and questions in the confrontation sessions will be worked

out during the pilot year (see below).

The main advantage of the self-confrontation method is to obtain some information about the informant's intentions in forming particular utterances in particular ways. By going over the recorded interaction with the informant in his native language we can ask him what he intended to say by saying x, what he thought he was saying, how he thought he was understood, what he thought the native speaker was saying to him, etc. Thus, we have a more or less direct access (to the extent that this possible) to the prelinguistic communicative aims that underlie speech, and to the informant's linguistic awareness.

In order to make this last type of information more reliable, we plan what could be called selective observation. We plan to observe (and maybe in some instances record) our informants in their natural environment, (work, leisure, shopping and contacts with officials) in actual situations that closely correspond to those situations that we are planning to arrange and videotape. Each such observation will last roughly 2 hours and wherever possible be unknown to our informant. This is to reduce the so-called control effect, which we for the rest of the recorded material expect to be very great, especially, in terms of motivation. Our informants will probably be more motivated in their language learning than they otherwise would have been. However, since we know so little about real language acquisition and in view of the ethical problems with undisclosed observation, it is a price that we are willing to pay (cf. below section on control group). The total time allotted for selective participant observation will be 2 days/person, i.e. 8 days for each source language group in a target country.

5.3 *The cross sectional study*

Besides the longitudinal study, which is the main study of the project, we also plan a cross sectional study. In this study we will twice interview 50 informants for each source language in every target country. The interview will be standardised, be roughly one hour long and take place once at the beginning of our longitudinal study and once at the end. It will be held in the source language. The informants will be matched as far as possible with those informants selected in the longitudinal study. In this way, we hope, for a rather modest cost, to acquire a broad enough base to make some estimate of the representativity of the social, psychological and linguistic processes we will observe in our longitudinal study. The interviews in the cross sectional study will be focussed on phenomena of a social psychological nature since we expect many of our explanatory variables to be of interest to have to estimate of their degree of representativity.

5.4 Analysis of the empirical data

The last phase of the project will be directed to an analysis of the empirical data gathered. Since we are investigating six quite different aspects of linguistic communication which, at least, to some extent require their own quite specific methodology and type of analysis, we can only make some general remarks here.

In all six areas, with the possible exception of non-verbal communication, transcriptions will be necessary and computer aided analysis of coded data will often be required. This means that facilities of efficient transcription and coding must be available. The best way known to achieve this is to store data directly in a computer, where it is available for categorisation, crosstabulation, and statistical treatment. These operations can be done directly on line or via pre-packaged subroutines.

As far as transcription is concerned, we intend to reduce the time for this as much as possible by doing only partial transcription of those parts of the recorded material that seem interesting from a theoretical point of view. Even so, this task will be very time consuming and require a lot of man hours.

We will also, especially for the study of phonetics, non-verbal communication, and filmed material need special instruments. For example, in order to study intonation it will be necessary to have access to automatic pitch (Fo) extraction and in order to study the videotapes facilities such as timing and slow motion are needed.

Again, the treatment of this type of data can be done more efficiently on a computer. The analysis phase of the project is also its most theoretical phase, in the sense that the tentative hypotheses developed during the pilot year and during the course of the empirical work can now be evaluated. There must therefore be sufficient time for study of relevant literature, discussion and thinking. Research results in the form of explanations and hypotheses don't even with the aid of computer, follow directly from the data.

In the theoretical phase, we hope to be able to substantially contribute to a theory on the principles of language learning in terms of how language acquisition is internally determined by the linguistic system as such and by the interaction of this system with the external environment. More specifically, we want to try to show how learning strategies such as innovation, analogy, simplification through generalisation, avoidance, code-switching, or other means applies to the various separable aspects of language like phonology, morphology, syntax, lexicology and discourse skills. We also want to investigate how the successive changes in linguistic competence determine and are determined by the linguistic awareness and background assumptions of the informants. The former types of insight will be

obtained through a combination of careful theory guided analysis of the recorded material and an analysis of what the videotape based self-confronting interviews about the recorded material will yield. The latter types of insight will be based mainly on the videotape-based interviews, but also on joining the two types of analysis, in order to achieve some understanding of the relationship between linguistic performance and linguistic awareness.

5.5 *The piloting year*

The whole investigation will be preceded by one year of pilot work. This will take place in Sweden and Germany and involve a longitudinal examination of the language acquisition of one recently arrived foreign worker in each country. The source language will in Sweden be Finnish and in Germany, Turkish. Since the investigation involves very many different aspects of linguistic communication, each with their own specific research methodology encompassing such things as automatic pitch extraction in phonology, transcription of text, naturalistic observation techniques, role play, interview and experimental techniques, we have thought it advisable to include a pilot study.

The purpose of the pilot study will be to develop a set of hypotheses, which will enable us to integrate our theoretical concerns in language acquisition with a choice of the appropriate methodology.

In order to make this integration sufficiently concrete, the outcome of the pilot study is planned to be a field manual. This will help to increase the uniformity of the investigation in each target country and also be an aid in gathering the empirical data. A further advantage of a field manual is that it makes replication of our work possible and thus helps to check the representativity of our results. The hypotheses we develop are meant to help us answer questions such as the following in the manual:

- (i) what naturalistic situations should be chosen in order to make the choice representative and at the same time practically and ethically feasible with respect to phenomena like the control effect?
- (ii) what role playing situations would be most fruitful to explore and how should directions for role-play best be given?
- (iii) what would be interesting and feasible developments of existing experimental paradigms in order to investigate the acquisition of, for example, possessive pronouns, connectives, deictical expressions and

information structuring devices?

- (iv) how should the interviews be conducted, especially with regard to what questions should be asked, both in the monthly interviews and in the video confrontation interviews, in order to get the most interesting information about linguistic awareness, background assumptions and linguistic performance.
- (v) how short can the time period between an original video recording and a succeeding questioning session should be, if the questions are to be of sufficient theoretical interest?
- (vi) what would be the best choice of film to tap background assumptions?

To answer these and other similar questions well enough to write a field manual for the project, it has been estimated that one year of pilot work, combined with studies of literature in the very diverse fields involved, would be needed. This will then include writing a preliminary version of the field manual, taking comments and criticism into account and finally writing a version of the manual which is to be used by the investigations in the project, as well as function as an aid for other projects of a similar nature.

6 Working program

The total duration of the project will be six years: a first year for planning and pilot research, two half years for the empirical work, one half year for data analysis, and a final year for writing and publishing. more in detail the program is partitioned as follows:

1981 Writing the field manual

This will run through the following stages: Writing of a preliminary version of the field manual, sending it out for expert advice (a role-playing expert, and an anthropologist of the working place) discussing this version in a meeting of the Steering Committee extended by experts, rewriting the manual, piloting the manual on some native Finnish workers in Sweden, and some native Turkish workers in Germany, drafting the definitive version for approval in a second meeting of the Steering Committee. The manual should be publishable, and should also be usable for similar research outside the present project.

1982 Training, selection, and empirical work

The year will start with a one-week joint training session for all local working groups. The aim is to ensure unanimous understanding of the precise empirical and analysis procedures in the field manual among all participant researchers. Next the informant workers will be selected in the different countries, social contacts to them will be built up and the first video sessions will start, followed by two monthly interview sessions and a second video session before August 1982. Also, the control group (see Methodology section) will be selected and tested during this period, as well as the cross sectional group. There will be a joint meeting of the Steering Committee and the field researchers in the different countries in August to discuss the experiences of the first half-year, and to align the further work. The year will be continued with quality video and monthly interview sessions.

1983 Continuation of empirical work

The video and conversation sessions will be continued during the whole year. It is Planned that there will be two meetings of the Steering Committee, in about February and August. The August meeting will be held jointly with all field researchers. Furthermore, the native language experts in the different countries (i.e. for Turkish, Spanish, etc.) will pair-wise meet to make intensive comparisons for a given source language in two different target languages.