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TRANSITIONAL GRAMMARS IN THE ACQUISITION OF
GERMAN BY SPANISH AND ITALIAN WORKERS¹

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This paper deals with the main aims, methods and first findings of a project we are undertaking at the University of Heidelberg. We are trying to analyze the undirected "natural" acquisition of German by Spanish and Italian migrant workers. Their language may be considered as a set of pidginized varieties of German.² It shows some structural and functional similarities to colonial pidgins; so we call it "Pidgin-Deutsch" (Pidgin-German), using a term coined by Michael Clyne in his 1968 paper, which was the first paper on this topic at all. The use of this term should not be over-estimated; we consider it more or less as a handy expression for a rather complex and unexplored phenomenon. Whether the foreign workers' German is a "true" pidgin - that is a very difficult question, and I think we should know a great deal more both about pidgins and about foreign workers' German to decide it. One point indeed should be made clear right from the beginning: Pidgin-German is by no means a stable language; it is a rather heterogeneous system of varieties; but in this respect it doesn't differ from any language I know - if languages as such are taken into consideration instead of regularized descriptions of them.

Sections 1-3 of this paper are essentially identical to the version read at the Wuppertal conference; section 4 is somewhat enlarged. The present formulation is by Wolfgang Klein. But it should be remarked that this paper - like all our papers - are based on the work of the whole group: Angelika Becker, Norbert Dittmar, Ingeborg Gutfleisch, Margit Gutmann, Wolfgang Klein, Bert-Olaf Rieck, Gunter Senft, Wolfram Steckner, Elisabeth Thielicke.

Cf. for a discussion of the "pidgin-problem" HD (1975a), Ch. 2, and the papers in Klein (1975), particularly Meisel (1975).

I think the relative stability sometimes imputed to pidgins is mainly due to a lack of representative data.

In the first of the following four sections, something will be said about the project itself, its aims and particularly about the process of language acquisition (or strictly speaking: foreign language acquisition) and how to model it. In the second section, our descriptive framework will be explained, as far as syntax is concerned. We have developed a particular type of description of variation; the central concept of this procedure is that of "variety grammar"; transitional grammars are a particular case of variety grammars. In the third section, a short outline of our empirical work will be given, and in the last one, we will present some of our main results in an informal way.

1. In January 1976, the number of foreign workers in Western Germany amounted to 4.1 million people (including family members), approximately 850 000 among them coming from Italy or Spain. Most of them do not know a word of German when they arrive here; in their daily living, they learn what is most urgently needed, and some of them get a certain fluency. This is clearly an enormous problem both from a linguistic and from a social point of view. The bad social situation of foreign workers is not only due to economic factors such as insecurity of employment, low-estimated work etc., but particularly to a rather far-going exclusion from social and political life; with some exceptions, they form a class of their own, or strictly speaking, they form classes of their own, because there is often a great social distance between for example Italian and Turkish workers.

This social isolation is closely connected with their linguistic isolation. It would be ridiculous, of course, to take this for the only reason, and it would be still more ridiculous to imagine that their social isolation could be managed only by improving their language skills. But on the other hand, it seems evident that a reasonable solution to the social problem is impossible without a solution of the language problem. Hence, improving their "communicative competence" in the widest sense of the term is a necessary though not sufficient condition, and it is just this part of the whole work that can be done by linguists - perhaps. It is our opinion that this cannot be done without a care-

ful analysis of the acquisition of German by foreign workers as it is and of the various social and individual factors governing this natural, undirected kind of language learning. We try to analyze that on different levels: phonological, morphological, syntactic, pragmatic. The following considerations are confined to the role of syntax within the process of language acquisition. ⁴

In the present context, the term "language acquisition" only refers to second language learning in a social environment speaking the language to be learned - second language learning without explicit teaching. Language acquisition in this sense is a rather slow process with a lot of intermediary stages, each stage being characterized by a set of grammatical rules the speaker or the group of speakers masters at a certain time; they may be considered as particular varieties of the second language, varieties that are perhaps false or ridiculous in the opinion of an average speaker of that language. A highly simplified description of the whole process of language acquisition would then be that of a stepwise approximation passing through a series of intermediate varieties in the direction of a "target variety" (or target varieties, if there is an internal variation in the language of the social environment). In most cases, the target variety is never reached, but the whole process moves in its direction. The concrete shape of the different varieties, their similarities and their differences and the total course of the process are governed by a set of extra-linguistic factors such as

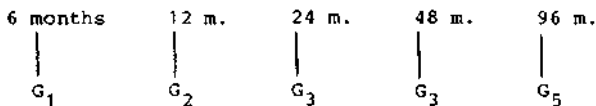
1. time (i.e. duration of stay)
2. kind of job
3. location
4. origin (i.e. mother tongue or dialect)
5. degree of social relationship (intensity of contact)
6. family status
7. mobility
8. sex

⁴ Some general aspects of communicative behavior are discussed in HPD (1975 a), Ch. 4 and in HPD (1975 b), p. 104-120.

9. age (at the time of immigration)
10. education
11. individual attitudes (e.g. motivation)

There are still more factors that might be important, but those quoted here may be enough for the moment. They constitute something like (a) a learning context and (b) an individual disposition; correspondingly, they can be subdivided into "environment factors" and "bias factors". Each learner is characterized by a set of possible specifications of these factors, and they determine a complex system of learning varieties. Let me neglect for the moment all possible factors but one, namely duration of stay, and turn to the general problem of how to describe the process of language acquisition along the dimension of time. It should be noticed, however, that the choice of this factor is completely arbitrary; in fact, it is one of our results that duration of stay is completely dominated by other factors after two years at the latest.

We can imagine that every variety could be described by a grammar, say a transformational grammar or a simple context-free grammar; these grammars are called interim grammars or transitional grammars. A transitional grammar - I shall use this term here - characterizes a variety at a certain point during the process of language acquisition. This yields a series of grammars along the dimension of time, something like the following:



The subdivision of time is set up by the linguist, and he may refine it as he thinks is relevant and interesting for his actual purpose. The problem is now how to describe the exact transition from grammar to grammar. A simple procedure to get this is the following one: the (set-theoretical) union of all rule sets is formed, i.e. all rules occurring in at least one grammar, and for every point in the dimension of time we are interested in will be indicated whether the rule in question occurs or

doesn't occur. We then get a representation looking like

r	6 m.	12 m.	24 m.	48 m.	96 m.
r ₁	+	+	+	+	+
r ₂	+	+	+	+	+
r ₃	-	-	+	+	+
r ₄	-	+	+	+	+
r ₅	-	-	-	-	+
r ₆	+	+	-	+	+
r ₇	-	-	+	+	+
r ₈	-	-	+	-	+
r ₉	-	-	+	-	+
r ₁₀	+	+	-	-	-

Of course, this is an extremely simple and unrealistic example. G₁ - that is the transitional grammar after the first six months - contains the rules r₁, r₂, r₆, r₁₀; six months later, the speaker (or the group of speakers) has learned another rule, r₄; one year later, he has (or they have) learned four additional rules, r₃, r₇, r₈, r₉, giving up two previous rules, r₆ and r₁₀ (this may happen for instance in the case of over-generalization) and so on.

This kind of description in terms of rule adding, rule dropping, rule exchanging is well known; it suffers from at least two crucial inadequacies:

1. The description of transitions by "yes-no"-decisions is rather inaccurate. In fact, there is often a long time of cooccurrence of rules, it is only a slow shift in frequency that leads to the replacement of a rule by another one. Hence, we should refine the description by replacing "+" and "-" by a continuum of values, that is, by replacing them by the whole range of real numbers between 0 and 1. This is the first problem to be solved.
2. The second problem is still more delicate. In the simple model presented above, only one dimension of variation is taken into account, namely that of duration of stay. This

is clearly inadequate. There is variation, too, according to factors like origin, kind of job, age at the time of immigration, and so on. If we assume that the eleven factors quoted above influence the process of language acquisition, we cannot work with one-dimensional variation; we must account for an eleven-dimensional variation; n factors influencing variation constitute an n -dimensional space of variation. Thus, we must develop a much more sophisticated model if we are interested in an adequate representation of variation.

We have tried to develop a model fulfilling both conditions; it must fulfill one more condition: it must be simple. It must be simple enough to be applied to a large amount of data. I shall not explain this "variety grammar" or "grammar of varieties" in any detail, because this would take a lot of time, if the formal apparatus is introduced in a correct manner. But I will try to give the main idea in the next section.

2. The two basic concepts are "space of varieties" and "probabilistic grammar". The concept of probabilistic grammar was mainly developed by Suppes and by Salomaa. It is simply a formal grammar with an index giving the probability of rule application. What this looks like depends on the type of grammar and whether conditioned probabilities are taken into account; I shall not discuss this here. A space of varieties is an ordered set of all possible varieties you suppose to exist. Suppose you think that in a given domain of investigation there are three relevant factors of variation:

1. Sex, with two possible values s_1 (male) and s_2 (female);
2. Age (at the time of immigration) with say 4 possible values a_1, \dots, a_4 , where $a_1 = 20$ to 30 years, $a_2 = 31$ to 40 years, etc.
3. Duration of stay, with 5 possible values d_1, \dots, d_5 , where $d_1 =$ after six months, $d_2 =$ after one year, etc.

⁵ The concept of variety grammar was introduced and defined in Klein (1974); for further explanations, the reader is referred to the definitions given there.

This leads to $2 \times 4 \times 5 = 40$ possible varieties, each one defined by a triple of specified factors; e.g. (s_1, a_2, d_2) is the variety of a woman after one year who came here at the age of 30-40; this variety may be identical from a linguistic point of view to some other variety, perhaps to (s_1, a_3, d_2) ; whether this is the case or not is an empirical question. The whole set of triples constitutes the space of varieties on which the investigation is based. Apart from factors ranging over the whole continuum in the strict sense of the word, it is always possible to linearize such a space of varieties. Of course you cannot be sure that the space of varieties you base your investigation upon is a relevant one: it is simply a hypothesis about the relevant factors of variation in the domain you want to study.

Next you must try to get representative data for each variety within the space of varieties, and write a grammar, or a part of a grammar, if you are only interested in a particular-linguistic problem. The grammar may be a context-free grammar, a context-sensitive grammar, a dependency grammar, a transformational grammar or whatever, but it must be clearly defined. The result is a set of n grammars, if there are n varieties. The next task is to interrelate these grammars. This is done by establishing a "reference grammar" consisting of the union of all rule sets of the particular grammar. This reference grammar describes nothing; it is merely a useful construction, and it must be restricted to each variety by associating with each rule a real number between 0 and 1. This number indicates the probability of rule application of the variety in question. A given rule may be applied in a certain variety with the probability of 0.9, which means - informally speaking -, that it is an important rule in that variety; in another variety, its probability may be say 0.2, i.e. it is less probable that it occurs in the derivation of a sentence; in a third variety, its probability may even be 0, i.e. it doesn't occur at all in that variety. That means that the same grammar is used to describe all varieties of a given space of varieties, and the differences between them are expressed by the differences of rule values. The idea is just that of a grammar written on a stretch cloth that may be continuously

deformed to adapt it to all varieties you want to describe, and the degree of deformation at any point can be measured. In practice, the procedure is somewhat modified, but this is essentially the idea of our description of variation.

3. We used in our project two complementary methods of data collecting: participant observation and interviews. I do not speak here about our participant observation, because the data gathered there are mostly interesting for phenomena like code switching, linguistic expression of social relationships and so on. Our grammatical description is essentially based on the interview material.

We decided to interview 48 persons and to restrict the investigation to

- (a) adults
- (b) 32 men and 16 women (this reflects approximately the actual distribution)
- (c) Italian and Spanish workers
- (d) four periods of duration of stay
 - (i) until two years
 - (ii) from two to four years
 - (iii) from four to six years
 - (iv) more than six years

This leads to rather small sets (24 persons per language, 6 persons per language and period, 2 women per language and period), and it is clear that we cannot claim statistical representativity. All other factors mentioned above are registered. An informant then may be considered to represent a collection of specified factors: he is representative of a certain variety.

Each interview was made in the form of a "conversation dirigée", i.e. in the form of a casual but cautiously directed conversation. It was recorded on a two-track recorder (Uher 210, Lavalier, microphone). Of course, special devices, most of them due to William Labov, were provided for to avoid communicative disturbances and deviations from usual communicative behavior. From each interview, 15 minutes were transcribed in a simplified phonetic

Reference Grammar

- 1. S → (SA) PROP
- 2. PROP → (NK) VK (Negj)
- 3. VK → { VG }
 { PVL }
- 4. VG → (AUX) (MV) { VP }
 { PRK }
- 5. VP → V (NK) (NK) (AK) (AK) (AK)
- 6. PRK → Kop { NK } (NK) (AK) (AK)
- { AK }
- 7. PVL → { NK } (NK) (AK) (AK)
- { AK }
- 8. NK → { (Präp) { NP }
 { (Quan) Adj }
 { Num }
 { S }
 { Pro }
 { ATN } }

- 9. NP → (ATV) (ATN) (ATN) N
- 10. ATV → (Det) ({ Quan }
 { Num })
- 11. ATN → { (Präp) { NP }
 { Pro }
 { Adj }
 { AK }
 { S } }

- 12. AK → { (Präp) { NP }
 { Pro }
 { Num }
 { Adv } }
 { { Präp }
 { Quan } }
 { Adv }
 { Quan }
 { S }
- 13. SA → (MOD) (TEMP)
- 14. MOD → { (Präp) NP }
 { Adv }
 { m }
- 15. TEMP → { (Präp) NP }
 { Adv }
 { l }
 { Num }

Liste of "categories" used *

A	Aussage-	NK	Nominalkomplexe
Adv	Adverb	NP	Nominalphrase
Adv	Modaladverb	Num	Numeral
Adv ^m	Temporaladverb	Präp	Präposition
Adj	Adjektiv	PRK	Verbalphrase (Kobula)
AK	Adverbialkomplex	Pro	Pronomen
ATN	Attribut (1)	PROP	Proposition
ATV	Attribut (2)	PVL	Prädikat ohne Verbgruppe
Aux	Auxiliar/Hilfsverb	Q	Frage-
Det	Determinator	Quan	Quantor
I	Imperativ-	S	Satz
Kon	Konjunktion	SA	Satzadverb
Kop	Kopula	TEMP	Temporalelement
MOD	Modalelement	v	Verb
MV	Modalverb	VG	Verbalkomplex
N	Nomen	Neg	Negation

* Corresponding to the categories in the reference grammar; the explanations are in German since the abbreviations refer to German terms.

notation. (A small part of our transcriptions is published as an appendix to our 1975 book).

The next step consisted in developing a reference grammar including all rules occurring in at least one of our 48 texts. The rules are context-free; the grammar must be completed by some word order transformations, but their treatment was neglected for the beginning. The grammar as it was used - it is the sixth or seventh version we worked with - is reprinted in figure 1. For mnemotechnical reasons, a list of "categories" was added, but it should be kept in mind that this is a formal grammar, and the "sense" of the symbols like AK or PROP is defined only by the rules where they occur. The grammar consists of 101 context-free rules altogether, arranged in form of 15 rule clusters. A rule cluster is formed by all rules with the same lefthand symbol; the rules within a rule cluster may be alternatively applied; for instance, in rule cluster 3, VK may be rewritten as VG or as PVL, where VG leads to sentences with (finite) verb or copula and VG to sentences without (finite) verb or copula. I shall not try to comment upon this grammar here in any detail.

This reference grammar was used to analyse 100 sentences from each informant, together with relative frequencies of rule applications; the analysis was made in the form of labelled bracketing; this allows an easy counting of rule applications. We interpret the relative frequencies of rule applications as probabilities within the variety the text is representative for; this may be somewhat hasty, because the number of occurrences is sometimes too small to be sure that the figures would not significantly change when an arbitrary number of new sentences is added. On the other hand, relative frequencies after 50 sentences and after 100 sentences per informant were essentially the same.

It is quite clear that every step of this procedure gives rise to a lot of questions and problems, but they cannot be discussed here. The result of the whole work may be imagined as a very big matrix consisting of 48 lines and 101 columns. Each line corresponds to an informant, or strictly speaking to a variety represented by that informant; each column corresponds to a rule of the reference grammar; each cell of the matrix contains a number

between 0 and 1 representing the probability of rule application in the variety in question.

This basic matrix is a complete description of language variation during the process of language acquisition - restricted to the data we could get from our 48 informants and restricted to syntax, or even to a part of syntax. It is not reprinted here, first because it would take too much space, and secondly because most of the rules are not very interesting; they show no or only a small amount of variability. That means: a lot of rules have similar or even identical values in all varieties. In some cases this may be caused by a too small number of occurrences. Hence, we excluded (a) all rules within an average of less than 50 occurrences per informant, (b) all rules the variability of which ranges over less than 40 % of the possible range; a rule may range from 0 to 1; if it ranges from 0.3 to 0.5, it is excluded, if it ranges from 0 to 0.5, it is taken into account. This restriction is somewhat arbitrary, but apart from lack of time and money, there is no problem to reconsider all rules excluded here.

The remaining rules are listed in figure 2. Their probabilities in the 48 varieties form a new, smaller matrix reprinted here as figure 3. The first column refers to the informants, the last one ("syntactical index") will be explained below; sometimes, very fine distinctions between different rules of the same cluster are neglected; for instance, the rules from 12.2 to 12.12 are put together.

FIGURE 2

Selected phrase structure rules

2.03	PROP	→	NK VK	8.02	NK	→	Pro
2.04	PROP	→	NK VK Neg	8.03	NK	→	Pro ATN
3.01	VK	→	VG	9.02	NP	→	ATV N
4.02	VG	→	Aux VP	9.03	NP	→	ATN N
4.03	VG	→	MV VP	9.04	NP	→	ATV ATN N
4.04	VG	→	Aux MV VP	9.05	NP	→	ATN ATN N
4.05	VG	→	PRK	9.06	NP	→	ATV ATN ATN N
4.06	VG	→	Aux PRK	10.01	ATV	→	Det
4.07	VG	→	MV PRK				
4.08	VG	→	Aux MV PRK				
5.02	VP	→	V NK	12.02	AK	→	Pro
5.03	VP	→	V NK NK	12.03	AK	→	Num
5.04	VP	→	V AK	12.04	AK	→	Präp NP
5.05	VP	→	V AK AK	12.05	AK	→	Präp Pro
5.06	VP	→	V AK AK AK	12.06	AK	→	Präp Num
5.07	VP	→	V NK AK	12.07	AK	→	Adv
5.08	VP	→	V NK AK AK	12.08	AK	→	Präp Adv
5.09	VP	→	V NK AK AK AK	12.09	AK	→	Quan Adv
5.10	VP	→	V NK NK AK	12.10	AK	→	Quan
5.11	VP	→	V NK NK AK AK	12.11	AK	→	S
5.12	VP	→	V NK NK AK AK AR				

FIGURE 3

DIFFERENT STAGES IN THE ACQUISITION OF GERMAN BY MIGRANT WORKERS.

Probabilistic values for selected phrase structure rules of 24 Italian and 24 Spanish Speakers.

Nr.	Informant	Rules								Syntactic Index
		2,3+4	3.1	4.2-8	5.2-12	8.2+3	9.2-6	10.1	12.2.-1	
01	SP-35	.29	.16	-	.33	.15	.33	.05	.42	3,1
02	SP-22	.72	.49	-	.49	.30	.46	.42	.43	30,8
03	SP-21	.42	.36	-	.72	.23	.70	.52	.31	32,0
04	SP-25	.50	.31	-	.61	.31	.51	.24	.82	32,6
05	SP-02	.56	.42	.05	.70	.37	.48	.47	.33	32,8
06	IT-08	.53	.21	-	.95	.10	.52	.45	.64	34,2
07	SP-08	.45	.61	.14	.83	.33	.36	.26	.64	36,5
08	IT-24	.52	.45	.13	.77	.24	.45	.59	.57	38,0
09	IT-23	.53	.41	.08	.69	.38	.60	.46	.56	39,5
10	SP-04	.55	.57	-	.82	.26	.55	.57	.62	40,4
11	IT-09	.68	.43	.06	.82	.40	.41	.41	.66	41,5
12	IT-13	.65	.46	.02	.61	.35	.42	.71	.79	42,9
13	SP-09	.58	.76	-	.76	.48	.58	.32	.68	47,6
14	IT-12	.56	.51	.18	.76	.45	.47	.50	.80	47,7
15	SP-14	.62	.74	.05	.85	.34	.52	.59	.63	49,3
16	SP-12	.65	.65	.02	.67	.25	.73	.64	.73	50,3
17	IT-07	.60	.68	.14	.80	.46	.42	.69	.66	50,6
18	IT-29	.55	.69	.06	.57	.49	.52	.83	.74	50,6
19	SP-15	.66	.86	.16	.86	.41	.34	.35	.87	51,4
20	IT-28	.55	.66	.11	.73	.41	.60	.67	.72	51,6
21	SP-18	.61	.72	.04	.90	.43	.44	.67	.72	52,5
22	SP-26	.67	.66	.19	.75	.30	.46	.81	.81	53,1
23	SP-30	.72	.70	.07	.74	.35	.59	.62	.81	54,2
24	IT-16	.50	.75	.14	.71	.32	.67	.63	.92	55,0
25	IT-32	.64	.73	.07	.82	.40	.63	.57	.77	55,4
26	IT-18	.63	.66	.20	.81	.31	.76	.64	.62	55,4
27	IT-05	.73	.71	.17	.87	.40	.52	.69	.71	57,1
28	IT-25	.64	.69	.42	.76	.49	.57	.58	.68	57,4
29	SP-36	.65	.72	.21	.92	.33	.50	.59	.90	57,5
30	IT-26	.57	.78	.11	.81	.49	.51	.69	.92	58,9
31	SP-01	.62	.67	.40	.70	.50	.60	.68	.79	59,9
32	IT-15	.63	.82	.26	.87	.36	.55	.67	.88	60,9
33	SP-13	.72	.79	.15	.85	.42	.57	.61	.89	61,2
34	SP-06	.61	.87	.38	.82	.51	.57	.58	.84	63,6
35	IT-33	.77	.90	.59	.86	.43	.61	.44	.66	64,6
36	IT-20	.70	.91	.24	.76	.52	.60	.58	.96	65,7
37	IT-06	.82	.96	.51	.77	.53	.57	.55	.83	69,2
38	IT-10	.73	.92	.55	.89	.48	.62	.72	.91	72,8
39	SP-17	.94	.85	.41	.80	.47	.64	.80	.87	73,8
40	SP-24	.85	.98	.47	.85	.70	.62	.46	.90	75,8
41	IT-02	.74	.88	.46	.85	.55	.73	.79	.96	78,0
42	IT-22	.84	.95	.42	.90	.64	.71	.69	.80	78,0
43	SP-31	.89	.97	.53	.75	.47	.84	.79	.85	79,8
44	SP-29	.85	.99	.61	.89	.60	.72	.82	.91	84,7
45	IT-31	.95	1.00	.60	.93	.54	.67	.80	.94	85,0
46	SP-19	.94	1.00	.57	.83	.55	.82	.75	.92	85,2
47	SP-11	.95	1.00	.89	.91	.60	.68	.82	.97	91,0
48	IT-01	1.00	1.00	.83	.84	.61	.79	.88	.99	93,8

This matrix represents the syntax of our informants insofar as it is variable. It allows a straight and precise study of the variability of particular rules and rule sets. Consider for instance the values of rule 2.3 + 2.4: they represent the use of nominal complexes (NK) in subject position, or simply speaking they represent the degree to which subjects are used. Informant SP-35 drops the subject noun (or pronoun) in more than 70 % of all sentences, while informant IT-01 - he is the best speaker of all, and very close to the dialect standard in its social environment - never drops it: he applies it with a probability of 1. Or look at rule 3.1; it is one of two possibilities to construct a simple sentence: with or without a (finite) verb or a copula. It is surely an important fact in language acquisition whether a learner uses finite elements. Informant SP-35 drops the verb (including the copula) in most cases; he mainly uses predicative nouns or adverbs or adjectives (in predicative function) without a copula; IT-01 on the other hand uses verbs or copulas whenever possible. Between these extreme cases, there are a lot of intermediary stages reflected by the whole spectrum of values in figure 3.

The values of a single line indicate the informants' syntactic capacities with respect to a certain set of rules. It seems interesting and useful to compute something like a syntactic overall index summarizing the information given by the singular rule values. There are several possibilities to do so; in the simplest case, the average of all values is taken; for several reasons this is not a satisfying device; the way we computed our syntactic index is much more sophisticated, and I shall not explain it here in detail. Though it fits our intuitions about the syntactic elaborateness of our informants very well and though the informants with the highest syntactic index value are grouped by it very close to a group of native dialect speakers we analysed for the sake of comparison, we think we should be careful with the interpretation of such a cumulative index; it is used merely to determine the order in which the informants are

⁶ A detailed discussion of this problem is to be found in HPD (1976), Ch. S. 4. and 6.

presented - without any further claim.

To get a correct picture of the syntactic development, the evolution of singular rules or rule clusters must be considered. We have made a detailed study of that kind. The results of this investigation - or rather the "content" of the results - are summarized here in an informal and perhaps a little sloppy way. It should be kept in mind, however, that the presentation given here is only a colloquial paraphrase of a precise technical description.

I will concentrate here upon four main areas of syntactic development: the structure of the whole proposition, verbal complexes (VK), nominal complexes (NK), adverbial complexes (AK), subordinate clauses. The terminology we use is a little bit different from the normal terminology, but I think there will be no difficulty to understand it (it is adapted to the grammar we use).

1. Proposition

- (a) In the initial stage, propositions are formed without finite element (verb or copula) and without subject, **e.g. /kinda trai / "(I have) three children" or /ainə ta: ainə ma futʃ/, lit. "one day one mark fifty".**
- (b) The most advanced learner never uses propositions without finite element or subject; this corresponds to the usage of native dialect speakers.

2. Verbal Complex

- (a) The constituents of the verbal complex are learned in the following order: simple verb, copula, modal verb, auxiliaries; combinations of modal verb, auxiliary + verb or copula are very late.
- (b) In the early stages, verbs are complementized by only one nominal complex (direct or indirect object) or one adverbial complex; there is a very regular and steady increase in the number of complexes depending on the verb.

3. Nominal complex

- (a) Simple nouns (proper nouns, class nouns without an article or modifier etc.) precede pronouns.
- (b) In the beginning, noun phrases don't have any modifier or determiner; the process of elaborating complex noun phrases is rather steady.
- (c) Within the class of determiners, there is a continuous shift from simple numbers (/ əsvai ma: / "two marks") and quantifiers (/ fr:l arbaɪ / "much work") to articles, i.e. numbers and quantifiers are first to predominate, articles occur mainly in later stages.
- (d) The first and most important attributes are adjectives; prepositional phrases functioning as attributes and relative clauses are very late.
- (e) Nominal clauses ("that...", "whether...") first appear in the middle stages.

4. Adverbial complex

- (a) The first adverbials are simple noun phrases without preposition (/doisla/ "in Germany, to Germany, for Germany") This structure disappears rather rapidly. It is replaced by simple adverbs, prepositional phrases and adverbial clauses.
- (b) Prepositional phrases with nouns are learned before prepositional phrases with pronouns (/bar mainə kolə:ga / "with my college" before /bar i:m / "with him").

5. Subordinate clauses

The acquisition of subordinate clauses shows a very clear and distinct order: adverbial clauses are learned before nominal clauses, nominal clauses before relative clauses.

The whole process of the acquisition of syntax then looks like this (this is a very rough picture): The first utterances consist of simple or slightly expanded nominal complexes and/or adverbial complexes of a very simple kind. Then, first finite verbs occur, the utterances are completed by a subject, first

pronouns are used. Verbal complexes and nominal complexes continuously increase in complexity during the whole process. Adverbial prepositional phrases and adverbs supplant simple noun phrases functioning as adverbials. Adverbial clauses, copulas, modal verbs and adnominal prepositional phrases are learned. Only in the last stages, the expansion of verb or copula by auxiliaries and modal verbs are learned; the same holds true for the acquisition of nominal and relative clauses.

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