

Informant	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
no	1	3	3		3	1			1	1	3	2
nothing		1	3			3	2	1		1		
none		3										
nil					1							
nobody												1
every		4			2	4	23	1	1	3	3	3
everything				1			1E				5	
everytimes		1										
everywhere							1E					
all	1F		9	5			13	9	4	12	22	14
many		1?			14	10		1	8	11	54	18
much			2	1			11	11	5	20		5
lot					1	2		2			1	7
some			1?		2?	3?			14	5	18	
sometimes		1		1	3	1			2	1	9	1
somebody									1	1		
someone											1	
any				1?								1?
most								1?				
each											5	
few												1

Table 4.66: Distribution of Quantifiers: Polish Informants—Interview 1

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
no	1?	7	1	2		3			1		2	2
nothing		4	6	3	2	5	1			3	2	
every	4		2*	6	2	1		5	1	6	5	
everything			6							4		
everybody		1								6		
everys												2
all	7	10		2	3	3	23	1	5	3	17	4
alls					3							
many		2		1	1	4		8	6	10	68	14
much		6		5	2		25	8	4	10	8	
some		6							5	12	13	1
sometimes		1	4				9		3	3	17	2
somebody									1	1		
somewhere									1			
someone											5	
few				1	1	1			2		1	3
any				3	2			1	1	1		
anyway											1	
lot			1		1					1		1
each									1			1

Table 4.67: Distribution of Quantifiers: Polish Informants—Interview 2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
no			5	3	1	6	5	1	2	2	9	1
nothing				2						6	8	5
nobody										5	5	
every			6	5	3		5		4	5	47	6
everything			4	2				1		2	29	1
everybody			2	1					8	1	11	1
everywhere											5	1
some					1	27	7	29	13	23	53	14
sometimes			2	11	3	5	2	7	9	12	14	10
sometime							1		1	2	1	
somebody								3	2	3	34	
somewhere									1	1	13	
someone							1				13	
all					2		1	5	10	23	16	6
many	1*		2*	5*	2*	1		4	6	21	33	12
much			3*	8*	1*	3*	1*	6	5	13	10	11
any							4			14	13	4
anything						1		1	1	11		1
anywhere									4	4	1	
anytime										1		
anybody											1	
lot									1	4	3	2
plenty				1						3		2
each			1?									3
most										1		1
both										2		
few												9

Table 4.68: Distribution of Quantifiers: Vietnamese Informants—Interview

1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
no		1	2		6	17	1	1	3	1	4	1
nothing				3	1		1	2			2	2
nobody						1			1	2		
some		1	6		1	21	2	13	7	7	5	8
sometimes			7			10	6		4	2	1	10
somebody								4			4	2
somewhere			2									2
sometime					1							
every	1	6	1		1		4	4	4		2	
everything							2			2	3	3
everywhere								1			1	
everybody								1	2			
much		3		6	21	3	1	1	6	3	1	2
all			2		2	2		1	9	9	1	4
many		1	1		1?	5	1	3	1	1		
any			2			2	3		1	2		3
anywhere			2							5		
anything						1				14		
anyway										1		1
anytime									1			
lot		1					2	6	5	9		
few							3			4		8
each							1					
plenty									1			

Table 4.69: Distribution of Quantifiers: Vietnamese Informants—Interview 2

NOTES:

1. Tokens of “many” always occur in the locution “how many” in the cases of of Van, Duc, Dung, Minh, and sometimes in the cases of Tam (one token) and Long (twenty-two).
2. Tokens of “many” are all quantifiers in the cases of Hoa, Vinh, Canh, Phuc and Tam (five tokens), where they all have the form “too many”.
3. For “much” the distribution is: Duc—one adverb and one question; Dung—five adverbs and one question; Minh—one adverb; Hoa—three adverbs; Sang—one adverb; Vinh—five adverbs and one quantifier; Tam—four quantifiers; Canh—eight adverbs, three negatives and one question; Long—four adverbs, four quantifiers and two questions; Phuc—seven adverbs and one quantifier. All the tokens produced by Tam have the form “too many”.
4. Tokens of “every” occur outside adverbial phrases in the cases of Dung (one token), Tam (one token) and Long (three tokens).
5. Tokens of “some” are *-Specific Referent, -Assumed Hearer’s Knowledge* in the cases of Minh, Hoa (apparently most tokens), Sang, Vinh, (some tokens), Tam, Canh (some tokens), Long (some tokens), and Phuc (some tokens).
6. Tokens of “some” are *+Specific Referent, -Assumed Hearer’s Knowledge* in the cases of Hoa (a few tokens) and Phuc (some tokens).

was before that) or in discourse (That's the problem). In many languages this global function is spread over various words whose purpose is to indicate the degree of propinquity between the speaker and the thing pointed at. Hence distinctions such as those between *this* and *that* in Standard English. The distinctions need not in fact be binary. In earlier dialects of English itself, the paradigm was extended with *yon* and *yonder* for more distant referents, and some current dialects exhibit finer degrees of discrimination than normal with compounds like *this here* and *that there*. Other languages frequently have a tripartite scheme of deixis; some, like Turkish, have more complicated ones still [177].

However, in early learner language, it appears that while the function of pointing has to be implemented in some way, the expression of a system of oppositions as parameters for the basic function has a lower priority. This accounts for the predominance of *this* and *here*—these words can perform the basic pointing function, and refinements can come later. This primacy of the pointing function over the locational scheme would also account for the frequent confusion of deictic pairs like *this* and *that* by learners who have acquired both members of the set quite some time before.

The development of schemes of deixis may well be related to the development of referential fields in areas such as pronominalization, in which a kind of *here/there* distinction has to evolve for the discourse to be able to accommodate references to third persons. This is an area which could be profitably researched in more detail.

It should be noted that when reference is made here to the emergence of a semantic distinction, such as the one underlying deictic pairs, the reference is to the realization of this distinction in the speech of the learner by whatever means are appropriate, and not to the basic cognitive distinction itself. Both Polish and Vietnamese distinguish between *here* and *there*, and *this* and *that*, so underlying cognitive capacity is not what is at issue. The problem for the learner is to choose the right word (in production), or to isolate it (in reception and processing), while his or her attention and linguistic faculties are simultaneously dealing with other matters. Depending on the developmental stage the learner is at, and the complexity of the overall communicative task, the priority allocated to items like the deictics must vary: if they are to come under conscious scrutiny a good many other processes must be automated and under control. Since this is often not the case, well established semantic distinctions, such as those underlying deixis, can fail—invariably, regularly, or occasionally, as the case may be—to achieve surface realization. While learning Spanish, the researcher himself remembers a distinct tendency to confuse the Spanish demonstratives in unmonitored speech, or speech being monitored for some other feature.

This situation, of course, holds with many other elements and structures as well. One set of distinctions that comes to mind as obviously similar are those of the pronominal system. The important point here is that cog-

nitive mastery is not a sufficient condition for linguistic mastery; for any given cognitively established set it will almost certainly be the case that some elements are mastered in speech before others, due to certain overriding features of the learner's linguistic system. This is so, as the case of deixis shows, even for sets with only two elements. Other examples are abundant: amongst adjectives, for example, good is many times more frequent than bad. The underlying principle here is really quite simple—if the distinction between set members is communicatively important then one member can often be manipulated to imply the other, and if not, then a single member may represent the set well enough for the time being.

An Implication for Pedagogy

It is of interest that the implications of this simple principle for pedagogy are quite profound, however. This is because of a widespread tendency to teach members of sets together, and in fact to use set membership as a means of defining individual items—bad as the opposite of good, that as the complement of this, etc. Given that learners will initially try to acquire one member of a pair and disregard the other, insistent presentation of both members is likely to reduce the chances that at least one element will be acquired with some degree of appropriateness.

A rather neat example of this came to the researcher's attention when he was marking an English test given to Spanish-speaking secondary students. The course had apparently involved presentation and drilling of the verbs lie (to tell untruths, to become recumbent) and lay (past tense of lie, to put down). The part of the test which dealt with these items was in a cloze format, and one student produced the memorable answer He was punished because he lay the teacher.

To return to the analysis: this is used by all informants over 0+ on the *ASLPR*, in all four sets of interviews. While the distribution of this is similar for the two groups, the frequencies of occurrence are not. For the Vietnamese speakers, these hardly vary across the whole sample—the count for this does not reach double figures in any interview. For the Polish speakers, on the other hand, the frequency with which this is used tends to increase steadily as we move towards the right hand side of the table. The significance of this will be discussed further on.

4.15.3 'Here' and 'There'

The distribution of here parallels that for this, although (probably for quite arbitrary reasons) it is somewhat more ragged.

There, on the other hand, presents a different picture. Amongst the Polish informants it is raggedly distributed and infrequent. With the exception of *ks.2*, it is not found in the output of informants rated under 1 on the

ASLPR. (That is also used by Krystof S., but not by his neighbours on the scale, which tends to confirm the nexus between that and there, and also suggests that this informant should be shifted to the right—there is other evidence for this). Amongst the Vietnamese informants, the threshold, in *ASLPR* terms, for the appearance of there is about the same as for the Poles. However, for the Vietnamese speakers, once there appears it is both more frequently produced and more regular in its distribution. The reasons for this are not really clear; some possible explanations will be advanced later.

The distribution of the deictic, that, (as opposed to the complementizer) very closely parallels that for there, and tends to confirm the importance of their semantic common denominator. There are, however, a number of additional comments that should be made about the use of that.

In the first place, as a look at the notes to tables 4.70 to 4.72 will show, a large number of the tokens of that produced by the Polish speakers are sentential complementizers and not deictics at all—that is, they appear in structures like: she... said that I can go to Melbourne (kb.1: [761–2]). For the Polish speakers who produce significant numbers of tokens of that the ratio of complementizer that to deictic that over the two interviews is: Barbara B.—four to two; Ewa S.—thirteen to two; Andrzej J.—seven to seven; Krystyna B.—seventeen to three; Ludwiga J.—forty-eight to three; and Mieczyslaw M.—two to eight. This very considerably reduces the number of tokens of that for the Polish speakers. Given these depleted counts, the number of that tokens produced as part of the possibly formulaic locution that's becomes a significant proportion of the total output. Although the distribution of that is still more regular than for there, the adjustments to the counts lower the frequencies for that to round about the same level as for there and result in a marked contrast between the two language groups for the patterns of use of these two items.

Before looking in more detail at the ways in which this and that are used by the two groups, there is one further point to make about the Polish speakers. This concerns their use of the German *das*. Since all of the Polish speakers interviewed had had exposure to German it is possible that all of them may have known *das*. Its use, however, is restricted to those speakers who either produce very few tokens of deictic that or none at all. *Das* is a kind of dummy subject pronoun in German and is basically neutral as regards distance from the speaker; it is not therefore the equivalent of that. For the speakers who use it, however, *das* may act as a transitional form in the acquisition of that.

4.15.4 'This'/'That' and 'Here'/'There'—Summary

A brief summary of the findings might be in order at this point. This and here are more widely distributed than that and there. In *ASLPR* terms at least, acquisition of that and there appears to occur at about the same level

1 for both groups. However, with regard to actual frequencies of occurrence, the situation for the two groups is reversed. The Vietnamese speakers use this only very sparingly, whereas once they acquire that they use it with increasing frequency. The Polish speakers, on the other hand, use this with increasing frequency, but that only sparingly.

4.15.5 Language-Specific Differences

In order to attempt to understand the reasons for these inverted patterns of usage, an analysis of how each token of this and that was used was carried out on the data from the first round of interviews. Tables 4.70 and 4.75 show the results of this analysis.

The tokens were classified according to their categorial status as pronouns or adjectives, their grammatical status as subject or object, and whether the deixis they expressed was spatial, temporal or discourse-oriented. This resulted in practice in some seven different possible classifications.

1. The demonstrative functions as a subject pronoun whose referent is some object or event already present in the discourse:

this is, er...feerst contact, er, language English

- jr.1: [16] -

I work(ed) with American contractor...(be)cause that really bad for me

- phuc.1: [415-7] -

2. Alternatively, in the absence of a clearly defined previous referent, the demonstrative could be classified as a dummy subject:

that's very difficult, you know

- long.1: [405] -

In many cases, it is difficult to decide whether a token is an example of a discourse subject or a dummy pronoun, so the counts for these two categories should perhaps be considered together.

3. A demonstrative functions in a discourse capacity as an object pronoun:

I was very happy to do that

- phuc.1: [339] -

4. Or as an adjective (no note was made of the grammatical status of the noun phrase modified):

I don't know how called this street

- kb.1: [785] -

5. Within a temporal framework, demonstratives function as object pronouns:

but before that... when I was at high school

- phuc.1: [234-5] -

6. Or adjectives:

we were lucky that ti(me)... we get a job

- phuc.1: [18] -

7. Within a spatial framework, only subject pronouns occurred:

[DRAWS] Here this... yet... this

- ka.1: [591] -

Turning first to this, it can be seen that the majority of tokens function as subject pronouns or adjectives (probably modifying subject pronouns) with a discourse-based reference. This is so for both language groups, and is what one would expect from speech data gathered in an interview situation. The Polish speakers simply utilized this to implement these functions a great deal more than the Vietnamese.

In the case of that the Polish speakers repeated their pattern of use for this, except that adjectival usage of that was hardly in evidence. One informant produced quite a number of probable dummy subject tokens of that, all in phrases beginning with that's, which suggests an element of formularity; the phrases, however, had quite a wide range of predicates. Tokens of that as an object pronoun were very rare.

With the Vietnamese speakers, there were a good many tokens of that as either a subject or adjective with discourse reference, or a dummy subject. There were also a good many tokens of that as an object pronoun, in both discourse and temporal reference capacities.

What, then, could explain the reversed patterns of use for demonstratives? The probable answer is influence of the first language.

As already stated, both languages share the binary system of oppositions that characterizes deixis in English. Their choice of which word to use under certain circumstances is not always the same, however. In the data presented in Tables 4.72 and 4.75 the principal reference frame for deictics is within discourse itself, rather than space or time. And it is in this area that Polish and Vietnamese differ as regards choice of deictic pronoun. In Polish, the

word employed is *tu*, which translates into English as *this*; in Vietnamese, it is *ra*, which translates as *that*.

Thus in the reversed frequencies we appear to have some definite evidence of first language interference or transfer.

This is interesting in itself, but of more interest still is the way first language influence operates in this case. As has already been shown, the actual distribution for the deictics, and therefore very possibly the acquisitional pattern, is the same for both groups. This suggests that deixis follows a developmental pattern. Within the broad outlines of this pattern, however, first language influence is manifested in the frequency with which items actually appear. It shows in other ways too. Polish, for instance, does not use the same words for spatial and temporal deixis, and this is reflected in the relatively low counts for temporal *this* and *that*. When new usages are acquired, such as adjectival demonstratives in the case of the Polish speakers, they tend to take the contextually preferred form—thus Polish speakers use *this* as a demonstrative adjective, but not *that*.

4.15.6 Conclusions

To summarize the above findings briefly. In terms of sequence, *this* and *here* are acquired before *that* and *there*, and *this* needs to be recognized in pedagogical practice, where they tend to be presented together and in fact defined against each other. The plural forms *these* and *those* are barely in evidence in the present corpus, and are evidently not worth teaching before *ASLPR* level 2.

Furthermore, first language features may affect the rate of suppliance of deictic words in different contexts and as members of different grammatical categories. In this latter regard, the learning of deixis in English provides interesting and representative insights into the learning of sets, and of how a probable developmental feature is affected by the learner's first language, without, however, losing its developmental status.

4.16 Existentials

4.16.1 Existential 'There'

Existential sentences in Standard English are characterized by the structure *there + be*. In addition to *be*, several other verbs, such as *exist*, can appear after *there*. Obviously, there are other ways of denoting existence, but the sentences with *there* are the paradigm cases.

In the present study, the most notable thing about these paradigm existentials is their very low frequency of occurrence. Multiple tokens of an unambiguous kind are produced by only two informants—Andrzej J. and

Informant	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
this	3	5	11	3	15	7	8	1	44	16	79	37
dis	1	4	1		3		11	1	3			
des		2			1							
gis					1?							
zis							2					
here			2		3	18	5	5	7	18	4	19
here's						1				1		
that			1			3		6*	2*	12*	30*	4*
das	1		2			1	11	12				
that's			1			1					15	1
there								1	3*	1		
there's						1						
dort								2				
these									1			

Table 4.70: Distribution of Demonstratives: Polish Informants—1

NOTES:

1. Tokens of "that" are complementizers in the case of es (all tokens), aj (one token), kb (nine tokens), lj (twenty-nine tokens) and mm (two tokens).
2. In the case of aj two tokens of "there" are pleonastic pronouns in existentials.

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
this	13	7	8	10	8	7	31	5	41	9	39	24
dis	6	6		4							26	
here		2			11	2	21	2	6	18	3	5
that		1					6*	9*	12*	8*	18*	4
that's		1	1			1			1		6	
das		1										
dat											3*	
there		4		3?		1			11			1
there's									1			
these									1	1	1	3

Table 4.71: Distribution of Demonstratives: Polish Informants—2

NOTES:

1. Tokens of "that" or "dat" are complementizers in the case of bb (four tokens), es (seven tokens), aj (six tokens), kb (eight tokens), and lj (twenty-one tokens).

Informant	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
this: S-PN/Dis	4	10	10	3	17	4	15	1	3	3	11	3
this: ADJ/Dis			1	2?			7		40	12	50	32
this: ADJ/Temp		1	1						3		5	1
this: O-PN/Dis							2				10	1
this: S-PN/Spat						3					1	
this: O-PN/Temp									1		1	
this: Dummy-S							2					
this: ADJ/Spat								1				
that: S-PN/Dis						4				2	1	
that: Dummy-S			2								14?	1
that: O-PN/Dis									1			
that: ADJ/Dis										1		
that: O-PN/Temp												1
these: Adj/Dis									1			
das			2			1	11	12				

Table 4.72: Breakdown by Categories: Polish Informants—Interview 1

KEY:

“S”: subject; “O”: object; “ADJ”: adjective; “Dis”: discourse; “Temp”: temporal; “Spat”: spatial.

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
here			12	5		10	2	12	9	21	13	8
this			7	1	1	1	4		7	4	7	5
there						2	1	15	5*	28	30	16
there's						1						2
dere							1					
that						4		15	5*	38	110	104*
that's								4		23	63	29
thas							2				10	1
thats										6	3	
das							1					
dat												1*

Table 4.73: Distribution of Demonstratives: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
there		1	2	3	4	4	9	7		4		3
dere		2	8						3		2	
that			4					5	1*	19*	11	45*
that's				1		1		1		6	9	19
dat		2	1		2				2*		5	
thats			1					1		1		
thas				1								
das											4	
dats										2		
dat's											5	
here		7	3		4	1	2	1	4	2	3	5
this				2	3	1	2	3	3			9
dis		2	2			6			2	2		

Table 4.74: Distribution of Demonstratives: Vietnamese Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
this: S-PN/Dis			1		1	1?				3		5
this: ADJ/Dis			3				2		3		6	
this: ADJ/Temp			3	1			1		4			
this: O-PN/Dis										1		
this: S-PN/Spat											1	
that: S-PN/Dis						2		4		3	3	32
that: Dummy-S								4?		29?	63?	
that: O-PN/Dis								12	2	18	58	16
that: O-PN/Temp							2	3		5	25	12
that: ADJ/Dis						2	1		1	4		6
that: ADJ/Temp												27
that: ADVERB												1

Table 4.75: Breakdown by Categories: Vietnamese Informants—Interview 1

KEY:

“S”: subject; “O”: object; “ADJ”: adjective; “Dis”: discourse; “Temp”: temporal; “Spat”: spatial.

Vinh. Canh produces a token without any surface realization of *be*, which should perhaps be included:

If there... my country no more communist, I will be back

- canh.1: [654] -

A number of other informants (Krystof S., Krystyna A., Hoa, and Phuc) produce phrases with *there is* or *there's*. Careful examination of the context of these phrases, however, seems to indicate that they may be cases of locative *there* plus the copula. In Standard English such sentences can only occur in speech acts where there is explicit pointing, such as, *There's John now*. In the examples provided by the informants this is not the case. The difficulty of distinguishing between locative *there* and the dummy pronoun found in existential sentences is illustrated in the following example:

mornin(g), you know... ah... one frien(d) of mi(ne)... he look t(h)rough the window... an(d) he tell us... [WHISPERS]... 'There's communist(s)!'

- phuc.1: [789-91] -

4.16.2 Alternative Existential Structures

Even allowing for the doubtful tokens, there would be no more than twenty-five tokens of existential *there* in the whole cross-sectional corpus. This is a very small number.

Clearly, informants have to have other ways of denoting the existence of objects. One way, used on occasion by Vietnamese speakers, and once by a Polish speaker is to use *have*. This is how existential sentences are formed in Vietnamese, and indeed many other languages—including some English-based creoles. Thus we find sentences like the following:

I like in Australia because, er, here have freedom

- dung.1: [155] -

ah... tortoise shell... where in Australia have?

- duc.1: [761] -

badmington... we have and... er, we play sometimes when, eh... when... t... and isn't wind... have?... hasn't win(d)?

- es.2: [586-7] -

Such sentences are not so numerous as one might expect, however. Once again, there are barely half a dozen examples in the whole cross-sectional corpus.

Probably the most common method of denoting existence is to use a copula structure—that is, one that is not specifically earmarked as an existential. (This is the procedure adopted in Polish, as it happens). Thus:

Australia is... mm... for my occupation, is, er... many
... many... job(s)... er... many work

- jr.1: [474-5] -

Hm... is, er, many place(s), er, for work... free place(s)

- ka.1: [1117] -

in Poland big, er, city is big house(s)

- zj.1: [653] -

Although the last example is not one of them, it is often possible to produce acceptable existential sentences in this way. More primitively, just the noun phrase by itself may get the message across:

GB Hm... what do you think of the food in the hostel?

I No good... every day goulash

- zj.1: [768-70] -

Another common method, which generally results in acceptable structures, is to use *have* with a subject. Thus:

in Bogatenia we have only... we, er, we had only, eh, one, eh, main
club... club... er, in this club, er, we... we have library

- mm.1: [301-3] -

4.16.3 Possible Explanations for Infrequent Use of 'There'

It seems curious that learners employ *there + be* so infrequently. One would think that a formula such as *there's*, which is generally acceptable in plural contexts, would be easy to learn. From the results of the present study, however, and from other investigations this does not appear to be the case⁴.

⁴Both Geoff Brindley and myself have performed classroom experiments with parallel results.

One can only speculate as to the possible reasons. The fact that existence can be implied in various ways, such as through copular structures or even standalone noun phrases, may detract from the functional importance of explicit existential structures. In addition to this, the fact that the crucial form, *there*, is acquired relatively late, by which time some makeshift means of indicating existence must have already developed, may further inhibit the production of a specific existential form. Finally, the case of existential *there* may represent yet another example of the form-function constraint, since when *there* is first acquired, it is acquired as a locative pronoun. The functional duplication that results if it is used in existential structures may constitute a disincentive for the extension of the form to these structures.

Whatever the reasons for the low rate of suppliance of existential *there* may be, it is clear that inculcation of this item is not a valid pedagogical goal for learners at the stages of development represented in the present corpus.

4.17 Personal Pronouns

4.17.1 Limitations

The analysis of personal pronouns which follows is very limited. This is partly due to the fact that there has not been sufficient time for the transcripts to be scanned for obligatory contexts. Thus, for the time being, there is no specific information on inappropriately realized pronouns (where the non-standardness might involve person, number or case) or pronouns which were not realized at all (null tokens). Neither is there any specific information on the functioning of pronouns in discourse. Huebner has demonstrated that a proper analysis of the acquisition of a pronominal system must take discourse features into account [85], and the *ZISA* project has shown that such phenomena as pronoun deletion are systematically related to learner typologies (see 2.1.8).

It is clear, therefore, that considerable research remains to be done on the pronoun data collected. Given that the counts presented in Tables 4.76 to 4.82 and 4.83 are unprocessed, the observations which follow should be taken as suggestions rather than findings.

4.17.2 Distribution of Pronouns

Not forgetting the above caveat, there nevertheless appear to be certain discernible patterns in the pronoun data collected. The following comments will deal with these patterns as manifested in relation to person, gender, case and number.

Informant	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
I	7	34	34	51	60	35	141	135	177	104	196	180
I'm	1	1	7	1	2		6	2	7	4	14	4
I've		1						1	3			2
I'd					1			5				1
I's					2							
me	1	2	2	2	6	3	8	1	30	24	32	13
it	1	4	3	6	4	1	1	15	39	57	97	20
it's			5		1	2	3	4	18	6	16	45
he	3	2	4	4	25	2	1	3	24	7	4	9
he's					1	1		1	3	1	1	
zhe						2						
we	1	2			3	18	1	23	23	40	113	24
you			7	9	12	10	15	3	14		37	1
you know					1						34	
she		1	5	3	3				5		2	21
she's								1	2			2
they	1				1	1		10	3	11	3	6
her		1		1							5	6
myself				1					1	1	3	3
us								3	7	4	10	
him					1				4	2	7	
them								1		1		
self					2						1	
itself								1				
himself									1			

Table 4.76: Subject and Object Pronouns: Polish Informants—1

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
I	26	58	64	87	45	79	122	104	59	154	287	129
I'm	2	1	1		1	3	9		10	5	6	3
I've				3				1	4		2	
I'd				2				1	1			
it		1		10	1	9	4	10	50	29	79	8
it's	4	2	1	9	4	3	87	14	6	30	23	22
he	9	3	5	22	4	11	5	40	18	23	30	4
he's	2			2		2	1	6	1	5	1	
she	2	12	5	6	6	14	2	11	3	31	4	21
she's				1	1	2		2		5		2
we	2	1	8	4	5	9	9	48	36	32	155	12
we'll					1			3				
we're								1				
me		4	2	4	9	4	25	1	7	26	24	12
you	1	1		2	2	2			2	36	23	1
you know		1									52	
they		1		2		2	2	6	2	20	3	22
her		2	1			2	1	1	2	9	2	5
us	1				2	1		2	3	5	14	
him								1	8	2	6	1
them						2	4		2	6		
myself						1			1			
himself						3						
hiself						1		3				
self				3								
yourself											1	

Table 4.77: Subject and Object Pronouns: Polish Informants—2

Informant	is	zj	ks	jb	jr	ka	bb	es	kb	aj	lj	mm
my	9	13	23	21	24	17	51	16	50	29	54	41
mein	2						1					
meiner	1											
his			1	4					1	6	2	1
her		1		1	1						5	6
our				2					1	10	23	
your				3	2					1	7	
their										3		

Table 4.78: Distribution of Possessive Pronouns: Polish Informants—1

Informant	is	ks	zj	jr	ka	jb	bb	es	ja	kb	lj	mm
my	12	12	9	24	11	16	42	11	7	25	35	19
her		2	1			2	1	1	2	9	2	5
our	1	1				1		6	7	2	23	2
his				4	2	4			1	3	2	1
your							1	1		1		
their									1		1	
ours											1	

Table 4.79: Distribution of Possessive Pronouns: Polish Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
I	13	33	106	33	101	111	69	116	145	320	442	214
I'm			1		2	29	2	7	5	19	9	1
I's											1	
you	3	4	24	17	9	52	14	11	46	136	170	133
you know			5	3	1	72	1	62	33	58	433	132
me		3	14	4	2	24	7	8	39	37	77	36
he		1	38	1		18	6	18	88	6	119	27
he's						3		1		1	11	
they				4	1	18	25	78	65	171	310	145
she		1	4	10		24		4	11	2	19	5
she's						1		2				
it			3	2			1	5	3	14	20	11
it's						1		2		2		13
we			1		2	22	2		14	49	145	52
we's											1	
him				3		6		1	11	4	24	6
myself					2		2	1		1	4	4
her				1				1	1	8	7	4
them								7	15	18	11	32
us								11		3		13
themselves										1		
themselves												1
herself				2								
self									1			
yourself												5

Table 4.80: Subject and Object Pronouns: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
I	34	92	92	98	92	54	64	72	139	93	54	133
I'm	4	4	7		1	38		5		14	1	4
you		8	1	13	1	14	2		43	36	4	94
you know		34	1		6	28	3	12	51	45	61	84
he		42	17	41	28	51	24	25	43	11	4	3
he's				2		1				6		
me		11	14	12	14	42	5	7	28	14	12	16
they		6	6		1	26	8	29	27	40	21	16
they'll										1		
it		1	2	2	4			3	5	5	1	18
it's		3		3		1		1	2	7	1	7
them		1	1		2		3	6	5	10	1	2
she			1		1	14	14	8	32	11	1	2
him				5	4	11	1	3	14	1	1	
we						6			8	12	27	7
we's									1			
her						3	5		17	6		
us								2		1		
myself											3	4
herself											1	

Table 4.81: Subject and Object Pronouns: Vietnamese Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
my	1	4	21	24	29	62	34	36	43	56	36	36
mys						1						
your	1		1	3	3	5	2			18	4	22
his				1		1		1	1	6	23	2
her				1				1	1	8	7	4
their							2	3		3		16
yours										1		
our												5

Table 4.82: Distribution of Possessive Pronouns: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
my	14	25	23	18	83	35	15	24	23	9	10	5
mys		1										
your	1		1	11	1				1	1		6
his			4	14		1		2	4	2		
her						3	5		17	6		
their			1									
hers										1		
ours										1		

Table 4.83: Distribution of Possessive Pronouns: Vietnamese Informants—2

Person

Due to the particular nature of the discourse situation of the interview, some care has to be exercised in making generalizations about person. It would appear, however, that as regards acquisition, first person forms are the first to emerge. Thus, all informants produce tokens of these forms. The most frequent form is *I*, followed by *my* and *me*. As mentioned in 4.7 there are also certain non-standard first person proforms, of which *I'm* is the most prevalent. For example:

becau(se) I'm very li(ke), you know

- hoa.1: [183] -

before I am mu(s)t to work

- minh.1: [515] -

Person-wise, there is a discrepancy between the Polish speakers and the Vietnamese speakers as regards the next most widely distributed proform after first person forms. For the Vietnamese speakers this is *you*, a second person form, but for the Polish speakers it is *he* and/or *it*, both third person forms. That this discrepancy is not accidental is attested to by almost identical patterns of frequency and distribution for the items in question for both rounds of interviews. At least three factors contribute to this situation.

1. The interview situation is not specifically geared to the elicitation of second person forms, and informants were not obliged to ask questions if they were disinclined to do so. Opportunities for the production of second person pronouns therefore varied. and as a result there are gaps in the row for *you* in Tables 4.76 and 4.17.2—see for instance the entries for Ewa S., Barbara B., and Krystyna B.
2. It appears that the Vietnamese speakers are more culturally “other oriented” than the Polish speakers. This is evident in their constant use of *yeah* (compare Vietnamese *gia*) in dialogue. In Vietnamese culture it is a politeness imperative to register a verbal response to every conversational move made by the interlocutor, especially if the latter has high status [24]. This characteristic almost certainly also results in an increased use of *you*. For example:

Saturday... Sunday... ah... weeken(d) is the weekend ... you know, Sunday

- duc.1: [463-4] -

Probably also as a result of the reasons cited above, Vietnamese speakers are given to frequent use of formulaic *you know*. For this reason a count of these tokens has been included in Tables 4.76 to 4.83.

3. Less crucially, the number of possible tokens of one third person form it is reduced for the Vietnamese speakers by the fact that they have a low rate of suppliance for the copula, which can in turn result in non-suppliance of the dummy pronoun with which it is frequently associated.

In consequence, the figures for the production of *you* for the Polish informants in comparison with the Vietnamese informants need to be viewed (as do other discourse-based features) in a qualified light. In fact, as regards ability to produce *you* there is evidence that this task was within the competence of all the Polish informants. (It is in doubt in only two cases). While in the spontaneous speech segment of the interviews Irena S. and Zygmunt J. do not use *you*, they produced the form without difficulty in the elicited section. Thus, while there are gaps for the production of *you* in Tables 4.76 and 4.17.2, these can be considered situational rather than linguistic.

Of course, the argument just put forward is a double-edged one: other gaps in the data might be explained away in a similar manner. In the crucial case of third person proforms, however, this cannot be done so readily. Thus, in the course of the interviews reasonably persistent attempts were made to extract third person discourse. Informants like Van, who does not produce third person proforms can almost certainly be assumed not to possess them. (In both interviews Van produces only first person proforms, *I* and *my*, and second person proforms, *you* and *your*. He was unable to perform the elicited tasks).

An explanation for the production frequencies for *you* has been offered above: if we adjust the distribution by filling in the gaps for this item for the Polish informants in view of the evidence cited above, the evidence from Van (which is consistent across two interviews) suggests that there is an implicational relationship between the three different person forms, with production of third person proforms entailing production of the other two person forms.

If this conclusion is considered unacceptable, a slightly weaker proposal can be made. This is that the use of any proform will imply that the speaker has at least a binary distinction between *+self* and *-self*. This is attested by the fact that no informant produces proforms in only one person category. In this schemata the actual form of the non-first person pronoun would not be crucial, and could, in fact, be a third person proform.

Whichever proposition is accepted, it is evident that the division of the *-self* category occurs at a relatively early stage. The fact, however, of this division being made and proforms representing all three categories being

produced does not spell the end of the evolution of the person categories. Thus, in performance, it is not uncommon for learners to make errors in person category assignment. These regularly involve the suppliance of a second person pronoun for a third person referent, often with almost instant correction to the right form:

one is, eh, Louis, er, hyou, er... he come from Malta

- is.1: [145-6] -

wits me in Australia is my brother wis your... his... er, his... his wife

- jb.1: [298-9] -

In the output of the Vietnamese speakers, there are some cases of first person and second person category confusions, generally with possessive forms:

my daughter first... er, go to school... /... and, er, two... your two children, um... um, go to school in the public

- minh.1: [357-9] -

you happy in your, my, your teacher... mm... my teacher [LAUGHS]

- sang.1: [691-2] -

This indicates that a person distinction which may be reasonably well established for one category of pronoun may be less stable in performance for a more marked category, and is a good example of the interdependence of the various semantic frames which make up the pronominal system.

While it must remain only a hypothesis, it would seem from the general pattern of usage described below that other developments in the pronominal system observe the basic person hierarchy and tend to spread from first person environments down the hierarchy. In this sense, the person hierarchy could be said to be the basic pronominal hierarchy.

Gender

Amongst those pronouns marked for gender, namely the third person forms, there are frequent confusions, particularly between the subject forms he and she:

my husband, he got a... she get job in Merimbula

- hoa.1: [99] -

zhe was... hm... don't... zhe was... he wasn't

- ka.1: [1244] -

Errors for neuter gender referents are less common, but do occur:

I wri(te) my w... wife name... ah, he wrong

- duc.1: [185-6] -

Gender errors are frequently picked up and corrected by the speakers themselves, but are nevertheless very persistent, as the following quote from the fifth interview with Barbara B. indicates:

mother-in-law... it's in Canada... /... yeah... he... she boy!
ldots /... she's a pension, yeah, and she is... I don't know why I
make that mistake...
'he' or 'she'?

- bb.5: [1334-1355] -

It is possible that this instability as regards gender marking is partly due to the fact that English provides learners with no possibilities to exercise gender distinctions further up the person hierarchy. Errors with case, where there are opportunities for development of distinctions in the first person appear, as we shall see, to be more systematic.

In the multi-dimensional framework developed by the *ZISA* project, pronouns constitute a variational feature. From evidence like that presented above and given the more "malleable" nature of variational features in general it seems highly plausible that these features are also particularly subject to performance fluctuations. This would be worth investigating further.

Case

As with gender, case is subject to a certain amount of confusion. Case errors, however, appear to be more systematic than those involving gender. Case errors mainly involve the use of object forms where the target would demand subject forms. Some examples are:

only me come here

- tam.1: [139] -

I'm about twenty peoples and me was first

- lj.1: [520] -

While first person forms figure most prominently in this kind of non-standard usage, other persons are not immune:

Her came here, er... the fifteen of December

- dung.1: [136] -

Case errors appear to have more logic to them than gender errors. Thus the use of object forms for subject ones could plausibly be interpreted as a case of overgeneralization, since the object forms occur in Standard English as citation forms and in conjuncts such as John and me arrived late. (It is possibly significant that the token from lj.1 is preceded by and).

It might be worth observing at this point that in general, non-standard pronominal forms do not seem to occur in learner language where they are distributionally impossible in the target language. Thus, while we might find I'm or me or even my as subject pronouns, we would not expect to find I'm or my as object pronouns. Non-standard proforms are therefore interpretable as a rule as the products of faulty parsing or failure to acquire target constraints.

Number

Errors involving number are less apparent than those involving case and gender. From the present data the main generalization that can be made is that plural forms are less widely distributed and frequent than their singular counterparts, especially in the case of the Polish speakers. To what extent these findings are an artifact of the discourse situation of the interview is not clear.

4.17.3 Possessive Forms

The distributional patterns for possessive forms very closely mirror those that have been observed for subject and object forms, with the same discrepancy for the Polish and Vietnamese speakers in regard to *your* occurring as was found for *you*. This strengthens the propositions that were made above in 4.17.2 about interactional style for the two groups.

4.17.4 Reflexive Forms

Reflexive forms are quite rare, especially forms other than *myself*. They are generally used adverbially rather than reflexively. The following example is typical:

in Austria, er, I learn English, er... my... myself

- jb.1: [21-2] -

4.17.5 Conclusions

While considerable research remains to be done on pronouns, we can probably make the following assumptions.

The first distinction to emerge in the pronominal system is the distinction between *self* and *not self*. The latter element of this disjunction is further subdivided to give the basic tripartite system of person for English. Further developments in the pronominal system will tend to spread down the person hierarchy, beginning in first person. This seems to be true of the evolution of case distinctions, number distinctions, and the evolution of separate forms, such as possessives and reflexives. Gender distinctions, which perforce must develop only in third person forms are particularly hard to stabilize. Despite underlying semantic hierarchies and regularities, the pronominal system in general seems to be subject to a good deal of performance and learner type variability. It should be remembered that in the target language itself there is also considerable variability. Thus, reduced forms—'er, 'im 'em—and even some deletions—Seems OK—are in fact quite common.

4.18 Prepositions

4.18.1 Occurrence of Prepositions

Tables 4.84 to 4.84 provide figures for the distribution of the prepositions for each of the four interview groups.

4.18.2 Frequency

As regards overall frequency, the rankings are always very similar. For the four main interview groups, the eleven most frequent prepositions are the same. The three most frequent prepositions—in, to and for—are the same for both language groups, and for the various *ASLPR* level subdivisions as well.

4.18.3 Distribution

For distribution, the patterns are also regular. The eleven most widely distributed prepositions—in, to, for, about, with, of, from, at, near, on, and by, are the same as the eleven most frequent prepositions, and are the same for the four sets of interviews. In all four sets of interviews the three most widely distributed items are the same as the three most frequent ones—in, to and for. Amongst the case relations expressed by prepositions in English,

this clearly establishes the primacy of the locative, directional, benefactive and durational categories.

4.18.4 Acquisitional Sets

If we make a cutoff point at the eleventh row in Tables 4.84 to 4.18.4—that is, at the end of the most frequent and regularly distributed items—and examine the columns for individual informants, we find that there are relatively few “gaps” or empty cells in each individual list. Where there are, the out-of-sequence item is frequently *near*—a preposition with adjectival features—with, or about. This means that with some resequencing of informants each of Tables 4.84 to 4.18.4 could be reorganized to produce a fairly classic implicational pattern.

This would be a thoroughly satisfying result, were it not for the fact that the order of prepositions for each table is not quite the same. This is not really surprising given that production of prepositions is obviously dependent to some degree on the nature of the discourse involved. Prepositions like *in*, *to* and *for* are clearly common enough to emerge as high frequency items in any reasonable stretch of discourse. After these, there appears to be an intermediate group, whose occurrence is more dependent on the nature of the discourse. Rather than treat the members of this group as separate items in any implicational relationship it would seem more sensible to put them together. From the evidence of the present data, some of these—such as *near*, *with* and *about* are less predictable in occurrence than others.

Thus, rather than treat the tables which could be produced by resequencing the informants as displaying implicational relationships between discrete items it might therefore be more productive to specify several implicationally related sets of prepositions. Thus, we could postulate the existence of a high frequency set comprised of *in*, *to* and *for*. Next would come a mid-range set whose members are *at*, *of*, *on*, *from*, and *with*. After this there would be a further set made up of *near*, *about*, *by*, and possibly items such as *between* and *under*. Under most sets of discourse conditions, then, we could expect representatives of each set to appear, down to wherever a particular informant's cutoff point was. Empty cells in a list would not constitute anomalies, unless a whole set of them occurred; neither would variations in distributional frequencies within set boundaries.

4.18.5 Possibilities for Further Research

At this stage of the research, no attempt has been made to determine the appropriateness in context of the prepositions documented in Tables 4.84 to 4.18.4. Obviously, some percentage of these will be used in ways that are not standard. Furthermore, some prepositions may occur primarily in formulas of one kind or another. Obvious candidates here would be *at*, which tends to

Informant	is	zj	ks	jb	jr	ka	bb	es	kb	aj	lj	mm
in	7	37	33	34	98	68	78	125	46	97	129	125
to	1	13	5	6	23	3	20	8	25	60	115	37
for		2	8	7	15	10	14	10	50	32	59	32
with	1	2	15	5	3	9	8	11	8	13	20	10
from	1	1	6	2	3	9		5	2	14	5	6
at	2	1?	2	2	10				3	6	8	3
of				3	2	4		8	4	9	18	16
about		2	1					2	16	20	55	8
near		3		1	9			2		11	1	7
on					2	3		3	1	3	5	5
by		1				1			1	8		
under								1	2			
inside									1			1
between											4	1
till				1								
per										2		
outside										1		
without												2
behind												1

Table 4.84: Distribution of Prepositions: Polish Informants—1

occur in fixed phrases like *at home* and *at three o'clock*, and *of*, which occurs in phrases like *first of May*. These matters could be fruitfully investigated further. It would be particularly interesting to explore the development of the semantics of prepositions and to try to correlate prepositional semantics with other related areas, such as deixis and case relations.

4.18.6 Conclusions

Despite these limitations in the investigation, some very significant regularities can be observed in the use of prepositions. The applicability of these to teaching and assessment should be both clear and relatively straightforward.

4.19 Connectors and Cohesion

4.19.1 Limitations

Tables 4.88, 4.89 to 4.90, 4.91 provide figures for the distribution of connectors. As of yet, no analysis of this area of learner grammar has been carried out. The author has made some observations on the use of connectors and

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
in	24	37	36	32	40	34	72	62	43	50	80	48
to	3	14	4	17	4	13	15	13	44	26	138	10
for		14	9	14	25	18	25	8	35	33	50	25
on	4	8	1	1		2	4	1	7	11	4	7
at	1	1	2	3		11		2	9	3	9	2
with		4	1			10	10	16	15	6	7	17
from	2	10		4		10		2	15	9	8	9
of	2	3				1		7	19	2	17	9
by	1					5		2	2	2	1	2
near			1	4				2	3		6	3
about							20		10	15	20	1
since							1	2				1
between								1	1	4		
inside		1									2	
outside					1						1	
under									1	1		
until											1	1
into	1?						1					
without								3				
above											1	

Table 4.85: Distribution of Prepositions: Polish Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
to	1	5	24	12	19	4	35	43	63	144	148	132
in		11	33	21	24	36	37	34	37	67	76	45
for		3	7	14		6	12	2	15	63	52	48
at		1	3	1	5	1	1	13	21	10	11	19
from			2	1		1	7	1	7	15	19	12
with		1	2		1	2		15	25	22	8	21
on			3	1	4		1	1		32	26	16
of				1			5	4	2	23	19	25
by				2			10	1	2	12	2	10
about							2	4		39	62	12
near			5			10	4				3	
between				1						8		
until								3				3
under											1	1
without										4		
behind										1		
against										1		
above											1	
into												3
inside												2

Table 4.86: Distribution of Prepositions: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
in	12	34	29	10	45	13	12	10	23	11	6	14
to		26	34	12	8	7	13	25	35	53	7	34
for		7	5	4	26	18	7	11	18	20	14	13
on	1?	3	6	4	1	1		2	3	4	1	4
of	1		1?	1	2		1	1	5	10		3
at		1	3			2	11	17	8	2	1	2
from		1	4			2	3		5	8	1	4
with			3	2			3	7	12	3		8
by	1	3	4						4	2		1
about			3	4					2	32	3	11
near		4	2		1	1						
behind				1						1		
between								1		2		
under		1										
without			1									
until								2				
against										1		
since												1
below		1?										

Table 4.87: Distribution of Prepositions: Vietnamese Informants—2

on coherence in learner speech in a previous publication, in which preliminary results from a pilot language learning study were reported. Interested parties are referred to this [92]. A few general observations on the subject of connectors are offered below.

4.19.2 Distribution of Connectors

'And' and 'But'

It is evident from Tables 4.88, 4.89 and 4.90 and 4.91 that the principal overt means of discourse connection in the speech of the learners in the present corpus are *and*, *but* and *because*. From a cross-sectional projection it would appear that *and* is the first connector to be acquired for both language groups. In a previous study [92] conducted by the author, it appeared to be the case that *and* emerged first in intra-clausal contexts, such as the following:

beer... not li(ke)... I like tea... tea and goffee

- my.1: [314] -

I and Krystof and, er, Gladys... John, no

- is.1: [477] -

Following its emergence in intra-clausal environments it then began to appear in inter-clausal environments also:

I want to work an(d) I am sick

- my.1: [62] -

watch TV, walking and, ah, visit, eh, my family, and... reading books

- is.1: [390-1] -

This hypothesis has not been checked against the present data so far. If there is such an order of emergence it is evident that the stages of intra-clausal and inter-clausal *and* are fairly close together. It appears that *but* emerges at the same time as, or soon after, inter-clausal *and*. From the outset, usage of *but* appears to be target-like, with some possible extension of the semantic field to include exceptions which would be expressed by qualifiers like *instead*:

I wri(te) my name but I wri(te) my w... wife name... ah, he wrong

- duc.1: [185-6] -

It would also be worth investigating whether the emergence of *but* is tied in with the emergence of phrasal negation, given that tokens seem to occur quite frequently in the scope, or at least vicinity, of negation:

but no goulash

- zj.1: [779] -

no in my country...er, but in Austria

- jb.1: [21] -

4.19.3 'Because'

One of the most notable features of *because* in early learner language is its use as a sentence-initial answer marker. This phenomenon can be found in speakers from both language groups.

MJ .../...are you looking for a job?

I Uh, becau(se) I fini(sh)... I finish sick now... maybe nex(t) mon(th)
I... I look job

- my.1: [184-7] -

MJ Do you go out at all?...or?

I No... no... not yet!

MJ Not yet.

I Becau(se)... I think... er... one wees, seven day(s) I'm very busy

- hoa.1: [290-6] -

GB I see, okay... um, and... why did you come to Australia... and not America or Canada or South Africa or...?

I Mm, because, er... Australia's... big country

- zj.1: [508-14] -

I Eh, why?

MJ Yeah.

I Oh... because, eh... because is... er, because... er... becau...
because it was a little... money for... one job

- jb.1: [596-601] -

As the above examples show, in some cases the discourse that results from this strategy is well formed and in other cases it is not. The use of *because* as a sentence-initial answer marker in this way could be seen in functional terms as a means of assuring the interlocutor that an attempt is being made to answer the question that has been asked in a situation where the speaker is aware that his or her communicative capacities may not be equal to the task. Thus, in addition to its target usage pattern as a causal discourse connector, *because* becomes a more generalized causality marker, at least until such time as the learner can express causality in a more target-like and coherent way. It would be worth investigating if in fact the use of *because* as a sentence-initial causality marker precedes its more standard pattern of use as a discourse connector.

4.19.4 'If'

In the present data, *if* is produced almost exclusively by speakers above level 1 on the *ASLPR*. It seems possible, therefore, that its acquisition represents a developmental stage in the use of connectors. (When *is* sometimes produced by the Polish speakers as an analogue of *if*, but there is no clear evidence that this non-standard usage precedes standard *if*.) Given that on the semantic level the production of *if* signifies that the learner has developed an operational calculus for dealing with hypothetical situations, and on a syntactic level that he has the ability to process multi-clause syntactic structures, this is a plausible hypothesis. Further research is, however, obviously needed to confirm it.

Some observations regarding the marking and modality of verbs in *if* clauses are made in 4.2. The gist of these is that only simple hypotheses are expressed in the *if* clauses produced by learners in the present study: counterfactuals are not in evidence.

4.19.5 Other Connectors

As is evident from Tables 4.88, 4.89 and 4.90 and 4.91 other connectors are quite limited in usage and distribution. This must clearly have quite important consequences for the cohesion of learner speech, even up to a relatively advanced level of communicative proficiency. Despite limitations in the general repertoire of discourse connectors there appear to be notable differences in the cohesive qualities of the outputs of different learners. There is obviously a need for extensive future research on the question of cohesion and on how some learners manage to achieve the level of cohesion that they do with relatively limited resources.

Informant	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
and	29	8	38	10	33	41	111	44	70	79	166	125
but	1	3	14	3	2	2		28	43	18	42	45
because		3		5	14	2	13	3	12	12	43	52
or			4		1	1		3	3	6		9
then						2				5	1	1
dan						4						
if								1	1	4	16	1
than								2			4	

Table 4.88: Distribution of Connectors: Polish Informants—1

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
and	23	30	16	22	27	21	55	49	64	57	153	74
but	10	20	17	3	4	21	45	25	23	36	56	39
because	3	3	14	33	4	1	32	4	14	35	45	42
or		4				1	7	1	4	1	4	1
then			1	1	3				1		1	1
than								8	2	6	1	6
if									12	14	3	

Table 4.89: Distribution of Connectors: Polish Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
and	1	8	32	24	24	25	14	135	69	56	340	157
because		2	12	13	1	33	6	22	10	73	154	35
but			7	8	6	32	13	26	33	25	92	67
or			3	9	1	1		12	8	116	10	16
if			5			4	5	2	19	35	31	41
than				5	1					1		5
then								5		27		3
whether									1			
since												1

Table 4.90: Distribution of Connectors: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
and	10	25	20	5	57	30	10	77	71	27	29	40
because		13	15	6	31	14	12	16	17	31	12	22
but		12	8	2		21	10	28	22	16	11	40
or		1	2		1	5	1	4	7	24	2	12
if			5	2		7		2	22	1	8	31
then		1							1	18		1
than						2				4	3	1

Table 4.91: Distribution of Connectors: Vietnamese Informants—2

4.20 Further Partial Analysis

4.20.1 Comparatives

This section provides some information on another productive area of derivational noun phrase morphology, namely comparatives. From the data provided it is evident that the number of comparative adjectives used up until 1+ on the *ASLPR* is quite restricted, and the number of superlatives even more so.

Throughout the oral proficiency range represented in the present corpus, the lexical comparative, *more*, is a high frequency item. For the Vietnamese speakers, in fact, it is the most produced comparative at all levels, while for the Polish speakers, it is gradually supplanted by *better*, which is, of course, a frequent item for the Vietnamese speakers as well. Until level 1+ on the *ASLPR* regular comparatives are quite heavily outweighed by their irregular counterparts, which would lead one to suspect that the rules for productive suffixing may not become apparent for some time.

One notable characteristic in the pattern of usage of both comparatives and superlatives is the predominance of positive comparison over negative comparison in regard to value-laden items. Thus, although we find items like *younger* and *cheaper* amongst the first comparatives produced, where judgement is generally involved the comparison is much more likely to be framed in terms such as *better* or *more than worse* or *less*. This situation, as we shall see, is a reflection of general lexical choices.

Another evident discrepancy involves the more frequent use of superlatives by the Polish speakers. This may be due to concrete first language factors, such as a pattern of comparison in Polish which resembles the English one, or to more abstract considerations, such as the generally greater amount of derivational morphology in Polish as compared to Vietnamese.

Clearly, the whole question of derivational morphology in learner language could be productively investigated in much more detail.

4.20.2 Lexis

A great deal of primary lexical data was generated in the course of the present study. This is in the form of word-count dictionaries and lexicons. The lexicons could be made available, at least in a limited edition, as an adjunct to this study.

Basically, a lexicon consists of a dictionary which has been segmented into the following categories:

Since the assignment of words to these categories was done by a process of comparing lists and not by any parsing algorithm, there are some inaccuracies, conflicts and cases of dual membership. Nevertheless, a great deal of explicit lexical information has been made available through the lexicons. At the moment, there are individual lexicons for each interview and also

ARTICLES	DEICTICS	ADJECTIVES
COMPARATIVES	QUANTIFIERS	NUMBERS
NOUNS	PRONOUNS	INDEFINITES
WH_WORDS	STEM_VERBS	-ING_FORMS
REG_PASTS	IRREG_PASTS	COPULA
HAVE	DO_AUX	MODALS
ADVERBS	NEGATORS	PREPOSITIONS
CONNECTORS	FOREIGN_WORDS	FILLERS

lexicons for language background and oral proficiency groups (for instance, a lexicon for the level 1+ to 2 Polish speakers, the level 1 to 2 Vietnamese speakers, all level 1+ to 2 informants, and so on): additional lexicons for any arbitrary group of speakers can be prepared in a matter of minutes, however.

To date, there has been little opportunity to analyze lexis. However, certain features have come to the author's attention. Thus, there are certain regularities in lexical behaviour, such as those referred to in 4.14.5 where numbers are discussed (the finding was essentially that the first ten or so numbers are produced, and, presumably, acquired in roughly their natural order).

Another feature of considerable importance (also discussed elsewhere—for instance, in 4.15) has to do with lexical pairs, such as good/bad.

Here the apparent trend is for the learner to use only one member of the set. Thus, in the output of the informants between 0+ and 1 on the *ASLPR*, for example, good occurs fifty times, while bad is only produced once, and for informants in the 1 to 1+ range, hard is used ten times, while easy is produced only half as frequently. That this should be so is not surprising, given that a complement of a paired adjective can be produced by negation. Nevertheless, the principle is an important one because in pedagogical practice it is generally assumed that pairs should be presented together. The result of this is more often than not confusion: it seems to be the case that learners have limited memory space for lexical processing and have a greater than normal tendency to recall the wrong word if a lexical pair is vying for the one slot. (A good example of this, and one which should have been experienced by many people is the frequent confusion of names for languages in discussions about them—an error from which even native speakers are not immune).

Once again, very little is known of how lexical material is stored and referenced by monolinguals, much less second language learners, and more detailed investigation of these phenomena is obviously necessary. The tendency by learners to acquire and use one member of a two-member set might be adduced as a lexical example of the form-function principle; it would seem

that the preference for one member of a pair is more marked if the words involved are acquired early: hence the discrepancy which was observed for good and bad would not be nearly so great for, say, the pair thick/thin.

Unfortunately, these and many other interesting questions will have to be left for future research.

4.21 An Alternative Approach

What the author now proposes to do is present a brief account of a theory of language acquisition which is much simpler in form, and much more precise in terms of matching its predictions with its findings. This is what is now termed "Processability Theory". As noted in the introduction, the present dissertation is based on work which was conducted before Processability Theory was developed, and, in fact, its author had a hand in its inception, when the Multi-Dimensional Model of the *ZISA* project was applied to English (cf. Johnston 1985 [94]; Pienemann and Johnston 1987 [130]; Pienemann, Johnston and Brindley 1988 [144]). In addition, one of the main themes of this dissertation—namely, lexical rule spreading—now fits into Processability Theory, and the author has some definite proposals to make about concepts like "transfer" and "interference" and their interface with this theory in a much less complicated way than is the case with principles and parameters.

4.22 Processability Theory Applied

4.22.1 Processability Theory Applied to English

As noted at the outset, there is insufficient space to provide more than a glimpse of how Processability Theory organizes the data on which this study is based; nor is it feasible to provide an account of the reasoning which ascribes the numerous linguistic features in the table which follows to their respective stages. In any case this kind of explanation already exists in published form for the most salient of these features (cf. Johnston 1985 [93]; Pienemann, Johnston and Brindley 1988 [144] and Pienemann 1997 [143]).

What follows, then, is an implicational scale demonstrating the result of applying Processability Theory to the data previously ranked on the basis of oral proficiency; the contrasts to be noted provide an interesting contrast to this earlier ranking and demonstrate what results when extraneous factors influence what are supposed to be primarily linguistic considerations. The table itself is largely self-explanatory but a brief gloss of the linguistic features tabulated follows.

- NO+X** Use of **no** as a simple pre-lexical negator.
SVO Canonical word order (no grammatical relations).

Inf Inf Inf Inf	v a n	i s	d u c	m y	j r	h o a	z j	b b	j b	m i n h	k s	k a	d u n g	v i n h	e s	l o n g	s a n g	t a m	k b	c a n h	l j	m m	a j	p h u c
NO+X	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
SVO	?	?	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
"ING"	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
IRREG	0	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
PL"S"	-	+	+	?	+	?	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
ADVF	0	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
WH+X	-	-	+	+	+	+	+	+	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+	+
DON+V	?	-	?	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
NEG+V	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
RFX1	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	+	+	+	+	+	+	+	+
-ER	0	0	0	0	0	0	0	0	0	0	-	+	+	+	+	+	+	?	?	+	+	+	+	+
REG	-	-	-	-	-	-	-	-	+	+	?	?	-	-	+	+	-	?	?	+	+	+	+	+
PSINV	-	-	-	-	?	-	-	?	-	-	-	+	+	-	-	?	-	-	+	+	+	+	+	+
COMP	-	-	?	-	-	-	-	-	-	-	-	-	?	+	+	+	+	+	+	+	+	+	+	+
A-EN	0	0	0	0	0	0	0	?	0	0	?	?	+	?	+	-	?	+	+	+	+	+	+	+
D-FOR	0	0	0	?	?	?	0	0	0	0	0	0	+	+	+	+	+	+	+	+	+	+	+	+
D-TO	0	0	0	0	0	0	0	0	0	0	0	0	0	+	-	+	+	+	+	+	+	+	-	?
A-ING	0	0	0	0	0	0	0	0	?	0	0	0	?	-	-	+	+	-	-	+	?	+	+	+
SSG-S	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	0	+	0	+	+	+	+	+
AUX-2	0	0	-	-	-	-	-	-	-	-	-	?	-	+	-	+	-	-	+	-	-	-	+	+
ADVLY	0	0	0	0	0	0	0	0	0	0	0	0	0	+	0	+	0	0	+	-	-	-	+	+

Table 4.92: Developmental Stages for English as a Second Language

NOTES:

The "key" to the notation used above is as follows: "+" indicates productive occurrences of the relevant structures, features or morphemes; "0" indicates definite counter-evidence for production (i.e. non-occurrence in obligatory contexts); "-" indicates that there was no evidence of the items in question, nor any contexts or environments in which they could have been expected to appear (simple non-occurrence); "?" indicates that the evidence was unclear (because, for instance, the number of tokens was very small or the question of whether the tokens were productive or formulaic could not be settled one way or the other).

"ING"	Use of "-ing" to mark semantic action words.
IRREG	Emergence of irregular pasts (e.g. "went").
PL "S"	Productive usage of plural "-s".
ADVF	Adverb fronting (e.g. "Yesterday I go home").
WH₋+X	WH-word at beginning of canonical order sentence.
DON+V	Use of "don('t)" as a monomorphemic preverbal negator.
NEG+V	Use of "no" as preverbal negator.
RFX1	Use of emphatic reflexives (e.g. "George himself").
-ER	Use of productive comparative forms of the adjective.
REG	Use of regular "-ed" past tense forms.
PSINV	Inversion with inverted element fronted (e.g. Y/N Q).
COMP	Use of complementizers and "that" complements.
A-EN	Use of auxiliaries and past participles.
D-FOR	Use of "for" as a dative/benefactive.
D-TO	Use of "to" in dative constructions.
A-ING	Emergence of auxiliaries and "-ing" participles.
3SG-S	Emergence of third singular "-s".
AUX-2	Use of auxiliary or copula in inverted second position.
ADVLY	Regular use of "-ly" as an adverbial marker.

Comments

If the reader is familiar with any of the already published literature on Processability Theory or its predecessors then the presence of features or constructions like canonical word order, fronting of various elements, the two types of inversion and subject-verb agreement in the above table will be no surprise. Given that there are published explanations (such as Johnston 1985 [93] or Pienemann, Johnston and Brindley 1988 [144]) of why these occur in the order in which they are listed (i.e. because of the development of implicationally rated speech processing prerequisites) no attempt to embark on an explanation will be embarked on here. As for the elements such as adverbial "-ly" or comparatives, the reasoning behind their inclusion is based on the fact that they are *derived* lexical categories and depend on the prior acquisition and establishment of their mother categories. In terms of processing the emergence of derivational morphology appears to be a phrasal phenomenon: what needs to be borne in mind is that, while this may be so, there is also the development of a grammar to be considered and from the latter perspective operations like feature emergence or derivation are a sign of increasing complexification. This phenomenon is perhaps in need of more extensive testing although on the basis of the present corpus it conforms very closely to predictions, with the overall fit of the implicational scale presented above being ninety-five percent. This is a good result.

Inf	is	zj	ks	jb	jr	ka	bb	es	aj	kb	lj	mm
now	1	1	7	5	4	4	12	8	9	10	13	15
after			2	7	1	1	1	1	27	2	16	1
before					6	1	2	2	3		2	2
ago		2		1					6	3	4	3
then						1			5		1	1
yet	1						1		2			
yesterday			1									2
tonight		1										
today							3					
tomorrow												2

Table 4.93: Distribution of Time Adverbs: Polish Informants—1

Informant	is	ks	zj	jr	ka	jb	bb	es	aj	kb	lj	mm
now	3	4	9	2	4	5	28	7	10	15	12	16
today	1			2		1	1		1	1	1	
then			1		3				1		1	1
after		6				16			3		8	3
ago		2			2	2			9	1		1
before	2								4	2	2	
yesterday		1		2					3	1	1	
already	1	3										
still											1	3
tomorrow									1		3	
during									3			
yet											3	

Table 4.94: Distribution of Time Adverbs: Polish Informants—2

Informant	Van	My	Duc	Dung	Minh	Hoa	Sang	Vinh	Tam	Canh	Long	Phuc
before		4	7	14	3	8	2	5	21	14	63	4
after		2	1	5		2	5	5	28	5	52	14
now		5	8	12		2	4	4	20	24	33	14
ago				4	1		2		4	5	2	1
still								1	4	7	20	6
then								5		27		2
already										6	3	2
tomorrow		1									2	
yet					1	1						
today					1					4		
tonight										1		
while										3		
overnight											1	
soon												3

Table 4.95: Distribution of Time Adverbs: Vietnamese Informants—1

Informant	Van	Duc	Sang	Minh	My	Hoa	Dung	Vinh	Tam	Canh	Long	Phuc
now		2	1	1	17	9	9	4	13	8	3	5
after	2		3		6	1	15	2	12	5	1	9
before		9		3	13	9	11	5	10	6	4	5
ago			3	2		1	14		1	2	2	
still			1					2	4	2	5	1
yet			2	2			1		7	4		
today			1					1		2	1	2
then		1							1	18		1
already				3						2	1	
tonight					2				1			
tomorrow										1		2
yesterday												1

Table 4.96: Distribution of Time Adverbs: Vietnamese Informants—2

Chapter 5

Concluding Remarks

5.1 Some Words in Summary

Besides the specific conclusions arrived at in this study there are a number of general conclusions to be drawn.

First, regarding oral proficiency scales, it would appear that while there is some correlation between syntactic and morphological development and oral proficiency it is by no means a directly applicable one. One reason for this is supplied by Processability Theory and its precursors. This is that oral proficiency scales represent language development as a *linear* concept, while, in the framework of Processability Theory there are two dimensions to be considered in interlanguage development—the developmental and the variational—and the learning trajectory is therefore not linear.

This point is dealt with at length in Pienemann and Johnston (1987 [130]), where the basic conclusion is that, for a given stage of development, it is the *neutralizing* (i.e. neither the highly standardizing nor the highly simplifying) learner who will be awarded the highest oral proficiency rating—a conclusion drawn on the basis of an analysis of the data used in this study. Hence the correlation between syntax, morphology and oral proficiency cannot be a direct one, given that a linear phenomenon and a two-dimensional one are not mappable in any predictable way from the point of view of the linear phenomenon. More could be said about this point, but since it is dealt with elsewhere it will not be pursued here.

Another consideration regarding oral proficiency scales is the extreme difficulty of conceptualizing, formalizing and measuring what would appear to be an essentially intuitive phenomenon. The preceding statement is not meant as a categorical dismissal of such scales. Intuitive appraisals of various types of ability or the difficulty of a multitude of tasks are a common aspect of human behaviour. To provide an example, the Australian rock-climbing scale is a thirty-two point one, and even when climbs differ quite radically in nature of difficulty they can be adjudged to be the same grade. Indeed,

there may be a lesson to be learnt here, given that no one has ever written a single word about the parameters of this particular grading scale. This lesson has already been prefigured above: this is that, at this stage of knowledge of human measurement, we are simply not in a position to derive a set of objective concepts from what is a complex and subjective phenomenon. The philosophy of science provides ample demonstrations of the adage that if you do not know what you are looking for you will not find it and that if you try through some such method as trait or factor analysis any findings that may emerge are likely to be either artifacts of the investigative formalism itself or blindingly obvious in the first place.¹

In the light of the above, let us construct a five-point oral proficiency scale. First, most language professionals will arrive at a fairly respectable degree of consensus about who is a beginner, who is at some intermediate stage, and who is advanced in their ability to speak a particular language; this provides us with three points of orientation. From this, there is little difficulty or likelihood of serious dissent about who is somewhere between beginner and intermediate and who is somewhere between intermediate and advanced. So now we have our five-point scale without ever having had to take recourse to first principles: experienced intuition suffices. Nor is there anything amiss about making such judgements; indeed, they are an inevitable aspect of our behaviour and serve a quite valid purpose as they stand. The difficulty arrives when attempts to formalize and measure this behaviour begin. Once again, this point is dealt with in much more detail in Pienemann and Johnston (1987 [130]) and will not be further elaborated here. For the purposes of this dissertation all that needs to be said is that the analysis in Chapter Four clearly demonstrates that while there is some relationship between various kinds of syntactic and morphological development and oral proficiency (as one would expect), it is not possible to formulate any kind of yardstick in such terms which would, say, correlate preposition production with use of modals. This is basically the case because oral proficiency is a higher order phenomenon than the atomistic lowest common denominator that one would need, and which cannot be found in a linear approach to language development. Information about syntax and morphology may help in judgements about oral proficiency, but not in a form that is regular or predictable enough to be used as an objective measure employing the methods of Chapter Four as they were before the application of Processability Theory.

It can also be claimed, I believe, that the application of Processability Theory to the same data provides more satisfactory results. This theory does provide objective criteria—as well as an explanation of how they were arrived at—by means of which clearly demarcated stages of development can

¹The ZISA study, using factor analysis, found that contact was an important variable in language development!

be identified in a given learner. Moreover, these stages can be determined on the basis of concrete *observations*, as opposed to subjective judgements. The only real point at which the observer is obliged to make a kind of judgement in Processability Theory is the point where it has to be determined whether or not a given utterance meets an emergence criterion, and the use of a mechanism for dealing with lexical spread in syntactic and morphological development—as presented in this dissertation—takes practically all of the uncertainty out of this, given that implicational scales are a good predictor of whether a rule is a formula or is operating in predictable productive environments.² (This is not meant to imply that Processability Theory does not already provide a careful outline of how to determine emergence criteria; in addition, it turns out to be the case that in practice it is not particularly difficult to determine whether something is a formula or not and simple guidelines for identifying formulae can be found in Pienemann, Johnston and Brindley 1988 [144]).

It has been stated more than once that this dissertation does not constitute an excursion into the area of language testing. For this reason the conclusions arrived at above will not be pursued further; as they stand they provide ample material for such things as studies in language testing, syllabus and curriculum design and are beyond the scope and length of the present work. Indeed, such studies could easily take on the proportions of another dissertation.

The author's purpose in this work, then, has been to examine the relationship between what could be characterized as two frameworks with an almost polar relationship (namely, oral proficiency ratings and Processability Theory) and to provide an insight into what appears to be the most promising direction for work on language development at the syntactic and morphological level. He trusts that in the course of this enterprise that the information provided and the judgements based on that information will both add to the knowledge we have in this area and stimulate further research in any area of linguistic research able to utilize this knowledge.

²A formula is just a rule operating in one environment.

Bibliography

- [1] C. Adjèmian. On the nature of interlanguage systems. *Language Learning*, 26(2):297–320, 1976.
- [2] R. Andersen. An implicational model for second language research. *Language Learning*, 28(2):221–282, 1978.
- [3] R. Andersen, editor. *Pidginization, Creolization and Language Acquisition*. Newbury House, Rowley, Mass, 1980.
- [4] R. Andersen. *New Dimensions in Second Language Acquisition Research*. Newbury House, Rowley, Mass, 1981.
- [5] R. Andersen, editor. *Second languages: a cross-linguistic perspective*. Newbury House, Rowley, MA, 1984.
- [6] A. D. Andrews. Unification and morphological blocking. *Natural Language and Linguistic Theory*, 8:507–555, 1990.
- [7] M. Aronoff. *Word Formation in Generative Grammar*. MIT Press, Cambridge, Mass, 1976.
- [8] B. Arthur. Gauging the boundaries of second language competence: a study of learner judgements. *Language Learning*, 30:170–194, 1980.
- [9] C.-J. Bailey. The patterning of language variation. In R. Bailey and J. Robinson, editors, *Varieties of Present-Day English*, pages 156–186. Macmillan, New York, 1973.
- [10] C.-J. Bailey. *Variation and Linguistic Theory*. Center for Applied Linguistics, Arlington, VA, 1973.
- [11] N. Bailey, C. Madden, and S. Krashen. Is there a ‘natural sequence’ in adult second language learning? *Language Learning*, 24(2):235–244, 1974.
- [12] C. L. Baker. Remarks on complementizers, filters and learnability. Unpublished manuscript: University of Texas, Austin., 1979.

- [13] W. Bechtel, editor. *Integrating Scientific Disciplines*. Martinus Nihoff, Dordrecht, 1985.
- [14] R. Berwick. *The Acquisition of Syntactic Knowledge*. MIT Press, Cambridge, MA, 1985.
- [15] D. Bickerton. On the nature of a creole continuum. *Language Learning*, 49:640-69, 1973.
- [16] D. Bickerton. *Dynamics of a Creole System*. Cambridge University Press, Cambridge, 1975.
- [17] D. Bickerton. *Dynamics of a Creole System*. Cambridge University Press, Cambridge, 1975.
- [18] D. Birdsong. *Metalinguistic Performance and Interlanguage Competence*. Springer, New York, 1989.
- [19] R. Bley-Vroman, S. Felix, and G. Ioup. The accessibility of universal grammar in adult language learning. *Second language Research*, Unspecified:41-32, 1988.
- [20] W. Bonney. Child and adult language acquisition. Unpublished MS: New South Wales Institute of Technology, 1976.
- [21] W. Bonney, P. Redding, and H. Wilson. A research program in applied linguistics - second language learning in children and adults. Unpublished MS: New South Wales Institute of Technology, 1976.
- [22] J. Bresnan, editor. *The mental representation of grammatical relations*. MIT Press, Cambridge, Mass, 1982.
- [23] J. Bresnan. Locative inversion in English and chichewa. Unpublished MS: CLSI, 1993.
- [24] J. Brick and G. Louie. *Language and Culture: Vietnam*. Adult Migrant Education Service, Sydney, 1984.
- [25] R. Brown. *A First Language: The Early Stages*. Harvard University Press, Cambridge, Mass, 1973.
- [26] M. Burt, H. Dulay, and M. Finocchiaro, editors. *Viewpoints on English as a Second Language*. Regents, New York, 1977.
- [27] C. Cazden, H. Cancino, E. Rosansky, and J. Schumann. *Second Language Acquisition Sequences in Children, Adolescents, and Adults*. Harvard University Graduate School of Education, Cambridge, Mass, 1975. See also work by Schumann, Milon, and Wode along the same lines.

- [28] N. Chomsky. Review of skinner's verbal behavior. *Language*, 35:26-58, 1959.
- [29] N. Chomsky. *Aspects of the theory of syntax*. MIT Press, Cambridge, Mass, 1965. cf. p. 188: "Insofar as attention is restricted to surface structures, the most that can be expected is the discovery of statistical tendencies."
- [30] N. Chomsky. *Aspects of the Theory of Syntax*. MIT Press, Cambridge, Mass, 1965.
- [31] N. Chomsky. *Knowledge of Language: its Nature, Origin and Use*. Praeger, New York, 1986.
- [32] N. Chomsky and M. Halle. *The Sound Pattern of English*. Harper and Row, New York, 1968.
- [33] N. Chomsky and H. Lasnik. Filters and control. *Linguistic Inquiry*, 8:425-504, 1977.
- [34] H. Clahsen. The acquisition of German word order: a test case for cognitive approaches to L2 development. In Andersen [5].
- [35] H. Clahsen. Parameterized grammatical theory and language acquisition. a study of the acquisition of verb placement and inflection by children and adults. In S. Flynn and W. O'Neil, editors, *Proceedings of the workshop on Linguistic theory and second language acquisition*. MIT, Cambridge, Mass, 1985.
- [36] H. Clahsen, J. Meisel, and Pienemann M. *Deutsch als Zweitsprache. Der Spracherwerb ausländischer Arbeiter*. Gunter Narr, Tübingen, 1983.
- [37] H. Clahsen and P. Muysken. The accessibility of 'move alpha' and the acquisition of German word order by children and adults. Unpublished MS: University of Dusseldorf, 1983.
- [38] H. Clahsen and P. Muysken. The availability of universal grammar to adult and child learners: a study of the acquisition of German word order. *Second Language Research*, pages 293-319, 1986.
- [39] M. Clyne. Zum pidgin-deutsch der gastarbeiter. *Zeitschrift für Mundartforschung*, 35:130-139, 1968.
- [40] B. Comrie. *Language Universals and Linguistic Typology*. Basil Blackwell, Oxford, 1981.
- [41] V. Cook. *Linguistics and Language Acquisition*. Macmillan, London, 1993.

- [42] W. Cooper and J. Ross. World order. In R. Grossman et al., editors, *Papers from the Parasession on Functionalism, Chicago Linguistic Society*, pages 63–111. University of Chicago Press, Chicago, 1975.
- [43] R. Coppieters. Competence differences between native and near-native speakers. *Language*, 63:544–573, 1987.
- [44] S. P. Corder. Language learner language. In J. Richards, editor, *Understanding Second and Foreign Language Learning Issues and Approaches*, pages 71–92. Newbury House, Rowley, Mass, 1978.
- [45] A. Davies, C. Criper, and A. Howatt, editors. *Interlanguage*. Edinburgh University Press, Edinburgh, 1984.
- [46] J. De Villiers and P. de Villiers. A cross-sectional study of the acquisition of grammatical morphemes in child speech. *Journal of Psycholinguistic Research*, 2:267–278, 1973.
- [47] D. DeCamp. Implicational scales and sociolinguistic linearity. *Linguistics*, 73:30–43, 1973.
- [48] L. Dickerson. The learner's interlanguage as a system of variable rules. *TESOL Quarterly*, 9(4):401–407, 1975.
- [49] E. Dromi, editor. *Language and cognition; a developmental perspective*. Ablex, Norwood, NJ, 1988.
- [50] J. du Plessis, Solin, L. D. Travis, and L. White. UG or not UG, that is the question: a reply to clahsen and muysken. *Second Language Research*, 3:56–75, 1987.
- [51] H. Dulay, M. Burt, and S. Krashen. *Language Two*. O.U.P, Oxford, 1982.
- [52] L. Duskova. On sources of errors in foreign languages. *IRAL*, 7:11–36, 1969.
- [53] F. Eckman. On the naturalness of interlanguage phonological rules. *Language Learning*, 31(1):195–216, 1981.
- [54] F. Eckman, L. Bell, and D. Nelson, editors. *Universals of Second Language Acquisition*. Newbury House, Rowley, MA, 1984.
- [55] D. Elliot, S. Legum, and S. Thompson. Syntactic variation as linguistic data. In R. Binnick, A. Davison, G. Green, and J. Morgan, editors, *Papers from the Fifth Regional Meeting, Chicago Linguistic Society*, pages 52–59. Chicago Linguistic Society, Chicago, 1969.

- [56] J. Falk. *Linguistics and Language*. Xerox College, Lexington, Mass, 1973.
- [57] A. Fathman. Language background, age, and the order of acquisition of English structures. In C. Blatchford and J. Schachter, editors, *On TESOL '75: New Directions in Second Language Learning, Teaching and Bilingual Education*, pages 33–43. TESOL, Washington, DC, 1975.
- [58] A. Fathman. The relationship between age and second language productive ability. *Language Learning*, 25(2):245–254, 1975.
- [59] S. Felix. Repetitive orders in child language. *Lingua*, 41:25–52, 1977.
- [60] S. Felix. The effect of formal instruction on second language acquisition. *Language Learning*, 31(1):87–112, 1981.
- [61] S. Felix. Two problems of language acquisition. Unpublished MS: University of Passau, Germany, 1984.
- [62] S. Felix and H. Wode, editors. *Language Development at the Crossroads*. Gunter Narr, Tübingen, 1983.
- [63] M. Fellbaum. Voiced and voiceless stops in the acquisition of English and Spanish as second languages. Paper presented at the second PACSLRF Conference, Wellington, New Zealand, 1996.
- [64] C. Ferguson and D. Slobin, editors. *Studies of child language development*. Holt, Rinehart and Winston, New York, 1973.
- [65] J. Fodor and J. Katz, editors. *Current issues in linguistic theory*. Prentice-Hall, New Jersey, 1964.
- [66] S. Gass. Language transfer and universal grammatical relations. *Language Learning*, 29:327–344, 1979.
- [67] S. Gass and J. Schachter, editors. *Linguistic perspectives on second language acquisition*. Cambridge University Press, Cambridge, 1989.
- [68] G. Gazdar. On syntactic categories. In *The Psychological Mechanisms of Language*, pages 53–69, London, 1981. Joint Symposium of the Royal Society and the British Academy.
- [69] J. Gibbons. Silence in the communicative curriculum. In *RELC Conference, Singapore*, Singapore, 1984.
- [70] J. Greenberg, editor. *Universals of Language*. MIT Press, Cambridge, Mass, 1968.
- [71] K. Gregg. Krashen's monitor and occam's razor. *Applied Linguistics*, 5(2):78–100, 1984.

- [72] K. Gregg. Theory construction in second language acquisition research. Paper presented at an SLA seminar at the Australian National University, April 1996.
- [73] L. Guttman. A basis for scaling qualitative data. *American Sociological Review*, 9:139–150, 1944.
- [74] A. Hahn. Fremdsprachenunterricht und spracherwerb. Unpublished doctoral dissertation from the University of Passau, 1982.
- [75] K. Hakuta. A case study of a Japanese child learning English as a second language. *Language Learning*, 26(2):321–351, 1976.
- [76] M. Halle, J. Bresnan, and G. Miller. *Linguistic Theory and Psychological Reality*. MIT Press, Cambridge, Mass, 1978. Apart from the discussion here, there are other authors listed in this bibliography, such as Kiparsky, and practically all literature cited here in relation to speech processing and performance; Bever is the most prominent of these.
- [77] E. Hatch, editor. *Second Language Acquisition: A Book of Readings*. Newbury House, Rowley, Mass, 1978.
- [78] E. Hatch. *Psycholinguistics: A Second Language Perspective*. Newbury House, Rowley, Mass, 1983.
- [79] J. A. Hawkins. Implicational universals as predictors of language acquisition. *Linguistics*, 25:453–473, 1987.
- [80] J. A. H. Hawkins. *The Performance Theory of Order and Constituency*. Cambridge University Press, Cambridge, 1994.
- [81] V. Henzl. Foreign (sic) talk in the classroom. *International Review of Applied Linguistics*, 17:159–167, 1979.
- [82] N. Hornstein and D. Lightfoot, editors. *Explanation in linguistics: the logical problem of language acquisition*. Longman, London, 1981.
- [83] J. Horrocks. *Generative Grammar*. Longman, London, 1987.
- [84] C.J. Huang. Logical relations in Chinese and the theory of grammar. Unpublished doctoral dissertation from the Massachusetts Institute of Technology, 1982.
- [85] T. Huebner. *A Longitudinal Analysis of the Acquisition of English*. Karoma, Ann Arbor, 1983.
- [86] N. Hyams. *Language acquisition and the theory of parameters*. Reidel, Dordrecht, 1986.

- [87] K. Hyltenstam. Implicational patterns in interlanguage syntax variation. *Language Learning*, 27(2):383–411, 1977.
- [88] K. Hyltenstam and M. Pienemann, editors. *Modelling and Assessing Second Language Development*. Multilingual Matters, Clevedon, Avon, 1985.
- [89] D. Hymes, editor. *Pidginization and Creolization of Languages*. Cambridge University Press, London, 1968. Many of the other references to this topic also discuss this point extensively.
- [90] The International Conference in Computational Linguistics. *Proceedings of the Ninth International Conference in Computational Linguistics*, 1982.
- [91] Schumann. J. and N. Stenson, editors. *New Frontiers in Second Language Learning*. Newbury House, Rowley, Mass, 1974.
- [92] M. Johnston. Second language learning in adults. *Australian Review of Applied Linguistics*, 3(2):90–121, 1980. Republished in M. Clyne (ed), *Australia—Melting Place of Languages*, Canberra: Pacific Linguistic Series, 1987.
- [93] M. Johnston. Second language acquisition research in the adult migrant education program. *Prospect*, 1(1):19–46, 1985.
- [94] M. Johnston. *Syntactic and Morphological Progressions in Learner English*. Department of Immigration and Ethnic Affairs, Canberra, 1985.
- [95] M. Johnston. What is fossilization and does it really exist? Unpublished MS: University of Western Sydney, 1993.
- [96] M. Johnston. Second language acquisition: A classroom perspective. *Australian Studies in Language Acquisition*, 1:1–74, 1994.
- [97] M. Johnston. Stages of acquisition of Spanish as a second language. *Australian Studies in Language Acquisition*, 4:1–28, 1995.
- [98] Joint Symposium of the Royal Society and the British Academy. *The Psychological Mechanisms of Language*, London, 1981.
- [99] P. Jordens. The acquisition of word order in Dutch and German as L1 and L2. *Second language Research*, 4(1):41–65, 1988.
- [100] E. Keenan and B. Comrie. Noun-phrase accessibility and universal grammar. Unpublished MS: Kings College Research Centre, 1972.

- [101] E. Keenan and B. Comrie. Noun-phrase accessibility and universal grammar. *Linguistic Inquiry*, 8(1):63-107, 1977. See also Comrie 1981.
- [102] E. Kellerman. Transfer and non-transfer: where are we now? *Studies in Second Language Acquisition*, 2(1):37-57, 1979.
- [103] E. Kellerman. Dative alternation and the analysis of data: a reply to Mazurkewich. *Language Learning*, 35:91-106, 1985.
- [104] S. Krashen. Formal and informal linguistic environments in language acquisition and language learning. *TESOL Quarterly*, 10(2):157-168, 1976.
- [105] S. Krashen. The monitor model for adult second language performance. In *Viewpoints on English as a Second Language*, pages 152-161. Regents, New York, 1977.
- [106] S. Krashen, Sferlazza V., L. Feldman, and A. Fathman. Adult performance on the slope test: more evidence for a natural sequence in adult second language acquisition. *Language Learning*, 26(1):145-51, 1976.
- [107] W. Labov. *Sociolinguistic patterns*. University of Pennsylvania Press, Philadelphia, 1972.
- [108] R. Lado. *Linguistics Across Cultures*. University of Michigan Press, Ann Arbor, 1957.
- [109] D. Larsen-Freeman. An explanation for the morpheme accuracy order of learners of English as a second language. *Language Learning*, 26(1):125-135, 1976.
- [110] D. Larsen-Freeman and M. Long, editors. *An Introduction to Second Language Acquisition Research*. Longman, London, 1991.
- [111] C. Lasch. *The New Radicalism in America*. Knopf, New York, 1965.
- [112] W. P. Lehman, editor. *Directions for Historical Linguistics*. University of Texas Press, Austin, 1968.
- [113] W. J. M. Levelt. *Speaking. From Intention to Articulation*. MIT Press, Cambridge, MA, 1989.
- [114] C. Li and S. Thompson. Subject and topic: a new typology of language. In C. Li and S. Thompson, editors, *Subject and Topic*, pages 457-490. Academic Press, New York, 1976.

- [115] J. Liceras. *Linguistic Theory and Second Language Acquisition*. Gunter Narr, Tübingen, 1986.
- [116] M. Long. Does second language instruction make a difference? a review of research. *TESOL Quarterly*, 17, 1983.
- [117] J. Macnamara, editor. *Language change in childhood and history*. Academic Press, New York, 1978.
- [118] B. MacWhinney, editor. *Mechanisms of Language Acquisition*. Lawrence Erlbaum, Hillsdale, NJ, 1987.
- [119] B. MacWhinney, editor. *Mechanisms of Language Acquisition*. Lawrence Erlbaum, Hillsdale, New Jersey, 1987.
- [120] T. Makino. English morpheme acquisition order of Japanese secondary school students. *TESOL Quarterly*, 13(4):428, 1979.
- [121] R. Manzini and K. Wexler. Parameters, binding theory, and learnability. *Linguistic Inquiry*, 18:413-444, 1987.
- [122] J. McCawley. Tense and time reference in English. In C. Fillmore and D. Langendoen, editors, *Studies in Linguistic Semantics*, pages 96-113. Holt, Rinehart and Winston, New York, 1971.
- [123] B. McLaughlin. Theory and research in second language learning: an emerging paradigm. *Language Learning*, 30(2):331-350, 1980.
- [124] B. MacWhinney and Bates E. Sentential devices for conveying givenness and newness: A cross-cultural developmental study. *Journal of Verbal Learning and Verbal Behaviour*, 17:539-558, 1978.
- [125] J. Meisel. Strategies of second language acquisition: more than one kind of simplification. In *Symposium on the relationship between Pidginization, Creolization and Language Acquisition*, pages 27-29. Linguistic Society of America, 1979. Paper presented at the symposium on the relationship between Pidginization, Creolization and Language Acquisition.
- [126] J. Meisel. Linguistic simplification: a study of immigrant workers' speech and foreigner talk. In S. Felix, editor, *Second Language Development: Trends and Issues*. Gunter Narr, Tübingen, 1980.
- [127] J. Meisel. The role of transfer as a strategy of natural second language acquisition/processing. In *The first European-North American Workshop on Cross-Linguistic Second Language Research*, Lake Arrowhead, California, U.S.A., September 1981.

- [128] J. Meisel, Clahsen H., and M. Pienemann. On determining developmental stages in second language acquisition. *Studies in Second Language Acquisition*, 3(2):109-135, 1981.
- [129] J. Meisel, Clahsen H., and M. Pienemann. On determining developmental stages in second language acquisition. *Studies in Second Language Acquisition*, 3(2):109-135, 1981.
- [130] D. Nunan, editor. *Applying Second Language Acquisition Research*. National Curriculum Resource Centre, Adelaide, 1987.
- [131] W. O'Grady. *Principles of grammar and learning*. Chicago University Press, Chicago, 1987.
- [132] Y. Otsu, P. Van Riemsdijk, A. Inoue, and N. Kawasaki, editors. *Studies in Generative Grammar and Language Acquisition*. International Christian University, Tokyo, 1983.
- [133] J. Pankhurst, M. Sharwood Smith, and P. Van Buren, editors. *Learnability and second languages: a book of readings*. Foris, Dordrecht, 1988.
- [134] P. Peranteau, J. Levi, and G. Phares, editors. *Papers from the Eighth Regional Meeting, Chicago Linguistic Society*. Chicago Linguistic Society, Chicago, 1972.
- [135] D. Perlmutter. *Deep and Surface Structure Constraints in Syntax*. Holt, Rinehart and Winston, New York, 1971.
- [136] A. Peters. Language learning strategies: does the whole equal the sum of the parts? *Language*, 53:560-573, 1977.
- [137] S. Peters, editor. *Goals of Linguistic Theory*. Prentice-Hall, Englewood Cliffs, New Jersey, 1972.
- [138] C. Pfaff. Incipient creolization in gastarbeiterdeutsch? an experimental sociolinguistic study. *Studies in Second Language Acquisition*, 3(2):165-178, 1981.
- [139] T. Pica. The role of linguistic environment in second language acquisition of the English indefinite article. Unpublished MS: University of Pennsylvania, 1982.
- [140] M. Pienemann. *Der Zweitspracherwerb ausländischer Arbeiterkinder*. Bouvier, Bonn, 1981. Both this and the preceding points have been elaborated in personal communications.
- [141] M. Pienemann. Psychological constraints on the teachability of languages. *Studies in Second Language Acquisition*, 6(2):186-214, 1984.

- [142] M. Pienemann. Towards a theory of processability in second language acquisition. Forthcoming book., 1994.
- [143] M. Pienemann. Language processing and second language development. Submitted to John Benjamins, Amsterdam/Philadelphia. Series: Language Acquisition and Language Disorder, 1997.
- [144] M. Pienemann, M. Johnston, and G. Brindley. Constructing an acquisition-based procedure for second language assessment. *Studies in Second Language Acquisition*, 10(2):217-243, 1988.
- [145] S. Pinker. *Language Learnability and Language Development*. Harvard University Press, Cambridge, Mass, 1984.
- [146] S. Pit Corder. 'simple codes' and the source of the second language learner's initial heuristic hypothesis. *Studies in Second Language Acquisition*, 1(1):1-11, 1977.
- [147] C. Pollard. Generalized phrase structure grammars, head grammars and natural languages. Unpublished doctoral dissertation from Stanford University, 1984.
- [148] R. Porter. A cross-sectional study of morpheme acquisition in first language learners. *Language Learning*, 27(1):47-62, 1977.
- [149] J. B. Pride and J. Holmes, editors. *Sociolinguistics*. Penguin, Harmondsworth, 1972.
- [150] J. Richards. Second language acquisition: error analysis. *Annual Survey of Applied Linguistics*, 1:91-107, 1980.
- [151] J. Richards and D. Schmidt, editors. *Language and Communication*. Longman, London, 1983.
- [152] L. Rizzi. *Issues in Italian syntax*. Foris, Dordrecht, 1982.
- [153] J. Ross. Constraints on variables in syntax. Unpublished doctoral dissertation from the Massachusetts Institute of Technology, Cambridge MA, 1967.
- [154] M. Saito. Some asymmetries in Japanese and their theoretical implications. Unpublished doctoral dissertation: Massachusetts Institute of Technology, Cambridge MA, 1985.
- [155] D. Sankoff, editor. *The acquisition of German syntax by foreign migrant workers*. Academic Press, New York, 1978.
- [156] G. Sankoff. *The Social Life of Language*. University of Pennsylvania Press, Philadelphia, 1980.

- [157] R. Scarcella and S. Krashen, editors. *Research in Second Language Acquisition*. Newbury House, Rowley, Mass, 1978.
- [158] J. Schachter. An error in error analysis. *Language Learning*, 24(2):205–214, 1974.
- [159] J. Schachter. Second language acquisition and its relationship to universal grammar. *Applied Linguistics*, 9:219–235, 1988.
- [160] J. Schachter. Second language acquisition and its relationship to universal grammar. *Applied Linguistics*, 9:219–235, 1988.
- [161] M. Scheglov. How many possible speech acts are there? In *The 20th Conference of the Applied Linguistics Association of Australia*, 1995.
- [162] R. Schmidt. Interaction, acculturation and the acquisition of communicative competence: a case study of an adult. *Working Papers in Linguistics*, 13(3), 1981.
- [163] J. Schumann. *Second language learning: the pidginization hypothesis*. Xerox University Microfilms, Ann Arbor, 1975. MS from Harvard University Department of Education.
- [164] H. Seliger and M. Long, editors. *Classroom Research on Second Language Acquisition*. Newbury House, Rowley, Mass, in press.
- [165] L. Selinker. Interlanguage. *IRAL*, 10:219–231, 1972.
- [166] M. Sharwood Smith. Consciousness-raising and the second language learner. *Applied Linguistics*, 2(2):159–167, 1981.
- [167] S. M. Shieber. *An Introduction to Unification-Based Approaches to Grammar*. Center for the Study of Language and Information, Stanford University, Stanford, 1986.
- [168] D. Slobin, editor. *The cross linguistic study of language acquisition*. Lawrence Erlbaum, Hillsdale, NJ, 1986. Vols. 1 and 2.
- [169] D. I. Slobin and T. Bever. Children use canonical sentence schemes: a cross-linguistic study of word order and inflections. *Cognition*, 12(3):229–265, 1982.
- [170] C. Snow and C. Ferguson, editors. *Talking to Children: language input and acquisition*. C.U.P, Cambridge, 1977.
- [171] D. Sportiche. Bounding nodes in french. *Linguistic Review*, 1:219–246, 1981.
- [172] A-M. Stauble. The process of decreolization: a model for second language development. *Language Learning*, 28(1):29–54, 1978.

- [173] R. Stockwell, D. Bowen, and J. Martin. *The Grammatical Structures of English and Spanish*. University of Chicago Press, Chicago, 1965.
- [174] L. Swenson. *Theories of Learning*. Wadsworth, Belmont, California, 1966.
- [175] E. Tarone. Interlanguage as chameleon. *Language Learning*, 29(2):181-191, 1979.
- [176] R. Tomlin. Functionalism in second language acquisition. *Studies in Second Language Acquisition*, 12(2):155-177, 1990.
- [177] R. Underhill. *Turkish Grammar*. MIT Press, Cambridge, Mass, 1976.
- [178] R. Westmoreland. L2 German acquisition by instructed adults. Unpublished MS: University of Hawaii at Manoa, 1983.
- [179] K. Wexler and P. Culicover. *Formal principles of language acquisition*. MIT Press, Cambridge, MA, 1980.
- [180] L. White. *Grammatical theory and language acquisition*. Foris, Dordrecht, 1982.
- [181] L. White. *Universal Grammar and Second Language Acquisition*. John Benjamins, Amsterdam, 1989.
- [182] L. White and F. Genesee. How native is near-native? The issue of age and ultimate attainment in the acquisition of a second language. Draft of a forthcoming paper, 1993.
- [183] B. Whorf. *Language, Thought and Reality*. MIT Press, Cambridge, Mass, 1956.
- [184] W. C. Wimsatt. Developmental constraints, generative entrenchment and the innate-acquired distinction. Unpublished version of a shorter paper published in W. Bechtel (ed) *Integrating Scientific Disciplines*, pp. 185-208, 1985.
- [185] H. Wode. *Learning a Second Language: 1. An Integrated View of Language Acquisition*. Gunter Narr, Tübingen, 1981.
- [186] T. Wolfe. *The Right Stuff*. Farrar, Strauss and Giroux, New York, 1979.
- [187] L. Wong-Fillmore. The second time around: Cognitive and social strategies in second language acquisition. Unpublished Ph.D. Dissertation: Stanford University, 1976.
- [188] H. Zobl. The formal and developmental selectivity of L1 influence on L2 acquisition. *Language Learning*, 30(1):43-57, 1980.