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ABSTRACT

The existence of a developmental sequence for the acquisition of specific complex syntactic structures in English was investigated through an analysis of eight studies of Danish subjects. The studies involved Danish speaking subjects acquiring English as a second language at ages 7-10, 13, and 18. The evidence from these studies demonstrate a developmental sequence of linguistic stages with each of the structures acquired in sequential order. General syntactic principles are at work despite the different learning situations and learner skills. Gradual development, degrees of understanding, and the importance of contextual and interpersonal cues must be considered when evaluating variations in comprehension. The distinction between conceptual development and the mastery of the syntactic rules studied is discussed. Performance strategies relying on syntactic/semantic cues varying according to experimental setup and developmental stage are noted. (RW)

THE ACQUISITION OF SOME COMPLEX SYNTACTIC STRUCTURES IN L_1 AND L_2 LEARNERS (easy to see, promise, ask/tell)

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ABSTRACT

Two major bodies of research to throw light on differences and similarities between first and second language learning are the so-called morpheme studies- studies of the accuracy of use of English grammatical morphemes- and the studies of the development of negation and interrogation. An interpretation of the results of the former led researchers to postulate a uniform development across differences in age and L_1 backgrounds (e.g. Dulay & Burt, 1974; Bailey, Madden & Krashen, 1974), but the accuracy order of development was not identical to that found in L_1 acquisition (Brown, 1973; de Villiers & de Villiers, 1973). Only the latter studies revealed developmental stages identical to those reported for L1 acquisition (e.g. Ravem, 1974; Wode, 1976).

In this paper we try to trace a similar well-defined sequence of development for yet another area, a specific set of linguistic structures: Easy to see, promise, ask / tell . The results of 6 previously published studies and 2 unpublished Danish studies (48 subjects, aged 7-10, acquiring Danish as their L_1 and 48 subjects acquiring English as a foreign language, 24 aged 13, 24 aged 18) are reported. Evidence obtained in the two independent Danish studies indicates a developmental pattern similar to that reported in previous studies (Chomsky, 1969, for child native speakers, Kramer, Koff & Luria, 1972, for older children and adults, d'Anglejan & Tucker, 1975, for cognitively mature adult L_1 learners). A developmental sequence of linguistic

stages can be defined and the specific structures are acquired in a regular sequence, with one exception, however. For the younger group of Danish L2 learners of English, a deviation from the established sequential order was noted, in that easy to see was not consistently easier than the other structures in question. Interestingly enough, this deviation was also found among Danish children acquiring these structures as part of their L_1.

The implications of the findings are discussed. General syntactic principles are clearly at work in spite of different cognitive and linguistic skills on the part of the learners, as well as different learning situations, but also a replication in later studies of the experimental procedure used in Chomsky's original study may play an unwarranted role. Comprehension may vary within a supporting/neutral/conflicting context (cf. Trosborg, 1982). Gradual development, degrees of understanding, and the importance of contextual and interpersonal cues must be taken into consideration. Thus Warden (1981) was able to reverse Chomsky's result to a higher frequency of correct responses to the verb 'ask' instead of the verb 'tell' by changing the experimental procedure. No doubt, the abstract setting involved by the testing procedure also places demands on the subjects that clearly differ from actual communication, and this may be the reason why not all native speakers obtain full competence in this domain (Sanders, 1971). In fact, the performance obtained by the older group of Danish L_2 learners equals that of native speakers.

Finally, a distinction between conceptual development and the mastery of the syntactic rules in question will be discussed. Interesting performance strategies with reliance on syntactic/semantic clues varying according to experimental set-up and developmental stage were found.

INTRODUCTION

Systematic investigations which provide data to throw light on differences and similarities between first and second language acquisition derive mainly from two areas, the so-called morpheme studies- studies of the accuracy of use of English grammatical morphemes- and from studies of the development of negation and interrogation. An interpretation of the results of the morpheme studies (see Dulay & Burt, 1980, for a summary) led researchers to postulate a uniform development across differences in age and L1 background with languages as different from each other as English and Chinese (Dulay & Burt, 1972, 1974), in adults as well as children (Bailey, Madden & Krashen, 1974), in spite of the use of different testing procedures (Larsen-Freeman, 1975) and for learners who received formal instruction in addition to learning in informal acquisition contexts (Fathman, 1979). The accuracy order of development was not identical to that found in L_1 acquisition (Brown, 1973, de Villiers & de Villiers, 1973). Order of acquisition was conditioned by cognitive development in the case of L_1, while the L_2 acquisition order correlated with frequency in input (Larsen-Freeman, 1976). These investigations have been of considerable influence in recent research, even though their subsequent conclusions have been criticized for several reasons. For one thing, what is tested is not developmental order, but order relative to the degree of accuracy with which these morphemesoccur in obligatory contexts (see e.g. Meisel, Clahsen & Pienemann, 1981). For another, the testing method which has been used eliminates individual differences (Larsen-Freeman, 1975, Meisel, Clahsen &

Pienemann, 1981). Furthermore, although the morpheme studies show definite regularities, there is also evidence of deviations from regularities for groups and individuals (Dulay & Burt, 1975, Fathman, 1975, Kesslar & Idar, 1977), and longitudinal studies of the acquisition of the same morphemes in individuals (Hakuta, 1976, Rosansky, 1976) showed an order different from the one found in the cross-sectional studies mentioned above.

In the case of the studies of interrogation and negation there is evidence of uniform L_2 development across different geographical locations and language backgrounds, although individual differences must be allowed for (Ravem, 1974, Wode, 1976). In addition, developmental stages are identical to those reported for L1 acquisition, even when second language learning takes place under classroom conditions. Felix (1980) found considerable evidence for structural parallels between second language learning in 10- and 11-year-old German children who learned English in a classroom setting where there was almost no naturalistic exposure and those developmental sequences observed in monolingual English speaking children. Particularly striking was the use of incorrect constructions resulting from similar simplification and overgeneralization strategies used by both groups.

Evidence from research in other linguistic areas comprise studies of modals (Dato, 1970, Ravem, 1974), an analysis of cross-sectional data from the English of Spanish-speaking learners (Andersen, 1978) which indicated both regularities and individual variation (overgeneralization and L_1 transfer), as

well as recent research with immigrant workers in Germany (Meisel, Clahsen & Pienemann, 1981). From a longitudinal study Meisel and his coworkers have evidence of developmental regularities (word order, deletion of pronouns, copulas, etc.) that parallel those observed in German monolingual children, but also learner-type-specific variations due to e.g. social factors, personality profile, possible transfer from L_1 etc., were found.

In this paper we try to trace a sequence of development, developmental stages for the acquisition of individual structures, etc., for yet another area, a specific set of linguistic structures: Easy to see, promise, ask/tell. These structures are reported by Carol Chomsky (1969) to be subject to late acquisition in children, the most exceptional structure (ask_q) still unacquired by some children at the age of 10.

Chomsky hypothesized that perhaps there is a critical learning period during which deliberate exposure to a particular construction could result in acquisition and beyond which acquisition might never take place. This hypothesis has been tested in later studies (Kessel, 1970; Sanders, 1971; Kramer, Koff & Luria, 1972) for the construction ask_q.

In order to test the hypothesis that first and second language learning derive from the same underlying process the results of two studies in second language acquisition (d'Anglejan & Tucker, 1975, and a Danish study carried out by Kvistgaard Petersen, 1981) are compared to previous studies of L_1 acquisition.

A study of L_1 learners of Danish (Christensen, 1974) is compared to L_1 acquisition in English children, and, finally,

the importance of the experimental set-up is discussed with particular reference to Warden's (1981) study of L_1 acquisition in 5-year-old English children. Information has been derived from the research projects of no less than 8 different individuals or groups of researchers, including two unpublished Danish studies. These studies all use cross-sectional data. For the shortcomings of this approach when the aim is to establish developmental stages and sequences, see e.g. Meisel, Clahsen & Pienemann, 1981. For a detailed description of experimental methods, scoring procedures, results etc., the reader is referred to the individual studies, as only major findings are reported and discussed here.[1)]

ON DEFINING THE PROBLEMS

In decoding linguistic structures subjects make use of general operating principles (see Slobin, 1966). Through experience with language, learners build up hypotheses about linguistic structures and functions and they decode new structures on the basis of already acquired knowledge about linguistic systems and principles. The structures to be dealt with in this paper are considered grammatically complex because they are exceptional for one of the following reasons:

A the true grammatical relations which hold among the words in a sentence are not expressed directly in its surface structure

B the syntactic structure associated with a particular word is at variance with a general pattern in the language

C a conflict exists between two of the potential syntactic structures associated with a particular verb

Complexity factor (A) is relevant to an interpretation of structures with the predicate easy to see. The following two sentences are both active sentences, but only (1) follows the standard grammatical order of assigning a subject function to NP_1

(1) John is eager to see (subject of the infinitive = NP_1)
(2) John is easy to see (subject of the infinite = "someone else")

In (1) John is the subject of the sentence and also the subject of the infinitival complement verb see, while in (2) the word order is misleading. It is not 'John who is easy', neither is it 'John who is doing the seeing', but the learner must understand that the subject is "someone else" not mentioned in the sentence. What 'is easy' is 'for someone to see John'.

In structures with infinitival complements without a subject for the infinitive, the subject for the infinitive is likely to be the subject of the main verb, as we have just seen in the case of (1). In sentences in which there is a noun phrase preceding the verb phrase of the infinitive, this noun phrase is likely to be the subject of the complement verb phrase. Thus in (3) it is 'Bill who is supposed to leave':

(3) John ordered Bill to leave

A large number of sentences with infinitival complements follow the patterns of (3), and a general principle for subject assignment for complement verbs has been formulated. It has been referred to as the Minimal Distance Principle (MDP) and according to

this rule, the implicit subject of the complement verb is the NP most closely preceding it. However, the following two structures violate the MDP:

(4) John promised Bill to leave
(5) John asked Bill what to do

In contrast to (3) the subjects in (4) and (5) of the complements 'to leave' and 'what to do' are the subjects of the main clauses, i.e. the NPs more distant from the complements. In order to process structures like (4) and (5) correctly the learner must know that the general rule (the MDP) is no longer applicable, but a specific rule must be used instead for the verbs promise and ask. Here we are concerned with an instance of complexity factor (B).

However, in the case of the verb ask comprehension is further complicated. This verb is unusual in that it can either violate the MDP, as in (5) or, it can follow the rule, as in (6):

(6) John asked Bill to leave

When ask occurs in structures in which the MDP is violated, it is used to ask questions, while in structures which follow the MDP, it occurs with a different meaning, namely in the sense of a request, hence ask_q and ask_r respectively. While the verb promise is a consistent exception to the MDP, two conflicting structures can be associated with the verb ask. This verb thus involves complexity factor (C) and it is therefore considered more difficult than the verb promise. The greater the variety

of deep structure configurations the lexicon associates with the main verb of a sentence, the more complicated the sentence should be (Fodor, Garett & Bever, 1968). Furthermore, if two structures associated with the same verb require conflicting rules for their analysis, then the degree of complexity will be considerably increased (Chomsky, 1969).

The three levels of complexity with regard to MDP application involving complexity factors (B) and (C) are shown in Table 1 taken from Chomsky 1969 (p. 17). Notice also that structure (e) ('John asked Bill (for permission) to leave') is ambiguous within itself, in that the potential subject of the complement verb can be either NP_1 or NP_2, a problem which will be discussed later in this paper (see p. 29ff).

Table 1

Three Levels of Complexity with Regard to MDP Application

	Complement Construction	Rule for MDP Application
1.	Normal pattern	
	a. John told Bill to leave.	APPLY MDP, SUBJ = NP_2
	b. John asked$_1$ Bill to leave.	
2.	Consistent exception	
	c. John promised Bill to leave.	VIOLATE MDP, SUBJ = NP_1
3.	Inconsistent exception	
	d. John asked$_2$ Bill what to do.	VIOLATE MDP, SUBJ = NP_1
	e. John asked$_3$ Bill (for permission) to leave.	

THE MAIN FINDINGS OF C. CHOMSKY'S (1969) STUDY

Chomsky interviewed 40 children (aged 5 to 10 years) in order to test their comprehension of the previously mentioned struc-

tures. She also investigated the children's understanding of pronominalization which will not be dealt with here, as it has only been followed up in two later studies (d'Anglejan & Tucker, 1975; Christensen, 1974). Major developmental stages of individual structures as well as the developmental sequence of the various structures are reported below.

Complement structures with the predicates eager/easy to see

The child who has not yet learned the difference between these two superficially similar sentences but processes both sentences according to the general rule, will interpret sentences such as (2) incorrectly to mean 'it is easy for John to see' instead of the correct interpretation 'it is easy for someone to see John'.

Complement structures with the verb promise as main verb

When children were given comprehension tasks involving the verbs tell and promise

(7) Donald Duck tells Bozo to do a somersault
(8) Donald Duck promises Bozo to do a somersault,

4 developmental stages were defined. At the first stage children would interpret both sentences in accordance with the MDP, i.e. they would get all sentences with tell right and get all sentences with promise wrong. At a second stage both NP_1 and NP_2 would be assigned as subjects for both verbs and the children would interpret both structures incorrectly. Then follows a stage of correct subject assignment to tell-constructions, while

responses are mixed in the case of constructions with promise. Finally the children consistently violate the MDP in structures like (8) while they follow the rule in structures like (7).

Complement structures with the verb ask as main verb

Children who have not learned when to apply the exception to the MDP, will apply the regular rule and interpret (9)

(9) Ask John what to paint

as if it had the meaning of (10)

(10) Ask John what he should paint

Consequently these children respond to (9) with the sentence 'John, what do you want to paint?' instead of the correct answer 'what should I paint?'

In addition to the above response, Chomsky found that more than half of her subjects responded to ask in such sentences as (9), as if ask were synonymous with tell. Moreover, subjects, especially the younger children, would respond in a similar manner to less complicated sentences. Frequent responses to sentences such as 'ask Joe his last name?' and 'ask John what colour this is?' would be 'Foster' and 'it is red'.

On the basis of the results of her investigations, in which she concentrated on the following three structures:

(a) ask/tell Laura what colour this is (case 1)
(b) ask/tell Laura the colour of this book (case 2)
(c) ask/tell Laura what to feed the doll (case 3)

Chomsky was able to document 5 stages of development (Table 2 below) in the child's comprehension of ask_q + an additional substage (Stage A+):

Table 2

Five developmental stages

Stage A.	Subjects would *tell* rather than *ask* in response to simple sentences such as (a).
Stage B.	Subjects would respond correctly to (a) sentences, where all elements of the response are present in the complement, but would *tell* in response to (b) sentences.
Stage C.	Subjects would respond correctly to the simple "ask" constructions of type (a) and (b), but would *tell* in response to sentences calling for the violation of the MDP in type (c).
Stage D.	Subjects would *ask* in response to sentences calling for the exception, but would choose the wrong subject for the *wh*-clause.
Stage E.	Subjects would respond correctly to all of the test sentences.
Stage A+.	Subjects would give both *ask* and *tell* responses freely, but not necessarily to appropriate instructions.

Developmental sequences

Chomsky's subjects showed a high correlation of success for the different types of constructions in question. She found that all her subjects had acquired the construction *easy to see* (at age 8.6) before the structures with *promise* (8.10), while ask_q stage (E) was not mastered by all children in any age group. She organized the children according to the *ask/tell* stage into which they fell, and her results showed increased

successes with the structure with easy to see and promise at higher ask/tell stages, irrespective of the age of the child. None of the children at stage (A) and (B) of ask has both the other constructions correct, while every child at stage (E) succeeds also with promise. A child may know promise without knowing ask, but he does not know ask without knowing promise. Similarly, he may know easy to see without having mastered promise, but not the other way round. Chomsky's results thus confirm the hypothesis that the child learns to apply the linguistic processes in the simpler cases first and only then proceeds to use it in the more complex cases.

ACQUISITION IN OLDER CHILDREN AND (YOUNG) ADULTS

The fact that the more complex constructions with ask had not been acquired by all children in Chomsky's study gave rise to later studies with older children and adults as subjects.

Sanders (1971) tested 40 adults (mean age 23.18) for their competence on ask/tell-constructions and competence was found lacking even in adult native speakers. 21 subjects were wrong at least once, and 34% of all answers to ask_q, case 3, were wrong. Half the subjects gave at least one wrong answer and 80% of these were given to ask_q, case 3. However, the obtained results must be seen as a product of the situation in which the testing took place. The "abstract" setting in which the experiment took place is likely to have influenced performance, a problem which we return to later in this paper (see p. 37).

In order to throw light on the Lenneberg hypothesis of a critical period for language learning, Kramer, Koff & Luria

(1972) tested older children and young adults (from 8 to 20 years of age) for their competence on ask/tell-constructions. Developmental stages found by Chomsky for Ss below 8 years were duplicated above age 8. Older groups had 2 competent Ss for every S who lacked the competence. No age group was found with all Ss competent. Subjects who had not been found competent in the original experiment, were tested two years later to see whether competence had increased. The hypothesis was that Ss who upon the first testing did not have the exceptional structure (ask_q, case 3) and who were within the "language-plastic" age range (see Lenneberg, 1967) would be more likely to induce the rule than would Ss aged 12 and over when retested some 2 years later. Their findings gave no support for this hypothesis. The proportion of Ss who failed to demonstrate competence in the original test but who succeeded 2 years after was the same for Ss over the age of 12 as for Ss under the age of 12. When retested all age groups improved, but no evidence for a greater improvement of complexity for the younger language-plastic-aged Ss was found.

A study carried out by Kessel (1970) involving 6-12 year olds will not be reported here, because the experimental method adopted has been shown to be an inadequate test of whether or not Ss had the exceptional structure (Kramer, Koff & Luria, 1972). The Ss were required to choose between pairs of pictures as possible depictions of sentences spoken by the experimenter, but as the pictures indicated who was the subject of an ask/tell instruction, it was not possible to discriminate the last two stages (D) and (E).

ACQUISITION IN L_2 LEARNERS

In order to test the hypothesis that first and second language learning derive from the same underlying process (see e.g. Dulay & Burt, 1972, 1974; Erwin-Tripp, 1974), two experiments have been designed to investigate the acquisition of the exceptional structures in L_2 learners of English (d'Anglejan & Tucker, 1975; Kvistgaard Petersen, 1981).

d'Anglejan & Tucker (1975) analysed the performance of 40 male subjects, 20 beginners (BEG) and 20 advanced learners (ADV), all military personnel attending a language school in Quebec, and 20 English Canadians (NS) studying French as a second language functioned as a control group. The investigators adopted Chomsky's methodology, though with minor changes. In order to test Ss' comprehension of the structure easy to see they did not make use of a blindfolded doll (see Chomsky, 1969 for details and Chomsky, 1972, for a change in procedure). This procedure has been criticized on the grounds that a blindfolded doll is in fact a little difficult to see. This factor may influence Ss' response to the test sentence 'Is this doll easy or hard to see'? Instead, their subjects were presented with a number of sentences and asked to identify the deep subjects of the infinitives in these sentences:

(11) Mary is anxious to go
Who will go?

(12) The president is interesting to interview
Who is doing the interviewing?

This procedure was also used to test comprehension of the verb

promise instead of a manipulation of toys as in Chomsky's original study:

(13) Jim persuaded Jack to read his letter
Who will read this letter?

d'Anglejan & Tucker found no evidence of language learning strategies different from those reported in the literature for child native speakers, and on the basis of their results they were able to draw an analogy between performance of their BEG and the youngest children in Chomsky's group. The ADV subjects performed similarly to the NS on the less difficult items and mid-way between the two groups on some of the more difficult items. The researchers also report a developmental pattern similar to that reported by Chomsky for child native speakers. It was clear that BEG did not perceive the difference in deep structure between sentences such as 'Ann is fun to visit/Mary is anxious to go', they applied the general rule in most instances. They also had problems in violating the MDP in the case of the verb promise and their response on the ask-sentences which violated the MDP appeared to be random (see Table 3 below).

Table 3

French Learners of English

(d'Anglejan & Tucker, 1975, p. 291)

Proportions of Errors

	Easy to see	Promise	Ask_q
BEG	.73	.25	.50
ADV	.14	.04	.13
NS	.00	.07	.08

In addition to d'Anglejan & Tucker's study of French L_2 learners of English, yet another study of L_2 learners has been carried out (Kvistgaard Petersen, 1981). The performance of 48 subjects acquiring English as their L_2, 24 secondary school children, aged 13 (BEG), and 24 high school students, aged 18 (ADV), was tested.

In order to test the construction easy to see, half the subjects received Chomsky's test with the blindfolded doll, the other half received a battery of test sentences and were asked to identify the subjects of these sentences, as in the study carried out by d'Anglejan & Tucker. Sentences with O-adjectives - human object (16), in which it is evident that NP_1 is not the subject of the infinitive (books do not read), were added to sentences with O-adjectives + human object (17) and sentences with S-adjectives (15):

(15) Peter is pleased to stay (S-adjective)
(16) The book is fun to read (O-adjective - human object)
(17) Ann is fun to visit (O-adjective + human object

It was hypothesized that order of difficulty would correspond with the order given above. In addition, the intention was to find out whether Ss who received a structure with O-adjective - human object as their initial test-sentence and who mastered this structure would be able to use it as a model for their interpretation of the more difficult structures with human objects.

The results confirmed the proposed order of difficulty. All Ss mastered structures with S-adjectives, while 75% in the BEG

group were succesful with the construction O-adjective - human object, against 25% with theconstruction O-adjective + human object. Ss who mastered the latter structure had all received a structure with O-adjective - human object as their initial test-sentence. However, the experiment showed that only half of the children who could have benefited from the introduction of a model sentence with O-adjective - human object were in fact able to use this information. In the ADV group all Ss mastered the construction with O-adjectives - human object, while performance was 83% correct on the construction O-adjective + human object both for Ss who started with a sentence with O-adjective - human object and those who did not.

When the results of the experiment with the test sentences (O-adjectives + human objects) were compared with the results of the Chomsky-test, no differences were found for ADV learners (83% correct). Performance was 8% correct for BEG in the latter test.

Developmental stages for the verbs promise and ask found in previous studies were duplicated, though with the difference that choice of wrong subject, typical for Stage (D) subjects of ask/tell constructions, occurred not only for the verb ask, as reported by Chomsky, but also in structures with the verb tell. The results (overall performance) of the study of Danish L_2 learners of English are presented in Table 4 below.

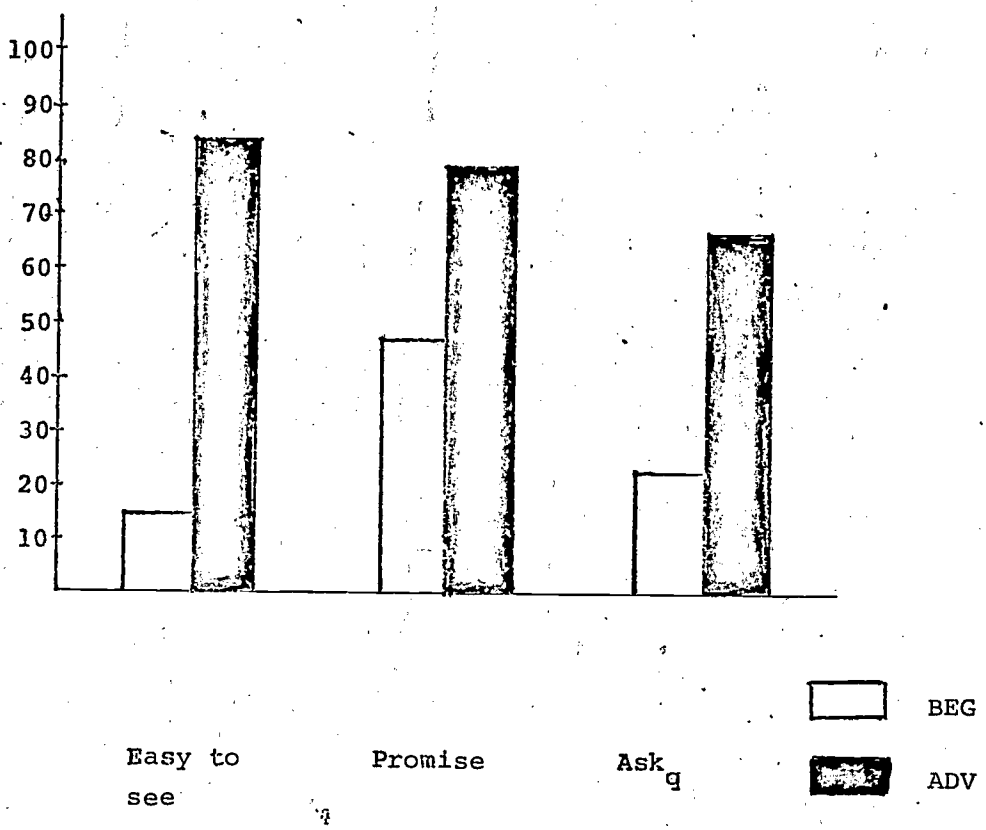
Order of acquisition for the structures in question was the same for Danish subjects acquiring English as their L_2 as for English children acquiring these structures as part of their mother tongue, as far as the verbs promise and ask$_q$ are con-

Table 4

Danish Learners of English

(Kvistgaard Petersen, 1981, p. 121)

Percentage of Correct Performance



cerned. For both groups promise is acquired before ask$_q$, case 3. Not so for the construction easy to see. In the BEG group this structure was not acquired before structures with promise, as was the case in Chomsky's study. Nor was it acquired before case 3 of ask$_q$, on the other hand, it was the most difficult of the three structures for BEG. d'Anglejan & Tucker report no difference in sequential order as compared with the order obtained

by Chomsky, but from their results (Table 3) it appears that the construction easy to see was also the most difficult construction for their BEG.

The role of L_1

An interesting aspect to be considered is whether L_2 learners when processing unfamiliar TL structures will relate these to similar sentences in their native language. In instances in which L_1 sentences can provide clues to the appropriate interpretation of the TL sentences, it might be advantageous to do so. This is the case for the distinction between structures (1) and (2) ('John is eager to see/John is easy to see'). In Danish the two structures are differentiated by means of a preposition.

In sentences with S-adjectives, in which the general rule applies, the complement verb is preceeded by a preposition, as in (18). In contrast, there is no preposition preceding the complement verb in structures with O-adjectives (19), in which case the listener must understand that "someone else" is the subject of the complement verb:

(18) John er ivrig efter at se (John is eager to see)
(19) John er let at se (John is easy to see).

In French, the complement verb is preceded by the preposition de in the case of constructions with S-adjectives:

(20) John est triste de partir

while in sentences with O-adjectives the complement verb is preceded by the preposition a:

(21) Le President est difficile a voir.

The surface structure of the French sentences makes explicit the grammatical relationships in the deep structure, whereas the surface structure of the English sentences does not.

There is no evidence, however, either in the studies of the French learners of English or in the study of the Danish learners of English that Ss reverted to the syntactic structures of their native languages as a strategy to aid comprehension. They did not make use of their knowledge of a distinction in the L_1s when trying to process the TL language structures. BEG applied the general rule in nearly all instances which is the strategy typically found with child native-language learners. Thus these learners appear to draw upon their own incipient rule system in English dealing directly with the data of the TL-processing the linguistic data of the TL independently of the syntax of their native language.

THE IMPORTANCE OF THE EXPERIMENTAL SITUATION

A very important factor to be considered when analysing experimental data is the experimental set-up itself. The child's interpretation of the situation in which he is questioned, his interpretation of the experimenter's intention, etc. may play an important role in the way he responds. In this connection C. Chomsky admits that the interview situation may favour a

tell-response. It is more likely that one is expected to give out information than to ask for it, she says, and it is very likely that the children's responses may have been influenced by this expectation. This very important point has been taken up by Warden (1981). On the basis of the appropriate context for the speech acts of asking and telling, Warden argues that Chomsky's task was inappropriate for testing children's comprehension of ask_q and tell, in that her task biased children towards telling rather than asking. In order to respond correctly to an experimenter's instruction to ask a listener something, a speaker must assume that he has to find out something for himself/the experimenter, or that he has to test the listener's knowledge on the experimenter's behalf. Furthermore the speaker's subsequent performance of the act of asking may be further influenced by whether he himself knows the answer to the experimenter's question. In order to respond in a meaningful way to a tell-instruction the speaker must assume either that the listener/the experimenter does not know the answer, or that he has to demonstrate his knowledge by telling the experimenter/the listener. Within Chomsky's experimental task, a speaker was justified in assuming that his task was either to enlighten the experimenter (in response to an ask_q instruction) or to demonstrate his own knowledge (in response to a tell-instruction), but, argues Warden, if the experimenter had wanted to ask/tell the listener something he could have done so himself, and the task is deficient in so far as the experimenter should not have been in a position to ask or tell the listener himself. Consequently, the speaker is justified in assuming that his

knowledge is being tested.

In an attempt to correct the apparent methodological weakness in Chomsky's study, Warden (1981) replicated Chomsky's original study with 20 children between 4.10 and 5.9 as subjects. He adopted her method of assessment based on children's appropriate performance of the relevant speech acts when instructed to do so, but he altered the interpersonal context of experimenter, speaker and listener "in an attempt to make these speech acts more natural". Warden altered the location so that the experimenter was no longer in a position to ask/tell the listener himself. In his task one child was engaged with a game or book in a playlike situation in one corner of a room, while the other was taken to the opposite corner of the room behind a blackboard. He was then presented with the first reference object (a stapler or a bosun's pipe) and asked whether he knew what it was. Having ensured that the child knew the object in question, he was asked to 'Go and ask/tell X what it is'. After S had responded to the instruction, the two children changed roles and the second child carried out the next instruction in a similar fashion.

When changing the experimental set-up as described above, Warden was able to reverse Chomsky's findings. Tell-responses no longer predominated, on the contrary, a significantly higher frequency of correct responses to the verb ask as compared to the verb tell was obtained. However, Warden's attempt to make speech acts more natural involves a bias towards an ask-interpretation of the given instructions. He admits that asking was the more natural response and gives the following reasons.

In his task, which was set up as an instructional one, ask-instructions were presented so that S was to assume that he was to test the listener's knowledge, whereas tell-instructions were presented so that S conveyed some novel or interesting information to his listener. But, argues Warden, tell-instructions were contextually inappropriate, because the "felicity conditions" for telling were not fulfilled. The speech act of telling requires that the speaker knows something which his listener does not know and might like to know, but the reference objects chosen for the task, though unusual, were "not beyond the ken of 5-year-olds", and speakers must have assumed that their listeners did not need to be told, and the listeners on their part revealed no interest in obtaining the information. In addition to the aspects pointed out by Warden, another relevant factor may be the way in which the task was introduced to the child. The experiment was always initiated with S being asked a question himself (his knowledge of the reference object being tested), and it is possible that this may be influential in setting the procedure for further actions.

Warden's study shows the importance of the experimental set up, a change in the experimental situation may greatly influence the obtained results, which is in agreement with results obtained in other areas of child language studies (e.g. Trosborg, 1982). However, Warden also claims that the child is aware of the inappropriateness of an ask-response in Chomsky's test and of a tell-response in his own study and therefore adapts his responses to meet the felicity conditions for asking and telling. As we have seen his claim meets with a certain amount of evidence, but there is also contradictory evidence to be found.

In his own data Ss "overgeneralize" the ask-response to situations in which it is clearly inappropriate. In response to instructions to 'Go and tell X where you live' and to 'go and tell X what you had for breakfast', Ss also gave ask-responses, although they had no reason to believe that the listeners possessed this knowledge. This evidence suggests to me that the child does not change his response from a tell- to an ask-response, because he is conscious of the implications of the involved felicity conditions. Rather he responds to the situation as a whole, overlooking a change in the verbal instruction. In instances in which Ss do not understand an instruction fully they respond to what they interpret to be the experimenter's intention, and what is the most likely response in a given situation may determine performance. It seems that Warden is confusing a distinction between knowledge of the felicity conditions for asking and telling and an interpretation of the experimental set-up as a whole. In both studies (Chomsky's and Warden's) contextual cues may have been the prime determiners of the children's responses.

In addition to the task mentioned above, Warden also carried out a picture identification task. See Chomsky (1982) for a criticism of that study.

ACQUISITION IN L_1 LEARNERS OF DANISH

A study of 48 children, aged 7-10, acquiring Danish as their mother tongue, was undertaken (Christensen, 1974) in order to investigate whether developmental stages and sequences found in L_1 acquisition of English would be parallelled in L_1 acqui-

sition of a language other than English.

A translation into Danish of the English structures in question did not present problems apart from a minor change in the case of $\underline{ask}_q$, case 3. Chomsky tested comprehension of this exceptional structure by asking two children to cooperate to perform several actions, and they received instructions like the following:

(22) Would you first ask X what to feed the doll
(23) Now would you then tell X what to feed the doll

The child's correct interpretation of these sentences is dependent on his knowledge of when to follow the MDP, as in (23), and when to violate it, as in (22). In Danish, however, it is not possible to leave out the pronoun in the complement clause, it has to be explicitly mentioned. The translation equivalents of the English instructions would be (24) and (25):

(24) Ask X what <u>you</u> should feed the doll
(25) Tell X what <u>she</u> should feed the doll

and it is no longer possible to test the children's knowledge of when to follow/violate the MDP in assigning a subject to the complement clauses. Therefore, the sentences were reconstructed as follows:

(26) Trold asks Pondus what <u>he</u> should feed the doll
(27) Trold tells Pondus what <u>he</u> should feed the doll

The children were asked to take on the roles of the two dolls, and in assigning a referent to the pronoun, a choice between NP_1 and NP_2 had to be made.

The results of the Danish study showed that the stages defined by Chomsky on the basis of L_1 acquisition of English were found in L_1 acquisiton of Danish as well, though with a difference in the number of Ss assigned to Stage (A+) of ask/tell-constructions. While the children in Chomsky's study who did not know ask and tell are reported to tell almost exclusively (only 4 children were at Stage (A+) and the stage itself has been defined only as a substage), no less than half the Danish children (25 out of 48) were at Stage (A+), i.e. they gave mixed responses to ask/tell instructions. Perhaps the findings of the Danish study are not so surprising. A stage of fluctuation before a rule becomes stable is well known in child language acquisition and was also found in the case of the verb promise (Stage 2) in L_1 and L_2 learners of English as well as L_1 learners of Danish. Rather it seems surprising that only 4 of Chomsky's Ss were at Stage (A+). Calling Warden's study to mind, it is likely that this difference may occur as a result of the change in the experimental set-up in the Danish L_1 study. When the children took on the roles of the two dolls, their personal engagement and the roles thereby associated no longer existed. In this way, the bias towards a tell/ask interpretation was eliminated, in that the dolls could be conceived of as neutral as to wanting/testing/requesting information. The situation did not direct the child to suppose that one of the dolls was necessarily asking/telling.

A difference in sequential order between the acquisition of the English versus the Danish structures could be predicted in the case of the verbs $\underline{ask}_q$ and promise. In English $\underline{ask}_q$ was more difficult than promise, because it has to be kept distinct from $\underline{ask}_r$ (Complexity factor (C)). In Danish, the two verbs are distinguished lexically ($\underline{ask}_r$ = bede, and $\underline{ask}_q$ = spørge), as is also the case in German, which distinguishes between bitten (ask_r) and fragen (ask_q). As complexity factor (C) no longer obtains in the case of the Danish lexical item for $\underline{ask}_q$, there is no reason why the Danish children should find $\underline{ask}_q$ more difficult than promise and that is exactly the results we find.

Another interesting difference in order of acquisition was the fact that the structure easy to see was not consistently easier than promise or $\underline{ask}_q$. This construction presented difficulties even for the older children, which is an interesting parallel to the lack of comprehension found in the BEG group of Danish L_2 learners of English (see this paper p. 19).

d'Anglejan & Tucker suggest that these specific structures would not necessarily be candidates for late acquisition by French children, since their surface structures are not ambiguous, but unfortunately there are no data on native language acquisition in French children which would allow them to examine this more closely. The Danish study reported above provides such data. The possibility exists that the presence of a preposition in structures with S-adjectives as compared to structures with O-adjectives without a preposition preceding the infinitival complement verb would facilitate acquisition. However, evidence points to the contrary. All the children in

Chomsky's study had acquired the exceptional structure at the age of 8.6, which was not the case for the Danish children. In fact, no age group tested was found with all Ss competent.

It is likely that the explicit distinction between the two different constructions in the form of a preposition marking structures with S-adjectives is of little help, because it is the structure following the general rule (S-adjectives) which is marked, while the exceptional structure (O-adjectives) is left unmarked.

STRUCTURES WITH (potentially)AMBIGUOUS REFERENCE (ask_r)

4 studies deal with the performance on structures with ask_r with (potentially) ambiguous reference (Chomsky, 1969; Christensen, 1974; d'Anglejan & Tucker, 1975; Kvistgaard Petersen, 1981). Sentences of the kind presented in (28):

(28) Bill asked John to leave/go first in line, etc.

are ambiguous within themselves. The complement verb relates either to the main clause object (NP_2) as "a request for somebody to do something" or it may relate to the main clauses subject (NP_1) in the sense of "a request for permission", although the latter interpretation is less likely (Chomsky, 1969: pp. 12, 17, 53).

In Chomsky's experiment only 1 child out of 40 assigned the less likely interpretation to the ambiguous sentences, i.e. he assigned NP_1 as complement in violation of the MDP. A different pattern emerges in the Danish study of L_1 learners. While 28

out of 48 assigned sentence (29)

(29) Trold asks Pondus to go first in line

its most likely interpretation

NP_1 requests NP_2 to go first in line,

only 1 child interpreted (29) as

NP_2 requests NP_1 to go first in line.

The remaining 19 children interpreted the verb in the sense of a request for permission but showed a difference in subject assignment:

NP_2 asks NP_1 for permission to go first in line (12 children)

NP_1 asks NP_2 for permission to go first in line (7 children)

The majority of the children who assigned a request for permission interpretation to the main verb still followed the MDP thus assigning the wrong subject to the complement verb, while only 7 children assigned NP_1 as subject for the complement verb which is correct if the main verb is interpreted in the sense of a request for permission.

Maybe, this difference can be explained with reference to the use of the Danish verb bede (ask_r). This verb is very fre-

quent in requests for objects and occurs in the child's early instructions on how to make polite requests:

(30) Må jeg bede om en kage (Can I have a cake, please)

It is interesting, though, that the majority of the children (12 against 7) who interpret the Danish verb bede (ask$_1$) in the sense of permission still assign NP_2 as the subject for the complement verb in accordance with the MDP, instead of violating this rule.

The two groups of L_2 learners (French and Danish) were presented with test sentences like the following

(31) The child asked the teacher to leave the room,

in which there is a potential conflict between the most likely semantic interpretation (that it is the child who should leave the room) and that suggested by the syntactic form of the sentence (that the teacher should leave the room). In both experiments these sentences occurred together with sentences in which no such conflict existed

(32) The teacher asked the child to leave the room.

In (32) the choice of 'child' as subject of the complement verb is consistent with the MDP and with the most likely semantic interpretation (teachers are much more likely to ask children to leave the room than the converse).

The findings of the two experiments were different, however. d'Anglejan & Tucker found that their BEG tended to rely on semantic information (.80) more than on syntactic information (.20) to provide clues to the likely interpretation of these sentences. For BEG semantic information was powerful, even when it was in competition with a broad syntactic rule. Also for the ADV group responses influenced by meaning rather than syntactic form predominated (.65 vs .55). NS were almost equally divided (.45 vs .55), which shows that both semantic and syntactic constraints exerted a strong pull on these Ss.

In contrast, the Danish L_2 learners exhibited a different pattern, in that both groups tended to rely on syntactic information rather than on semantic clues for their interpretation of these sentences (BEG 80% vs 20%, ADV 60% vs 40%, respectively).

In both studies, though, there was a growing awareness of a potential conflict between the most likely semantic interpretation of the sentence and that suggested by its syntactic form. ADV learners were more inclined to utilize a combination of syntactic and semantic information and the conflict between the two were explicitly stated by some on the Danish L_2 learners.

For an interpretation of their findings d'Anglejan & Tucker refer to Macnamara's (1973) contention that second language learners like young children probably use meaning as a clue to language, rather than language as a clue to meaning. If they guess at the probable meaning that a speaker is trying to convey and then attempt to map this onto the linguistic structure, the content of a sentence may be more salient that its form. An analysis of L_1 learners interpretation of temporally related

sequences (Trosborg, 1982) showed ability in Ss to utilize semantic information in order to determine sequential order before general syntactic principles were established. An interpretation along these lines of the difference in performance between the French and the Danish L_2 learners would imply that the MDP has been less well established as a general rule for the French learners as compared to the Danish.

DISCUSSION

In this paper we have compared the findings of Chomsky's original study of the acquisition of some complex syntactic structures in English children acquiring their mother tongue with the findings of a number of later studies. These studies involve native speakers of English (children and adults), French and Danish learners of English as a second language, as well as native language acquisition of the corresponding Danish structures. The findings show that general syntactic principles are clearly at work in spite of different cognitive and linguistic skills on the part of the learners, as well as different learning situations. Good evidence was found for structural parallels between second language learning which took place under classroom conditions with very little naturalistic exposure and child native language acquisition. A similar developmental pattern occurs in spite of gross differences in the range of age and individual experience, as well as differences in L_1 background (French and Danish). In addition, uniform patterns of L_1 development across languages (English and Danish) were found.

Evidence obtained in the two Danish studies indicated a developmental pattern similar to that reported in previous studies (Chomsky, 1969, for child native speakers; Sanders, 1971, for adults; Kramer, Koff & Luria, 1972, for older children and young adults; d'Anglejan & Tucker, 1975, for cognitively mature adult L_2 learners). However, the proportion of Ss identified as belonging to Stage (A+) of ask/tell-constructions (random response) differed considerably in the two studies of child native speakers (4 children in Chomsky's study against 25 children learning Danish as their L_1). This difference has been explained, though, in terms of the bias in Chomsky's experiment towards a tell response, just as an overinterpretation of tell to mean ask in Warden's study could be explained with reference to a bias towards an ask-interpretation. A difference was also found when the performances of Danish L_2 learners were compared to those of Chomsky's children. At ask/tell constructions Stage (D), Danish BEG assigned the wrong subject to tell- as well as ask-constructions. In response to an instruction like 'Tell NP which cup to use', 2/3 of the BEG chose I instead of you as subject of the complement verb and responded 'I will use the red cup'. In contrast, all ADV Ss followed the MDP and correctly assigned you as subject of the complement verb when they were instructed to tell. The finding that BEG are confused about subject assignment of both tell- and ask-constructions at this stage of development points to random subject assignment, rather than overgeneralization of the rules for tell to involve ask-constructions as well. Likewise, d'Anglejan & Tucker report random response for their BEG on ask-constructions, case 3.

In addition to the establishment of similar developmental stages for each of the specific constructions, the findings also point to a regular sequence of acquisition for these structures, with one exception, though. Chomsky found that her children had acquired the construction easy to see before constructions with promise, which in turn preceded acquisition of ask_q, case 3. For L_1 learners of Danish, a deviation from the established sequential order was noted, in that easy to see was not consistently easier than the other structures in question. Interestingly enough, this deviation was also found among the BEG of Danish and French L_2 learners of English. Considering the structural implications of the structures in question, there does not seem to be any obvious reason why easy to see should be acquired before promise and ask_q, case 3. All 3 structures are difficult because they do not correspond with some general expectations held by learners, but apart from that there is no dependence/similarity between easy to see and the other two types of structure. Therefore, it is just as striking that Chomsky's child learners of English exhibit this pattern, as it is that Danish L_1 and L_2 learners, and French L_2 learners as well, do not.

A further difference in sequential order was established when the findings of the Danish study of L_1 learners were compared with Chomsky's original findings. Structures with promise were not acquired before structures with ask_q, case 3, as it was the case in her study, but, as has been pointed out (see p. 28) this difference can be accounted for by reference to the difference between the two linguistic systems. Danish has two different lexical items for ask_q and ask_r, which means that

complexity factor C, by means of which promise and ask_q is distinguished in English, no longer obtains in Danish. Taking this information into account, it is interesting that Danish L_2 learners of English showed the same pattern as the English children, i.e. they, too, found ask_q more difficult than promise, even though this was not so for Danish L_1 learners. This seems to present further evidence for d'Anglejan & Tucker's suggestion (in confirmation of Brown, 1973) to the effect that the degree of linguistic complexity inherent in the sentences is indeed a critical factor in determining the order of acquisition of certain grammatical features and that this factor operates in both native language and adult second language learning. There seem to be structural regularities in the target language that determine the course of learning for both first and second language learners.

The question also arises why adult native speakers do not perform any better than they do on the exceptional structure of ask_q (case 3). The percentage of correct performance reported in the studies of older children and adults (Kramer, Koff & Luria, 1972; Sanders, 1971) amounts to no more than 2/3, which is an exact parallel to the performance found in the study of Danish L_2 learners of English. The performance found by d'Anglejan & Tucker was superior, but as it has been mentioned, the method they employed (picture identification) is an inadequate measure of stages (D) and (E).

According to Menyuk (1977) and Lyons (1977), it is not all native speakers who achieve full competence of their mother tongue. They present evidence that points to the relevance of talking about degrees of competence even in native speakers,

but when as large a proportion as 1/3 of a number of different populations are shown to be incompetent, it seems to suggest a need for other explanations. The abstract setting in which most of the experiments took place no doubt increases task difficulty. Test sentences were inappropriately integrated into the experimental situation, if integrated at all. See e.g. Sanders (1971) in which task Ss on request should question the interviewer of the shape, size, colour etc. of 4 blocks. Consequently, the testing procedure places demands on the subjects that clearly differ from those of actual communication. Another possibility is that maybe there is no one answer to the questions asked to test $\underline{\text{ask}}_q$, case 3 ('Ask Laura what to paint?'). Would we not be justified in responding

(33) Laura, what should be painted?

or even

(34) Laura, what should we paint?

It appears that we cannot judge the correctness of the child's utterances purely on the basis of the occurrence of I as subject in their response-sentence. The test instruction seems to demand identification of the object to be painted, while it has to be inferred from the interactional setting rather than the linguistic instruction 'who is to do the painting'. Therefore, it seems that in some situations we ask Ss to respond to the situational set up, while in other situations they are requested

to neglect the experimental situation, and respond exclusively on the basis of the syntactic construction. However, the experiments show that given the same situations, L_1 and L_2 learners exhibit similar patterns of performance.

Finally, attention should be drawn to some recent research referred to by Meisel (in press). Theoretical and empirical findings from L_1 research (see e.g. Fodor, Bever & Garrett, 1974; Slobin, 1977, 1980; Bever & Townsend, 1979) suggest that certain linguistic structures are more easily understood, produced and learned than others. Meisel, Clahsen & Pienemann (1981) extend this approach to second language acquisition. Also Clahsen (1980) and Meisel (1980) attempt to show that the same kinds of constraints influence the acquisition of both the first and a second language, a position which has been elaborated by Clahsen (in press). Within what they define as the "developmental dimension" of L_2 acquisition, linguistic structures which require a high degree of processing capacity will be acquired late in the language learning process even if the same or a similar structure exists in the learner's L_1. In addition to advocating developmental regularities, they also outline a second, learner-type specific dimension of (second) language acquisition allowing for individual variation within stages (see e.g. Meisel, Clahsen & Pienemann, 1981; Meisel, in press)

Evidence presented in this paper seems to support the developmental dimension. Knowledge of a given structure in the learner's mother tongue is not always helpful in the interpretation of a similar structure in the target language. The

exceptional structures we have been concerned with had to be "learned all over again", and strategies found with child native language learners were duplicated by L_2 learners dealing with the same structures.

Footnotes

1) No attempt has been made to formalize the results, they are reported as they appeared in the original texts (in % of correct performance, number of Ss correct, etc.)

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