PRAGMATIC PATTERNS IN CHILD SYNTAX

Brian MacWhinney
Department of Psychology
University of Denver

This paper will begin with an examination of the role of pragmatic patterns in the syntax of two Hungarian children, Moni and Zoli, and will conclude with a comparison of these data with results form other languages. It will be necessary to consider both word-based and pragmatic patterns, since some word combinations what appear to be pragmatic may actually be word-based. Despite various methodological difficulties involved in the study of the learning of pragmatic patterns based on expressive focusing and logical focusing (MacWhinney, 1975), these patterns are central to Hungarian syntax (Dezs¨ø, 1972) and must somehow be learned by the child.

Hungarian Data

The data to be considered here are taped from two Hungarian children during 1970-71 in Budapest. Information on the ages of these children and the size of the speech samples is given in Table 1.

Sample	Age	Hours Observed	No. Utterances	M.L.U.
Zoli I	1;5, 2-5	4	51	1.10
Zoli II	1;6, 29-30	6	228	1.58
Zoli III	1;8, 6-8	8	2675	1.60
Zoli IV	1;10, 0-6	7	1911	1.87
Zoli V	2;0,0-5	6	835	2.58
Zoli VI	2;2,0-3	7	1826	2.50
Moni I	1;11,18-27	8	1478	1.53
Moni II	2;2,0-7	8	576	1.28
Moni III	2;4,16-17	5	797	1.15
Moni IV	2;5,20-23	8	700	1.03

The contribution of word-based patterns. The type of syntactic rule which the child can infer with minimum abstraction form the primary linguistic data is the word-based positional pattern. Such a pattern orders a given word before or after another item to which it is semantically related. In the word-based positional pattern, the semantic relation adhering between two words is quite specific and not at all general. For example, the English word "too" always follows the word to which it is related. Specifically, the rule for this world is: X+ too. Note that the semantic relation here is the specific semantic relation of an "X" word to the operation of inclusion. If the child understands the meaning of "too" then he must also understand the specific semantic relation between "too", and the words which it immediately follows.

The criterion used here for establishing a word-based positional pattern is simply the p <.032 level of the binomial distribution for tosses of a fair coin. Five occurrences of a word in a given position constitute statistical evidence for a pattern (Braine, 1975; 10). In fact most of the patterns are based on much larger numbers of cases.

Table 2 summarizes the emergence of word-based positional patterns in Moni and Zoli. Each word in the third column of the table has its own positional pattern. In addition, most of the positional patterns are related to distinct intonational patterns. For example, the pattern for is [too] is syntactically X + is. Intonationally, the pattern is

<u>stressed + unstressed</u>. Both the positional pattern and the intonational pattern <u>are things that child has learned about the word.</u>

The various word-based patterns fall into six major types on the basis of structural identity. The patterns of types 2,3 and 4 will eventually be subsumed by the general pattern of expressive focusing., This pattern specifies that important or interesting words should be stressed and should proceed other words. Patterns of type 5 will eventually give rise to the general pattern of logical focusing.   This pattern specifies that material which is the basis for logical interpretation of a string of words should precede these words (Bolinger, 1952; Halliday, 1967; MacWhinney, 1975). In Hungarian, the logical focus is followed by a pause (#) when it is not expressively focused. Finally, patterns of type 6 will develop into a general pattern for modifies proposing which requires that modifiers precede the words which they modify.

An alternative account. The discussion of the previous paragraph begs the question: if the specific word-based patterns uniformly develop into these more general pragmatic patterns, might it not be the case that the pragmatic patterns are functional from the outset? In other words, is it rally necessary to contend that <u>ott</u> "there" comes first because the child has learned something about <u>ott</u>? Perhaps ott comes first in these corpora because it is a logical focus hand logical foci (topics) precede their logical scopes (comments).

Positional Pattern	Intonational Pattern	Word	Translation	Period of Emergence
X + Word	rise + rise	jó	O.K. ?	Moni I
				Zoli II
X + Word	stressed + Unstressed	is	too	Moni I
				Zoli II
		csak	just	----
				Zoli IV
		kell	is-needed	Moni II
				Zoli II
		van	copulative	Moni III
				Zoli II
Word + X	stressed + unstressed	nem	no	Moni I
				Zoli III
		ne	don't	Moni IV
				Zoli VI
		addide	gimme	Moni IV
				Zoli IV
Word + X	high stressed + unstressed	hol?	where	Moni I
		mi?		Zoli III
		mit?	what	Moni II
		hova?		Zoli III
Word + X	Unstressed+ pause+stressed	ott	there	Moni I
				Zoli I
		itt	here	Moni I
				Zoli I
		az	that	Moni II
				Zoli II
		ez	this	Moni II
				ZoliII
		tessék	please	Moni III

Word + X	varies	Hungarian	English	Zoli	Moni
		én (is)	I (too)	Zoli III	Moni II
		gyere!	come!	Zoli II	Moni II
		látod	see	Zoli II	Moni II
		most	now	Zoli III	Moni IV
		de	but	Zoli II	Moni II
		csak	but	----	----
		csunya	ugly	Zoli V	Moni II
		piszkos	dirty	Zoli III	Moni II
		enyém	mine	Zoli III	Moni II
		kicsi	little	----	Moni IV
		másik	another	Zoli II	Moni IV
		tiszta	clean	Zoli III	Moni III
		szép	beautiful	Zoli III	----
		nagyon	very	Zoli III	----
		szervusz	hi	Zoli III	Moni II
		halló	hello	Zoli III	Moni II
		ne	look	----	Moni II
		azért(ment)	'cause	Zoli II	Moni III
		azt	that(acc.)	Zoli V	Moni III
		asztán	than	----	Moni IV
		akkor	then	____	Moni IV
		megyünk (ment)	we go (went)	----	Moni III
		és	and	Zoli IV	Moni IV
		ezt(is)	this(too)(acc.)	Zoli V	Moni IV
		mindjárt	Right away	----	Moni IV

The alternative account, apart from making some unclear nativist assumption, fails to account for two aspects of Moni and Zoli's development. First, it fails to explain the fact

the newly-acquired positional patterns are seldom violated. For example , although the positional pattern for hol? "where?" entered during Moni I, it was not violated until Moni III some five months later. Although adult Hungarians generally place question words at the beginning of questions, use of logical focusing can induce them to place other words first. Only when the child begins to evidence such pragmatic flexibility through the violation of positional patterns is there clear evidence for productivity of the pragmatic patterns. Second, the alternative account fails to account for the fact that the building blocks of the first three-item sentences are the positional patterns. Third, the alternative account provides no explanation of the tendency of both of these children to base the bulk of their word combinations (85-100%) on the word-based positional patterns. If a child has a pattern based on a specific word, it makes sense that the would try to make that pattern function (Piaget, 1952). If the child's pattern is not word-specific, why are a few words so heavily represented in his early combinations?

The contribution of pragmatic patterns. This discussion of word-based positional patterns has been aimed at whittling down the scope of pragmatic positional patterns in initial language learning. Although these patterns account for the vast bulk of the syntactic productions form these corpora, there are two types of sentences not covered by word-based patterns. The first type are utterances composed of words for which the child has no word-based patterns. Both the utterances which violate word-based patterns and those which are not affected by word-based patterns could conceivably be produced by pragmatic positional patterns. Below, the status of this small subset of utterances is examined for each of the samples.

Moni I. The only sentence in this sample which was not a word-based positional pattern and which was clearly intoned was SIR A Reka "CRIES the Reka". The pattern here is expressive focusing, which is structurally identical to pattern type 2 in Table 2. Later samples fail to indicate word-based positional patterning for sír "cries".

Moni II. Nineteen sentences in this sample are not influences by word-based positional patterns. These sentences neither violate nor obey positional patterns. They are composed entirely of words for which the child has no positional pattern. Of these, nine have the first element stressed as in ADTAM szita "I -GAVE sieve." Ten others have the second element stressed, as in eger # NINCS "mouse # ISN'T." In eleven sentences the first element is a verb or verbal particle: eight of these are stressed. In four other sentences the second word is a verb which is always stressed. Words such as vissza "back, return" nincs "isn't", Moni "Moni," ceruza "pencil, " and mókuska "squirrel" occur both initially and finally, stressed and unstressed. Expressive focusing is the pattern which places important words first and stresses them . The sentence EN nezen "I see" provides the best evidence for productivity of this pattern. This sentence is a violation of the positional pattern for én "I". This violation is motivated by expressive focusing. In this sentence Moni was specific in emphasizing that it should be Moni and not her play-mate Andi who should look into a little colored-oil toy. The expressive focusing here was clearly one based on contrast. The second pattern, logical focusing , places the logical center or topic of the sentence first. In three of these ten sentences the logical focus or topic had already been mentioned in previous discourse. Productivity for this pattern is less clearly evident.

Moni III. Violations of word-based positional patterns begin to increase at this stage. This increase appears to be a result of the increased use of pragmatic positional patterns. In fact, the five violations of the positional patterns at this time constitute the best early evidence of the productivity of focusing. In EZ csunya "THIS" ugly" the ez is in its normal first position, but is given stress which it does not normally receive. In the other sentences, nem "no" and hol "where" occur in second position, although their positional patterns specify that they should occur initially.

Moni IV. The proportion of sentences not influenced by word-based positional patterns, as well as the proportion of sentences violating word-based positional patterns shows little change form Moni III to Moni IV. The chief development during Moni IV is in the coordination of two patterns in a given utterance. In Moni II the only three-item sentence was MEGKERES bácsi Moni "LOOKS-FOR uncle Moni" in which "uncle" was the Agent. The only pattern here is that of expressive focusing which fronts the verb. In Moni III seven sentences showed combinations of two lexically-bound positional patterns. For example, in az # NEM tudok "that # NOT I-can" the positional pattern for nem places it before tudok. It is interesting to note that at first these sentences are built up exclusively from lexically-based patterns. Only in Moni IV do we find both lexically-based patterns. Only patterns combined in a given utterance, as in en # CSINALOK a puskat "I # MAKE the musket," where en is ordered by a positional pattern and csinalok is ordered by expressive focusing.

Zoli I. The discussion of Zoli's development will be briefer than the discussion of Moni's, since data on Zoli are available elsewhere (MacWhinney, 1975). In Zoli I there are few combinations, although positional patterns for itt "here" and ott "there" are present.

Zoli II. The same tendency toward verb-fronting found in Moni II is evidenced in Zoli II where thirty-two sentences have initial verbs and only nine sentences have final verbs. Stress patterns, however, are less stable in Zoli II than in Moni II. The sequence KÉR telefon "WANT telephone" followed by the rephrasing TELEFON kér "TELEPHONE want" indicates that Zoli is beginning to make use of expressive focusing to highlight important information. Thus, in both Zoli and Moni, expressive focusing seems to enter at least as early as local focusing.

Zoli III. Verb-fronting decreases in this period, while evidence of the productivity of both expressive focusing and logical focusing increases. However, as with Moni, a large proportion of the sentences appearing to illustrate pragmatic patterns can be better interpreted as lexically-based patterns. Zoli IV shows little development over Zoli III.

Zoli V. In this period Zoli's development advances beyond that of Moni IV. The longest sentence from this period is ott BE TETTE a szekrénybe a kicsi autója "there INSERTED the cupboard-in the little car-his." This sentence shows coordination of the positional pattern for ott "there" and the pragmatic pattern of expressive focusing of betette "inserted." Moreover, it has two complex elements following the expressive focus. This level of coordination begins to approach that of adult Hungarian.

In summary, Moni and Zoli begin syntactic development with a heavy reliance upon word-based patterns. However, even in the earliest stages, there is evidence for emergent productivity of the two basic rules of Hungarian syntax: expressive focusing and logical focusing. Expressive focusing comes in at least as early as logical focusing. By Moni IV and, more clearly, by Zoli VI, facility with pragmatic positional patterns was leading to an approximation of adult Hungarian order which places the logical focus first, followed by a pause and the expressive focus, which receives primary stress. In the unmarked case, this order is Agent # OBJECT Verb or logical focus # EXPRESSIVE FOCUS Verb.

Development in other languages

To what degree do children learning other languages follow a similar course of development? Although data on the subject is still rather sparse, the data that are available suggest the following order of stages in the development of pragmatic focusing patterns.

The one-word stage. An early observation of several researchers (deLaguna, 1927; Sechehaye, 1926;Vygotsky, 1934) was that the early Einwortsatz or morpheme expressed the comment rather than the topic. For example, in a context where an adult might say the chicken is running , a child would say, simply, run. There is no reason to apply topic-comment analysis to monorhemes. Rather, what the child expresses is the element which is most expressively focused. In other words, the child at the monorheme stage says what he feels is most important for him to say.

The emergence of expressive focusing. The data form Moni and Zoli, as well as additional observations form Meggves (1972), Dezso (1970), and Viktor (1917) indicate a short period, early in Hungarian acquisition, when verbs occur more often initially then finally. This tendency toward verb-fronting exists despite the fact that Hungarian word order is basically Agent-Object-Action. Both Bates (1974) and Baroni, Fava, and Tirondolla (1973) observed a large number of verb-initial child utterances in Italian, although Italian order is basically Agent-Action-Object. Burling (1959) reports that his Garo-learning son occasionally fronted verbs, although basic Garo word-order has the verb in final position. Park (1974) found that verb-initial declaratives were frequent in his German-language data, even though no such order exists in the adult language. Radulovi´c (1975, personal communication)observed a very brief period in the acquisition of Serbo-Croatian during which verbs could be fronted if they were expressively focused.

The tendency toward verb-fronting, even in language which discourage it, appears to represent some basic tendency to put the most interesting thing first. Braine's (1963) records from Gregory show verbs uniformly fronted. Braine (1975) has suggested an analysis of his data in terms of positional patterns that are often somewhat more abstract than the word-based patterns used above in examining Zoli and Moni's speech. Unfortunately, Braine's records, like nearly all of the published records, provide no information on intonation. The examination of Zoli and Moni illustrates how central intentional data can be to pragmatic analysis. It would be interesting to see the results of an analysis of English data similar to that conducted for Zoli and Moni. In regards to the Hungarian data, it should be noted that Zoli's placement of stress on initial verbs was more consistent than Moni's.

McNeill's 1966) data from Japanese indicate that the first pragmatic focusings are expressive focusings. Japanese uses two post-positions to mark the logical focus (Kuno, 1972). Logical foci (topics) with low expressive focus take wa: logical foci with high expressive focus take ga. McNeill (1966) found that ga was used earlier than wa in child speech, even though wa was twice as frequent as ga in the mother's speech to the child. Particularly interesting is the finding that, from the beginning, ga was used appropriately without over-generalization or under-generalization.

Comparing these various findings, it appears that expressive focusing, whether marked lexically, syntactically, or intonationally, emerges at least as early as logical focusing or topicalization.

The emergence of logical focusing. Positional and intonational marking of the logical focus developed during the third year in Moni and Zoli. It is not clear how these results should be compared to those for English. The majority of the studies of early syntactic development in English have utilized abstract syntactic categories such as Subject and Predicate or case-role categories such as Agent and Object. Only Gruber (1967) and Menyuk (1969) have attempted to account for early positional patterning through pragmatic categories. Menyuk's discussion is very brief and only six sentences are cited. Gruber found that his subject Mackie placed a "short but significant" pause between the logical

focus or topic and its logical scope. this is precisely the device used in Hungarian to identify the logical focus. Gruber's examples include both preposed and postposed topics. Unfortunately, Gruber only recounts pauses and fails to report stress patterns which may be aided him in his analysis of these sentences. Gruber attempt to describe topicalization or logical focusing as the attachment of an NP to the entire S. In fact, only the three sentences it broken, wheels, car, it broken, and those other, put them show both a sentence-internal and a sentence-external NP. Such structures may be replacement sequences or hesitations. These is no need to examine Gruber's data by treating topicalization or logical focusing as a sentence-external process.

Case-role vs. pragmatic patterns. Whereas Hungarian children develop productive pragmatic patterns in other languages is delayed third year, learning of pragmatic patterns in other languages is delayed by several factors. In languages such as English or Italian which fail to mark case-roles inflectionally, the child learns to relay on word order to code case. Logical focusing of an Object, Dative, or Benefactive noun, can be achieved in English only through used of the morphologically complex passive construction. Bever (1970) has stressed the importance of rigid Agent-Action-Object ordering for children between the ages of three and four. Bates (1974) notes that in Italian a period of initial pragmatic tendencies toward verb-fronting is followed by a period of rigid adherence to Agent-Action-Object order. Although Italian permits most permutations of Agent, Action and Object, ambiguity can arise from some of these permutations and Agent-Action-Object ordering is clear and basic.

Radulovi´c (1975, personal communication) found that, after a period of expressive focusing, Serbo-Croatian children adopt a rigid Agent-Action-Object order much as in English and Italian. This occurs even though Serbo-Croatioan marks cases inflectionally and permits all possible pragmatic orderings of Agent, Action, and Object. Apparently, the problem in Serbo-Croatian is that the system of case markings is so complicated by gender irregularities that the two-year -old cannot make use of the system. Here, again, the child resorts to syntax to code case. Gvozdev's observations (in Slobin, 1966) of rigid Agent-Object-Action ordering in his son Zhenya indicate that the situation may be similar in Russian.

In summary, although children around the word show primitive tendencies to mark expressive items such as verbs syntactically, intonationally, or morphologically, and although there appears to be a tendency to mark the logical focus through similar devices, this tendency only develops into a formal syntactic pattern in languages which do not force the child to depend on syntax to code case relations. future analyses taking account of intonational pattering and distinguishing word-based, feature-based, case-based, and pragmatic pattern swill help clarify the details of these developments.