

Hungarian research on the acquisition of morphology and syntax*

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ABSTRACT

This review analyses research on the acquisition of Hungarian morphology and syntax. The specific topics covered are morphological analysis, neologisms, acquisition of the first inflections, morpheme order, word order and agreement. Several lines of evidence suggest that the first unit acquired by the child is the word. Because of the structure of Hungarian, both errors in segmentation of the utterance and errors in the segmentation of the word are minimized. Morphological analysis seems to begin at the semantic level and proceed to the morphological level. Data on acquisition of free word order and early inflections are potentially of great interest, although presently inconclusive.

INTRODUCTION

Child language research has a well-established tradition in a number of European languages. Of these well-studied languages only Hungarian is non-Indo-European, being a member of the Ugro-Finnic language group. Like many of the other Ugro-Finnic languages, Hungarian exhibits agglutination, numerous suffixes, vowel harmony, free word order and verb-object agreement. Thus, it is in the areas of morphology and syntax that Hungarian differs most from Indo-European. The present paper reviews the Hungarian research on the acquisition of these two systems. It also attempts to outline some of the basic descriptive *problems posed by the Hungarian data. The data relevant to the present analysis* are compended in MacWhinney (1974: 220-605). Moreover, a complete bibliography of Hungarian research up to 1973 can be found in Slobin (1972: 130-40).

The Hungarian literature on morphology and syntax has its strengths and weaknesses. One strength is the accuracy of reports on individual child errors or successes. Another strength lies in the sensitivity of researchers to the many

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varieties of neologisms and syntactic formations. The major weakness of these studies is that they give us no idea of the absolute frequencies of various error types. Fortunately, the studies by Meixner (1971) and MacWhinney (1974) are based on complete texts for given sampling periods. Thus, wherever frequency data are important, it is possible to consult these two sources.

The topics to be discussed will be presented as follows: morphological analysis, neologisms, acquisition of the first inflections, morpheme order, word order and agreement. The diary data on the acquisition of morphophonemics will not be reviewed. These diary observations concur with recent experimental findings (MacWhinney 1975*a*) without providing as much detail as is available in the experimental findings.

MORPHOLOGICAL ANALYSIS

Hungarian makes it fairly easy for the child to segment sentences into words. All Hungarian words have main stress on the first syllable. All that a child needs to do to identify a word is to start with a stressed syllable and record all the syllables he hears until the next main stress is encountered. The diary data show that, in fact, word segmentation errors are quite rare for Hungarian children. The segmentation errors that do occur involve separation of one morpheme from another within a word. This second type of segmentation – morphological analysis – is more problematic. Children appear to learn words as sound-meaning units or amalgams. Only later do they succeed in analysing words into their component morphemes. Errors in morpheme segmentation, morpheme under-analysis, and morpheme over-analysis will be discussed below in that order.

Morpheme segmentation

The Hungarian definite article is *az* before vowels and *a* before consonants. This is the only morpheme in Hungarian which undergoes a morphophonemic alteration that is dependent upon the shape of the beginning of a root. For this reason, Hungarian linguists have often treated the definite article as a prefix. This approach is adopted here.

In the child language literature, Balassa (1893: 68), Endrei (1913: 525), Kardos (1906: 324), Kenyeres (1928: 58), MacWhinney (1974) and Meggyes (1971: 33) have all reported that *a* appears before *az*. One way of accounting for the earlier emergence of *a* would be to invoke a universal acquisitional strategy. This strategy would lead the child to use the morphological common denominator as his first productive form for a given allomorphic pair. Since *a* is common to both *a* and *az*, it would be the first productive form for this allomorphic pair.

However, closer examination of the task facing the child calls into question the role of the common denominator strategy in morphological segmentation. To

consider this issue, it is necessary to distinguish two segmentation error types: under-extraction and over-extraction. Under-extraction is illustrated by Hungarian *az ebéd* → *a zebéd* and by English *an officer* → *a nofficer*. Over-extraction is illustrated by Hungarian *a zöldség* → *az öldség* and by English *a nose* → *an ose*. In the Hungarian data, under-extractions like *zebéd* are far more frequent than over-extractions like *öldség*. This preponderance of under-extraction has led observers to conclude that children prefer to use the common denominator *a* in morphological segmentation. However, the child has far fewer opportunities to produce over-extractions, since only a few words in his vocabulary begin with [z]. Thus the predominance of under-extraction over over-extraction cannot be unambiguously attributed to a preference for the extraction of *a*.

A similar picture emerges for suffixes. For example, the five allomorphs of the accusative are *ot*, *öt*, *et*, *at* and *t*. Here the allomorph *t* would be the common denominator. A case of accusative under-extraction would be *narancs* + *ot* 'orange + acc.' → *narancso* + *t*. Such under-extraction is evidenced by use of *narancso* when *narancs* is required. Again, the preponderance of such under-extractions could be construed as evidence of the earlier emergence of the common denominator allomorph. On the other hand, the whole phonology seems to conspire in an attempt to prevent over-extraction. Over-extraction could operate to extract final vowels from roots as in *hajó* + *t* → *haj* + *ót*. However, the initial vowels of suffix allomorphs are only [o], [ö], [a] and [e]. Thus *haj* + *ót* would not be a reasonable analysis. Moreover, roots do not end in [o] or [ö]. Roots do end in [a] and [e], but these invariably alter to [a:] and [e:] before suffixes.

Although we cannot conclude that the child is using only common denominator allomorphs in morphological segmentation, there is some evidence that he often begins with common denominator allomorphs in production. Thus, given a new nonsense root, the child will tend to prefix *a* rather than *az* (MacWhinney 1974). However, more data from other agglutinating languages is needed to confirm or disconfirm the possible universal role of the common denominator in morphological segmentation.

Under-analysis. Under-analysis should not be confused with under-extraction. Under-extraction involves little more than the misplacement of a sound segment. Under-analysis, on the other hand, involves a fundamental semantic error. This semantic error involves a failure to limit the meaning of words in terms of the meanings of the suffixes they contain. In agglutinating languages, many of the child's first words are likely to be acquired with at least one suffix attached. This suffix restricts the contexts in which the word may be used. For example, *autóba*, 'car + inessive' can only be used appropriately when there is talk of movement into a car. However, a small child may pick up a toy car and say *autóba* without intending any reference to getting into the car. This is a semantic over-generalization.

Errors of under-analysis are fundamental evidence regarding the ways in which children pick up words. Ervin (1964: 174) has called attention to the fact that English-speaking children begin to make correct use of amalgams like *shoes* some months before they demonstrate productive use of the plural suffix. Brown (1973) also notes that suffixes are used correctly before they are used productively. This suggests that semantic analysis may precede morphological analysis. The Hungarian data to be discussed below support this analysis. They point toward three stages prior to true morphophonemic learning. In Stage I, amalgams are unanalysed semantically and morphologically. In Stage II, amalgams are analysed semantically, but not morphologically. Finally, in Stage III, amalgams are analysed semantically and morphologically. MacWhinney (1974: 345-55, 548-68) cites 172 errors based on under-analysis. These errors are of four basic types.

(1) *Semantic extension*. In the simplest case, children use roots with superfluous suffixes attached. Words are used with the suffixes they 'deserve'. Tools have superfluous instrumentals attached ('saw + with' is used for 'saw'); body parts and clothes have possessives ('eye + his' is used for 'eye'); foods have accusatives ('bread + acc.' is used for 'bread'); and locations have locatives ('park + in' is used for 'park'). Even phrases may be picked up as under-analysed amalgams. Thus, Balassa's son used 'open the door' and 'close the door' as if they meant 'open' and 'close'.

(2) *Suffix reduplication*. This type of under-analysis is illustrated in English by forms like *shoeses* and *hopeded*. Hungarian children produce even more complex reduplications such as *rámomra* 'to me me to' in which both the sublativ and the first person singular (1PS) possessive are reduplicated. Reduplications point to incomplete semantic analysis. If a child clearly recognized the plurality of *shoes*, he would be less inclined to form *shoeses*.

(3) *Suffix redundancy*. Like suffix reduplication errors, suffix redundancy errors are due to incomplete semantic analysis. For example, the root *holnap* 'tomorrow' codes location in time. In Hungarian, as in English, one says 'on Thursday', but not 'on tomorrow'. Thus, *holnapon* 'tomorrow + on' is a case of suffix redundancy. Similarly, *vagy* 'you are' is the 2PS copular verb. Addition of the 2PS suffix is a redundancy which indicates that the semantic analysis of *vagy* is incomplete. Redundancy may also occur between two roots as in *sem nem nincsen* 'nor not it-isn't'. Hungarian permits multiple negation, but each negative must attach to its own constituent. *Sem nem nincsen*, as a cluster, is a triple redundancy.

(4) *Contradictions*. Yet another type of error stemming from semantic under-analysis is the use of a suffix whose meaning contradicts the meaning of the root or the meaning of another suffix. For example *huny* means 'to close one's eyes'. Attachment of *ki* 'out' produces *kihuny* 'to close one's eyes out', which contradicts the direction implicit in the verb. A common contradiction type involves

failures in Verb-Complement agreement. Often children put Objects with Intransitive verbs, as in 'she sleeps Johnny' for 'she puts Johnny to sleep'. In other cases Source and Goal are confused, as in 'tell me onto my chicken' for 'tell me about my chicken'.

Over-analysis. Over-analysis usually occurs when a child tries to analyse a new unknown word. An English example would be *carburettor* → *car burettor*. A child making such an analysis might ask whether a truck has a *burettor* too. The majority of the reported Hungarian over-analyses divide the amalgam into meaningful root (*car*) and meaningless residue (*burettor*). Sometimes the child is more successful and finds two meaningful roots as in *millió* 'million' → *mily* 'how' + *jó* 'good' (Ponori 1905: 440). Over-analysis only occurs when the child cannot understand a word and searches about for a way to deal with the word. It is a way of applying old forms to new functions (Slobin 1973: 184) and can be viewed as a processing universal.

NEOLOGISMS

Errors in analysis and morphophonemic errors have often been cited as evidence of the productivity of flexional suffixes (Stern & Stern, 1907). Far less evidence is available in Indo-European regarding the productivity of formative suffixes. Table 1 lists the 25 Hungarian formative suffixes for which child neologisms have given evidence of productivity.

The suffixes most frequent in adult neologisms are also the suffixes most frequent in these child neologisms. Thus suffixes (11), (13) and (17) in Table 1 account for two-thirds of the 157 reported neologisms. For these highly productive suffixes, neologistic formations can be highly ambiguous. Thus *cigányozik* 'gypsy + general denominative' can mean either 'act like a gypsy' or 'frequent places where gypsies congregate'. In order to disambiguate such formatives, it is necessary to posit these roles for the noun root: Agent, Patient, Instrument, Transferred Object, Created Entity, Removed Object, Location and Realized Adjective. Slobin (1973) has suggested that such categories are involved in early two-word utterances. It would be interesting to know whether child neologisms in other languages can be interpreted by using these same categories. Many of the 157 neologisms come close to being acceptable words. Another group of neologisms is less successful. In these neologistic errors the child makes the wrong choice between two competing suffixes or roots. Thus, there are 34 reported errors like *recitement* for *recital*.

Competing roots cause immense difficulty in the acquisition of the pronoun system. Accusative and Possessive personal pronouns are formed by attaching

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possessive suffixes to a set of highly idiosyncratic roots. In fact, there are six roots in the Accusative and six others in the Possessive. Children are accustomed to analysing possessive suffixes off amalgams and using the residual nouns productively. When they apply this fundamental strategy to the pronoun system, all types of neologistic errors result. A typical error is *enyéd* for *tied* 'yours'. In *enyéd* the root *enye* comes from *enyém* 'mine' and the suffix is the correct 2PS

TABLE I. *Productive formative suffixes*

Suffix	Derivational function	English approximation	Earliest use
Suffixes making verbs from verbs:			
(1) -an, -en	momentaneous	suddenly	2 ; 3
(2) -ad, -ed	inchoative	become	4 ; 9
(3) -kod, -köd	iterative	frequently	—
(4) -kál, -kél	frequentative	keep	3 ; 6
(5) -gat, -get	frequentative (highly productive)	keep	2 ; 6
(6) -dögél, dogál	frequentative	keep	3 ; 6
(7) -ódik, -ődik	middle voice	—	3 ; 1
(8) -ít	causative	make	2 ; 0
(9) -tat, -tet	causative (highly productive)	make	—
(10) -aszt, eszt	causative	make	3 ; 6
Suffixes making verbs from nouns or adjectives:			
(11) -oz, -ez, -öz	general denominative	-ize	2 ; 1
(12) -ít	general denominative	-ize	2 ; 2
(13) -ol, -el, öl, -l	general denominative	-ize	1 ; 6
(14) -kodik, -kedik, -ködik	agential denominative	-ize	3 ; 0
(15) -ul, -ül	de-adjectival	become	3 ; 0
(16) -odik, -edik, -ödik	de-adjectival	become	2 ; 5
Suffixes making nouns from verbs:			
(17) -ó, -ő	general adverbative	-er	1 ; 8
(18) -oda, -ede, -öde	locative deverbative	-ery	—
(19) -at, -et	resultative (English <i>-ant</i>)	-ant	6 ; 0
(20) -ság, ség	abstract deverbative	-ness	4 ; 8
(21) -és, -ás	resultative	-ing	5 ; 6
Suffixes making nouns from nouns:			
(22) -os, -es, -ös, -as, -s	profession	-ist	5 ; 0
Suffixes making adjectives:			
(23) -as, -es, -s	denominative	-y	6 ; 0
(24) -só, ső	de-adverbial	-y	5 ; 0
(25) -ós, ős	deverbative	-y	1 ; 11

Possessive *-d*. An exactly reverse error is *tiem* for *enyém* 'mine'. Again, errors like these demonstrate the pervasiveness of the analytic strategy of dropping suffixes to find roots. Interestingly enough, the roots of one case are never used to produce forms in another case. This suggests that many of these pronoun errors may

have been produced under discourse pressure. For example, a child may be asked 'Is this yours *tied?*' The child analyses *tied* and takes *ti* as the root for his reply. He then says *tiem* 'mine'. Such discourse pressure may play a critical role in various areas of language development. Its role in morphophonemic development is currently being investigated.

EARLY INFLECTIONS AND THE QUESTION OF PRODUCTIVITY

Diary studies of language development have devoted considerable attention to the emergence of the first inflections. More recently, Brown (1973) has devoted half of his book on the early stages of language to an examination of the learning of fourteen grammatical morphemes. Brown was interested in examining three factors which might determine the order of acquisition of grammatical morphemes: frequency in parental speech, semantic complexity and grammatical complexity. The grammatical morphemes included auxiliaries, suffixes, articles and prepositions. In Hungarian, the same meanings are all represented by suffixes obeying a common set of morphological rules. Thus the differences in grammatical complexity which Brown and others have been forced to study in English are equated in Hungarian. This is an important and useful fact. Acquisitional order in Hungarian should depend primarily on semantic-pragmatic factors.

The study of Hungarian inflections is important for two additional reasons. First, the total size of the pool of flectional and formative suffixes is fairly large. There are at least 34 flectional suffixes. Second, the extensive possibilities for morphophonemic and analytic error in Hungarian mean that there is better early evidence for inflectional productivity.

Hungarian observers of early inflections include Balassa (1893: 67, 143 and 1920: 132-4), Kenyeres (1926, 1928), Lovász (1970), MacWhinney (1974), Meggyes (1971), Mikeš (1967), Simonyi (1906: 321-3), Szinkovich (1921: 94), and Varga (1921: 150). These observers have found that, although inflections appear on the first words, the first productive use of inflections occurs roughly six months after the time of the first word. Thus, Hungarian children use inflections productively long before Indo-European children who have little productive morphology before 2;0 (Stern & Stern 1907: 248). On the other hand, no observer reports PRODUCTIVE use of an inflection before the first two-word utterance.

Table 2 summarizes the order of emergence of the 29 earliest inflections. Suffixes of the first group generally emerge before those of the second group, and so on. However, within a group, emergence order is indeterminate. MacWhinney (1974: 607-701) was interested in verifying this ordering by use of a criterion first developed by Cazden and also utilized by Brown (1973) in his summary of the Harvard data. Cazden (1968: 435) judged the acquisition of a grammatical morpheme as occurring in 'the first speech sample of three such

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that in all three the inflection is supplied in at least 90% of the contexts in which it is clearly required'. Although suffixes vary enormously in the degree to which they are required by the grammatical context, Cazden's criterion has proved to be

TABLE 2. *Generalized order of emergence of early inflections*

First group	Accusative Allative	Plural Illative (Inessive)	Diminutive
Second group	Dative Past tense Imperative	Illative 1PS Indefinite	Instrumental Infinitive
Third group	Sublative 3PS Possessive 3PP Indefinite	Superessive Sign of Possession 1PS Definite	1PS Possessive 1PP Indefinite 1PP Definite
Fourth group	Elative Factitive 3PP Definite	Adessive Ablative 3PS Definite	Causal Conditional

TABLE 3. *Emergence of inflections in Zoli from 1; 5.2 to 2; 2.3*

Period	Number of utterances	New acquisitions
I 1; 5.2-1; 5.5	51	—
II 1; 2.29-1; 6.30	228	Past tense
III 1; 8.6-1; 8.8	2675	Instrumental, Diminutive, Allative
IV 1; 10.0-1; 10.6	1911	Sign of Possession, Plural, Accusative, 1PS Poss., Illative, 2PS Def. Imper., 1PP Indef., 3PP Def. Imper., Infinitive
V 2; 0.0-2; 0.5	835	Dative, 2PS Poss., 3PS Poss., 1PS Def., 1PS Indef., Def. Article
VI 2; 2.0-2; 2.3	1826	2PS Indef., 3PS Def., 1PP Def., 3PP Def., 3PP Indef., Sublative

generally applicable to the Hungarian data. Table 3 summarizes the application of this criterion to the first inflections from Zoli between 1; 5.6 and 2; 2.3. The six samples involved contain four to eight hours of free speech apiece.

There is a reasonably close correspondence between Table 2 and Table 3. The first group emerges in periods III and IV. The second group is distributed across periods II to V, with a concentration in IV and V. The third group is evenly distributed across periods IV, V and VI. Most of the fourth group and one suffix in the third group have not yet emerged at period VI. The differences between Tables 2 and 3 could reflect peculiarities in Zoli's individual development. They could also reflect differences between Cazden's criterion and the more intuitive criteria of the diary studies. For example, it is not clear how to define

obligatory contexts for the Diminutive. Nor are the contexts of the 3PS Possessive always clear. Even more problematic is the occurrence of acquisition without productivity. Zoli acquired the Past Tense in period II, but there was no evidence of productivity until period VI. The Accusative was acquired in period III and demonstrated productivity in that same sample.

If Table 2 can be taken as the basic pattern of Hungarian development, it leads to several interesting questions. First, why do the first Locatives express 'motion towards'? Both MacWhinney (1974) and Meggyes (1971) found that 'position at' was coded by locative deictics and that 'movement from' was seldom mentioned before 2; 2. A second question is why Indefinite suffixes tend to enter before Definite suffixes. It should be noted that the Indefinite is used for all Intransitives, whereas Transitives may be Definite or Indefinite. What is the role of this division? Thirdly, role suffixes like the Dative, Accusative and Instrumental appear quite early. Is this due to their pragmatic importance or are they somehow fundamental conceptually? These questions and many others like them will not be easy to answer. However, in principle, they can be answered more clearly with Hungarian data than with Indo-European data.

MORPHEME ORDER

Previous sections have dealt with basic analytic processes in morphology and with the first emergences of the suffixes yielded by this analysis. This section will consider how the child learns to order suffixes after roots.

Suffix assimilation and metathesis. Meggyes (1971: 50) reports several suffix assimilations of the form: NOUN A - SUFFIX A + NOUN B - SUFFIX B → NOUN A - SUFFIX B + NOUN B - SUFFIX B. Meixner (1971) reports one suffix metathesis of the shape: NOUN A - SUFFIX A + NOUN B - SUFFIX B → NOUN A - SUFFIX B + NOUN B - SUFFIX A. The suffixes in these errors are case markers. Such errors could be given a purely phonological interpretation. By this account, suffix metathesis would be just like *Napa Valley* → *Napey Valla*. However, Meggyes reports several sentences suggesting another account. In these sentences a surface case form seems to have come from a noun that never reached the surface. Thus

épitem a Sömpikét
 build-I the Sömpike-acc.

was used when the required form was:

épitem a Sömpikének (a házat)
 build-I the Sömpike-for (the house + acc.)

It may be that each verb is associated with a set of case suffixes in pre-lexical structure. If a given noun role is not lexicalized, its suffix may become attached to another noun. Assimilation and metathesis could arise in similar ways.

Prefix ordering and segmentation. The verbal prefix may either precede the verb or follow it. Hungarian children seem to pick up prefixes in PREFIX + VERB amalgams, rather than in VERB + PREFIX amalgams. The literature reports 34 errors of prefixing when suffixing is required. There are only 3 errors of suffixing when prefixing is required. This suggests a preference for PREFIX + VERB ordering. Since the prefix always receives the main stress, the PREFIX + VERB unit is heard as one word, whereas the VERB + PREFIX unit is heard as two words. It seems that children's preference for PREFIX + VERB units is related to the basic segmentation strategy they use in acquiring new words.

Bound morpheme order errors. The Hungarian data present several apparent exceptions to Slobin's (1973: 197) observation that 'no observers report deviant orders of bound morphemes'. Hungarian observers report deviant orders of bound morphemes, but these errors are not necessarily violations of productive rules. Rather they result from under-analysis. Take the error *kalapomka* 'hat + my + little' which should be *kalapocskám* 'hat + little + my'. In that error, *kalapom* 'hat + my' is an amalgam. When the child productively adds the diminutive *-ka*, he is treating *kalapom* like a unitary root. More recent Berko-test data from Réger (1974: 58) suggest that morpheme order errors will occasionally occur when two suffixes are productively added to a root. However, Réger's examples (*kocsijára* → *kocsirája*, *házakból* → *házokból*) may involve metathesis or copying of phonological segments. Furthermore, Réger's subjects were 6- to 9-year-old gypsies learning Hungarian as a second language.

WORD ORDER

Strict order rules. Although Hungarian has free word order between major constituents, word order within constituents often obeys strict rules. Violations of these strict rules are infrequent. In a couple of reported cases, children failed to put the adjective before the noun it modifies. In two other errors, the negative failed to precede the word it negates. In one error, the word *is* 'too' failed to follow the word it qualifies. In four errors the conditional marker *volna* failed to come after its verb. Finally, in three cases, the Possessor erroneously followed the Possessed. These errors are conspicuous for their infrequency. In general, Hungarian children seldom violate strict word order rules.

Examining two Hungarian corpora, MacWhinney (1975*b*) found that the vast majority of early two- and three-word combinations could be attributed to lexically based positional patterns (Braine 1976). For example, both of the children examined used the positional pattern: *ott* # *X* in which *ott* 'there' occurred first and the other word (*X*) occurred second with primary stress. This positional scheme relates semantic, syntactic and intonational information to a single word. Many of the same positional patterns have also been identified

by Meggyes (1971) and Lengyel (1975). However, even with this positional pattern analysis a residue of sentences remains. Word order in these sentences requires another, more pragmatic, explanation.

Free word order patterns. Dezső (1970) examined utterances from a boy between 2;0 and 2;2. In this corpus, nouns in first position were stressed, whereas nouns in second position were never stressed. On the other hand, verbs were stressed in all positions. Dezső attributes this consistent stressing of verbs to the action of a rule which focuses elements carrying features for modality. Working with similar data, Lengyel (1975) attributes stress to the emotional value of the stressed item. Dezső, Lengyel, Meggyes and MacWhinney have all noted that elliptical one-word utterances preserve new or important information and that new information is likely to be stressed. The treatment of themes and information foci (Halliday 1967) by children learning a free word order language is a fascinating question deserving more intense investigation. Hopefully, future work will provide independent measures of the categories purported to determine pragmatic ordering.

AGREEMENT

The final topic to be discussed in this review is the learning of grammatical agreement. In Hungarian the verb agrees with the Subject in number and person, while it agrees with the Object in definiteness.

Object agreement. The learning of Object agreement is an interesting phenomenon if only because Object agreement does not exist in Indo-European. Balassa (1893: 134) suggested that verbs are first learned in the conjugation (Definite or Indefinite) in which they are most often used. Prior to 1971, few Object agreement errors had been reported and many writers had concluded that children pick up the Definite-Indefinite distinction without error. Meggyes (1971) claimed that use of the Definite and Indefinite conjugations entered around 1;9 and was consistently correct by 1;11. However, observations by Meixner (1971) and MacWhinney (1974) indicate that the learning of Object agreement is far more difficult than supposed. Both Meixner and MacWhinney reported all errors appearing in their corpora. They found 26 uses of Indefinite Verbs with Definite Objects whereas all previous authors had reported only 4 such errors. Similarly, Meixner and MacWhinney reported 18 uses of Definite Verbs with Indefinite Objects, whereas all previous authors had reported only 4 such errors. Finally, Meixner and MacWhinney report 5 cases of Definite endings on Intransitive verbs although Intransitive verbs always take Indefinite endings in adult Hungarian. These figures show that learning of Object agreement is more difficult than had been supposed. The component pieces of this learning still remain to be elucidated.

Quantifier agreement. Hungarian nouns must be singular when modified by a quantifier, and errors in this agreement abound. When the Subject is modified by a quantifier it must be singular, and the verb must also be singular. Errors such as *sok fák van* 'many trees is' for the correct *sok fa van* 'many tree is', show that Quantifier-Verb agreement and Quantifier-Noun agreement are partially independent processes. In *sok fák van* Quantifier-Verb agreement is correct, while Quantifier-Noun agreement and Subject-Verb agreement are incorrect.

Subject agreement. The Hungarian verb agrees with its subject in number and person. When there are no quantifiers in the Subject NP, children usually have no problem with number agreement. Person agreement errors are also rare, except when the Subject is in the first person. However, when the Subject is in

TABLE 4. *Course of development for sentences of self-reference*

Pattern	Form	Observer	Child's age
1	3PS Verb	Kenyeres	1; 4-1; 5 from 2; 0
2	2PS Verb	Kenyeres Meggyes	1; 5-1; 7 1; 6-2; 0
3	1PS Verb	Kenyeres Meggyes	From 1; 6 From 2; 0
4	Name + 3PS Verb	Balassa Jablonkay Mikeš Meggyes MacWhinney	To 1; 9 To 2; 7 1; 7 1; 9-2; 2 1; 5-2; 0
5	Name + 3PS Verb + 1PS Pronoun	Jablonkay	2; 7
6	Name + 1PS Verb	Balassa Jablonkay MacWhinney	1; 4 From 2; 7 1; 8
7	1PS Pronoun + 1PS Verb	MacWhinney	From 2; 0

the first person, children have a hard time learning agreement. Table 4 summarizes the typical course of development for sentences of self-reference. The child seems to first perfect his use of the verb in patterns 1, 2 and 3 with no pronoun present. Pattern 2 seems to result from discourse pressure (Meggyes 1971: 54). In pattern 4 the use of the child's name is associated with the 3PS, as it is in the speech the child hears. However, the disequilibrium apparently arising between pattern 4 in the input and the separately learned 1PS Verb of pattern 3 leads to the compromise patterns 5 and 6 and, eventually, acquisition of the 1PS pronoun. Meggyes (1971: 60) notes that the personal suffixes in the verb enter between 1; 8 and 1; 10, whereas the entry of the personal pronouns only begins around 2; 1. Although children may prefer analytic forms such as pronouns, their

tendency to pick up words as amalgams seems to induce the earlier development of the marking of person on the verb.

What is puzzling about this sequence of seven stages is the transition from pattern 3 to pattern 4. Why does the child abandon his correct use of the 1PS verb? In fact, MacWhinney (1974) found that his subject used pattern 3 and pattern 4 during the same period. Pattern 3 was used in certain very well-learned phrases like *kérem* 'I want' and *megyek* 'I'm going'. The 1PS stance is well controlled in these phrases. Thus, it appears that it is not the 1PS stance, but the use of 'I' that causes the child difficulty. These observations could be examined against data from Indo-European languages with full conjugation of the verb.

SUMMARY

This review has examined an array of data on the acquisition of Hungarian morphology and syntax. In some areas the data point to the presence of basic acquisitional processes. For example, several lines of evidence suggest that the first unit acquired by the child is the word. Morphological analysis of these words is a fundamental process in the learning of Hungarian. Because of the structure of root endings, errors in morphological segmentation seldom arise. Analysis appears to begin at the semantic level and proceed to the morphological level. Data on neologisms show that children can make productive use of a large array of formative suffixes. Hungarian inflections differ little in terms of formal complexity. Thus, differences in their emergence can be attributed to semantic-pragmatic factors. The implications of these facts have yet to be developed in detailed research. Errors in suffix ordering suggest that case markers may be associated with verbs in pre-lexical structure. More evidence is needed on this issue. In the area of word order, positional pattern learning has been identified at the onset of word combinations. The factors governing pragmatic ordering need to be examined in experimental contexts. The acquisition of agreement illustrates formal and semantic complexities not found in Indo-European. Hopefully, future research in these areas will clarify the basic processes in acquisition by making increasingly detailed measurements of the structures to be learned and the ways in which they are learned.

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