

Information structure development: Evidence from the acquisition of word order in Russian and English

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1. Introduction

In this paper I will argue against the assumption that early child language is the manifestation of a purely morphosyntactic development. Having looked at two languages, Russian and English, which significantly differ in the way they encode information structure, I will present some evidence that speakers of both types of languages have access to this component of grammar from very early stage.

I do not intend to put pragmatics under the rubric of innateness. What I am aiming at is to show that information structure seems to be acquired in a parallel rather than consecutive fashion compared to syntax.

2. Setting the stage

At around 1;6 children start combining words into phrases and produce their first multi-word utterances. Numerous studies on early child language have shown that the very first phrases produced by children conform to the word order rules of the target language (Brown 1973, Radford 1990, Pinker 1994). Moreover, research on comprehension (Bellugi & Brown 1963, Hirsh-Pasek & Golinkoff 1996) revealed that children can understand multi-word utterances even before they start producing them, i.e. at the one-word stage.

Radford (1990) presented large data illustrating the ability of English children as young as 1;6 to correctly form VPs, NPs, APs, and PPs.

Studies on Dutch (Schaeffer 2000), German (Höhle et al. 2001), and French (Déprez & Pierce 1993), languages in which the position of the verb with respect to negation depends on finiteness, discovered that children at the age of 1;8-2;3 correctly place finite verbs before negation and non-finite verb after it.

Studies on V2 languages, i.e. languages in which the finite verb shows up in the second position in main clauses, attested that children when they start producing finite sentences respect the word order of the target language (Platzack 1996 for Swedish, Poeppel & Wexler 1993 for German).

The findings mentioned above suggest that the acquisition device is extremely sensitive to the syntactic structure of the target language.

A matter of considerable interest with regard to acquisition of word order are languages characterized by relatively free ordering of

constituents, such as Russian, Finnish, Korean, etc. They lead on to the question of which order will be chosen by the speaker of such a language and which factors influence this choice.

While some studies on the acquisition of free word order languages argue for the primacy of the underlying word order in child speech (Park 1970, Platzack 1996), others indicate children's tendency to use orders deviant from the basic one (Brown 1973, Bowerman 1973, Gvozdev 1961, Snyder & Bar-Shalom 1998).

Research on acquisition of free word order languages can shed some light on the issue of how much and what sort of information is available to children at the stage of multi-word production.

Languages permitting word order variations use this property to encode different pragmatic distinctions, such as referentiality, discourse anchoring, etc. Thus a young acquirer of such a language has to find out not only the underlying structure of his mother tongue and its possible modifications. The child will also have to acquire the constraints on the use of these various orders.

It has been assumed (Hoekstra & Jordens 1994, Barbier 1993, Dokter 1995, and Schaeffer 2000) that children possess only morphosyntactic knowledge when they start with their first sentences. This would suggest that the syntactic component being innate outranks pragmatics learnt through experience. Therefore one needs more input to learn pragmatics than to learn syntax. Within such an approach we have the model of acquisition where morphosyntax serves as a foundation for further language development. This is in fact the model argued for by many of the studies referred to above.

However, the assumption that children do not have access to pragmatics from the start has been questioned recently by Avrutin & Brun (2001). In the course of their experimental study with Russian children they found that children before the age of 2 are able to correctly mark referentiality, which is a pragmatically dependent feature. They concluded that the knowledge of referentiality is innate. The ability of children in the early stages of linguistic development to make certain pragmatic distinctions was shown for other languages as well (Sarma 2003).

The recent interest in the syntax-pragmatics interface in the field made me turn to the child data in order to see how early children are able to resort to the pragmatic module in course of communication.

The main language under consideration is Russian, a free word order language. If learners are shown to be able to apply certain pragmatic constraints on word order when they start speaking in sentences then another question arises. Namely, is this an "advantage" of being a speaker

of a flexible word order language or is this access to pragmatics somehow universal? In order to answer the second question I resort to cross-linguistic study on acquisition of word order. I will study early productions by speakers of Russian and English, languages that differ with respect to syntactic encoding of pragmatic distinctions.

3. Syntax and Pragmatics of word order in Russian and English

3.1. Clause structure in Russian and English

The most striking difference between the word order in English and Russian is that the latter is characterized by relative freedom. In spite of its word order flexibility, the underlying order in Russian is assumed to be SVO (Hawkins 1983, Tomlin 1986, Baily 2001). I am going to assume this traditional view on Russian basic order.

The evidence for Russian being an SVO language comes from certain configurational properties, such as the use of prepositions rather than postpositions and the tendency for qualifying adjectives to precede nouns (Greenberg 1966). The answer-question test also points in the direction of Russian basic order being SVO. Thus the most natural reply to an “all new information” question like “*What’s the news?/What has happened?*” will be a sentence with SVO order.

Structurally both English and Russian are non-V-raising languages, which is shown by the adverb-verb order (1).

- (1) On chasto kurit (*chasto) cigary.
*he.nom. often smokes (*often) cigars.acc.*
 ‘He often smokes (*often) cigars.’

Russian does allow for V-initial constructions but those seem to be subject to intransitivity constraint. V-initial sentences with transitive verbs are very rare in Russian and appear mostly in the fairy-tale sort of register. Thus VS order with intransitive verbs must be the result of S staying low rather than V raising high up, as will be shown in section 3.2.

The emerging picture so far is that Russian and English are typologically related in both being SVO, but differ in that Russian allows for considerable freedom of sentence constituents while English does not.

The language property that allows for such freedom in Russian is its rich morphological system. Thematic roles of arguments in a Russian sentence can be inferred from case marking rather than in a strictly configurational way. Thus the English sentence in (2) can roughly be said to correspond to either of the two sentences in (3).

- (2) Raffael kissed Eva.
 (3) a. Raffael potzeloval Evu.
 Raffael.nom. kissed Eva.acc.
 b. Evu potzeloval Raffael.
 Eva.acc. kissed Raffael.nom.

Although thematic interpretation of arguments in Russian is not altered by their reordering, the sentences in (3a) and (3b) do differ in meaning. Depending on its position in the sentence, a DP gets a different pragmatic interpretation in Russian. I will turn to pragmatics of word order in the following section.

3.2. Encoding of pragmatic distinctions in Russian and English

Language is used primarily for communicative purposes. In the course of communication we want our sentences to be not only syntactically well-formed but also informationally felicitous in a given situation.

It has been noted long ago that there is a certain “informational asymmetry”¹ between different parts of the sentence in that some parts convey more important or newer information than others. This informational asymmetry is reflected in the division of sentences into a Topic and a Focus part.

Topic can roughly be defined as what the sentence is about (Prince 1981). It is also sometimes referred to as “old information”. Usually the subject functions as the Topic of the sentence (Partee 1992). Therefore the position in the beginning of the sentence is universally associated with topichood. Reinhart (1995) introduced the so called *as to*-test to identify Topics. Thus a topic DP can be introduced by the *as to* complementizer.

Focus, on the other hand, represents the most informative part of the sentence. It relates to what the speaker in the particular situation regards as unknown to the hearer. Focus bears the main prosodic prominence of the sentence (Chomsky 1971). It does not always introduce new entities into the discourse. Sometimes a DP denoting an entity already mentioned in the previous discourse can appear as the Focus of the sentence. Hence there is a major split into Information and Identificational Focus (Kiss 1998). The difference between the two is assumed to be both syntactic and semantic (Kiss 1998). Prosodically, Identificational Focus is characterized by emphatic stress, while Information Focus is distinguished by a falling tone or sentential stress (Reinhart 1995). In terms of structure, it has been noted cross-linguistically that Identificational Focus tends to involve movement

¹ The term is borrowed from Prince (1981).

whereas Information Focus is usually assigned *in situ* (Reinhart 1995, Kiss 1998, Meinunger 2000). The constituent bearing Identificational Focus often occurs in the immediately preverbal position.

If we look at how the languages under consideration encode information structure, we immediately notice that English, as compared to Russian, is more impoverished in its syntactic and morphological means to distinguish between Topic and Focus constituents and thus informationally more ambiguous.

Russian primarily uses word order to mark the information status of elements within a sentence. Russian productively uses DP movement generally known as scrambling (Ross 1967) (4b-c).

- (4)a. *Moi sosed odolzhil mne slovarj.*
my.nom. neighbour.nom. lent me.dat. dictionary.acc.
 ‘My neighbour lent me a dictionary.’
- b. *Moi sosed mne slovarj odolzhil.*
my.nom. neighbour.nom. me.dat. dictionary.acc. lent
 ‘It’s the dictionary that my neighbour lent me.’
- c. *Slovarj mne odolzhil moi sosed.*
dictionary.acc. me.dat. lent my.nom. neighbour.nom.
 ‘The dictionary was lent to me by my neighbour.’

As indicated by the corresponding English translation different positions of arguments in a sentence yield different interpretation.

The main restriction on argument placement in Russian is that Topics should be evacuated from post-verbal position where they will otherwise be treated as (part of) Information Focus.

Identificational Focus interpretation can be assigned in immediately pre-verbal or sentence initial position.

Object pronouns are required to move in Russian. Whether this type of movement is scrambling or some kind of clitic placement is not clear. It seems that the main constraint on pronoun placement is that it may not appear as a final constituent. This can be explained from a phonological and a semantic perspective. Phonology bans pronouns’ remaining *in situ*, since in that position they can be subject to the Main Stress Assignment Rule (Cinque 1993). Semantically, pronouns are referential in nature and as such do not make good candidates for Information Focus.

The same interpretive constraint applies to both objects and subjects in Russian. Although subjects tend to be topics and thus appear sentence initially, as mentioned above, when they represent new information they can occur after the verb and get focal interpretation (4c). The difference in

informational status is especially obvious with subjects of intransitive verbs. Only those functioning as Topics can be placed before the verb. It applies to subjects of unaccusatives (5) as well as unergatives (6).

- (5)a. Priehali gosti.
arrived guests.nom.
 ‘There arrived some guests.’
- b. Gosti priehali.
guests.nom. arrived
 ‘The guests have arrived.’
- (6)a. Tvoja podrugazvonila.
your.nom girlfriend.nom phoned
 ‘Your girlfriend has phoned.’
- b. Zvonila tvoja podrugazvonila.
phoned your.nom girlfriend.nom
 ‘One of your girlfriends phoned.’

English does not exhibit such a repertoire of syntactic encoding of information structure and resorts mostly to phonological means, namely, stress and intonation. However, there are certain pragmatically marked constructions in English, e.g. clefts (cf. the English counterpart of (4b)), passives, and topicalization (7), which are used for the same purposes as re-ordering in Russian.

(7) His manners I really hate.

To sum up, the trigger for word order alternation in Russian, and in a more restricted sense in English, is the informational status of sentence constituents. I will adopt the view that Topic and Focus can be included into the set of intrinsic features of DPs (Kiss 1998, Meinunger 2000).

Another assumption I make is that Topic and Identificational Focus share a certain property. Namely they are both required to be specific. I adopt the notion *specificity* as described by Enç (1991), i.e. a specific DP refers to some entity pre-established in discourse. This discourse anchoring may be direct mentioning of the DP in the previous context or situational linking.

Following the feature checking theory (Chomsky 1995), I suggest that the trigger for the movement discussed above is *specificity* feature on the DP [specf].

Following Deising (1992) and Sportiche (1992), I will further assume that there are certain positions higher up in the tree, which are associated

with specific interpretation of DPs. For a DP_[+specf] to be properly interpreted it should escape from the domain where it will otherwise be treated as (part of) sentential focus, which here entails being [-specf]. Judging by the behaviour of subjects of unergative verbs in Russian, I suggest that the border of the existential closure falls on vP. Such a version of the Tree Splitting Hypothesis (Deising 1992) will allow us to account for object scrambling and subject placement in Russian as well as for topicalization, clefting, and passivization in English.

In the minimalist spirit, I would further suggest that [specf] is strong in Russian which results in scrambling of DPs carrying the relevant feature. On the other hand, in English this feature checking can occur later in the derivation resulting in covert movement. In this light the presence of such constructions as topicalization or clefts can be regarded as some sort of Economy violation. And provided that they are not widely used in English it can very well be the case.

3.3. Consequences for acquisition

On the basis of the data concerning word order phenomena and its relation to information structure in English and Russian I would make the following predictions for the acquisition of the word order in the two languages.

The first, most obvious prediction, is that I expect to find some orders other than SVO in child Russian. But since scrambling is related to pragmatics, which has so far been excluded from the innate inventory, I expect SVO to be predominant.

Thus, taking into account that both English and Russian are SVO and following the assumption that children start with the basic structures (Hyams 1987, Platzack 1996), I hypothesize that the earliest sentences of English and Russian speakers should share the same structure, i.e. SVO.

The second prediction would be that we should find errors in situations when movement is obligatory in adult Russian, e.g. with pronouns.

No significant word order deviations are expected to be found in child English.

4. Methodology

4.1. The data

The present study was carried out on the basis of the analysis of longitudinal naturalistic child data. The obvious advantage of naturalistic over experimental study is that the data is collected in a natural situation for the child. Another virtue of using naturalistic speech samples is that they yield a large number of examples of a wide range of linguistic phenomena, which makes it possible to build up a clear picture of a child's

actual linguistic development.

The language samples for the analysis were taken from MacWhinney's CHILDES database.

The data for all the subjects include language interaction with mothers, other caregivers (father, grandparents), and investigators.

The data taken for the analysis comprise 9 files of the Russian child and 8 files of the English child. The total number of utterances under analysis is relatively similar: 1209 utterances for the English subject and 990 for the Russian subject. The files were compressed so that the files containing the corpora of the same age were collapsed into one.

Provided that I investigated the use of word order, only multi-word utterances, i.e. consisting of 2 or more words, were selected.

The first files consist of the corpora collected when the subjects were 1;6 years of age and the last ones correspond to 2;9 years.

To be able to evaluate the real grammatical competence of the child, the analysed data were restricted in the following way. The formulaic utterances, i.e. the ones in which a given sequence of words occurs only in a specific combination in the child's speech (*Here you are, Here we go, That's it*) were not included in the analysis. Excluded from the analysis were also self-repetitions and imitations, unintelligible or partially intelligible utterances, and rote utterances (nursery rhymes, counting, etc.).

4.2. *The subjects*

The subjects of the study were a Russian girl, Varvara (Protasova folder) and Eve, an English speaker, (Brown folder). Both children are monolingual and normally developing. Subjects of the same gender were selected in order to circumvent the possible developmental gender differences.

4.3. *Selection criteria*

The preliminary search for the subjects was carried out on the basis of the mean length of utterance (MLU). Since the corpus was quite limited and it thus was rather difficult to account for productivity of certain morphemes usage, MLU was counted in words (MLU_w). MLU_w was computed using the CLAN program (Computerized Language Analysis), specially designed to analyse data transcribed in the CHILDES system. The analysis command used for calculation was: *mlu +t*CHI*. The MLU_w was computed for every file of a child.

The MLU_w for the children is presented in the Table 1. As the table shows, the MLU_w at the relevant ages is quite similar for both children.

Table 1. The MLU_w value for Varvara and Eve

Varvara		Eve	
age (years)	MLU _w	age (years)	MLU _w
1;6	2.5	1;9	2.3
1;7	2.9	1;10	2.9
1;8	2.4	1;11	3.2
1;10	3.1	2;0	3.0
2;0	3.2	2;1	3.4
2;4	4.2	2;2	3.2
2;10	3.4	2;3	3.4

After the MLU_w analysis, the child data were examined more closely with regard to the use of morphology (verb inflections, case on NPs), complexity of the syntactic constructions involved (subordinate clauses, question formation), and diversity of the lexicon.

It was found that both children were rather precocious learners. Their speech contained rather few repetitions. It was quite diverse in terms of lexicon and grammatical constructions.

4.4. Analysis of the corpora

The data were analysed in several steps. The first step was the CLAN analysis. It was accomplished using the KWAL command, which outputs utterances matching a certain specified number-of-words requirement. The command used for the analysis was: *kwal +t*CHI +x2w*. The command requires the program to search for the child utterances consisting of not less than 2 words.

Due to the specific characteristics of the grammatical phenomenon under investigation, namely the interplay of syntax and pragmatics, the context in which a certain utterance is produced is very important. Thus, the computerized analysis was followed by a manual search of the data with special reference to the discourse.

All the utterances were grouped according to structural completeness, i.e. into those containing all the obligatory constituents and those missing some of them (subject or object). The sentences containing all the constituents (or at least two) were grouped according to the order in which they appear in the sentence.

The last step was the analysis of the Russian adult data. It was required in order to account for the deviations from the SVO order in Varvara's speech. The objective of the analysis of the input data was to see if there is any correlation between the OV orders in child and adult speech.

5. Results and Discussion

5.1. VO vs. OV constructions in child Russian and English

From the very first files, which correspond to the age of 1;9 for Eve, VO is the only order used by the child. As indicated in Table 2 there are no examples of Complement-Verb orders in her speech throughout the entire corpus.

Varvara, on the other hand, uses both OV and VO. This is expected due to the properties of the target language. However, the frequency with which she uses OV runs afoul of the predictions. In spite of the fact that the basic word order of the mother tongue is SVO, Varvara starts out with complement-verb structures, as is clearly seen from Table 2.

Table 2. The ratio of VO/OV orders in Varvara's and Eve's speech

Age	MLU _w	Varvara		Age	MLU _w	Eve	
		VO	OV			VO	OV
1;6	2.5	40% (20)	60% (28)	1;9	2.3	100% (139)	-
1;7	2.9	40% (20)	60% (30)	1;10	2.9	100% (160)	-
1;8	2.4	58% (36)	42% (26)	1;11	3.2	100% (216)	-
1;10	3.1	66% (44)	34% (23)	2;0	3.0	100% (135)	-
2;0	3.2	57% (39)	43% (33)	2;1	3.4	100% (179)	-
2;4	4.2	60% (64)	40% (45)	2;2	3.2	100% (220)	-
2;10	3.4	40% (28)	60% (41)	2;3	3.4	100% (158)	-

Gvozdev (1961), who found similar results for the Russian child he investigated, explained OV order in child Russian by order of acquisition of syntactic categories. He suggested that the constituents occur in the sentence in the order of their acquisition, i.e. since nouns are the first to appear in child speech followed by verbs, the OV order reflects the acquisition sequence.

Nouns' being acquired before other grammatical category is not something typical of Russian. This claim has been made for other languages as well, and thus can be considered universal (Gentner 1982, Yamashita 1995).

Therefore the order in which syntactic categories enter child speech has nothing to do with OV prevalence in child Russian. Otherwise, it should be possible to trace the same tendency to map the order of acquisition onto the order of sentence constituents in English data as well. However, as Table 2 shows, it is not the case.

Radford (1990) noticed occasional OV in early child English, which mostly occurred in subjectless sentences. Therefore it was assumed that the object in such utterances is actually in the subject position. The source of the error was ascribed to adult constructions in which the agent argument is

suppressed, namely anticausatives (*The water boiled*), passives (*The car has been washed*) and middles (*The blackboard cleans easily*).

However, it is doubtful if preverbal objects in Varvara's corpus could be analysed along these lines. First of all, the distribution of subjectless sentences with OV and VO orders does not differ significantly. VO is more frequent than SVO during the same period when OV overrides SOV, namely 1;6-1;8. Moreover at 1;8 the ratio of VO sentences with missing subjects in Varvara's speech is higher than OV, in particular she uses subjectless VO in 80% of the cases. Thus the preponderance of OV over SOV seems to reflect the general tendency to omit subjects rather than an attempt of the child to fill in the spare subject position with the theme DP.

Secondly, morphological properties of Varvara's speech give further evidence against such an analysis. The agreement morphology on the verb occurs very early in her speech and is used quite productively. Already at the age of 1;6 only 7 verbs out of 78 used lack any agreement morphology. If the object were to be taken as occupying the subject position, we would expect to find examples of erroneous agreement of the verb with the preposed object. No such cases were attested.

In the following section I will try an alternative analysis of OV structures in child Russian.

5.2. Analysis of OV prevalence in child Russian

In section 3.2 it was proposed that the trigger for moving a DP to preverbal position is feature [+specf] on it. As mentioned above, in most cases this DP is treated as being a Topic. The question which naturally arises is to what extent the child is aware of the constraint on Topic placement.

Varvara's data comprise 553 utterances with overt objects. Among these utterances 272 contain specific objects and 192 non-specific ones. The overall preponderance of specific objects in Varvara's speech can possibly be explained by the fact that at this age (1;6-2;10) the child usually talks about things and people in the immediate surroundings.

In every particular case the context was taken into consideration to decide on the specificity/non-specificity of the object. Generally, proper names, personal pronouns, and nouns modified by demonstrative pronouns were regarded as specific. Mass nouns were interpreted as non-specific unless the context showed the opposite.

Table 3 shows the correlation between the specificity of objects and their position with respect to the verb.

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Table 3. Distribution of objects in Varvara's speech

Age	Specific objects		Non-specific objects	
	OV	VO	OV	VO
1;6	75% (21)	35% (9)	70 % (7)	30% (3)
1;7	52% (19)	48% (17)	78% (11)	22% (3)
1;8	47% (19)	53% (22)	33% (7)	67% (14)
1;10	46% (13)	54 % (15)	26% (10)	74% (29)
2;0	53% (20)	47% (18)	38% (13)	62% (21)
2;4	52% (31)	48% (28)	28% (14)	72% (36)
2;10	77% (31)	23% (9)	34% (8)	66% (15)

The emerging picture is that during the first months (1;6-1;7) Varvara is doing very well with specific objects but she erroneously places non-specific DPs pre-verbally. Therefore her target-like treatment of specifics can be due to the overall prevalence of OV at this period. Then there is a period (1;8-1;10) when the child turns to VO. And at this stage she fails to move some of the specific objects. However, it should be noted that whenever she uses movement, the moved object in most cases is specific. Starting from 2;0 object placement is improving. And finally at 2;10 it becomes almost impeccable.

The results of the data analysis described above seem to indicate that Varvara is going through the so-called U-shaped development (Pinker 1994). She starts with a correct form, then there is a short period of "error-making," and finally her performance improves again.

Having hypothesized that the developmental differences in object placement in Varvara's speech reflect U-development, I still need to explain why the child starts out with OV.

One possible explanation could be that OV structures are more prevailing in her input. Preponderance of specific DPs and thus OV in the input is, in fact, quite predictable. When talking to the child, parents, by and large, speak about things and people present in the situation or otherwise known to the child.

Four files of Varvara comprising 409 adult utterances were analysed. They were all sentences in which the verb appears with the complement(s). First they were just divided into VO/OV type. Then the sentences were classified into those where the object is a pronoun and those with full DP objects. The results of the adult data analysis are presented in Table 4.

Table 4. Distribution of VO and OV in adult Russian

	VO	OV
Full DP objects	55% (104)	45% (85)
Pronominal objects	16% (35) ²	84% (185)
Total	35% (139)	65% (270)

The results show that the overall quantity of OV constructions outnumbers sentences with VO in the child's input. And as clearly indicated by the ratio of pronominal vs. full DP objects, the preponderance of OV in adult data results from the frequency of using pronominal objects.

On the basis of this analysis, I conclude that prevalence of OV during the first two months (1;6 – 1;7) reflects overgeneralization of the rule of pronominal object placement to full DPs. As a result not only specific but also non-specific objects precede the verb.

Lack of movement in Varvara's speech at 1;8-1;10 resulting in erroneous placement of specific objects can perhaps be account for by Platzack's (1996) "Don't move!" hypothesis. At this stage in her development, Varvara shows consistent usage of the basic order of her mother tongue. But as Table 3 shows, the ratio of OV vs. VO with specific objects is not drastically different. Besides she exhibits abiding use of VO with non-specific objects. Therefore I will pursue the assumption that Varvara's data reveal the emergence of information structure. It becomes particularly obvious once we consider the facts concerning the placement of pronouns.

As mentioned above, pronouns never receive the main sentential stress, i.e. they are rated illegitimate Focus.³ Since Varvara shows indications of being aware of the constrain on Topic/Focus placement, as proposed above, pronoun placement is expected to be nearly error-free. And as I will show below, this prediction is borne out.

Before I present the data concerning pronoun placement, it should be mentioned that pronominal objects are not very frequent in Varvara's speech. Personal pronouns are absent altogether until the age of 1;10 (Table 5). Before that time she is using quite a few demonstratives.

² VO with pronouns in adult speech occurred in imperative sentences, which is the only option possible.

³ By Focus here I mean informational Focus. Identificational Focus can sometimes apply to pronouns.

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Table 5. The ratio of pronominal objects in Varvara's corpus

Age	MLU _w	Total number of DP objects	Pronouns out of them
1;6	2.5	50	-
1;7	2.9	50	-
1;8	2.4	62	-
1;10	3.1	67	6
2;0	3.2	72	19
2;4	4.2	109	12
2;10	3.4	66	20 90% (9) 10% (1)

Such lack/shortage of pronouns in child speech can be predicted if we assume that they are functional categories, and therefore their acquisition takes longer (Radford 1990).

Table 6 summarises the data regarding pronominal object placement in Varvara's speech. It demonstrates that almost from the onset pronouns are correctly placed before the verb.

Table 6. Pronominal object placement in Varvara's speech

Age	MLU _w	VO	OV
1;6	2.5	-	-
1;7	2.9	-	-
1;8	2.4	-	-
1;10	3.1	50% (3)	50% (3)
2;0	3.2	17% (3)	83% (16)
2;4	4.2	21% (2)	79% (10)
2;10	3.4	-	100% (20) 90% (9) 10% (1)

Such accuracy with pronouns undermines the prediction concerning the "structurally basic" nature of child language. The child proves to make the distinction between different grammatical categories, namely pronouns and full DPs. Varvara sometimes misplaces full DPs, while pronoun placement turns out to be almost error-free.

The last issue requiring an explanation pertains to pre-verbal use of non-specific objects.

With regard to this "superfluous" movement, I will suggest that Varvara still has to master the pragmatics. She can sometimes make erroneous presupposition of what is specific in a given situation. My guess is that those non-specific objects in Varvara's speech may perhaps not be interpreted by her as such. Marking something as Topic or Focus requires the ability to take into account the hearer's knowledge about the situation.

So Varvara might still lack mastery over what Schaeffer (2000) calls “The Concept of Non-Shared Knowledge”. The tendency of children to be egocentric with respect to pragmatics was noted in the earlier studies (Maratsos 1974, Schaeffer 2000).

To recap, Varvara’s use of word order shows U-shaped development. She starts with OV, which was claimed to be the result of overgeneralization process. Later OV yields to VO, and finally OV becomes prevailing again. The prevalence of OV at 2;10 is not surprising since at this period Varvara uses pronouns quite productively.

The data presented in this section indicate the following. First, the observed U-development, particularly the “drop” in production accuracy, supports the idea that children have access to the underlying structure of their languages. However, the ratio of OV and VO with different types of object attest Varvara’s sensitivity to semantic/pragmatic constraints on object placement in Russian. Finally, analysis of the adult data provides support to the role of experience in acquisition of pragmatic knowledge, such as syntactic marking of Topic and Focus.

In the following sections I will give some additional evidence in favour of the fact that children do show certain knowledge of information structure.

5.3. V-initial constructions in child Russian and English

One of the orders deviating from the canonical SVO found for both subjects is VS. These verb-initial constructions were restricted to intransitives only.

While VS is a possible order in Russian, it would count as a mistake for Eve. However, as shown in Table 7, the occurrence of VS in her speech is limited to only 2 utterances. Moreover a closer look at the sentences and the context in which they are used suggests that those cases can be treated as something other than word order errors.

Table 7. Production of VS by Varvara and Eve

	Varvara	Eve
Tokens with VS	19	2
Total number of utterances containing the subject and the verb	609	1015

Out of 19 VS constructions used by Varvara 13 contain unaccusative verbs. The same holds for 1 VS sentence in Eve’s data.

Analysis of the tentative informational status of postverbal subjects in Varvara’s speech revealed that almost half of the time they can be

interpreted as bearing Information Focus, i.e. being non-specific, which is exemplified in (8). Table 8 gives the data on placement of specific and non-specific subject DPs.

- (8) *Piehalo mashina, eto tractor.* (Varvara 1;10)
came car.nom. this tractor.nom.
 ‘Here comes a car, it’s a tractor.’

Table 8. The ratio of specific and non-specific postverbal subjects (VS) in Varvara’s speech

Specific subject DP	11
Non-specific subject DP	8

If we leaving aside the interpretation of subjects for a moment, it can be seen that knowledge of the underlying structure shows up again. That will account for both Varvara’s specific postverbal subjects and Eve’s sentence in (9).

- (9) *here come Papa.* (Eve 1;10)

However, the contexts in which Eve’s other VS and some of Varvara’s VS sentences are uttered make it plausible that the format of the sentence was chosen to emphasise the verb.

- (10) Eve: *baby sneeze.* (Eve 1;9)
 Mother: *she did sneeze # didn't she?*
 Mother: *lots of sneezes.*
 Eve: *sneeze Eve.* (Comment: after Eve pretended to sneeze)

- (11) Mother: *Chto lisa delaet?* (Varvara 1;10)
what fox does?
 ‘What is the fox doing?’
 Varvara: *Est ona.*
eats she.nom.
 ‘She is eating.’

The examples in (10) and (11) show that what the children are doing resembles focus preposing or *do*-support in elliptical sentences, as in *So does Eve*. Therefore Eve’s sentence in (10) suggests the failure of using the auxiliary, while it gives some support to the development of pragmatic strategies, since ellipsis does have a special informational status.

Varvara’s sentence in (11) although containing a Topic pronoun illustrates her effort to focus the verb. This strategy can be observed in

adult Russian as well. In fact the only case when a specific/topical subject can be used postverbally in Russian is if the verb has to be focused, which resembles English emphatic *do*-insertion (*I did see her*).

5.4. Other instances of informational encoding in child Russian and English

Besides the aforementioned facts, which were claimed to indicate the development of the information structure in child language, there are some other indications pointing in the same direction.

First of all, it pertains to the use of OSV orders. The relevant data is given in Table 9.

Table 9. OSV constructions in Varvara's and Eve's corpus

Age	MLU _w	Varvara	Age	MLU _w	Eve
1;6	2.5	2% (1)	1;9	2.3	-
1;7	2.9	-	1;10	2.9	-
1;8	2.4	3% (3)	1;11	3.2	-
1;10	3.1	-	2;0	3.0	-
2;0	3.2	3% (3)	2;1	3.4	-
2;4	4.2	8% (12)	2;2	3.2	0,5% (1)
2;9	3.4	3% (2)	2;3	3.4	0,6% (1)

As shown in Table 9, there are much more OSV constructions in Varvara's than in Eve's speech, which is quite expected given the properties of the target language. All the instances of object-initial constructions in child Russian involve a topical object (12). The same can be said about one of Eve's OSV constructions, as illustrated in (13).

(12) Mother: Navernoje pora vse slozhitj. (Varvara 2;4)
probably time all.acc. tidy up
 'Probably it's time to tidy up everything.'

Varvara: Eto ja potom slozhu.
this.acc. I.nom. later tidy up
 'I will tidy it up later.'

(13) Eve: Papa, here's the pretty picture. (Eve 2;2)

Eve: Papa, pretty picture I made for you.

Father: Is that for me? Nice.

Another of Eve's sentences with non-canonical order is given in (14). That example can be treated in two ways. Either it indicates the effort of the child to build a relative clause provided that English exhibits definiteness

restriction on topicalization. In this case it would correspond to *This is something we like to eat* in adult English. Or else we can put it into the same category as example (13) and assume that it is another example of topicalization but she still needs to master the rules of this syntactic operation, namely the definiteness constraint.

- (14) Eve: this is the cooking place. (Eve 2;3)
 Eve: sumpin we like to eat.
 Father: what do we like to eat?
 Eve: pastina.

In either case it clearly indicates the child's growth in using the language as an expressive means and ability to construct her utterances in accordance with her communicative needs. Two instances of clefts in Eve's corpus, one of which is perfectly grammatical, provide further evidence for this idea.

- (15) a. That my Mommy, move a stool. (Eve 1;9)
 (*Comment= that was my Mommy who moved the stool*)
 b. That's what we made. (Eve 2;3)

The difference in the ratio of OSV in Eve's and Varvara's speech are explained, first of all, by the frequency with which they occur in their target languages. Object scrambling is very productive in Russian, while it is not the case with English Topicalization.

In fact, Russian speakers seem to be in a more privileged position with respect to acquiring different pragmatic constraints on word order. In most cases all you have to do is to move a constituent to the designated position. English, on the other hand, very often requires usage of some additional functional material for the same purposes, e.g. expletives and auxiliaries in existential constructions, etc. As a result, on the surface, there are fewer manifestations of pragmatic development in English child data.

Due to relative complexity of syntactic encoding of information structure young English speakers resort to another strategy to achieve the same purpose, namely argument drop. If you have a look at (16) and (17), you will see that children never omit constituents crucial for the conversation.

- (16) Eve: I will get the cow. (Eve 2;2)
 Father: don't break the cow.
 Mother: after all # it doesn't belong to you.

- Eve: I breaking.
 Mother: you better not.
 (17) Mother: you want what? (Eve 2;1)
 Eve: want a napkin.

The same tendency to drop Topics is observed in Varvara's speech. For both children argument drop occurs mostly with subjects, less often with objects.

The data on argument drop can of course be interpreted in purely structural terms. Since the relation between the Head and the Complement is considered to be more local and more fundamental than that in the Spec-Head configuration (Chomsky 1995). Moreover subjects have been claimed not to be arguments of the verb at all (Marantz 1984, Kratzer 1994). Therefore there is a possibility that the asymmetry observed with respect to argument drop in child language can be linked to the knowledge of thematic structure. However, we still can't eliminate the other option, namely that objects are in a relevant sense more informative, showing up more often as sentential Focus than subjects do.

To sum up, the data presented in this section provide us with the evidence that there are manifestations of information structure even in the earliest child language. It is more explicit in child Russian because the target language widely employs syntactic encoding of information structure. However, I believe that the English child data clearly indicate that children acquiring less flexible languages also have access to informational component.

Whether the knowledge of the interface level, such as syntax-pragmatics, is innate or is "parasitic" on syntax is a question open to debate. What I want to emphasize is that the earliest speech production reveals more than just knowledge of the language structure.

6. Conclusion

The results of the study showed that in addition to having access to the underlying phrase structure, children are extremely sensitive to input. And since all languages, although to different degrees, use word order to express different informational implications, children show awareness of this "expressive" side of the language.

Particularly I have shown that young Russian and English speakers resort to various strategies to mark informational status of sentence constituents. It was suggested that the early ability to do so is not something language specific but is rather a universal mode of language development.

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