

THE CORRELATION OF LINGUISTIC AND PRAGMATIC KNOWLEDGE IN SPEECH-ACT

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After some preliminary remarks¹ in my essay I wish to furnish some data to the correlation of the above two kinds of knowledge in the perception phase of speech-act utilizing the findings of a psycholinguistic experiment carried out in groups of Hungarian and Russian children².

1. 1. According to openly declared programs of different grammatical theories this branch of linguistic science aims at modelling the verbal behaviour of the speaker/listener.

Different grammatical theories-examining them in a nutshell make the following important statements (I. am primarily concerned with views on syntax).

Taxonomic grammar looks upon sentence as a — primarily linear — formation, in which the separate words are directly connected, however, the said grammar pays little attention to the study of the hierarchical order of correlations between words and larger grammatical units. Up till now the spirit of this grammar has strongly influenced our school grammars. Analysing the different parts of speech — using this technique — still takes place by way of putting questions to the separate words of a sentence.

Compared to the tenets of taxonomic linguistic theory IC grammar is definitely progressive. Beside linear arrangement it takes into account the hierarchic structure of the sentence. Consequently it differentiates groups (NP, VP) in the sentence and IC grammar establishes the rewriting rules inside the group, more than one word may belong to one group. thus it tries to clear up the principles of arrangement in the hierarchic build-up of the sentence.

Transformational grammar seems to be a new step forward. It introduced the notion of transformability and convertibility with sentences and syntactical phenomena in general and it also elaborated the transformational technique realizing these notions in practice. Transformational grammar distinguishes between basic units (kernel-sentences) and a set of transformational rules applicable to them. Thus it forms complicated derived linguistic units from initiating linguistic units.

At the same time transformational grammar makes linguistic analysis more abstract, since in the course of transformational changes the linguist is concerned with units that are not necessarily given for direct observation (Taxonomic and IC grammars only dealt with actually appearing sentences given for direct observation).

The emergence and elaboration of generative linguistic theory is considered to be a still greater step forward and an enhancement of abstraction. This linguistic theory — with certain simplification — completely eliminated the directly observable physical phenomena (audible, writeable sentences) in the first step of analysis and started analysis with the deep structure. It placed not only purely linguistic constructions in the deep structure, applying certain transformational rules to which it got

the so called surface sentences (i. e. audible, writeable, "physically" appearing sentences).

With grammatical theory becoming more and more abstract our knowledge of linguistic system has increased considerably, but — as a strange contradiction — the original aim of grammatical theory to model the verbal behaviour of the listener/speaker has been more and more abandoned.

The different grammatical theories threw light on only one important aspect of verbal behaviour each. To illustrate this statement with a random example: taxonomic grammar furnished information about association conditions that necessarily show up in speech-act. By means of working out the hierarchy of linguistic levels IC grammar disclosed an important aspect of speech-act (for both speech-act production speech-perception take place in major units and not in words).

Transformational grammar provided useful pieces of information about transformational capacity present in speech-act as well as about sentence interpretation. The statement that initiating units (kernel-sentences) and transformational processes applied to them have physical reality was partly proved.

Generative linguistic theory shed light on that aspect of speech-act that sentence perception and production can only partially be explained and interpreted within the limits of actual physical phenomena.

In spite of the above some drawbacks cropped up. Speech-act is not confined to different manifestations of association, hierarchic sentence-order in itself does not give a key to the complete set of problems of sentence perception and production, transformational processes described by transformational grammar do not show up in speech-act in the way as they "are stipulated" by transformational grammar.

All things considered the overall picture of grammatical theory nowadays is that in itself it is incapable of modelling the verbal behaviour of the listener/speaker adequately.

1. 2. The emergence of psycholinguistics in the early fifties was a major step on the road to the mentioned goal.

In the beginning psycholinguistics made great efforts to experimentally prove the psychological reality of grammatical theory. Psycholinguistics at that time was occupied with attempting to prove experimentally different grammatical theories either as a whole, or their tenets (for details see Slobin 1973, PLÉH 1980). This effort was mainly characteristic of the psycholinguistics of the sixties.

Success as well as failure urged psycholinguists to find closer contact with disciplines and schools of science examining activity and within this speech-act from a psychological viewpoint.

1. 3. The most thorough inquiry into man's intellectual activity was made in the forties and fifties by a Soviet school of psychology with L. S. VIGOTSKIJ's name on their banner, and it is this school that proved to be the most successful (A. N. LEONTYEV, A. R. LURIIA, A. A. LEONTYEV and others).

This Soviet school first of all clears the structure and social determination of activity and makes considerable progress in studying the mutualism and correlations of different forms of activity.

This way by the middle of the seventies psycholinguistics becomes aware of its autonomous position and interprets it well. This position claims that psycholinguistics should not see the investigation of speech-act confined to the physical reality of different grammatical theories, but it should also consider speech-act as being attached to other forms of activity (cognitive, intellectual) and should depict its nature on this basis.

In the new efforts — beside the above-mentioned Soviet school of psychology — the tenets of cognitive psychology worked out by Piaget were of great help.

The new perspectives of the psycholinguistics of our day are signalled by the activities of such working parties as the one led by SLOBIN with Berkeley University, the Group of Psycholinguistics at USSR Institute of Linguistics or BRUNER and his school if we restrict ourselves to naming a few institutes and a few researchers only (for further details see PLÉH op. cit.).

1. 4. After this short retrospection and raising the problem we wish to outline our own viewpoints as researchers.

a) We assume — and the quoted technical literature supports this view — that speech-act does not follow in a servile manner the peculiarities of the structure of a language. To put it differently: speech-act cannot be described with grammatical notions exclusively. This view was put by CHOMSKY and linguists following his line into the following words: grammatical structure and consequences arising from it (e. g. an endlessly long sentence) cannot predominate in a "chemically pure" way for simply reasons of memory. We consider that the "pure" predomination of competence is not only obstructed by failing memory.

b) An important reason for competence not prevailing in a pure way is — in our opinion — that in the course of production/perception the speaker/listener does not only rely on his or her linguistic, but also on pragmatic knowledge. The latter is closely related to socially determined activity and the social experience of the individual. Thus in the course of speech-perception and production two sorts of knowledge come into play: the knowledge of grammatical structure and the knowledge of the world.

The alliance of pragmatic and linguistic knowledge during speech-perception and production is not a newly-sprung idea. In recent times several authors have pointed to this phenomenon (cp. e. g. CLARK and CLARK 1977).

The predominance of the two kinds of knowledge in the mentioned processes has primarily been examined in a survey of the English speaking world and problems of grammatical nature; mainly in the verbal behaviour of grown-ups, though some research has been done in children's language, too (cp. AITCHISON 1976, BATES 1976, MACWHINNEY 1975).

2. We looked into the problem in question experimentally with Hungarian and Russian children between 3—10, our chief concern being word order.

In my experiment I examined the alliance of linguistic and pragmatic knowledge in the course of speech-perception with Hungarian and Russian children between 3—10.

I assumed that word order does not only mean a grammatically arranged linear order of words for the children, but that the children — in some way or other — identify the order of the words in the sentence with the chronological succession of the actual physical events. To put it in an other way: when trying to identify and determine syntactic parts (subject, predicate, object, adverbials) children consider semantic-pragmatic aspects, too (agent, predicate, object, experient).

2. 1. The experiment was carried out with Hungarian and Russian children whom I divided into age-groups (3—4, 4—5, 5—6, 6—7, 7—8, 8—9, 9—10 years).

The children were expected to recognize so called half-agrammatic sentences with the help of different pictures. There were altogether nine pictures used in the experiment showing the following basic situations:

Picture No 1: The girl is giving a bone to the dog.

Picture No 2: The mother is giving a book to the father.

Picture No 3: The father is giving a book to the mother.

Picture No 4: The boy is giving a book to the girl.

Picture No 5: The girl is giving a book to the boy.

Picture No 6: The mother is showing a picture to the father.

Picture No 7: The father is showing a picture to the mother.

Picture No 8: The father is reading a book for the boy/son.

Picture No 9: The boy/son is reading a book for the father.

As can be seen, the pictures can all be reversed (except for the first) as far as the agent and the experiencer are concerned. It is also evident that all the pictures suggest the use of a structure comprising S, V, O and E elements.

What the children were expected to do was to recognize the pictures on the basis of half-agrammatic sentences. Half-agrammatism here meant that instead of declined noun forms there were only nominative forms; e. g. the sentence "*The mother is giving a book to the father*" sounded like this in the experiment: "*The mother is giving a book the father*". It appears that the articles were not changed, the verb form and even the intonation of the sentence were left unchanged.

The children were shown three pictures and then they were requested to pick out the one that corresponded to the half-agrammatic sentence. To proceed with the above-cited example: there were three pictures in front of the children (The mother is giving a book to the father, The father is giving a book to the mother and The father is reading a book for the boy/son. From these three pictures the children had to pick out the one that suited the sentence: "*The mother is giving a book the father*".

When evaluating the answers that sentence was accepted as correct which corresponded to the picture "*The mother is giving a book to the father*."

Then I went on in the same way with all the nine sentences listed above. The task was done by 100 Hungarian and 100 Russian children.

The children were to do six tests altogether; the six tests representing six different word orders.

The first test had an SVOE word order so it went like this: *The girl is giving a bone to the dog* (or to be more exact: *The girl is giving a bone the dog*).

Then there were the following word orders; the second test: SVEO (The girl is giving the dog a bone), the third test: OVES (The bone is giving the dog the girl), the fourth test: OVSE (The bone is giving the girl the dog), the fifth test: EVSO (The dog is giving the girl a bone), the sixth test: EVOS (The dog is giving a bone the girl).

In each test there was a control question so each test was made up of ten questions. The sixty sentences were done (more exactly the sixty options were made) by 100—100 children, accordingly I received 12.000 decisions.

From the word order variants SVOE seems to be a basic word order for Russian children, however, for the Hungarian children no basic word order variant was involved.

2. 2. The results of the experiment

I am going to show the obtained data in the form of a table. The table gives the following.

I made preliminary calculations as to what results in per cent are obtained with different age-groups with different types of word order. The first table in this essay shows the medium values of percentages relating to the different types (SVOE, SVEO etc.).

Beside the mean values of percentages the table shows the numerical data of discrepancy (dispersion) from the average.

2. 2. 1. When comparing the different data of the table it appears that the re-

cognition of half-agrammatic sentences is partly a function of age, of word order and finally of language. These three arguments seem to be strongly related to each other.

2. 2. 2. The age-determination of the results is shown by the fact that the results of different age-groups — whatever their mother tongue may be — are different.

Pertaining to this issue the data of the table show the following:

a) Children between 3—10 can be divided into three groups according to their performance. The poorest achievements are made by the youngest (they generally include more than one age-group), then a powerful improvement is seen with the medium age-group (this is generally an uneven age-group). Finally high percentage results are „preserved”, maintained by the older age-groups.

b) The above general statement relating to the different word orders can be concretized in the following way (see Table No 2).

In Table No 2 I am going to list those age-groups that seemed to be a “turning-point”; i. e. the age-group compared to which the preceding (younger) age-group reached poorer results and the succeeding (older) age-group reached somewhat better results.

	SVOE	SVEO	OVES	OVSE	EVSO	EVOS
Hungarian	6—7	6—7	5—6	6—7	5—6	5—6
Russian	6—7	7—8	5—6	5—6	5—6	5—6

Table No2: “Turning-point” in the results

On the grounds of these data we are brought to think that — as for questions of syntactic nature — ages 5—7 are in a distinguished position since the “turning-points” can be identified by these two age-groups.

2. 2. 3. As Table No 1 shows there is a difference between recognizing and identifying the types of word order. What strikes us most is that certain word orders are accepted by the children despite their half-agrammatic nature. See e. g. SVOE, SVEO and also OVSE (comp. the high percentage values with the age-group that is said to be the “turning-point” and with the succeeding groups).

OVES; EVSO and EVOS types are not accepted or are interpreted differently (comp. the low percentage values reached by the “turning-point” groups with the latter).

With both language groups the basis of acceptance and non-acceptance (i. e. different interpretation) is the local (positional) condition of S and E elements.

When in a sentence there are two nouns in nominative case, to which the “+anim”, “+hum”, “+active” distinctive feature combinations are applicable, the children will heartily prefer the rule: “the agent precedes the experient as a rule”.

This can be the only reason why the half-agrammatic SVOE, SVEO and OVSE sentences are “properly” identified, while OVES, EVSO and EVOS types are interpreted differently.

OVES, EVSO and EVOS types — as the analysis of the corpus showed — were interpreted by the children as if they had been OVSE or SVOE sentences.

It also appears from Table No 1 that with reinterpreted sentences the children reach better results (the “turning-points” are shifted one age-group upwards) than with sentences accepted (identified) in an unchanged form.

This is to be accounted for in the following way.

The deliberately accepted types (SVOE, SVEO and OVSE) in the test go through the filter of perception only in the course of recognition and identification, while reinterpreted sentences (OVES, EVSO and EVOS) appear both in the perception and the production phase.

Because of their half-agrammatism the lexical elements of the sentence make a dual interpretation possible. In the sentence "The father is giving a book the mother" the words father or mother could just as well play the role of either the agent or the experient. But — as I mentioned above — with every word order type the suprasegmental elements of the sentence (intonation, stress, pause etc.) followed the rule called for by the given word order. For this reason considering their suprasegmental elements SVOE and EVOS type sentences for example differed (however, in one aspect they did not differ, namely that S and E elements were represented in them by nouns in nominative case).

This way hearing the half-agrammatic sentence "The father is giving a book the mother" the children — pondering the possible role of *father* and *mother* as either the agent, or the experient — might think of either a SVOE, or EVOS word order and succession. The configuration of the suprasegmental elements of the sentence contradicts this double interpretation and suggests an EVOS word order and sequence. At the same time the semantic-pragmatic rule "the agent precedes the experient" lessens the possibility of an EVOS word order which, in turn creates a situation of conflict.

In order to dissolve dual interpretation (i. e. to exclude one interpretation) the children work up the heard half-agrammatic sentence beside the mechanism of perception also in productive activity, in the form of inner speech.

During this treatment — as shown by the results — the said pragmatic-semantic rule ("the agent precedes the experient") prevails.

The sentences are reinterpreted as a consequence of this: EVOS becomes SVOE, EVSO becomes SVEO and OVES becomes OVSE.

With certain simplification we can say that the agent-experient dismembering forms the semantic-content frame and the suprasegmental elements provide the formal frame of the sentence. It is commonly known that from the formal and content features of a sentence it is the latter that pass out of the mind sooner (cp. APRESZJAN 1971; 255).

That is the reason why the above-mentioned semantic-pragmatic rule prevails over the suprasegmental rules.

2. 2. 4. The last aspect in the analysis of the findings of the experiment is the comparison of the results of the Hungarian and Russian groups.

From the data of Table No 1 it can also be seen that the Russian children reach somewhat better results than the Hungarian children. The better results are shown by the following:

- a) better percentage values (not necessarily higher, since with reinterpreted sentences low percentage values represent better results),
- b) identical opinion is formed one age-group earlier,
- c) with the identification of sentences the differences of opinion are smaller (smaller dispersion),
- d) uniform opinion is formed, dispersion value is 0.00.

From points a-d. either one, or the other shows up, but in some cases they are attached to each other.

The better results of the Russian children can be explained in the following way.

The following words appeared as agent or experient: *girl, mother, father, boy (son)* that is *devočka, mama, papa, malčik (syn)*.

The majority of Hungarian words (mother, father, son) suffer a morphophonological change in the dative which is called the lengthening of the root vowel (apa-apának). This also means that the lengthening of the root vowel is of feature value from the point of view that the given noun will not be in the nominative; as a consequence its role as an agent is more than doubtful.

So if in the course of phonetic perception the part *apá-* once gets into the fast-working memory, this segment takes us closer to the explanation of the semantic-grammatical role: it cannot be a nominative form, so the semantic role of agent is very probable.

The fact that in the sentences of the test there were nominative forms only appears to have been a considerable disadvantage for the Hungarian children, since in the course of the perception and identification of the sentence they could not rely on the "presignalizing" function (help) of the said morphophonological phenomenon.

The Russian words in the test sentences were not end-stressed either in the nominative, or in the dative; so with the exception of *malčik* and *syn* the final vowel (both in the nominative and the dative) is strongly reduced. What is more, as a consequence of this reduction they do not significantly differ from each other. Owing to this Russian children have to pay greater attention to the suprasegmental elements of the sentence even when it is of correct grammatical form. The intense concentration on the suprasegmental elements of the sentence is of great help with Russian children when they are to identify and interpret half-agrammatic, but "suprasegmentally" correct sentences.

According to our explanation it is the above two phenomena that cause the differences (which are not large) found in the results. The lack (absence) of morphophonological "presignalization" seemed to be a setback for the Hungarian children, while it was a certain advantage for the Soviet children that they had to pay greater attention to the suprasegmental elements even in "ordinary" cases (in the perception of grammatically correct sentences).

The question deserves further attention for the sake of generalization ("generalizability"). Is the said morphophonological phenomenon of help in general, or is it generally true that in speech perception the native speaker of Russian pays greater attention to the suprasegmental elements of the sentence?

Conclusions

From the experiment described above we can draw the following conclusions.

3. 1. The perception aspect of speech-act is specific of age. The results were influenced by identical age much more than by linguistic status. Identical age means an identical quantity and quality of social experience which is to be considered when studying speech-act. This can be the main cause of the homogeneity of these age-specific results.

3. 2. In the course of speech perception we equally use our linguistic and pragmatic knowledge. An excellent proof of this is that the first picture (The girl is giving a bone to the dog), with whatever word order it was said, was always correctly identified by the children (for in this sentence the roles of agent and experient are not interchangeable: the dog cannot give a bone to the girl).

With those sentences where there is a possibility of dual interpretation the pragmatic-semantic rule "the agent precedes the experient" comes into force. As we have seen, the sentences complying with the rule were correctly interpreted, while the sentences violating the rule were simply reinterpreted by the children or transformed according to this rule.

3. 3. In the course of speech perception the different linguistic planes have different roles. In our experiment the half-agrammatism of the sentences meant that the nouns acting as agents or experients (subject or the dative) were all in the nominative, so it was the morphological plane that showed a deficit.

As it was found, it is up to the structural rules of a language, whether this deficit will be increased or rather significantly made up by a certain phenomenon of another linguistic plane.

In the Hungarian sentences the mentioned morphological deficit was enhanced by the absence of morphophonological "presignalization" described above. At the same time in the Russian sentences this morphological deficit was partly made up for by the suprasegmental elements of the sentence.

This statement, however, invites further investigation into the correlation of system and activity.

A phenomenon belonging to a definite level of linguistic structure does not necessarily appear on the same level in speech-act. This may have further important consequences — in the first place — in teaching foreign languages.

3. 4. The results of our experiment show that the phenomena and laws of different linguistic levels are not of the same moment in speech-act. In sentence interpretation the semantic rule ("the agent precedes the experient") prevailed over the interpretation rules specified by the configuration of the suprasegmental elements of the sentence.

It is worth carrying on research to explore how the laws and phenomena of a linguistic level „rivalize" with each other in speech-act.

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A NYELVI ÉS PRAGMATIKAI ISMERETEK KÖLCSÖNVISZONYA A BESZÉDTEVÉKENYSÉGBEN

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A szerző dolgozata első részében rövid áttekintést ad arról, hogy a korábbi és napjaink szintaxis elméletei nem tudták szervesen magukba olvasztani a nyelvi és a pragmatikai jellegű ismereteket. Ilymódon a beszédtevékenység teljes érvényű magyarázatára is csak részben számíthattak, hiszen a beszédtevékenység során döntő a kétféle ismeret felhasználása, illetve — a tudományos kutatásban — e két komponens egységéről való számot adás.

Dolgozata második részében a szerző 3—10 éves korú magyar és orosz gyerekekkel végzett mondatkiválasztásos kísérlet során igyekeznek a két fentebb említett komponens részarányát és egymáshoz való viszonyát tisztázni. A vizsgálat tárgya az „ágens + predikátum + experiens + objektum” felépítésű mondatok.

A szerzőnek — ha szűk anyagon is — sikerült igazolnia, hogy a mondat megértésében nemcsak szintaktikai, hanem a pragmatikai ismeretek is szerepet játszanak.

ВЗАИМООТНОШЕНИЕ ЯЗЫКОВЫХ И ПРАГМАТИЧЕСКИХ ЗНАНИЙ В РЕЧЕВОЙ ДЕЯТЕЛЬНОСТИ

ЖОЛТ ЛЕНДЕЛ

В первой части работы автор даёт краткий обзор существующих раньше и в настоящее время синтаксических учений которые не в состоянии дать всеобъемлющего объяснения взаимоотношений языковых и прагматических знаний. Таким образом, синтаксические учения не могли дать полного объяснения и самой речевой деятельности несмотря на то, что использование упомянутых факторов в речевой деятельности является решающим. О взаимоотношениях этих факторов было бы желательно больше знать и в плане научных исследований.

Во второй части доклада с помощью психолингвистического эксперимента, направленного на умение выбора определённого предложения, автор пытается выяснить взаимоотношения упомянутых факторов. Объектом исследования являются предложения со структурой «агенса-предикат-экспериенс-объект».

Автору удалось доказать (хотя на основе ограниченного по количеству материала), что в понимании предложений большую роль играют и прагматические знания.