

A COMPREHENSIVE MODEL OF THE LINGUISTIC SIGN

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Artikkelissa hahmotellaan kokonaisvaltainen kielellisen merkin teoreettinen malli yhdistämällä semioottinen, kielitieteellinen ja psykologinen lähestymistapa. Kielellinen merkki näin kuvattuna muodostuu kolmiulotteiseksi. Näitä ulottuvuuksia kuvataan termeillä indeksi, symboli, ja käsite. Indeksii jakautuu edelleen intersubjektiiviseen ja subjektiiviseen, symboli syntagmaattiseen ja paradigmaattiseen ja käsite arkikäsitteisiin ja tieteellisiin käsitteisiin. Hahmoteltu malli kuvaa potentiaalista lopputulosta kielen omaksumisesta ontogenesiksen kuluessa. Edelleen tarkastellaan merkin ulottuvuuksien funktioita, statusta, kuvausmetodeja, sekä eri ulottuvuuksia kuvauskohteina ja suhteessa erityyppisiin lausumiin.

Introduction

The study of language is nowadays a wide area containing numerous highly specified avenues of research. This fully legitimate diversity brings a need for a synthesis of results from different approaches. One precondition for such a synthesis is a comprehensive model of the linguistic sign: the meeting point of all approaches to language. Such a model is not only theoretically reflective but also necessary as the point of departure for any empirical study of language. The model suggested in the present article synthesizes some semiotic, linguistic and psychological approaches to language and the linguistic sign. In the space given, it has at times been necessary to be concise and categorical, which I hope the reader will not find all too disturbing.

1. On the Peircean Theory of Signs

Charles S. Peirce's pioneering studies on the theory of signs led to the conceptualization of two important aspects of the linguistic sign from the point of view of linguistics, namely those of index and symbol. According to Peirce (1950: 102) symbol is the law-like, system-dependent, objective aspect of the sign, its highest level of abstraction; whereas index is the subjective, actual, situational manifestation of the sign. As a third type of sign Peirce distinguishes the icon, a pictorial representation of the referent

overlap or be superimposed in an objective symbol, i.e., also in a linguistic sign. Peirce's approach to the sign gives linguistics a valuable angle in the study of the essence of the linguistic sign. Peirce's work seem to be a source of inspiration still today in philosophy, for instance for Hilpinen (1982) as well as for modern semioticians like Hervey (1984) and Pharies (1985). There is also an approach within linguistics which has developed Peirce's ideas further. Jakobson (1979: 120-124) has discussed the significance of Peirce's approach for general linguistics, and Widdowson (1984) rises problematic the question of symbol/index in the context of the relation between general vs. applied linguistics.

2. Meaning, Concept and Human Activity

(Sinnlich-gegenständliche Tätigkeit)

The relation between meaning and concept can be expressed, to put it briefly, in very much the same way as Widdowson (1984: 71) does in distinguishing between conceptual and communicative functions of language. If meaning is a notion connected with communication or communicative activity, and if it has a heuristic component, then concept in its turn is connected with the object-orientated rational activity (sinnlich-gegenständliche Tätigkeit), the acquisition of reality. Accordingly, a concept has an epistemic component. Widdowson (1979: 180) applies this sort of distinction also in the study of reading. According to him, there are two levels in the process of reading: immediate, heuristic level, and discriminating, epistemic level.

The difference between meaning and concept, the existence of which the tradition of logical-analytical philosophy does not recognize since it is considered as a pseudo-problem, as Ilyenkov (1977) stresses, was problematic also to Vygotsky - perhaps more than what some of his followers have acknowledged. According to Talyzina (1981: 21-22), Vygotsky didn't make an explicit distinction between meaning and concept. On the other hand, there is reason to point out that this distinction, though not explicitly articulated, was in fact very clearly built in to the argumentation of Vygotsky's main work, Language and Thought. In his main work Vygotsky in a very consistent manner explains the formation of a concept in the connection of human (sinnlich-gegenständliche Tätigkeit) sensory, object-orientated and rational activity, as he studies the formation of a concept in ontogenesis.

Furthermore, Vygotsky demonstrated the original difference between the communicative activity and the rational object-orientated activity in ontogenesis. According to Vygotsky (1982: 93-94) the rational pre-verbal and communicative pre-rational modes of activity join in early childhood at the age of 1.6-2. After that, these modes of activity develop intertwined with each other. This implies some sort of relative independence or autonomy of the two modes of activity as well as the interaction and mutual influence between them. This view is supported by Piaget's (1971) genetic studies on the periodization of ontogenetic development of logical thinking as well as by the works of Piaget & Inhelder (1977) and by the Piagetian quantitative approach in Hautamäki (1984). The well-known problem with the Piagetian approach is of course that in this tradition the interrelation between language and thought is treated only as some sort of secondary problem in relation to the problem of the development and origin of logical thinking.

3. The Linguistic Sign as a Value

Saussure regarded a linguistic sign also as a value which is defined by other linguistic signs. This point of view is very interesting when applied to the different aspects of a linguistic sign described above. Value, for Saussure, is an abstraction, a quality of the elements of a sign system, their attribute. This analogy of value can be developed further by following the marxist theory in treating the concept of value in its different forms. Thus, if the abstract value is a quality of the symbol aspect of a linguistic sign, which is on the highest level of abstraction, then correspondingly, index can be regarded as having the quality of an exchange value. The exchange value is determined by the situation in the market under a constant change as a result of ongoing negotiation, that is, dialogue. A concept in its turn in this analogy has the quality of a use value of a linguistic sign. A concept is determined by its actual usage as an instrument for the human epistemic, logical and rational activity. Thus, the concept-content cannot be exchanged like the index-meaning, and it cannot be the object of negotiation in the dialogue. Its propositional content must be adopted in the process of thinking.

4. Sense and Meaning

An important distinction made by Vygotsky was the distinction between subjective sense and objective meaning. The same kind of distinction is also made by Frege, though according to A. A. Leont'ev (1976) there are certain differences both in terminology and conceptual definitions. On the level of symbol meaning is objective, given and pre-determined. The aspect of symbol denotes, signifies a phenomenon. The aspect of index is situational, its content is under negotiation. Index refers, makes reference, points to a certain phenomenon in a certain situation. These different levels of the sign are well-known particularly in discourse analytic approaches, as Widdowson points out (1984: 230. 232).

In the production of speech the procedure goes from the subjective sense to the objective meaning. This meaning on the level of the index is situational, and it is also a question of negotiation, as the hearer tries to solve the original subjective sense of the utterance. As Jakobson (1979: 88) states, an utterance, which from a speaker's point of view is the end-product of the process, forms a starting point for an analysis of the actual meaning-content for the hearer. On the other hand, however, in the course of the speech production subjective sense partly loses something and partly gets some new characteristics. Therefore, according to Widdowson, even though expressed with different terms, subjective sense is in its original form not to be found on the level of utterance, i.e. in the situational index-meaning: "There is no possibility of recovering complete meaning (=sense/O.K.) from the text. It is never there in the first place. (underl. by O.K.)." (1979: 174). Therefore, meaning in a dialogue is always necessarily a question of negotiation. As Nyssönen (1987) remarks, in the course of the dialogue, the speakers form their own situational code. In the dialogue, the situational index-meaning is intersubjective. The process can be described in the following way: In a dialogue or discourse, the subjective becomes the objective, and through interpretation the objective product again becomes subjective. Thus, the level of symbol forms the platform for negotiation in a dialogue, and, during the dialogue, the level of symbol is put under a revaluation in relation to its applicability in a given situation. This revaluation of symbol is constantly going on in discourse, and it results in changes in meaning as well as in structures. There is perhaps reason to

emphasize that also on the level of symbol, the question is about conventionality: there is no question about consensus even in the area of symbol.

5. The First Dimension of the Linguistic Sign: Index

According to the premises of the cultural-historical school of psychology, an individual adopts or acquires an objectively existing social phenomenon in interaction (Galperin, 1967). Accordingly, a material linguistic sign as a whole is adopted in dialogue. In dialogue, an external material sign is internalized. It becomes an internal ideal representation of a material thing. Dialogue, that is, communicative activity is intertwined with human sensational and rational activity. These two modes of activity are both relatively autonomous and mutually interdependent. The starting point in the acquisition of language is intersychic communication, the aim of which is to regulate and to direct social activity. The status of a linguistic sign is in this phase that of a situational intersubjective index, and its function is to mediate a certain meaning in a given situation. Index is "Schein". It is the immediate, superficial and specific representation of an apparent phenomenon. Symbol in its turn is the area of regularity, system, norm and generality. The specific and the general are not mutually reducible. The general is manifested in the specific. Accordingly, expressed in different terms, langue is manifested in parole; competence is manifested in performance; usage is manifested in use; symbol is manifested in index.

Different functions of language have their roots in dialogue, which is the primary and the first use of language. Gradually, as the ontogenetic development proceeds forward, intersychic speech turns into intrapsychic internal speech. As Levina (1982) has shown in her study under the guidance of Vygotsky, also internal speech directs and regulates activity. There is, furthermore, an intermediate phase between the intersychic and intrapsychic speech, which is usually referred to as egocentric speech. Although this type of speech appears to be external, its function is the same as that of the internal speech: it is used by a child in the direction and regulation of his/her own activity. However, as Vygotsky (1982) noticed, egocentric speech requires the presence of another person, adult or peer. An interesting exception to this requirement, observed for instance by Weir (1962. Jakobson 1971: 240) is a child's "song of dream", a type of

egocentric speech just before a child falls asleep, which doesn't require the presence of anybody else.

An important qualitative phase of development in the acquisition of a sign is reached at the age of 1.6-2. At this age a child's speech becomes rational and his/her thought becomes verbal, as was stated by Vygotsky (1982). A child becomes conscious of the existence of language both as form and carrier of meaning. This is manifested in a child's conscious play with and manipulation of sounds and words. From now on a child also learns new words not only through somebody else, but on his/her own initiative by showing a particular phenomenon and asking the corresponding word by simply using an important new word: what. According to Luria (1981) and Leont'ev (1979) beside the directive and regulative functions of language in inter- and intrapsychic communication, language now develops new functions as an instrument for thought and logical thinking. Verbal formation of concepts, and the use of the concepts in thinking becomes possible in this phase of ontogenetic development. However, it will still take years before fully developed formations of concept take place.

The different functions of language in communication - directing, regulating, referring - and, on the other hand, the functions of language as an instrument for thought and formation of concepts illustrate how difficult it is to make a distinction between meaning and concept in thinking. Meaning has a heuristic component which on the level of index is situational, whereas a word necessarily also generalizes and classifies a phenomenon as Vygotsky (1982) points out. In that sense a word is always general. It generalizes and denotes, and somehow after all reaches outside the particular situation. As was stated above, meaning on the level of index is always a question of negotiation, a transaction. Concept, on the other hand, is an instrument for the acquisition of reality and at the same time a result of this acquisition, because it is formed in the course of social rational-sensational activity. Furthermore, also symbol, as a given component of the language system, is always present as a starting point for negotiation and as a generalized meaning and an abstract value. Thus, the acquisition of a linguistic sign expands at the same time towards three directions: in the direction of the differentiation of the functions of index; in the direction of the formation of different types of concepts; and finally in the direction of building up the language norm and system. The acquisition of language in

ontogenesis goes through various qualitative phases, during which the structure of the sign, its relation to its referent and its functions are formed, and again radically reformed. The description of that development is not the aim of this presentation, but demands an independent study.

6. The Second Dimension of the Linguistic Sign: Concept and the Acquisition of Reality

Referring to Lenin, Vygotsky states that a word is always a generalization. Vygotsky (1982: 106-152) studies the formation of concepts in ontogenesis in detail. In the formation of concepts there are two simultaneous lines of development. On one hand, a concept is formed by combining phenomena. Thus, through combination, similar types of phenomena are classified by one concept. On the other hand, the central or essential quality shared by different phenomena is abstracted from these phenomena to form the basis for the classification. The result of these two simultaneous processes, classification and abstraction, in which the final definition of a concept takes place in the form of a linguistic sign/linguistic signs, is generalization. The process of generalization remains flexible, because classification and abstraction can be carried out repeatedly on different grounds. Thus, the final result changes each time when the criteria for the abstraction and classification change. A phenomenon once defined can always be redefined by changing the criteria of the point of view and the level of generalization.

Following Piaget Vygotsky makes a distinction between two main classes of concepts: spontaneous and scientific concepts (1982: 157; Luria, 1982: 252-266). Spontaneous concepts define immediately observable, concrete and familiar phenomena. They are unconscious, involuntary, and a child is not able to give a verbal definition of them. Their structure is syntagmatic, non-hierarchic and situational, e.g.: hammer - nail - wood - tar - boat.

Scientific concepts, on the other hand, are learned at school through linguistic or other kinds of signs without a learner's own individual concrete experience. They refer to unknown phenomena, unobservable in the immediate situation. A learner, when learning a scientific concept, from the very first beginning also learns to define the concept verbally. Through this kind of learning scientific concepts form objects for conscious and voluntary theoretical activity. Mastery of scientific concepts requires their acquisition

as a part of a hierarchic system, a paradigm, e.g.: hammer - tool - a means of production - social formation.

The acquisition of scientific concepts is based on the command of spontaneous concepts, but, moreover, they demand an ability to break away from the influence of immediate sense impression and to cross the limits of the immediate situation. They make possible a theoretical approach to reality. Through the acquisition of scientific concepts spontaneous concepts also tend to develop in the direction of scientific concepts. Little by little, they are used to describe even paradigmatic relations.

7. The Third Dimension of the Linguistic Sign: Symbol and its Basic Structure

Saussure divided the linguistic relations into two main classes: syntagmatic and associative. Syntagmatic relations according to Saussure are linear. They are formed of units following each other, qualifying and valuing each other in oppositional relations. Syntagmatic relations are based on combination. Associative relations, on the other hand, are based on the principle of selectivity, a quality which separates one unit from the others and unites it with others. As Saussure (1970: 158) states, associative relations are mental in nature in the sense that the actual associations take place at the level of thinking. How this association actually takes place remains a problem. One of the examples that he gives, enseignement, is one unit among associative terms like enseigner, apprentissage, education, changement, clement etc. The uniting element, thus, can be the root of the word, a suffix, analogy, similarity of the utterance etc. The two central qualities of the associative relations are the undetermined order and undetermined number. The latter can, however, be determined for instance in the case of grammatical paradigms, in which the number of different inflectional forms is determined.

Jakobson (1979: 84, 168) criticizes Saussure's dichotomy, and replaces it with his own classification into syntagmatic and paradigmatic relations. Accordingly, the principle of linearity is no more considered only from the point of view of time and combination, but also from the point of view of selection, choice and distinction. The basis for this classification is formed by distinctive features, which are simultaneous in nature. This being the case, linearity consists of syntagmatic and paradigmatic relations, and on

the level of linearity, non-simultaneity and simultaneity meet. Jakobson makes a correction in Saussure's main work edited by his students Bally and Sechehaye: he claims that also according to Saussure's own notes the elements of the phonemes, not the phonemes themselves, receive a pure oppositional, relative and negative value. The same type of dichotomy, the systematic dichotomy of distinctive features is according to Jakobson (1979: 172) the basis of the grammatical structure of a language. The notions of binary opposition and distinctive feature in this sense originally come from Bloomfield.

However, some years ahead of Saussure, Carl Svedelius (1897) divided the utterances of a language into two main classes, those that express timeless relations and those that express processes or events tied in time and place. Differences between different types of utterances are manifested in the use of different grammatical elements in different languages. The following comparison by Svedelius (1944) between Swedish and Spanish is very illuminating:

An utterance of relation: Socker är sött. El azúcar es dulce.

An utterance of process: Kaffet är sött. El café esta dulce.

The former utterances above give a timeless description, whereas the latter are descriptions of a certain event.

In which way do the syntagmatic and paradigmatic relations exist in the psychological reality of a language user? This was a problem which Luria was concerned with when he developed his neuropsychological research. Theoretically Luria, in fact, tackled the problem on the basis of those linguistic theories. His central point of departure being Svedelius's dissertation, Luria also noticed its connections with Jakobson's theory. Inspired by the work of Svedelius, Luria (1976) reclassified the types of aphasia which he had described and classified in the course of tens of years of theoretical and clinical work. In paradigmatic processing, phonematic and semantic selections are made, whereas in syntagmatic processing the words are combined into utterances. Luria came to the conclusion that different types of aphasia can be divided into two main classes: On one hand, there are those types of aphasia which are caused by injuries in the temporal area of the brain, and on the other hand, those types of aphasia which are caused by injuries in the parieto-occipital area of the brain, which carries

out simultaneous situational analysis. In other words, the analysis of the syntagmatic relations of language takes place in one part of the brain and the analysis of the paradigmatic relations in another. The synthesis of these two analyses forms the analysis of the linguistic sign as a whole. All in all, many different areas of the brain take part in the encoding and decoding of speech, and as Luria (1980) expresses it, the brain forms a functional system.

8. The Linguistic Sign in Ontogenesis

There is reason to examine the classification into syntagmatic and paradigmatic relations in the light of ontogenetic development. The following examples illustrate the linguistic development in ontogenesis:

A: where are we on the way now?
 B: to William
 A: who was this William again, do you remember?
 B: well, William goes to school

A = an adult; B = a child (transl. from Finnish)

B's second answer to A's question is at first look a little surprising. A is, in fact, waiting for an answer like: William is my cousin, or something in that direction. An utterance of this kind, however, would be an utterance of relation, in Svedelius's terms. An utterance of relation, as Luria pointed out, requires a simultaneous spatial analysis: cousin = child of parents' sister or brother. The child in this example answered as well as she could by a syntagmatic structure, which she mastered. This sort of utterance, an utterance of process, does not classify, but describes a concrete situation. In this particular case cousin William is one part of the situation described. One more conversation of the same type as an example to confirm the previous analysis:

A: who did we visit
 B: William
 A: who was this William again
 B: well, he is with that Mary and Charles and John

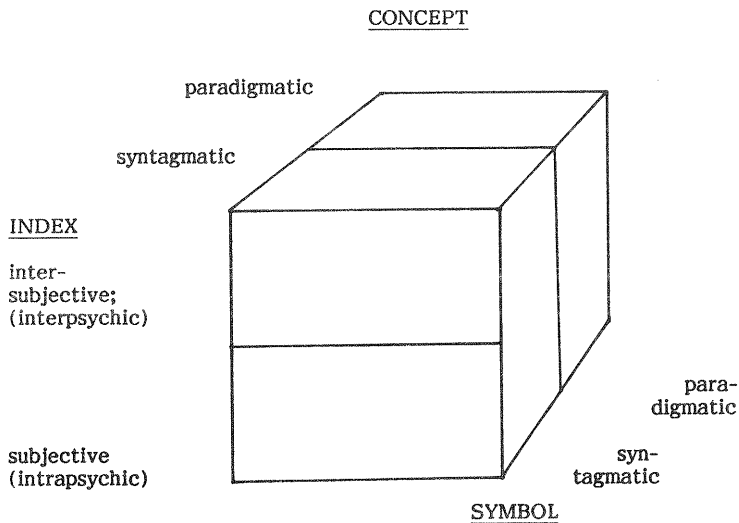
Again the child, in her answer, tries to define William by describing the particular situation, in this case giving an account of William's family,

instead of aiming at a verbal definition of paradigmatic relations. At her age, 4 years, that would be impossible.

9. Summary: The Potential Linguistic Sign

Figure 1 illustrates the three dimensional model of the linguistic sign outlined in this presentation. It is a model of an objectively existing potential of the linguistic sign which an individual has to acquire in the course of ontogenetic development. The different dimensions as objects of different branches of science are here presented in a categorical way - in practice the different aspects often overlap, especially in applied linguistics. On the other hand, one has to keep in mind the two mutually opposite directions of the development of sciences, integration and differentiation. This model rather stresses the former direction, without denying the necessity of the latter.

FIGURE 1: A COMPREHENSIVE MODEL OF THE LINGUISTIC SIGN



DIMENSION I:

<u>INDEX:</u>	intersubjective, subjective; inter- and intrapsychic instrument of communication and thought (use; parole; performance)
<u>SIGN STATUS:</u>	specific, heuristic
<u>SIGN FUNCTION:</u>	situational, textual
<u>METHOD OF DESCRIPTION:</u>	applied linguistics; discourse analysis
<u>SUBJECT OF DESCRIPTION:</u>	language use; sense - meaning-relation
<u>TYPE OF UTTERANCE:</u>	utterance of process

DIMENSION II:

<u>CONCEPT:</u>	syntagmatic spontaneous concepts paradigmatic scientific concepts
<u>SIGN STATUS:</u>	epistemic
<u>SIGN FUNCTION:</u>	generalization (abstraction and classification)
<u>METHOD OF DESCRIPTION:</u>	developmental psychology; psychology of learning
<u>SUBJECT OF DESCRIPTION:</u>	formation and acquisition of concepts
<u>TYPE OF UTTERANCE:</u>	utterance of relation

DIMENSION III:

<u>SYMBOL:</u>	language structure (code; usage; langue; competence)
<u>SIGN STATUS:</u>	general, system dependent
<u>SIGN FUNCTION:</u>	denotation; signification
<u>METHOD OF DESCRIPTION:</u>	linguistics; grammatical theory; semantics; stylistics
<u>SUBJECT OF DESCRIPTION:</u>	phoneme; morpheme; clause; text
<u>TYPE OF UTTERANCE:</u>	clause (utterances of process and relation)

The applicability of the model described above can be considered from three different points of view: Firstly, it can function as a theoretical model of the sign in linguistic research aiming at a comprehensive linguistic description. Secondly, it can function as a common ground for a synthesis of the results from different traditions, theories and methods. Finally, it can function as a model for the description and evaluation of the potential outcome of language acquisition. However, being synchronic, static and structural in its nature, the model cannot be directly applied in the description of language development in ontogenesis. It is a model of the potential outcome of this development and does not describe the different phases in the structure of the sign in the course of the ontogenetic development. For that purpose we need an additional model in order to make the picture clear all the way.

10. DISCUSSION

If a linguistic sign is described only in the manner suggested above, it remains hanging in an empty space. At this point, at least, we will have to introduce a concept which aptly relates language to both individual and society. This concept is that of the ideal. As Ilyenkov points out following Marx, the ideal is "nothing else than the material world reflected by the human mind, and translated into forms of thought" (Marx: 1974: 29. Ilyenkov: 1977b: 72). Accordingly, the acquisition of the material linguistic sign takes place in the form of an ideal. The form of existence of an ideal is a process, which Ilyenkov illustrates with the following chain: phenomenon - action - word - action - phenomenon. In this process, language functions as an instrument for regulation, direction and mediation in human social activity, the original aim of which is to change nature. Furthermore, in communicative activity language also takes the position of the object of the activity, which is originally the position of the phenomenon in nature. Thus, in that case, language has a double function being a constitutive element in the process twice: sound/meaning/text - action - word - action - sound/meaning/text. In verbal thinking a linguistic sign is intertwined with the sensory and object-orientated activity (sinnlich-gegenständliche Tätigkeit).

As was stated, the dimension of index is stressed in communicative activity, whereas the dimension of concept is the central one in mental

rational activity aimed at the acquisition of reality. The dimension of symbol, in its turn, forms the conventional outcome of linguistic and rational activity, on which future activity is built up. It is worth noticing that the dimension of symbol, an outcome of negotiation as it is, is really only convention and not consensus. If there were consensus reigning in the area of symbol, the work of grammarians would get considerably easier. One solution, as Itkonen (1983: 60) suggests, is to concentrate on those phenomena where there actually is consensus.

The three dimensions of the linguistic sign, concept, index and symbol - even though relatively independent as they are - form one unseparable unity. A linguistic sign, which an individual acquires through a dialogue, and which refers to, signifies and generalizes phenomena in reality, and which mediates, directs and regulates object-orientated human activity, functions as a whole. The dimensions of a linguistic sign function as a whole unity, which, according to Herakleitos, is one and the same.

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