



VLADIMÍR BLÁŽEK

DEVELOPMENT OF A COMMUNICATIVE-REGULATIVE SYSTEM IN THE HOMINIZATION PROCESS

ABSTRACT. — *Author describes a hypothetical model of development of a communicative-regulative system in the hominization process, including appearance of speech. This model issues from functions (representational, expressive, regulative, social) and structure (components: verbal, extralinguistic and vocal non-verbal, mime-gesticulation etc.) of human communication.*

KEY WORDS: *Functions — Structure and development of communicative-regulative system — Appearance of speech.*

Speech as the most important component of the communicative-regulative system of human activity played an essential role in anthropogenesis and especially in the development of human society. In the course of this process the individual functions of the communicative-regulative system gradually gained independence and its independent components separated.

According to common knowledge, speech is an instrument of communication, i.e. it serves as a means of passing on information. This idea, however, is a considerable simplification. In fact, speech has different functions, and moreover it should be regarded as one the mechanisms (be it the most perfect or complex) fulfilling these functions. It should be, therefore, understood in the context of other human activities.

Speech fulfils the following main functions:

1. representational (including the formation of thinking),
2. expressive,
3. regulative (these three functions — Bühler, 1934),

4. social (formation and maintaining of contact — e.g. Blážek, Špaček, in press).

The representational function of speech has symbolic character. Speech is one of the results of symbolic functions. As symbolic functions we regard sets of stabilized activities of sign systems. Developmentally they follow sensoro-motor and memory processes and mechanisms of learning. A fundamental feature of symbolic functions is the ability to represent a fact through a sign. It is, therefore, a process of sign-assignment, of semiosis (Linhart, 1976). Symbolic functions and the associated processes of semiosis are one of the basic problems of anthropogenesis (Bertalanffy, 1972). The concept of symbolic function, however, is from this point of view wider than the concept of speech (non-linguistic symbolic functions in infants and primates).

Through representation speech serves as a means of communication with other people, of expressing and passing on ideas while using different languages. This communication enables continual supplementation and enrichment of the picture of the world in the consciousness of an individual what is

reflected in a social consciousness. Here speech has a close relation to thinking for, although it cannot be identified with thinking, it forms a dialectical unity with it and it is also its instrument (Vygotsky, 1965).

The expressive function of speech makes it possible to express the inner (or emotional) condition of the individual, his emotional experience. Most probably it is a transformation of older non-verbal mechanisms into speech form, which, however, makes possible far more subtle and exact differentiation. The original mechanisms are partly preserved, depending, however, to a considerable extent on culture.

The regulative functions (speech as a command, appeal) serve as a means of communicating instructions, orders, directives, wishes and warnings. In this sense speech is integrated in a wide context of practical cooperation between communicating persons. In principle it is a fundamental function both from the point of view of influence of speech on behaviour of other people and in the sense of auto-regulation. Similarly to other functions here also non-verbal forms, preserved in dependence on cultural development, were found to precede.

Further on speech has a social function, for it enables the formation and maintaining of contact in social interaction, without any special significance of the content of the message proper. Also here as in the expressive function it is a transformation of originally non-verbal complex mechanisms.

All the functions are preformed and supplemented, as was already hinted, by non-verbal manifestations — by gestures, mime, extralinguistic and vocal non-verbal manifestations. With respect to various functions of speech and to non-verbal manifestations substituting it, these human activities can be included in a more general concept of communicative-regulative system of human activity.

Here is also necessary to say that all the four functions of the communicative-regulative system can overlap in certain situations, or a verbal or non-verbal manifestations can occasionally fulfil more than one function or also different functions in different situations.

The concept of communicative-regulative system of human activity partly removes difficulties connected with different understanding of the concepts of speech, verbal behaviour, etc., and also with the expression of the relationships of verbal and non-verbal activities in phylogenesis.

In the next part of the present paper we wish to summarize the ideas on the initial state of the communicative-regulative system, indicate the main factors acting in its development and compare the supposed initial state and final state. In the hypothetical supposed initial state we must start from comparative observation of the communicative-regulative system in primates, especially in apes, in spite of the questionable character of this comparison due to a different phylogenetic development. Further, our only resource is the study of these questions in primitive nations on various levels of cultural development and in relationship to the way

of life and to life environment, as well as a thorough acquaintance with contemporary conditions by means of logical considerations and speculative generalizations and shortcuts. Comparison with ontogenetic development, however, brings many problems.

The hypothetical original state of the communicative-regulative system of early hominids, which was of non-verbal character, might have looked as follows:

It contained a vocal and a mime-gesticulation component and a component of further external manifestations of internal processes. The third component was a lesser importance than the preceding two but from time to time it was utilized in interactions between individuals as well. The vocal and mime-gesticulation components overlapped closely, neither being in principle stronger.

The chief function of the communicative-regulative system was the expression of the inner state, which was essentially of regulative character. To a lesser extent, however, from a certain time we must assume the beginnings of the proper regulative function following from the expressive function, and also the beginnings of the representational function connected with information exchange.

The significance of the communicative-regulative system was primarily in tuning the "receiving" individual to the inner state of the "emitting" individual, further in asserting a dominant position in the troop and, on the other hand, in expressing the respect for it, and further in warning against an external danger in indicating a source of food, and the like. All of this made it possible to maintain the integrity of the group (troop) and its adaptation to changing living conditions. The reinforcement of this process is the chief biological significance of a further differentiation of the complex communicative-regulative system including the appearance of speech, which was to play later a dominant role in it.

The indispensable conditions for further development of the communicative-regulative system were the following:

1. High level of the development of central nervous system and higher nervous activity and its differentiation. It also means the ability to abstract and the existence on non-verbal symbolic functions.

2. Complex social structure of the subhuman troop, primarily a complex structure of communication and ability to emit and receive signals, further a prolongation of the immature period of the individual, formation of settlements, big game hunting and division of work. Certainly social heredity was found here, too.

3. Production and use of tools — material culture.

These factors enabled a parallel development of vocal and non-vocal components and the appearance of a recording component (called permanent signs, which according to Revzin (1974) were one of three basic systems of prolongation). Its appearance (in freely living primates is practically non-existent) can be on our assumption connected

with forming settlements, but especially with the existence of material culture. Various authors suppose that the mime-gesticulation (non-vocal) component was the most important. Communication through gestures then stood at the beginning of the road to articulate voiced language. It can be assumed that at the starting communication through gestures had the character of simple pointing and that with gestures it was possible to execute a simple syntax of objects as well. The importance of this idea consists in the fact that these signals were, unlike vocal signals, discrete. The fusion of the above two or three components (if we recognize the significance of the so-called permanent, also discrete signs) led to substituting of one component with another and to introducing discreteness into the vocal component. Together with this development the regulative function was reinforced and in dependence on it the representational function as well.

At the outset the need to communicate was sufficiently covered by the non-verbal component, later, however, it was not sufficient because the number of objects, situations, phenomena and activities, both natural and artificial, which was important for our ancestors became wider. This is bound to bring the development of the vocal component and the independence of the verbal component, and at the same time also a relative stagnation of the non-verbal component. The verbal component probably asserted itself in all functions, especially in the regulative and representational ones, but it was also transferred into the emotional sphere (expressive function) and the contact sphere (social function). Originally, however, certain sounds, gestures, etc. were assigned to individual objects, situations, phenomena and activities so that the natural language became too complex. This led to simplification by means of articulation, and later at the birth of languages, by means of grammatical rules. The result of this whole development is a strong dominance of the verbal component.

It is necessary to point out here that the above-mentioned process of growing complication of the external world represents only one aspect of a manifold process whose further aspects are the rise of

culture and human society, and of individual consciousness as well.

In the final phase, the communicative-regulative system of human activity has the following structure: It is strongly dominated by the verbal component, further it contains an extralinguistic and vocal non-verbal component (a remainder of the original vocal component partly modified by verbal manifestations), a mime-gesticulation component, a recording component and finally one of small significance, namely a component of further external manifestations of inner processes which unlike the preceding components is minimally or not at all under the control of will. The extralinguistic and vocal non-verbal component operates in singing (mostly together with the verbal component which, however, is not greatly significant here). Music is then an instrumental substitute of singing, probably however, in connection with dances arising from the mime-gesticulation component. The recording component found its manifestations on the one hand in written speech, on the other in plastic art.

The functions of the communicative-regulative system are as was explained in more detail in the introduction, representational (i.e. especially passing on information including their storage), regulative (control and coordination of human activity), expressive (expressing the emotional, inner state) and social (forming and maintaining a contact).

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Vladimír Blažek
 Psychologický ústav ČSAV
 Pod vodárenskou věží 4
 182 00 Praha 8