Semiotic Conceptualization of Human Body: Lexicographical or Database System Description?[*]

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The paper focuses on some possible means of lexicographical description of the human body both in natural languages and in nonverbal semiotic systems. The Russian language and the Russian body language present significant material for constructing semiotic representation of the human body and its parts. Two basic modes for such a representation-explanatory dictionaries and database systems-are discussed in detail. It is argued that database systems provide, on the one hand, more explicit and rigorous format for the comparative analysis of gestures, postures, mimics and other nonverbal signs, and natural language expressions, on the other hand, than explanatory language and gesture dictionaries.

Research into the phenomenon of corporeality, as well as cognitive and conceptual analyses of human body and its parts, has demonstrated that a uniform description of the two languages, natural language (NL) and body language (BL) could be achieved only within uniform and highly specialized lexicographic format. I can positively state today that one of the stimulating working instruments, both trustworthy and useful in constructing the description, is the *database approach*; the traditional lexicographical approaches are not fruitful in this case. I argue that if one wants to show how human body or its parts are represented in different semiotic codes, one should have a common basis for the description. This basis must be formed by the features, or characteristics, which a body possesses. Examples of such features are shape, size, color, structure, typical movements of the body or its parts, primary functions, etc.

1. Gestures in dictionaries, or lexicographical approaches to gestures

Initially my research group has proceeded along the lexicographic path and worked out several new types of semiotic dictionaries.

It is a well-known fact that linguistic dictionaries are the main tools for storing information about verbal signs of different kinds. There are also specialized nonverbal dictionaries in which the lexicon comprises various BL signs, i.e. gestures proper, postures, facial expressions, meaningful glances and meaningful body movements. Among the classes of existing dictionaries of BL units one can identify (a) popular monolingual dictionaries of everyday gestures, (b) different bilingual guidebooks to nonverbal units and (c) mono- or bilingual dictionaries of gesture collocations.

All these books share some positive and negative properties. Thus, they are designed to describe commonly used gestures and they include information useful in everyday communicative practice, but they are not oriented towards scientific lexicographic presentation of nonverbal data. In particular, BL dictionaries do not contain exhaustive semantic explanations of entry units; usually they confine themselves to one-word synonyms or rough explications of nonverbal meanings. The great majority of nonverbal manuals neglect the most significant ideas and achievements in modern lexicography, such as the coordination of verbal and nonverbal types of information within one dictionary or the integration of lexical information and rules of grammar of verbal, nonverbal or verbal-nonverbal type. The language of description, or metalanguage, used in these dictionaries is not yet fully formalized and is too imprecise and implicit to express correctly all the necessary lexicographical information concerning nonverbal semiotic units and NL expressions that tend to

accompany these units. Last but not least, the existing nonverbal dictionaries aim at solving linguistic problems exclusively with BL units. They include a great deal of useful information about their meanings and usage and describe their relationships with other BL signs, but they do not solve the problems I address here. I have in mind both the problems of the comparative analysis of verbal and nonverbal semiotic codes and the problems of the semiotic representation of human body.

I must confess that even the Dictionary of Russian Gestures (DRG, published in 2001), which was compiled by my students and myself, fails to solve these problems. Our goal was then to present a complete, rigorous and consistent description of the main emblems in the Russian BL. (Emblems, or emblematic gestures in a broad sense of the word, are body signs of a particular semiotic type: emblems have autonomous and distinct lexical meanings, and they are capable of codifying and communicating their meanings irrespective of verbal context.)

The lexicon of the DRG embraces emblems belonging to various semantic types. The lexicographic information in the DRG includes, inter alia, a physical representation of the entry gesture unit, its typical NL name, and syntactic properties of the gesture. Lexical entries also include a semantic definition of the gesture, its stylistic specification, etymology, examples of usage, etc. All in all, the vocabulary includes about 120 emblems (about 60 dictionary entries), which can occur in different styles and modes of speech. All the information within the dictionary entries is distributed over 17 areas, or zones. Among them there are several zones that contain natural language information associated with the emblems.

Working on the DRG, the authors wanted to present all the information about BL and NL units in one readable and formally specified metalanguage. Back then it was designed for scientific description of BL units and not aimed at producing an integral, holistic semiotic conceptualization of human body. The DRG was just the first and preliminary step on the way to creating two formal models—the model of comparative analysis of verbal and nonverbal semiotic systems and the model of their interaction in communication.

2. The database system of nonverbal semiotic data and database approach to human body and body parts

The new "feature" approach presupposes a description of two sets: the set of features and the set of their values. The result obtained in the process of ascribing all possible values to features that a body part possesses can be represented as a scheme of the database type. That is why the feature approach might be called also a "database" approach, and its resulting scheme is a fragment of the database model.

The database approach provides for the coordinated description we are seeking. As an output we must produce a fragment of the so-called "naïve semiotic picture of the world". It will demonstrate how the human body and its parts are represented in human mind and how they are codified in the NL or/and BL signs. In other words, the semiotic conceptualization of the world is a formal analogue of the informal concept of "naïve semiotic picture of the world".

NL and BL dictionaries generated by the lexicographical approach also supply their users with information about the human body and its parts. But this information is accidental and non-systematic; the sets of verbal and nonverbal units that reflect it are also accidental. The contribution of the dictionary data to the semantics of human body parts is often linguistically insignificant or culturally unimportant. Contrary to the traditional lexicographical approach, the database approach leads to a single and universal scheme that is both suitable for the description of various semiotic units and independent of the specific properties of the semiotic codes. The scheme we want to obtain is the natural database for a comparative analysis of these codes. It tells us about how human body and its parts are presented in the codes investigated.

In conclusion, I shall give examples of some peculiar features in the database. One feature is "mereology", or "meronymy". It describes the hyponymy relations between the body (or certain body part) and other body parts, e. g. *arm – body, finger – hand*, nail – *finger*, etc.

Two other features are "typical actions performed by a body part" and "typical actions performed upon a body part". The Russian gesture *ruki vverh!* ("hands up!") refers to an action performed by one's hands (hands are an active organ here). The NL expression *to put one's hands on one's shoulders* contains two words referring to body parts "hands" and "shoulders". The word *hands* corresponds to the active organ, and the word *shoulders* to the passive organ, and the whole expression conveys the idea of an action performed by hands upon shoulders.

The feature "location" is determined not with respect to the body part itself, but to the whole body or the body part *in the actual movement*: the feature tells about their places. For example, in the sentence *Ivanov examined himself in the mirror from head to toe* the location of the glance is the agent's (Ivanov's) body, and in the sentence *Ivanov looked at Petrov with contempt* the location is the addressee's (Petrov's) body. In the expression *to put one's hand to one's forehead* the hand of the gesture performer is located on his/her forehead, whereas in the sentence *She put her hand to his forehead and found it hot* it is placed on the addressee's forehead. Finally, in the gesture *to show one's thumb* the location of the thumb is the part of space that may be called "above".

The feature "location" is applied for description of gestures performed by two or more body parts. It is used to describe such gestures more precisely in terms of topography, i. e. co-location of body parts. Thus, the form of the *arc posture* in the North American BL can be described in the following way: the hands of the gesturer are placed behind his/her head (this shows the co-location of the hands and the head) and put together forming a kind of arc (this shows the co-location of hands), whereas legs are stretched forward (this shows not their topography but their space location).

The knowledge of topography and locations of body parts helps to understand the meaning of many NL phraseological units. In the Russian culture the idea that non-speaking is strongly connected with holding one's tongue behind one's teeth is encapsulated in the phraseological expression *derzhat' jazyk za zubami*. The expression has a literal meaning "to hold one's tongue behind one's teeth". But the position of the tongue codified in it leads to complete silence, and that accounts for the existence of another, derivative meaning of the expression—"not to say something you shouldn't say".

While designing the semiotic conceptualization of human body we solve several related tasks as well. One of these is the typological description of the human body features and of their values.

At the primary typological stage all the features are divided into two classes, the *functional* features and the *structural* features. The functional features are dynamic, for they characterize the ability of a body part to participate in different actions, e.g. the ability to move or to fulfill certain functions (to grab, to walk, to wear, to think and so on.) The structural features are static. They characterize various physical properties of the body or its parts—morphological (e. g. rigidity), geometrical (shape, size), topographical (co-location), etc.

Another important classification of body parts' features, both structural and functional, is based on their sensory perception. Some sensory systems react better to manifestation of certain structural rather than functional features; other systems behave in an opposite way. Hearing is oriented mostly towards functional features: we can hear the sound of steps, the crack of knuckles, sounds of clapping, patting on shoulders, rubbing hands, etc. Vision perceives features of both types, as we see not only forms or sizes of visible body parts but their movements as well. Touching is closer to vision in this aspect. It informs us about structural characteristics (texture, softness, unevenness, roughness) and functional characteristics. When a person performs various actions and comes into contact with another person's body part, he/she conveys different ideas, e.g. friendly slapping conveys sympathy, kissing conveys love and some other good feelings, etc. Thus, touching deals with some functional characteristics of the human body.

The other typological classes I am going to discuss are formed on the basis of several oppositions. Among them are the following:

(a) Features inherent in the body part itself vs. features that reflect interaction between different body parts vs. features that describe different processes taking place inside the body
(e.g. emissions, flow of blood, heartbeat);

(b) Constant features (e.g. topology, typical actions) vs. variable features (e.g. size, color, shape, direction of body movement);

(c) Controllable features, i.e. those whose values can vary according to the will of a human being (e. g. direction of body movement, speed, the form that the healthy human body can take) vs. uncontrollable features (color, temperature, inner processes).

Finally, I want to add that all researchers who study human communication have at least one common goal, namely, to understand what forces involve people into verbal, nonverbal, or combined exchanges and what are the typical models of verbal and nonverbal behavior in different cultures and countries. Many people want to learn how to understand other people's behavior and how to interpret their gestures, postures, glances, facial expressions or body movements. The database approach to human body and its parts will positively help us to obtain correct answers to these questions.

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