The article presents the critical review of modern theories of linguistic categorization in view of using natural language categorization as a means of formal knowledge description. The article targets at integrating the classical conceptions of linguistic categorization, based on the postulates of logic and philosophy, and cognitive categorization described within the framework of the prototype theory. The categorization potential of the formal language IMAL has been carefully analyzed. Basic ways of using linguistic categorization in formal coding of language are suggested.

Keywords: *category, categorization, linguistic category, Linguistic categorization, knowledge.*

CULTURAL SEMIOTICS:
TOWARDS THE NOTION OF CULTURAL SEMIOSIS

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The article addresses the issue of the traditional definition of semiosis as the process involving objects' representations functioning as signs and futher elaboration of this definition in cultural semiotics. The author claims that the semiotics of culture primarily encompasses information processes, while the culturally marked mechanism of transforming information into text appears to be but another definition of semiosis. The article focuses on culture text as a structure facilitating culture's acquiring information about itself and contextually functioning as "mind" (J. Lotman). From this standpoint semiosis is described as the communication-oriented process of generating senses which unfolds when culture texts emerge in the mental space.

Key words: *sign, semiosis, culture, semiotics of culture, culture text.*

> Culture is a space of mind for the production of semiosis
> *Juri Lotman*

Reflection on signs and meaning is, of course, nothing new. The **purpose** of this essay is to revise some fundamental ideas concerning semiosis as the process of cooperation between signs, their objects, and their interpretants and to introduce some new understanding of the notion of cultural semiosis.

Philosophers and linguists have always discussed signs in one way or another but until recently this discussion of signs has always been ancillary to some other enterprise, usually a discussion of language or psychology. There had been no attempt to bring together the whole range of phenomena, linguistic and non-linguistic, which could be considered as signs, and to reset the issues of the sign as the centre of intellectual enquiry. It was only in the early years of the 20th century that the American philosopher Charles Sanders Pierce and the Swiss linguist Ferdinand de Saussure envisaged a comprehensive science of signs. The following two linguistic traditions lie at the heart of semiotics. The programme outlined by Ferdinand de Saussure was easy to grasp: linguistics would serve as example and its basic concepts would be applied to other domains of social and cultural life. The scientist suggests making explicit the system (*langue*) which underlies and makes possible meaningful events (*parole*). He is concerned with the system as functioning totality (*synchronic analysis*), not with the historical provenance of its various elements (diachronic analysis), and he suggests describing two kinds of relations: contrast or opposition between signs (*paradigmatic relations*) and possibilities of combination through which signs create larger units (*syntagmatic relations*).

Charles S. Peirce is a very different case. He devoted himself to "semeiotic" as he called it, which would be the science of sciences, since "the entire universe is perfused with signs if it is not composed exclusively of signs" [16, 394]. If so, then the question arises, what are the species of signs, the important distinctions? Peirce's voluminous writings on semiotics are full of taxonomic speculations which grow increasingly more complicated. There are 10 trichotomies by which signs can be classified (only one of which, distinguishing icon, index and symbol, has been influential), yielding a possible 59 049 classes of sign. Certain redundancies and dependencies allowed reducing this number to 66 classes but even this has been too many. One has to agree with Jonathan Culler that the complexity of his scheme and the swarm of neologisms created to characterize the 66 types of sign have discouraged others from entering his system and exploring his insights [5].

Both semiotic projects have produced different ideas concerning semiosis. In structuralist tradition semiosis is the operation which, by setting up a relationship of reciprocal presupposiotion between the expression form and the content form (in Lui Hjelmslev's terminology) — or the signifier and the signified (Ferdinand de Saussure) — produces signs: in this sense any language act implies a semiosis. The term is synonymous with semiotic function [7, 285]. Ch. Pierce used the term semeiosy to designate any sign action or sign process, and also semiosis (pluralized as semioses). He claims that its variant semeiosis "in Greek of the Roman period, as early as Cicero's time, if I remember rightly, meant the action of almost any kind of signs" (cited from [14, 28]). For Charles S. Pierce, semiosis is an irreducibly triadic process in which an object generates a sign of itself and, in turn, the sign generates an interpretant of itself. The interpretant in its turn generates a further interpretant, ad infinitum. Thus semiosis is a process in which a potentially endless series of interpretants is generated. A sign thus stands for something (its object); it stands for something to somebody (its interpretant); and finally it stands for something to somebody in some respect (this respect is called its ground). These terms, representamen, object, interpretant and ground can thus be seen to refer to the means by which the sign signifies. The relationship between them determines the precise nature of the process of semiosis. This relation must be read in two directions, firstly as determination, and secondly as representation: the object "determines" the interpretant, mediated by the sign, and both the sign and the interpretant "represent" the object. As Richard Parmentier says, these are "two opposed yet interlocking vectors involved in semiosis" [12, 4]. If these vectors are brought into proper relations then knowledge of objects through signs is possible.

Thus, semiosis can be defined as the process by which representations of objects function as signs. It is a process of cooperation between signs, their objects, and their interpretants. Semiotics studies semiosis and is an inquiry into the conditions that are necessary in order for representations of objects to function as signs. Charles S. Pierce's point of departure is that anything that can be isolated, then connected with something else and interpreted, can function as a sign. That's why, as Terence Hawkes claims, one of that most important areas in which his notion of sign will usefully operate will be that of epistemology: the analysis of the process of "knowing" itself; of how knowledge is possible [8, 128]. But theories of semiotic mediation, such as those proposed by Lev Vygotsky, Mikhail Bakhtin, Benjamin Lee Whorf and some others, agree on viewing signs and linguistic signs, in particular, as being simultaneously both: 1) means of rationality in human cognition and 2) instruments of communication in social interaction. The exchange of signs in the context of interaction is socially meaningful only if there exist conventional rules equating signs and meanings across contexts. A unique feature of human semiotic activity is its capability of using signs to index (that is, contextually signal), refer to (that is semantically denote), and objectify (that is make concrete and real) different semiotic systems. The entire set of sign systems which endow the external world with value is the most general definition of culture: cultural signs form an interpretative mechanism through which the world is rendered meaningful.

The semiotic view of culture assumes the multiplicity, diversity, stratification and intercorrelation of sign systems which are investigated on various levels. Indeed it encompasses all communicative behavior that is cultural (meaningful, shared, organized, and dynamic). Following this approach, the synchronic and diachronic aspects of semiotic systems are viewed to be inseparably related and to be appropriate subjects for investigation. The science of signs has an ancient history, going back to the Greeks, and its formal extension from linguistics to culture in general has long been implied and was specifically called for by Ferdinand de Saussure in the early twentieth century. Over the last decades scholars in the most varied disciplines, in Eastern and Western Europe and in the United States, have considered signs from many approaches and have laid the basis for significant progress toward the construction of a broad theoretical and unifying point of view. Most fundamental to modern semiotics were the theories of the Prague Linguistic Circle and the related early Russian structuralists, as they evolved under the leadership of Roman Jakobson and Jan Mukarovsky, departing from, and extending, Saussurian insights, leading to the extremely fruitful application of semiotics to aesthetic and other cultural systems. A pioneering work in this direction was Petr Bogatyrev's study of folk costumes of Moravian Slovakia [4]*.

By the 1940s Roman Jakobson brought the semiotics of Charles S. Peirce to bear upon the developing semiotic point of view, thereby fundamentally broadening approaches to typologies, as well as to the dynamics of sign systems, particularly in the area of pragmatics. Moreover, the wartime contact between Roman Jakobson and Claude Levi-Strauss stimulated both these seminal thinkers, as is evidenced by their fundamental postwar studies in various aspects of cultural semiotics, demonstrating important mutual influences. Extremely significant work in this field has been carried out in Eastern Europe. Starting from the semiotics of the various art systems, the Tartu-Moscow

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* The work was published in Bratislava in 1937 and was issued in the English translation in 1971 in the series *Approaches to Semiotics*. P. Bogatyrev was one of the most active members of Prague Linguistic Circle and co-founder of the Moscow Linguistic Circle in 1915. He was greatly influenced by the Prague School and was in his turn to influence later scholars outside the field of structural linguistics, such as Claude Levi-Strauss who tried to apply some tenets of structural linguistics to solve problems of social and cultural anthropology.

group has devoted increasing attention to the semiotics of cultural systems and their mutual translatability. A compact summary of the basic principles of semiotics advanced by the Tartu-Moscow group became available in the West due to the publication of the **"Structure of Texts and the Semiotics of Culture" [15]**, particularly since** it opens with an English translation of the "Thesis on the Semiotic Study of Culture". Juri Lotman together with his colleagues Boris Uspensky, Vyacheslav Vsevolodovich Ivanov, Vladimir Toropov and Alexander Piatigorsky produced "Thesis": a conceptual framework for the systemic and semiotic analysis of culture as a "metasystem" — in 1973. Five Russian scholars dedicated themselves to the pursuit of semiotic studies from the most concrete level of specific applications, from verbal and nonverbal behavior (including mythology, folk art, high arts, the cinema, and the most various cultural systems) to the most abstract considerations of theory, methodology and metasystems encompassing theories of signs, texts, and communication in general***.

The approach to semiotics of culture by Tartu-Moscow group leads toward a conjunction of the linguistic and aesthetic theories of the Prague school and the Russian structuralists, the traditional anthropological view of culture as patterned, communicated, learned behavior composing an inherited tradition, and the more recent view of culture as information. It was Juri Lotman who in 1970 described culture as a "semiotic mechanism for the output (*выработка*) and storage of information" [19, 2] and "a historically evolved bundle (*пучок*) of semiotic systems (languages) which can be composed into a single hierarchy (supralanguage) which can also be a symbiosis of independent systems" [19, 8]. Juri Lotman was the first to make an attempt to prescribe culture "types" as specific "languages" [19, 12]. The broadening of the linguistic concept of text in his works is fundamental, since it is the basic significant unit of cultural semiotic systems.

The growing interest in the West in this broad subject is evidenced by the number of theoretical studies as well as collections of articles that have been translated into English and works written in English originally, that assess the interdisciplinary potential of semiotics. The bibliography compiled by Achim Eschbach and Viktoria Eschbach-Szabó 10 years after the publication of "The Theses" [3] and which covers the years 1975–1985 includes 10 839 entries. It impressively reveals the world-wide intensification in the field. During this decade, national semiotic societies have been founded all over the world; a great number of international, national, and local semiotic conferences have taken place; the number of periodicals and book series devoted to semiotics has increased as has the number of books and dissertations in the field. One of the latest bibliographies can be found in the third volume of "Encyclopedic dictionary of semiotics" compiled by Thomas A. Sebeok [6]. It is more comprehensive and is available at http://www.degruyter.com/staticfiles/content/dbsup/EDS_03_Bibliography.pdf.

Two definitions are being most important for understanding the notions of intercultural semiosis, that is of *cultural semiotics* and *culture text*. Tartu-Moscow school presented the definition of cultural semiotics, calling it a science studying the functional relatedness of sign systems circulating in culture that departs from the presupposition that it is possible to operationally (proceeding from the theoretical conception) describe pure sign systems functioning only in contact with each other and in mutual influences [17].

The early ideas concerning the notion of text were developed by Alexander Piatigorsky in 1962. He defined a text as a variety of signals composing a delimited and autonomous whole. Such a communication is characterized in three spheres: (a) in the syntactic sphere it must be spatially (optically acoustically, or in some other fashion) fixed so that it is intuitively felt as distinct from a nontext; (b) in the pragmatic sphere, its spatial fixation is not accidental, but the necessary means of conscious transmission of communication by its author or other individuals. Thus the text has an inner structure; (c) in the sphere of semantics a text must be understandable, i.e., it must not contain unsurmountable difficulties hindering its comprehension [20]. Since Juri Lotman held that all cultural semiotic systems were to be seen as secondary modeling systems shaped "along the lines" (*по типу*) of language the linguistic concept of texts began to be applied by analogy to all cultural behavior. Thus in defining culture as a certain secondary language Tartu-Moscow school introduced the concept of a culture text, a text in this secondary language.

The *culture text* which is the structure through which a culture acquires information about itself and the surrounding context, is defined as a set of functional principles: (1) the text is a functioning semiotic unity; (2) the text is the carrier of any and all integrated messages (including human language, visual and representational

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art forms, rituals etc.); and (3) not all usages of human language are automatically defined as texts. "Theses" also defines distinct levels of text that are incorporated into any culture. All semiotic systems function in context as relative, not absolute, autonomous structures. As a result, what is perceived as a text in one culture may not be a text in a different cultural space (for more detailed analysis see [1] and [18]).

The concept of culture text is the core of the semiotic culture studies. But even more important is the cultural mechanism of transforming information into text: sense generation process. Any generation of sense is the activity of culture in its most general definition. Thus semiosis is suggested to be defined as the communication-oriented process of generating culture texts. Juri Lotman views communication as the circulation of texts in culture and relations between the text and the reader, a typology of different, though complementary processes: 1) communication of the addresser and the addressee, 2) communication between the audience and cultural tradition, 3) communication of the reader with him/herself, 4) communication of the reader with the text, 5) communication between the text and cultural tradition [11, 276–277].

There is one more term coined by Juri Lotman in 1984 which is of fundamental importance for developing the notion of semiosis — *semiosphere*. In his article "On the semiosphere" he elaborated his interest in the spatial modeling of culture as an interwoven hierarchy of sign systems immersed in semiotic space. In the mentioned article he claims that "the semiotic universe may be regarded as the totality of individual texts and isolated languages as they relate to each other. In this case, all structures will look as if they are constructed out of individual bricks. However, it is more useful to establish a contrasting view: all semiotic space may be regarded as a unified mechanism (if not organism). In this case, primacy does not lie in one or another sign, but in the 'greater system', namely the semiosphere. The semiosphere is that same semiotic space, outside of which semiosis itself cannot exist" [9, 208]. Edna Andrews argues that the concept of semiosphere is helpful in understanding semiosis as "a system-level phenomenon engaging multiple sign complexes that are given simultaneously across spatio-temporal boundaries, and not merely that study of individual signs artificially frozen into one slice of the space/time continuum" [2, XX].

Juri Lotman's ideas concerning semiosphere were outlined in his book published in English and entitled "Universe of the Mind" [11] suggesting not only the title of the work but the metaphor of the semiosis itself. Culture is presented as a thinking mechanism that transforms information into text and a space of mind for the production of semiosis. Thus there are two different processes in the constitution of the semiosphere: the processing of information and the emergence of semiosis. These two processes not only articulate information and culture but also show how the universe of the mind functions to produce significant complex systems, i.e. codes and languages [13, 89].

Culture as an intelligent relationship among systems requires a deep understanding of the interaction among codes and languages in the process of generating information and this opens another challenging vector of researching the process of semiosis.

Thus, the essence of culture is regarded as cultural semiosis. Semiotic space emerges inside the experiences of transforming information into sign systems. Thus information processes are the core of the semiotics of culture and the cultural mechanism of transforming information into text is but another definition of semiosis.

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У статті розглядається класичне тлумачення семіозису як процесу, у якому щось функціонує як знак, та показано розвиток цього тлумачення у культурній семіотиці. Авторка стверджує, що ядром семіотики культури є інформаційні процеси, отже, визначення семіозису доповнюється його тлумаченням як культурного механізму, який перетворює інформацію на текст. З опорою на розуміння тексту культури як структури, через яку культура набуває інформації про себе та про контекст і функціонує як «розум» (за Ю. Лотманом), семіозис описується як процес смислопородження, який є комунікативно спрямованим та відбувається при генеруванні культурних текстів у просторі розуму.

Ключові слова: *знак, семіозис, культура, культурна семіотика, текст культури.*

В статье рассматривается классическое толкование семиозиса как процесса, в котором что-то функционирует как знак, и показано развитие этого толкования в культурной семиотике. Автор утверждает, что ядро семиотики культуры составляют информационные процессы, следовательно, определение семиозиса дополняется его толкованием как культурного механизма, превращающего информацию в текст. С опорой на понимание текста культуры как структуры, обеспечивающей обретение культурой информации о себе и о контексте и ее функционирование как «разума» (по Ю. Лотману), семиозис описывается как процесс смыслопорождения, который является коммуникативно направленным и имеет место при порождении культурных текстов в пространстве разума.

Ключевые слова: *знак, семиозис, культура, культурная семиотика, текст культуры.*

22