On LinguisticAspects of the Self from the Perspective of Selected Scientific Hypotheses – A Contribution to the Proposal of How to Explain the Emergence of Human Language

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Abstract: This paper departs from the argumentation that it is possible to conclude about the evolutionary stages of languages, including the emergence of protolanguage(s), not only by making use of linguistic facts but also by paying attention to the linguistic abilities of their producers, i.e., respectively, language doers, language speakers and language knowers. In reality, the understanding of the human faculty of speech, realized in cognition and communication, can serve as a valuable clue for the explanation of the rise of various individual languages, which have contributed to the growth of multilingualism in the world. Emphasizing the importance of the reflexive nature of human selves as a prerequisite to the appearance of language, the paper discusses selected hypotheses put forward by three Polish scientists Włodzimierz Sedlak, Jan Trąbka, and Bernard Korzeniewski, who deal with physical aspects or correlates of verbal means of communication. On the basis of empirical data provided by them as well as their hypothetical reasoning, it is argued that language and other systems of social symbols, which people use for communicating and understanding each other, could emerge just then when the physical and physiological processes occurring in the human brain/body had led to the growth of subjective consciousness. In that case only, as asserted by representatives of natural sciences in question, the development of thinking and speaking activities, which had proceeded with the involvement of language, must have taken place along with some psychological processes at the individual level.

Keywords: consciousness; information transmission; linguistic communication; neurophysiology; protolanguage; the self

1. The Concept of the Self in Humanities and the Development of Language

In humanities and social sciences, the concept of selfhood appears in accordance with its understanding elaborated by psychologically and socially oriented American philosophers, as particularly William James (1842–1910) (cf. his work *Principles of Psychology* from 1890) or George Herbert Mead (1863–1931) (cf. *Mind, Self, and Society* published in 1934), in those contexts where human individuals are considered on account of their exceptionality and uniqueness resulting from their conscious experiences considered mostly as a consequence of their interactions with the environment. Among the rich literature devoted at present to different shapes and manifestations of the self, special attention deserves

The Oxford Handbook of the Self, a collection of articles edited by Shaun Gallagher, published in 2011. They report on and sum up the current state of philosophical knowledge as well as the knowledge coming from the investigative domains pertaining to self-awareness and self-consciousness. Thus, the notion of the self points out, in the light of the indicated literature, to the reflexive nature of human individuals as a prerequisite of their self-fulfillment. This notion, related to the concepts of individual and social (collective) identity, is so important that the ways individuals perceive themselves in relation to others influence the course and effects of interpersonal communication they engage in. It means above all that these mental faculties or psychic abilities of human individuals, which are responsible for their inner life, make them experiencing, thinking and acting subjects, capable of handling a particular natural language. Both the selves of individuals and their identity develop due to consciousness for the reason that the human mind possesses the ability of subjective experiencing, thinking and feeling.

Thus, it is assumed that interdependences between individuals and their language might be defined, among others, with the application of the notion of selfhood. It is not only because the selves of humans can be understood on the basis of language(s) they do in reality speak when they engage in communication with others but also because they are equipped with psychic-intellectual properties definable in terms of the self. Apart from the fact that human individuals are conscious of themselves in relation to others thanks to speech or that their (self)consciousness takes shape of speech, one should also bear in mind that the natural language provides them with a base for expressing the content of their experience. As far as what they speak about reflects their inner thoughts, feelings and emotions and helps them to formulate judgments about the external world, the emergence of both the self and the language faculty must be investigated with reference to the development of human species and particular organisms (i.e., phylogeny and ontogeny). As it seems, the above statements authorize researchers to look at the development of language through the prism of human properties resulting from the nature of the self. Practitioners of humanities must be thus aware that the individual selves are both persons who sensorially perceive, speak and act and subjects who mentally reason, interpret and comprehend owing to their reflexive abilities. Moreover, they may become at the same time objects of their own experiences like other objects in the observable and inferable world.

2. The Bioplasm as an Elementary Bearer of Human Consciousness and Language

Following the views acknowledged and disseminated by Włodzimierz Sedlak, a Polish priest and professor, known as the creator of the so-called electromagnetic theory of life, the bioplasm, a kind of physical plasm, is assumed to be the fourth

state of the aggregation of matter and the elementary material of a human being. If the bioplasm is a primary bearer of human consciousness, it might be also, following Sedlak's beliefs, considered as the basic material carrier of human language. Therefore, scientific outlooks presented and defended by Sedlak in his books (cf., e.g., 1980a or 1980b) and numerous articles, which appeared starting from the sixties of the last century, attracted interests among representatives of humanities. It was even despite the fact, as one might find out from the study of Józef Zon (2000), a philosopher of biology and natural sciences, that they have been oftentimes estimated by representatives of natural sciences as controversial, inconsistent, inexact, and as containing errors. For example, some linguists hoped that it will be possible to investigate human consciousness as a kind of energy, which might survive the death of the body, and in this way to benefit from the knowledge on biological systems of information transmission. In spite of all, they (cf. especially Bańczerowski 1986) considered the results of research in the field of bioelectronics unexpected and even shocking and believed that the explanation of bioelectronic processes in the human brain might help to change views on the nature of language.

The guiding principle in Sedlak's reasoning can be summarized in the following way. Firstly, if the sound is received already at the molecular level, communication in the natural world must have, from the point of view of bioelectronics, a quantum character and, from the very beginning, must have been an acoustic phenomenon. For this reason, it cannot be a pure coincidence that articulatory and auditory organs have developed in the organism of humans, if already some processes at the bioelectronic level are accompanied by sound phenomena. In any case, if an organism is an electronic unit that consist of semiconductors and is chemically powered (see, e.g., Sedlak 1980a: 29–30), then the electric, magnetic, gravitational fields in the piezoelectric crystal and also mechanic and acoustic effects should be tested for their importance to life and communication. Secondly, life is, on the one hand, a process combining electronic phenomena with chemical reactions and, on the other, life is consciousness which, according to Sedlak (1984: 199–200), is energetic by nature; life and consciousness can be thus defined in terms of their electromagnetic properties. In other words, electromagnetic information may form a link between life and consciousness. Thirdly, in Sedlak's (1980a: 46–47) conviction, the biosphere has created man in the span of some billion years of his development; this system that arose as a result of biochemical and bioelectronic processes constitutes a functional unity with the geophysical and geochemical environment. Fourthly, consciousness, characteristic of intellectual processes, constituting, in the evolution of man, a new phase, in which minimal downloading of power had been used, as Sedlak (1980b: 24–25) maintains, should be treated as a sensitivity of the biosystem to environmental changes, which is expressed through the retuning of its own energy balance and takes place at the quantum level. Finally, the process of the increase of consciousness went in Sedlak's view (1984:

206) in the direction to find itself in the chaos of information noise. Sedlak (1980b: 79) wonders, however, whether the discovery of the self, connected, nevertheless, with the development of human language and the extraction of it from the layers of information coming from sensory receptors, was entirely a human destiny.

A proposal to approach linguistic communication from the bioelectronic perspective, even though interesting from a philosophical point of view, prompts to ask further questions about relations between human language and electromagnetic and acoustic phenomena in the world of nature, which seem difficult to be answered in the present state of knowledge. Admittedly, Sedlak claimed that language realized in sounds of human voice had developed as an acoustic phenomenon because bioelectronic processes have an acoustic character in the realm of nature. On the basis of his scientific investigations only, nothing reliable can be accurately said, however, about the presumed information transmitted through bioelectronic processes, if one assumes that semiotic processes begin already at the electromagnetic level. This question should be associated rather with the issues of the philosophy of mind or psychology, as far as consciousness, amounting to the states of mind which are individual and internal, cannot be identified neither with any property nor conduct, similarly also neither with any functional nor neurobiological states. Saying that the consciousness has a subjective character implies the assertion that there is no one who has a direct access to the consciousness of others where a diverse realization of mental states takes place.

3. Essentiality and Existentiality in the Development of the Means of Human Communication

While the evolution of the nervous system and its psychic functions could in all probability, according to neurologists, gradually lead to encoding and representing elements of the reality in the nerve tissue of the brain, the human brain as an organ forming an indivisible whole, supposedly resorts, according to Jan Trąbka, to two different derivatives or mappings of reality. The Polish neurologist and neurocyberneticist termed them respectively (1) the semantic representation of reality (as it mirrors intrinsic features of the external world) and (2) the syntactic-pragmatic representation of reality (as it involves speech and language and reflects relations that exist between the cognizing subject and the cognized objects of the external environment). In his conviction, for example, decisions that determine the conscious behavior of an individual most probably depend on or are elaborated within this representation of reality, which is established linguistically, although it is in fact difficult to say, on what principle both representations coexist or interact in the brain.

From the point of view of knowledge of the brain, Trąbka, especially in his books from 1983 and 1991, exposed and defined, for purposes of the hypothesis he put forward, the philosophical notions of essentiality and existentiality. He alluded thereby to the book *The Self and its Brain. An Argument for Interactionism* from 1977 (cf. Trąbka 1991: 10–11, 206–207) where the philosopher Karl Raimund Popper and the neurophysiologist John Carew Eccles, brought up questions of the essential character of nature. What is important, Trąbka himself made an assumption that there are two kinds of consciousness, which must function in the human mind similarly as in the brain. The first kind, characterized by the property of essentialness, is a fundamental consciousness because it does not exceed beyond the limits of the mind and the brain of human individuals. The second kind of consciousness, which has metaphorically been called by Trąbka (1991: 21–22) as a linguistic analogue of the bloodstream, constitutes its existential variety determined by its living and functioning in the social information flow. For the sake of their nature, the essential consciousness has been provided by Trąbka with such attributes as private, subjective, or implicative, while the existential variety of consciousness, thanks to which human individuals are able to exceed beyond the subjective states of their mind, as communicative, pragmatic, objective or explicative.

Distinguishing between the psycho-neural, the extra-cerebral and the extra-psychic reality, the Polish scholar and scientist believed that such mental states as consciousness and subconsciousness, including the hidden essential consciousness, as well as processes, for example, thinking, constitute altogether a background for what is happening in the existential consciousness. In this way, Trąbka, as it seems, tried managing to seize the conceivable moment when human language might emerge in the process of changing from the essential to the existential consciousness. One has to add that the hypothetical division within the brain and consciousness into essentiality and existentiality suggested by Trąbka (1991: 189–191), although not supported by research yet, will perhaps, in the opinion of its originator, open some new possibilities for the study of the brain.

In the light of Trąbka's arguments, the fact might be accepted as evident that both the intellectual growth of human individuals, enabling the emergence of their linguistic abilities as well as the development of their personal and social selves, must have been determined by parallel biological processes occurring in the brain. Together with the evolutionary development of the brain and its psychic functions, its exposure to existential constituents of reality must have caused that some new neural mechanisms of encoding external events and a new way of representing them in the nerve tissue must have appeared. This in particular doubtlessly means the origin of language in Trąbka's depiction.

4. The Self as a Signifying and Communicating Subject and the Notion of Absolutization

The subject of considerations taken up by Bernard Korzeniewski, a contemporary biophysicist and biologist, constitute limitations for human language and cognition, he explains in terms of the paradox of the evolutional trap of consciousness. According to this scientist, these limitations may result from the structure and functioning of the neural system of man, and, in consequence, from the relational, i.e., connotative nature of the conceptual network arising within it or, in other words, from pre-linguistic concepts forming a basis for creating the names at the level of language. In his treatise *Absolut – odniesienie urojone* (Korzeniewski [1994] 2004), declaring the absolute to be for humans only an imaginary referent, as well as in his later book *Od neuronu do (samo)świadomości* (Korzeniewski 2005), devoted to the psychological notion of self-consciousness from the neurological perspective, Korzeniewski convincingly clarifies the genesis of psychic phenomena, including how impressions, thoughts, and feelings are formed in the human mind.

Thus, a thought about the neurologically underpinned capability of being self-aware as a psychic peculiarity of human individuals runs through Korzeniewski's books. In Korzeniewski's view (2005: 129–132), the degree and complexity of how a conscious subject is organized are not sufficient for the emergence of mental consciousness, which is subjective in character, but the reaction of focusing on oneself or self-directionality seems here to be a necessary condition. Psychic consciousness, in other words self-awareness, consists, in Korzeniewski's opinion, in directing some input parts of the system towards oneself. As such, it takes place in the self-recognition of processes occurring through cognitive acts led by the decision-making center of the brain, which is distinguishable rather functionally than anatomically because it is probably scattered throughout a large part of the cortex. As Korzeniewski maintained, this center creates within itself, apart from the image of the external world, also its own image, and self-targeting (the orientation toward itself) corresponds with subjective psychic experiences or feelings of human beings.

Apparently, the point of reference in Korzeniewski's argument constitutes consciousness as a subjective human ability to experience the inner and the outer world. Departing from the domain of biotechnology, he approaches mental phenomena from a standpoint of the operation of the neural network of which the human brain consists. In order to substantiate the non-existence of the absolute from the perspective of man, Korzeniewski makes use of the notions of concept and conceptual network while emphasizing the connotative nature of concepts that arise in the minds of humans. According to the reasoning conducted by Korzeniewski, it must be stated that, as far as linguistic concepts have meaning through connotation, they become signifying units solely through their

relationships to other concepts. As one might thus conclude, their semantic value cannot be examined without taking into account their dependence on the referential network of related concepts. What is important, Korzeniewski explains the secret of being able to cognize the world with regard to peculiarities of the human nervous system as a complex informational network which has developed in the process of evolution. At the same time, he stresses that cognitive acts come to pass by means of pre-linguistic concepts forming a basis for the creation of naming systems. Nevertheless, Korzeniewski proves that the nervous system allows people to explore the world and human cognition is only indirect and relational as it proceeds only through mental representations and through relations to other concepts in the conceptual network.

In the light of Korzeniewski's ([1994] 2004: 19 and 39–48) considerations, consciousness cannot go beyond itself because it takes shape within the neuronal networks, and neurons are characterized by an analog, continuous information processing activity in the mental spheres of the brain (see also Korzeniewski 2005: 87–89). They operate on fuzzy sets and symbols, because their logic is, in the opinion of Korzeniewski, to a large degree, inexact, and approximate. Korzeniewski asserted (see, for example, 2005: 51) that the emergence of consciousness, psyche, and thereby also the human means of communication had been connected with the emergence of the third, after the physical and biological level of reality, i.e., the psychic level of subjective, mental experiences. Admittedly, language has come into being from a need of man to experience and to name his surrounding reality; but, as a matter of fact, it imposes limits on the possibilities of human cognition. As one might conclude, a thinking and speaking human subject equipped with language is ready to use imagination as the (linguistic) picture of the world, which arises within the connotatively organized conceptual network, is a mapping record of reality resultant from the subjective nature of their consciousness and psyche.

Characteristically, Korzeniewski (2005: 123–124), reasoning upon the way human individuals perceive the world and the nature of human consciousness, is aware that language and cultural transmission occurring through it played a major role in the recent evolutionary history of mankind. As he highlights, language, being an element of culture, facilitates individuals to handle their conceptual networks. On the one hand, it provides a possibility for an approximate translation of conceptual networks of particular individuals (i.e., the interpersonal communication), and, on the other, its grammatical and lexical structures, differing in each language, shape, to some extent, the picture of the world in a conceptual network of particular individuals, and therefore also the form of their thinking processes. What is more, language became, therefore, a new linking devise, developed as parallel to a biological communication channel operating both at the intergenerational level and among the individuals of the same generation. (One has to add that the subject

matter of linguistic messages constitutes the content of culture called by Korzeniewski the conceptual network of culture. It is understood, according to Korzeniewski's book from [1998] 2008 *Three Evolutions*, as a kind of Popperian third world, i.e., an objective world of socially developed knowledge, postulated by a philosopher of science Karl R. Popper in his work *Objective Knowledge*: *An Evolutionary Approach*, published in 1972). It is after all unquestionable that the emergence of language led thus to an accumulation of knowledge about the real world, facilitated the development of a variety of practical skills, as well as the emergence and transmission, religion, rituals, art, etc.

5. Concluding Remarks

To sum up, this paper raises issues probably not well known with regard to the questions of protolanguage among researchers dealing with early stages in the development of human language. It appears that they deserve a wider popularization, especially in the case when the conclusions reached by Polish scientists are similar to findings of those representatives of other disciplines, such as psychology, anthropology or sociology, who treat human individuals as bearers of natural languages in terms of embodiment, subjectivity and intersubjectivity, dialogism and continuity or creativity. In this regard, hypotheses, which combine neurophysiological knowledge and philosophical speculations and which explain cognitive possibilities and constraints of humans while making use of the notion of the self ingrained into the philosophy of man and mind as well as into the psychologically oriented studies on man as a social being, can be acknowledged as original contributions to the clarification of reasons and conditionings for the emergence of human language. It is so as far as they expose physical and mental properties of human species which must have accompanied the appearance and growth of language and other systems of social symbols enabling the formation of communities on the basis of mutual understanding.

Departing from the hypotheses about biological basis of thinking and speaking processes put forward by Włodzimierz Sedlak, Jan Trąbka, and Bernard Korzeniewski, one has to rethink the statement pertaining to the social nature of the human self, namely, that thanks to the emergence of both subjective states of self-consciousness and the language as a unique and universal means of intrapersonal or intra-subjective signification and interpersonal or inter-subjective communication, human individuals became able to exist in the world of observable and inferable reality which is mediated by linguistic signs. From this standpoint, the emergence of the capacity to become a cognizing and sign-processing subject must be recognized as the beginning of the human language.

References

Bańczerowski, Jerzy (1986). Glottotronics: An Inevitable Phase of Linguistics (Linguistic Science Fiction?). [In:] Dieter Kastovky, Aleksander Szwedek (eds.) *Linguistics across Historical and Geographical Boundaries. In Honour of Jacek Fisiak on the Occasion of His Fiftieth Birthday*. Volume 1. *Linguistic Theory and Historical Linguistics*. Part I. *Theoretical Linguistics*. Berlin, New York, Amsterdam: Mouton de Gruyter (Trends in Linguistics: Studies and Monographs 32), pp. 11–26.

Gallagher, Shaun (ed.) (2011). *The Oxford Handbook of the Self* (Oxford Handbooks in Philosophy). New York: Oxford University Press Inc.

James, William (1890). *Principles of Psychology, Vol. I, II*. New York: H. Holt.

Korzeniewski, Bernard ([1994] 2002). *Absolut – odniesienie urojone*/ *Absolute – An Imaginary Referent*. Kraków: [Oficyna Literacka] Racjonalista.pl

Korzeniewski, Bernard ([1998] 2008). *Trzy ewolucje*. *Ewolucja wszechświata, ewolucja życia, ewolucja świadomości*/ *Three Evolutions. Evolution of the Universe, Evolution of Life, Evolution of Consciousness*. Kraków: Korona.

Korzeniewski, Bernard (2005). *Od neuronu do (samo)świadomości*/ *From Neuron to Self-Consciousness*. Warszawa: Prószyński i S-ka.

Mead, George Herbert (1934). *Mind, Self, and Society*: *From the Standpoint of Social Behaviorist*. (Works of George Herbert Mead, Vol. 1) Edited and with an introduction by Charles William Morris. Chicago, London: The University of Chicago Press.

Popper, Karl Raimund (1972). *Objective Knowledge*: *An Evolutionary Approach*. Oxford: The Clarendon Press.

Popper, Karl Raimund & Eccles, John Carew (1977). *The Self and its Brain*. *An Argument for Interactionism*. Springer International, London. N.Y., Heidelberg.

Trąbka, Jan (1983). *Mózg a świadomość*/ *The Brain and Consciousness*. Warszawa: Wydawnictwo Literackie.

Trąbka, Jan (1991). *Mózg a jego jaźń*/*The Brain and Its Self*. *Kraków*: Drukarnia Uniwersytetu Jagiellońskiego.

Sedlak, Włodzimierz (1980a). *Bioelektronika – środowisko i człowiek/Bioelectronics – the Environment and Man*. Wrocław, Warszawa, Kraków, Gdańsk: Wydawnictwo Polskiej Akademii Nauk (Nauka dla wszystkich).

Sedlak, Włodzimierz (1980b). *Homo electronicus*. Warszawa: Państwowy Instytut Wydawniczy.

Sedlak, Włodzimierz (1984). *Postępy fizyki życia/The Progress of the Physics of Life*. Warszawa: Wydawnictwo PAX.