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EPISTEMOLOGY AS A SEMIOTIC CARTOGRAPHY OF HUMAN KNOWLEDGE AND COGNITION

ABSTRACT

The subject matter of this article constitutes the semiotic mapping of human of knowledge which results from cognition. Departing from the presentation of human subjects as world-model-builders, it places epistemology among the sciences of science and the sciences of man. As such the understanding of epistemology is referred either to a static state of knowledge or to a dynamic acquisition of knowledge by cognizing subjects. The point of arrival, in the conclusive part of a this article, constitutes the substantiation of the two understandings of epistemology, specified, firstly, as a set of investigative perspectives, which the subject of science has at his/her disposal as a knower on the metascientific level, or, secondly, as a psychophysiological endowment of a cognizing subject who possesses the ability of learning and/or knowing a certain kind of information about cognized reality.

Keywords: cartography of ideas, epistemology, knowledge, cognition, semiotics.

1. INTRODUCTORY REMARKS

This paper elaborates the idea of epistemology as a semiotic mapping or modelling of objective knowledge about reality which constitutes the outcome of subjective cognition. The paper is divided into three parts, devoted to the historical background of the study of knowledge, the presentation of (non)human subjects as semiotic world-vision modellers, and the place of epistemology among the sciences of science and the sciences of man. The first part departs from the statement that the notion of epistemology as a theory of knowledge or knowing has been referred, according to historiographical testimony, either to a general state of knowledge or to specific consequences of cognizing and learning activities of the human subjects. In recalling their classical cradles, the author confronts the scientific inquiries

into the knowledge about physical appearances of accessible reality with the metaphysical reasoning about its inaccessible illusive existence. Accordingly, he exposes a difference between the knowledge which is perceived objectively through material bearers and the knowledge which is assumed subjectively through metaphysical reasoning. On account of this distinction, the perceptual data as roots of experientially produced knowledge, being natural in origin, are counterpoised to the inferential constructs coming from communicational sources of apprehensively reproduced (artificial) knowledge, being artificially created. In the second consecutive part, a particular reference is made to modelling abilities of animals and humans in the extraorganismic perception and intraorganismic apprehension of their surroundings. This part aims at confronting selected views developed in the philosophy of nature and culture on the subjective experience of reality, being interested how the semantic relationships of animals and humans to their existential universes are outlined in phenomenological approaches to individual experience which is consciously realized by senses in a subject-oriented perspective. The point of arrival in the final part, being conclusive for the sake of a detailed substantiation of the purpose of this article, constitutes the two understandings of epistemology specified, firstly, as a set of investigative perspectives, which the subjects of science have at their disposal, on the level of the sciences of science or, secondly, as a psychical and physiological aptitude for cognizing and learning activities of a knowing subject who aims at achieving a certain kind of information about reality. Assuming that both the kinds of epistemology are related to the possession or acquisition of sign-mediated information about reality, in the static or dynamic sense, the paper ends with the postulate to regard knowledge and knowing in terms of a semiotic cartography of human cognition.

2. HISTORICAL LAYERS IN THE STUDY OF EPISTEMOLOGY

The origins of epistemology as a discipline should be searched for in the rise of the nineteenth theories of knowledge. One line of inquiry is to be traced in the conception of knowledge coming from abstracting activities of cognizing subjects (Locke, 1975 (1690); Berkeley, 1734 [1710]; Ferrier, 1854; Bradley, 1897 [1893]; Mach, 1914; Whitehead, 1919; Berger, Luckmann, 1966). Another line is noticeable in the successive borrowings of the famous statement “the map is not the territory” by scholars (Royce, 1900 [1889]; Korzybski, 1994 [1933]; as well as Bateson, 1987; 1979) who wrote monographs which made their names famous on the international scale.

2.1. Knowledge in the rationalist abstraction-related framework

When speaking about generalizations of abstracted features as a source of knowledge, it seems important to recall the heritage of epistemology equated with a theory of cognition which relegates the knowledge about the being to metaphysics. As such, it is rooted in two beliefs from the end of the nineteenth century, namely, metaphysical epistemology and “scientificist” or scientific epistemology.

The roots of the distinction between the knowledge in the materialist (objective realist) sense expressed in observable texts and the knowledge in the immaterialist (subjective idealist) sense formulated in inferable texts will be exposed on the basis of classical works by John Locke (*An Essay Concerning Human Understanding*, 1690) and by George Berkeley (*A Treatise Concerning the Principles of Human Knowledge*, 1710). Bearing this distinction in mind, it seems important to separately confront the perceptual data as roots of natural knowledge (while making reference, e.g., to Alfred North Whitehead’s *An Enquiry Concerning the Principles of Natural Knowledge*, 1919) and the communicational sources of constructed knowledge, being artificially (on the basis of, *inter alia*, the work of Peter Ludwig Berger and Thomas Luckmann, *The Social Construction of Reality*, 1966). The classical searches for the knowledge in the physical appearances of accessible reality or on metaphysical reasoning about its inaccessible illusive existence have found expressions towards the end of the nineteenth century in opposing metaphysical epistemology scientific (or “scientificist”) epistemology. Metaphysical epistemology, in the appreciations of James Frederick Ferrier (*Institutes of Metaphysic: The Theory of Knowing and Being*, 1854), was a subject-oriented theory knowledge about the cognized things and states of affair based on the criterion of absolute truth. Perhaps, the best summary of scientific and metascientific interrelationships had been offered slightly earlier in Francis Herbert Bradley’s work (*Appearance and Reality; A Metaphysical Essay*, 1893, second revised edition with an appendix 1997). While scientific epistemology, considered as anti-metaphysical by St. George Jackson Mivart (*The Groundwork of Science. A Study of Epistemology*, 1898), was associated with systematizing endeavours of scientists to achieve exhaustive knowledge about reality through sensorial observations and intellectual inquiries. This kind of knowledge, which is declared to objectivize itself as a separate world of ideas made independent from cognizing subjects in social communication, according to Karl Popper’s conception (*Objective Knowledge. An Evolutionary Approach*, 1972) has been labelled evolutionary epistemology.

2.2. Fallacious knowledge of individual organisms in the light of empiriocriticism

The subject-centred epistemology of organisms forming mental-sensorial consciousness in certain environments have been influenced by two philosophers Ernst Mach and Jacques Loeb. The principal role in the formation of later propagated “fallacious epistemology” of human mind played two contributions to the empiriocritical testing of sensory impressions of Ernst Mach, under one title *Beiträge zur Analyse der Empfindungen* (1886), and the treatise of Richard Avenarius on the critics of pure experience, *Kritik der reinen Erfahrung* (1888, 1890).

While reading Mach (1914 [1897]), one could notice that the idea about the abstraction-oriented ability of humans which occurs in their perception, depending upon free will, was undoubtedly borrowed from him. According to Mach, man (under normal states of external conditions) is endowed with a gift to a self-governed and conscious determination of his own viewpoint (1914 [1897, 6]).

As Mach noticed:

“Man possesses in its highest form the power of consciously and arbitrarily determining his point of view. He can at time disregard the most salient features of an object, and immediately thereafter give attention to its smallest details [...], he can rise at will to the most general abstractions or bury himself in the minutest particulars. The animal possesses this capacity in a far less degree. It does not assume a point of view, but is usually forced to it” (Mach, 1914, 6–7).

However, “No point of view has absolute, permanent validity. Each has importance only for some given end” (Mach, 1914, 37). In the climate of opinions when Mach developed his ideas, there were two comparative works on the physiology of the brain and psychology published by Jacques Loeb under the common title *Einleitung in die vergleichende Gehirnphysiologie und vergleichende Psychologie* (1898) translated two years later as *Comparative Physiology of the Brain and Comparative Psychology* (1900).

Being familiarized with Loeb’s title, *Comparative Physiology of the Brain and Comparative Psychology*, dedicated *nota bene* to Mach who established as the first scholar, in the opinion of Loeb, the principles of “antimetaphysical epistemology,” one can encounter also the notion of “scientific epistemology” postulated by St. George Jackson Mivart in *The Groundwork of Science. A Study of Epistemology* (1898). Worth quoting is the statement of Loeb formulated in his “Preface” to *Comparative Physiology of the Brain and Comparative Psychology*: “Professor Ernst Mach, of Vienna, to whom this book is dedicated, was the first to establish the general principles of an antimetaphysical science” (Loeb, 1900, V–VI).

3. (NON)HUMAN SUBJECTS AS MEANING MODELLING ORGANISMS

In the first part of this paper, the terms “*Umwelt*” introduced by Jakob von Uexküll (1864–1944), a Baltic German biologist and philosopher of nature, and “*Lebenswelt*” put into the use by Edmund Husserl (1859–1938) are interpreted with regard to animal and human environments basing on their terminological applications and interpretation in existential phenomenology, philosophy of biology, and biological semiotics (for relevant details see (Wąsik, 2001; Sonesson, 2006), as well as, in relation to historical and typological outlines of the concept of meaning (Zlatev, 2007, 2009).

3.1. *Umwelt* as a “subjective universe” and *Umweltröhren* as a sequence of environments

The term “*Umwelt*” denoting the “surrounding world” derives its semantic connotation from Jakob von Uexküll who has investigated how living organisms perceive their environment and how this perception determines their behavior. Pertaining to the subjective world of the organism, this term was coined by Uexküll in his book *Umwelt und Innenwelt der Tiere* in 1909. As Kalevi Kull remarked (1999b, 390), “in his article of 1907 he still uses the term ‘Milieu,’ as different from ‘Außenwelt’” (cf. Uexküll, 1907). Soon afterwards in 1920 Uexküll’s framework was enriched with a new term *Umweltröhre(n)* “environmental pipe(s)” introduced in his *Theoretical Biology* (cf. Uexküll, 1926). Moreover, in the 2nd edition of *Umwelt und Innenwelt der Tiere*, a complementary term was added, namely, “*Funktionskreis*” (translated into English as “functional circle” or lately also as “functional cycle”), as a clue to the understanding of meaning in biological terms in the *Umwelt* of an organism (cf. Uexküll, 1921). Accordingly, metaphorically modelled as a “soap bubble,” *Umwelt* might be referred to a particular environment of an animal acting at a given moment in a “functional circle” (*Funktionskreis*) of medium, food, enemy or sex (cf. Uexküll, 1982 [1940], 59–60, especially 71), and *Umweltröhren* appear to be useful for showing a sequence of all environmental circles that the individual organism has to pass in a stroll throughout its whole life understood as a determined journey. This investigative method of pursuing and reconstructing the journey through invisible worlds is demonstrated in the works of Uexküll and Georg Kriszat (1992 [1934]) as well as in (Uexküll, 1936).

3.2. *Lebenswelt* as a conscious-existence mode in the universe of communication

Another kind of subjective universe was proposed by Husserl under the label of *Lebenswelt* describing the pre-given world in which humans live. The spherical dimension of human surroundings is thus visible in Husserl's definition provided in his lectures "Die Krisis der europäischen Wissenschaften und die transzendente Phänomenologie. Eine Einleitung in die phänomenologische Philosophie," held at Prague in 1935 and Vienna in 1936, published for the first time in the German edition of 1957 and translated into English in 1970 as *The Crisis of European Sciences and Transcendental Phenomenology: An Introduction to Phenomenological Philosophy*):

"In whatever way we may be conscious of the world as universal horizon, as coherent universe of existing objects, we, each 'I-the-man' and all of us together, belong to the world as living with one another in the world; and the world is our world, valid for our consciousness as existing precisely through this 'living together'" (Husserl 1970 [1954], 108).

In his manuscript of 1890 "Zur Logik der Zeichen (Semiotik)" [On the Logic of Signs (Semiotics)], Husserl (1970 [1890]) made some thoughts on the origins of sign-mediated behavior. His explanation may be summarized under four statements: Firstly, all animals react to phenomena as signs of existentially relevant objects or situations; secondly, when they are able to learn them then they usually chose causal or regular connections between some parts of situations as sign of the whole; thirdly, when communication occurs with the use of signs then it must be preceded by sign consciousness (*Zeichenbewusstsein*); and, finally, on further evolutionary steps, the users of signs must be aware of regular effects of their intended use(s).

3.3. The reality of everyday life as a socially-created intersubjective world

On the margin of the presentation of Husserl's *Lebenswelt*, one should add that the term "life-world" used in mundane phenomenology as the translation from the German original was abandoned by representatives of social constructivism, Peter Ludwig Berger and Thomas Luckmann, in favour of the term "the reality of everyday life" (1966). Thus, Husserl's idea of lifeworld has been rendered by Berger and Luckmann as a socially constructed world:

"The reality of everyday life further presents itself to me as an intersubjective world, a world that I share with others. This intersubjectivity sharply differentiates everyday life from other realities of which I am conscious. I am alone in the world of my dreams, but I know that the world of everyday life is

a real to others as it is to myself. Indeed, I cannot exist in everyday life without continually interacting and communicating with others” (1966, 23).

Following the conviction of social constructivists, society is the creator of knowledge, although it is the individual human being which as an organism experiences, *de facto*, the reality while receiving various kinds of information from the environment. The stock of everyday knowledge is created due to social interactions; this knowledge is, as one can say after Berger and Luckmann (1966, 19–46), negotiated and approved by members of society. The individual can have access to the subjectivity of other individuals. Moreover, as Berger and Luckmann argued:

“Human expressivity is capable of objectivation, that is, it manifests itself in products of human activity that are available both to their producers and to other men as elements of a common world. Such objectivations serve as more or less enduring indices of the subjective process of their producers, allowing their availability to extend beyond the face to-face situation in which they can be directly apprehended” (1966, 34).

In the communication by voice, sound waves are objectivated as elements of common world:

“A special but crucially important case of objectivation is signification, that is, the human production of signs. A sign may be distinguished from other objectivations by its explicit intention to serve as an index of subjective meanings. To be sure, all objectivations are susceptible of utilization as signs, even though they were not originally produced with this intention” (Berger, Luckmann, 1966, 35).

Thus, it is tangible that human expressivity manifests in products accessible both to their creators and to other people: These real objects which are observable and which become symptoms of actions or their meaning-bearers, Berger and Luckmann considered elements of the common world.

3.4. *Animal symbolicum* on the evolutionary scale of communication systems

While reading Husserl’s ideas pertaining to the awareness of signs, Ernst Cassirer created a phenomenology of symbolic forms (cf. 1955 [1923–1929]; 1995). However, he had done it directly under the influence of his contemporary friend and scientific colleague Jakob von Uexküll. As Frederik Stjernfelt pointed out when discussing the topic of simple animals and complex biology, Uexküll’s had a twofold influence on Cassirer’s philosophy. This influence was connected with the *Umwelt* conception and, following the account of Frederik Stjernfelt (2011), with the definition of man as a symbolic animal.

Entering into the epistemology of biology, Cassirer poses a question: “Is it possible to make use of the scheme proposed by Uexküll for a description and characterization of the *human world*?”, and he answers: “Obviously this world forms no exception to those biological rules that govern the life of all the organisms. Yet, in the human world we find a new characteristic which appears to be the distinctive mark of human life [...] a third link which we may describe as the *symbolic system*.” See Cassirer 1962 [1944], 24. As he explains furthermore:

“[M]an lives in a symbolic universe. Language, myth, art, and religion are parts of this universe [...] Instead of dealing with the things themselves man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols or religious rites that he cannot see or know anything except by the interpretation of this artificial medium. [...] He lives rather in the midst of imaginary emotions, in hopes and fears, in illusions and disillusion, in his fantasies and dreams” (Cassirer 1962, 24).

With regard to philosophical anthropology, Cassirer argued, basing on the research on the mentality of apes, that animal behavior includes only natural signals but not cultural symbols. Even when an animal is attributed to have a practical imagination and intelligence, it is only man who has power over of “a symbolic imagination and intelligence” (Cassirer 1962, 33). As he furthermore claimed, higher order apes may communicate symbolically under the specific conditions created by humans, and some birds are able to categorize different objects, to learn songs, while creating their varieties. However, at the same time a two or three year old child not only learns but also masters its own language. The range of symbolic forms and genres may include zoo-semiotic systems, but, on the other end of the evolutionary scale marking the first civilizations of humans, there is the development of mathematics and scientific knowledge. Mythical codes (belief systems, rituals, dances) could have existed before and at the same period that have witnessed the growth of a full-fledged phonetic language.

3.5. On three levels of modelling the mundane reality in the semiotics of nature and culture

In conformity with Uexküll’s and Cassirer’s separation of animal and human universes based on the semiotic opposition between the signs of nature and the symbols of culture while opposing to the distinction of primary and secondary modelling systems authored by Juri Lotman, Thomas A. Sebeok postulated to exhibit the existence of three levels of the modelling of reality, answering a question (posed at the Semiotic Society of America Meeting in 1987): “In what sense is language a ‘primary modelling system’?” (cf. Sebeok, 1991 [1988]).

In his theses on the place of art among other modelling systems, Lotman (2011 [1967], 250) describes the model as “an analogue of an object of perception that substitutes it in the process of perception.” Accordingly, in his view: “Modelling activity is human activity in creating models. In order that the results of this activity could be taken as analogues of an object, they have to obey certain (intuitively or consciously established) rules of analogy and, therefore, be related to one modelling system or another” (2011, 250). Accordingly, “A modelling system is a structure of elements and rules of their combination, existing in a state of fixed analogy to the whole sphere of the object of perception, cognition, or organization. For this reason, a modelling system may be treated as a language” (Lotman, 2011, 250).

Sebeok interprets, however, Lotman’s views in a different way. In his question, “In what sense is language a ‘primary modelling system’?”, he bases his modelling system theory on the discrimination between verbal and non-verbal communication systems. At the same time, he mentions that it is very likely that the *Homo habilis* had the capability of language without any verbal expression (Sebeok, 1991 [1988, 75]). What he observes, “Solely in the genus *Homo* have verbal signs emerged. To put it in another way, only hominids possess two mutually sustaining repertoires of signs, the zoosemiotic non-verbal, plus, superimposed, the anthroposemiotic verbal” (Sebeok, 1991 [1988], 55). According to Sebeok, what the Russo-Estonian semioticians call “primary,” i.e., the anthroposemiotic verbal, is “phylogenetically as well as ontogenetically secondary to the nonverbal; and, therefore, what they call ‘secondary’ is actually a further, tertiary augmentation of the former” (Sebeok, 1991 [1988], 55).

In his studies on the semiotic self under the title *A Sign is Just a Sign*, Sebeok (1991) postulates to exhibit three modelling systems of reality. Accordingly, following the semioticians of nature and culture, the primary modelling system (PMS) of reality is placed on the level of animals possessing the ego-quality which act through the mediation of effectors and receptors, i.e., on the level of indexical symptoms and appealing signals. The secondary model system (SMS) involves, in turn, the extralinguistic reality of everyday life construed by the use of verbal means of signification and communication, which occurs as such only in the realm of human organisms. The tertiary modelling system (TMS), which includes the secondary one, is characterized as encompassing the whole semiosphere of language and culture and civilization where the representations of extrasemiotic reality are artificially created in accordance with axiological (value-and-good-oriented) and praxeological (function-and-purpose-oriented) principles.

Describing in terms of anthroposemiosis the triadic relationship between “developmental” stages of an individual organism, Sebeok and Marcel Danesi have recently maintained that (1) PMS is “the system that predisposes the human infant to engage in sense-based forms of modeling;” (2) SMS—“the

system that subsequently impels the child to engage in extensional and indexical forms of modeling;” and (3) TMS—“the system that allows the maturing child to engage in highly abstract (symbol-based) forms of modeling” (2000, 10).

4. CONCEPTUAL INTERFACES BETWEEN METASCIENTIFIC AND PSYCHOPHYSIOLOGICAL EPISTEMOLOGY

4.1. Ontological and gnoseological frames of reference in metascientific epistemology

Epistemology is a theoretical discipline, inquiring what are the contents of the cognizing mind and what are the ways and limitations of the cognizing powers of man (cf. Wąsik, 2016, 56–57). It is thus a branch of philosophy interested in the nature and grounds of knowledge with regard to scopes and functional validity of investigative approaches used in particular scientific disciplines. The domain of epistemology embraces not only conceptual axioms and hypotheses of a given type of science but also corresponding reflections upon operational methods and procedures. Consequently, (1) epistemology constitutes the highest level in the disciplinary matrix of metascience, i.e., succeeding (2) the object of study, (3) the description of its subject matter, and (4) the methodology determining its descriptive concepts. Its aim is a profound critique and verification of the methodological plane by testing its coherence and evaluating its adequacy in its relation to the descriptive plane (cf. Wąsik, 2016, 56).

The *epistemological* analysis of a given discipline consists in the examination of its *ontological* and *gnoseological* foundations to answer how far the commitment of scientists to their attendant views on their object of study corresponds to its investigative approachability. Hence, the study of epistemological positions of scientists is based on the conviction that the choice of a given investigative approach stipulates their outlook upon conceptual and operational tools leading to the formulation of investigative postulates. On a metascientific level, the choice of an epistemological orientation means the choice of an appropriate investigative perspective determined by both the accepted tasks of investigation and the nature of the investigated object (cf. Wąsik, 2016).

The search for investigative perspectives, taking part in the specification of the subject matter of particular disciplines can start from the panorama of ontological beliefs, doctrines, and directions of scientific conduct. They are collected and defined in philosophical dictionaries or books on the epistemology of sciences under the names that refer to their notional contents, disciplinary provenance, authors and/or followers, etc. (cf. Wąsik, 2016, 58).

To appreciate the system of investigative perspectives characterizing particular branches of science, it is necessary to elaborate a typological matrix subsuming all actual and potential standpoints, doctrines, beliefs, or directives of study, and the like. In this system, the axis of time is unimportant. The only thing that might count would be a positive marker showing the occurrence of a given investigative perspective which has found its reflections in a given concept or a certain theory of the investigative object (cf. Wąsik, 2016, 62–64).

4.2. “The map is not the territory” in the roots of psychophysiological epistemology

Pursuing the development of psychophysiological ideas pertaining to man as a cognizing organism engaged in the acquisition of knowledge about reality it might be illustrative to check the road leading back from Gregory Bateson, over Alfred Korzybski to Josiah Royce.

4.2.1. Josiah Royce on the idea of mapping the reality in relation to abstraction processes

The idea of selective abstraction was exposed by Josiah Royce, in his work on *The World and the Individual* (1900 [1889]), through the idea about a mental mapping of an experienced reality in terms of correspondence between and/or identity of represented objects, stating that: “In the very familiar case of a map, the parts of the map correspond to the parts of the object represented, in a manner determined by a particular system of projection or transformation of object into map” (Royce, 1900, 303).

This identity, however, is doubtful, as far as “correspondence does not necessarily imply, just as it does not exclude, any such common characters in the two corresponding objects,” and one can therefore assume “that one of the two objects resembles the other in mere external appearance.” This identity results in the case of the situation where, as Royce states: “A photograph looks like the man; a map may look, in outline, like the land mapped” (1900, 304). So far:

“If our power to draw map contours were conceived as perfectly exact, the ideal map, made in accordance with a given system of projection, could be defined as involving absolutely the afore said one to one correspondence, point for point, of the surface mapped and the representation. And even if one conceived space or matter as made up of indivisible parts, still an ideally perfect map upon some scale could be conceived, if one supposed it made up of ultimate space units, or of the ultimate material corpuscles, so arranged as to correspond, one by one, to the ultimate parts that a perfect observation would then distinguish in the surface mapped” (Royce, 1900, 503).

In the review of his deliberations about an idea of absolute exactness in “the representation of one object by another,” Royce perceives “the problem of identity in diversity” while affirming, in the end, that: “For the map, in order to be complete, according to the rule given, will have to contain, as a part of itself, a representation of its own contour” (Royce, 1900, 504).

4.2.2. “The map is not the territory” in Alfred Korzybski’s epistemology

In Korzybski’s works, the investigative object of epistemology is a conscious organism integrated with its surrounding world through particular senses steered by nerve tissues from a central core in the brain. This organism functions as a result of adaptation to external physical factors and internal psychical impulses following certain patterns of behavior while forming itself through metabolism regulated by its biochemical constituents.

Korzybski’s outlook on man as a cognizing organism is relevant for epistemology. The human being in comparison to the animal is characterized in this outlook through conscious participating in the processes of abstractions, accumulations of past experiences, imaginational binding of the past with the future, generational transmission of knowledge accumulated in language and culture, as well as multi-ordinal ascriptions of signification to hierarchically and contextually situated signifiers of reality (*inter alia* through terms, schemes, diagrams, models, or geographical maps, etc.).

According to Korzybski, the basic content of knowledge is to be seen in the “structure of relationships.” As he maintains, the organism of a human being, coping with observed reality through perception, identifies only the form of objects which appears to be relevant for himself/herself from selected points of view with regard to their multidimensional properties, without being able to reach the essence of things in themselves (being not cognized yet as experiential objects) so far as they do not appear on his senses (being apprehended as mental phenomena).

In the sphere of contemplation about the role of abstraction and self-reflectiveness, Korzybski has placed his famous *dictum* “The map is not the territory,” in the following way:

“Two important characteristics of maps should be noticed. The map is not the territory it represents, but, if correct, it has a similar structure to the territory, which guarantees its usefulness. If the map could be ideally correct, it would include, in a reduced scale, the map of the map; the map of the map, of the map; and so on, endlessly. [...] If we reflect upon our languages, we find that at best they must be considered only as maps. A word is not the object it represents; and languages exhibit also this peculiar self-reflexiveness, that we can analyse languages by linguistic means” (Korzybski, 1994 [1933], 58)].

Among relational properties of the human mind, the primary place occupies, in Korzybski's estimation, the metalinguistics reflexivity, relocating the consciousness of abstraction from the first order of effects "such as curiosity, attention, analysis, reasoning, choice, consideration, knowing, evaluation," to the second order of effects where "curiosity of curiosity, attention of attention, analysis of analysis, reasoning about reasoning, [...] choice of choice [...] consideration of consideration [...] knowing of knowing involves abstracting and structure, becomes 'consciousness,' at least in its limited aspect, taken as consciousness of abstracting; evaluation of evaluation becomes a theory of sanity" (Korzybski, 1994, 440).

4.2.3. Gregory Bateson's "the map is not the territory and the name is not the thing named"

The subject matter of epistemology specified in Bateson's *Steps to an Ecology of Mind* (1987, i.e., 1987 [1971], 1987 [1972], 1987 [1955]) and *Mind and Nature* (1979) is, in turn, an inquiry into the ways of how human organisms arrive at their knowledge and what the limitations of their senses are in cognitive and communicational relationships with their environments. Being unified within a network of ecological conditionings, their (sometimes unconscious) convictions about the existence modes of their world is determined by the way of how they see it and how they function within it; and their perceptions of it, or their functioning within it, usually condition their convictions about its nature.

4.2.3.1. The dependability of physiological and psychical endowments of human organisms in the acquisition of knowledge

Epistemology takes into account those physiological and psychical conditionings of individuals, which can also depart from commonly accepted norms. As such, epistemology, along with ontology, belongs to two kinds of problems, which philosophers, according to Bateson (1987 [1971], 319), detach from each other while posing two kinds of questions. The first kind of such questions pertains to how the things are, what the given cognizing person is, and what kind of actuality this world constitutes. The second kind includes queries about the nature and provenance of knowledge, i.e., how do people know anything, and, more exactly, how do they know what kind of world their reality is, as well as, what kind of beings the people are to know. In conformity with Bateson's understanding, the natural history of the human organisms shows that ontology and epistemology cannot be separated from each other.

In the glossary of human-centered epistemology, specified by Bateson in *Mind and Nature* (1979, 5), the question "how we can know anything?"

(1979, 4) belongs to elementary issues. Hence, he assumes that epistemology is: “A branch of science combined with a branch of philosophy. As science, epistemology is the study of how particular organisms or aggregates of organisms know, think, and decide. As philosophy, epistemology is the study of the necessary limits and other characteristics of the processes of knowing, thinking, and deciding” (Bateson, 1979, 228).

Moreover, relevant is the relationship between knowledge and the accession of knowledge, what has been discussed in the previously published articles of Bateson on grace style and information in the primitive art (cf. Bateson 1987 [1972], 137–161). It is especially seen in his consequential interpretation, where he notices, for example, “The word ‘know’ is not merely ambiguous in covering both *connaître* (to know through the senses, to recognize or perceive) and *savoir* (to know in the mind), but varies—actively shifts—in meaning for basic systemic reasons. That which we know through the senses can become knowledge in the mind” (Bateson, 1987 [1972], 143). At the same time, he stresses also the role of habit and adaptation: “The unconsciousness associated with habit is an economy both of thought and of consciousness; and the same is true of the inaccessibility of the processes of perception. The conscious organism does not require (for pragmatic purposes) to know how it perceives— only to know what it perceives” (Bateson, 1987 [1972], 146).

Bateson shows in his 1950 studies how these discrepancies may be elucidated when pertaining to the view of the world: (1) as the category of observables in opposition to mental phantasies, (2) as the social construct according to which the interpretation of reality is determined by dissimilar viewpoints in different cultures, (3) as a set of personal knowledge about reality acquired through observation and formulated through mental propositions, (4) as the kind of living through and coping with the world of phenomena on the basis of pleasure and gratification, (5) as a pre-given factual world based on communication in opposition to the artificially created magical world based on rituals (Bateson, 1951b, 239–242).

4.2.3.2. The detachment of form from meaning in the individual and social interpretation of reality

The basis for a solipsistic-collective epistemology of human beings constitutes an assumption pertaining to the social nature of language, in which the meaning bearers belonging to a given language are detached from their referential meanings forming the domain of extralinguistic reality, governed by the principles: “the map is not the territory and the name is not the thing named” (Bateson, 1979, 28), and: “The name is not the thing named but is of different logical type, higher than that of the thing named” (Bateson, 1979, 229).

An explicit allusion to Korzybski's heritage is evident, firstly, in a hierarchical grasping of abstract levels, on which verbal communication occurs, of metalinguistic and meta-communicational kind (Bateson, 1987 [1955]), and secondly, in the detachment from what is treated as the thing in itself, existing independently of human cognition, from what is acknowledged as a cognized thing playing a representational function: "The territory is *Ding an sich* and you can't do anything with it. Always the process of representation will filter it out so that the mental world is only maps of maps of maps, *ad infinitum*." (Bateson, 1987 [1966], 461), and linguistic utterances "the name is not the thing named, and the name of the name is not the name, and so on" (Bateson, 1987, 481).

Discussing the case of map and territory on the basis of verbal communication, Bateson (1979) underlines that the "principle," which has been "made famous by Alfred Korzybski," has indeed "many levels." As he maintains: "in a more abstract way, Korzybski's statement asserts that in all thought or perception or communication about perception, there is a transformation, coding, between the report and the thing reported, the *Ding an sich*." In his opinion, "the relation between the report and that mysterious thing reported tends to have the nature of a classification, an assignment of the thing to a class. Naming is always classifying, and mapping is essentially the same as naming" (Bateson, 1979, 30).

Korzybski's attempt, according to Bateson, "to persuade people to discipline their manner of thinking" in terms of the "distinction between the name and the thing named or the map and the territory" could not have any chance if one does not consider "the natural history of mental processes," which come into being in dependence on the fact which brain hemispheres dominates (1979, 30). As he notices:

"The symbolic and affective hemisphere, normally on the right-hand side, is probably unable to distinguish name from thing named. It is certainly not concerned with this sort of distinction. It therefore happens that certain nonrational types of behaviour are necessarily present in human life. [...] Each hemisphere does, in fact, operate somewhat differently from the other, and we cannot get away from the tangles that that difference proposes" (Bateson, 1979, 30–31).

Interesting enough is Bateson's comment: "For example, with the dominant hemisphere, we can regard such a thing as a flag as a sort of name of the country or organization that it represents. But the right hemisphere does not draw this distinction and regards the flag as sacramentally identical with what it represents" (1979, 31). Therefore:

"If somebody steps on it, the response may be rage. And this rage will not be diminished by an explanation of map-territory relations. (After all, the man who tramples the flag is equally identifying it with that for which it stands.)

There will always and necessarily be a large number of situations in which the response is not guided by the logical distinction between the name and the thing named” (Bateson, 1979, 31).

As Bateson assumes, when, for the neutrally minded the flag called “Old Glory” is only a representation of the United States, for other, who thinks emotionally, the flag can have a symbolic value pertaining to certain cultural values.

4.2.3.3. Classificatory enumeration of Bateson’s understandings of epistemology

For documenting the historical layers in Bateson’s statements about epistemology—as a way of acquiring information, exposing the unreliability of cognitive powers of human mind in the terms of epistemological errors and the solipsistic character of the epistemology of the human organism forming itself with the ecological surrounding, that is, the mind of the cognizing individual as the epistemological subject attracting attention of researchers being interested in the source of knowledge—it will be sufficient for the purpose of this paper to enumerate and discuss the issues found in his works.

(1) Epistemology is a set of theories about the nature of reality, in which humans live, and the theories on the subjective knowledge about the existence modes of this reality (Bateson, 1951a, 227). Such theories consisting in propositional judgements, expressed in a determined language, play a certain role in the life when their validity is the function of an individual’s belief in them (cf. Bateson, 1951a, 212).

(2) The subject matter of epistemology is an inquiry into the ways of how human organisms arrive at knowledge, and the limitations of their senses in cognitive and communicational relationships with their environments. Being unified within a network of ecological conditionings, their (sometimes unconscious) convictions about the existence modes of their world is determined by the way of how they see it and how they function within it; and their perception of it, or their functioning within it, usually condition their convictions about its nature (cf. Bateson, 1987, 319).

(3) Any epistemology resulting from cognition is a personal thing. There is no objective epistemology, as far as the knowledge acquired in the personal cognition is always subjective. It is only through the mediation of interpersonal communication that this knowledge can have an intersubjective character. Since “All experience is subjective.” (1979, 31), therefore “epistemology is always and inevitably personal” (1979, 87–88). Following these paths of Bateson’s thought, human epistemology is formed on collective solipsistic constructivism approaching the surrounding world of everyday life through individual cognition and communication. In keeping with the

world constructed individually and socially, Bateson suggests an entirely new epistemology to be deduced from cybernetics and systems' theory taking into account a new understanding of mind, self, interpersonal relations and power (1987, 315).

(4) A base for a solipsistic-collective epistemology of human beings constitutes the assumption pertaining to the social nature of language, in which the meaning bearers belonging to a given language are detached from referential meanings forming the domain of extralinguistic reality, governed by the principles that: "the map is not the territory and the name is not the thing named" (Bateson, 1979, 28) and that: "The name is not the thing named but is of different logical type, higher than that of the thing named" (Bateson, 1979, 229).

(5) Epistemology pays attention to cognitive faculties of human minds to receive information in form of perceivable differences and consequently to the systematization of the world through comparisons of new objects following the principle of similarity patterns. According to Bateson "perception operates only upon difference", and consequently "all perception of difference is limited by threshold" (1979, 29).

Exposing the idea of empirical or experimental epistemology, where knowledge about reality is based upon dissimilar perceptions, Bateson stresses that: "Differences that are too slight or too slowly presented are not perceivable", and what persons may perceive, however, is "a function of the thresholds of" their "available means of perception" (1979, 29).

(6) In the appreciation of truthfulness of psychophysiological epistemology, knowledge achieved by the human organism is based on illusive principle of the infallibility of its senses. Accordingly, there is a stable need to recall the criteria of scientific research in permanent human strivings to recognize the symptoms of truth in the reality of everyday life. The founding of knowledge on scientific criteria is faced with the inaccuracy of researcher's perceptions.

Being aware of the changeability of criteria determining what is scientific or unscientific and what has been investigated and what remains for further investigations, Bateson formulates in the end his confidence that "science like all other methods of perception, is limited in its ability to collect the outward and visible signs of whatever may be truth." Therefore, he concludes: "Science probes; it does not prove" (Bateson, 1979, 30).

5. CONSIDERING THE SEMIOTIC RELATIONSHIP BETWEEN “MAP AND TERRITORY” AS AN EPISTEMOLOGICAL CARTOGRAPHY OF HUMAN KNOWLEDGE AND COGNITION

Merging the metaphorical matter “the map is not the territory” with the semiotic modelling of reality within the framework of epistemology related either to knowledge or knowing, this paper postulates to distinguish two understandings of epistemology. Epistemology, in the first “dispositional-perspectivistic” understanding, defines knowledge as a set of investigative attitudes and/or investigative standpoints pertaining to the ways of how the investigated reality exists and what are the possibilities of its cognition. And the second understanding of epistemology refers to “cognitive-constructivists” apprehensions of reality through the acquisition of knowledge about its objects available through sensorial perception and mental reception.

To recapitulate, it is assumed that both the indicated epistemologies, in the metascientific and the psychophysiological sense may be classified as a semiotic cartography of human knowledge and cognition, when the famous title of Francisco Javier Varela (García), “Whence perceptual meaning? A cartography of current Ideas” (1981) is alluded.

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