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Philological Readings

**ANTHROPOCENTRIC CHARACTER OF NUMBER, SPACE AND
TIME LANGUAGE INTERPRETATION**

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Abstract

The research is carried out within anthropocentric cognitive paradigm. It investigates the aspects of number, space and time language interpretation as a certain knowledge configuration which was formed by integrating empirical knowledge (acquired by bodily parts) with secondary (interpretative and evaluating) cognizing of the surrounding world. Anthropocentric measurement used by humanity from times immemorial is contrasted to the scientific method of quantity, space and time evaluation. Special attention is paid to the cultural specifics in counting and measuring time and space which reflect unique world-views of the peoples using these systems. We argue that the man anthropomorphized the surrounding world by naming the parts of landscape and artefacts with the names of human body parts, this process being also reflected in mythology: the sacrifice of Germanic giant Ymir and Vedic man Purusha created the world and all its constituents. The modern linguistic metaphors demonstrate the likewise process on a different level. The factual linguistic data analysis of English, French, Russian and other languages demonstrates a high degree of language anthropocentric character, with quantitative, spatial and time aspects of life being transmitted not only with the help of anthropomorphic units of measurement, but also by correlation with the human physiological states.

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Keywords: Anthropocentrism, interpretation, space, time, quantity, world-view.



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1. Introduction

The history of linguistics is known to demonstrate the different ways in which the knowledge about language emerged and evolved. The concept of "paradigm" is intended to describe the process of attitudes transformation as well as their succession: the attitudes depend on the accepted in a given period of time perspective. In this sense, this concept is a convenient way to see the overall conceptual bases beyond the external diversity of methods and approaches (Kubryakova, 1995).

Stepanov (1998) emphasizes that paradigm may be described as "dominating view of language in any given epoch. Paradigm is associated with certain style of thinking in science and art style. "Paradigm" understood in this manner is a historical phenomenon" (p. 176).

The science of language is traditionally viewed within three main research paradigms: comparative (based on the diachronic comparative method), the structural approach (the focus of which is the structural components of language, i.e. words) and anthropocentric, which according to Vorkachev (2001), "has returned the status of "the measure of all things" to the man and placed humans in the centre of the universe" (p. 64).

In addition, according to Kubryakova (1995),

the dominance of the anthropocentric principle unites linguistics with other areas of knowledge, for the interest in the person as the centre of the universe and human needs as determining different types of human activity defines the reorientation in many fundamental sciences: in physics it is the recognition of the observer effect; in literary criticism it is the appeal to the images of the author and the reader in their various guises; in macroecology it is the attention to environmental issues and the achievement of harmony in interaction with nature, etc. (p. 212)

2. Problem Statement

It is the addressing to the human features that is indicative of the major methodological shift. The transition from structural linguistic paradigm with its focus on the language "in itself and for itself" as an immanent system (F. de Saussure) to the new anthropocentric linguistics includes the revision of the traditional linguistic problems when a human being becomes a starting point for consideration of any linguistic phenomena.

The formation of the anthropocentric paradigm has therefore led to the "linguistic perspective shift towards the man. The man cognizes the outside world only by differentiating himself from the world, he contrasts the "I" to everything that is "not-I". This is, apparently, the very structure of our thinking and language: any verbal and cogitative act always involves a priori recognition of the outside world existence and reports the presence of the world reflection act by the subject of this reflection" (Maslova, 2010, pp. 7– 8).

So, this research aims at investigating the processes that result in the language representation of the basic concepts of QUANTITY, TIME and SPACE within the anthropocentric paradigm.

3. Research Questions

In this context it logically follows that the emergence of such field as cognitive studies is caused by the realization that language, being an integral part of the human mind activities, cannot be studied in isolation from its creator and user. The language units motivation by the knowledge about the world has acquired special emphasis as well as the fact that language does not only register the obtained knowledge. The language also interprets this knowledge, as it interprets the world itself presenting it in a variety of objects and events (Boldyrev, 2017). The interpretative nature of cognitive activities is conditioned by the fact that the subject of the conceptualization and categorization of knowledge is the basic point of reference, against which the whole system of the knowledge involved in the interpretation of a fragment of reality is built (Boldyrev, 2017).

Thus, the research question is: how the issues related to the human body, such as its parts and states, are employed in the process of the basic concepts interpretation?

4. Purpose of the Study

The study aims at investigating the evolution of quantity, space and time estimation in terms of anthropocentric paragon throughout the history of humanity and in various linguocultural communities. This is why the linguistic data is drawn from ancient and modern language sources, both from languages possessing writing systems and from those without it.

5. Research Methods

Modern anthropological linguistics lends single methodological basis for such diverse research fields as psycholinguistics which studies the relationship between language and thought, sociolinguistics which studies the relationship between language and society, cultural linguistics which studies the relationship between language and culture, ethnolinguistics which explores the relationship between language, mentality and spiritual culture of the peoples, cognitive linguistics which studies the relation between language and consciousness, and the role of language in the processes of reality conceptualization and categorization.

Thus, the present day linguistics recognizes the anthropocentric principle as being associated with the attempt to consider linguistic phenomena in the dyad "language-person", which necessarily implies consideration of the linguistic personality and the explanation of the language structure in terms of the essential characteristics of its possessor, i.e. a human being.

6. Findings

Quantity Interpretation

The ancient Greek philosopher Protagoras is credited with saying that man is the measure of all things (Rowe, 2015). This statement can be understood not only from a philosophical point of view, but literally, as most traditional counting and measurement units are directly or indirectly related to the man.

Since the counting always starts with the selection of the “auxiliary tool”, it is not surprising that the fingers are considered to be the first calculating means that was used by primitive people to establish a certain number. In the same manner the children at preverbal stage of development tend to use their fingers as a means to express the quantity. In this respect, the fact that the name of figures in many modern languages dates back to Latin designation of the finger (*digitus*) is of considerable importance. Presumably, the basis for the development of counting included deictic elements when using fingers was accompanied by pronouncing the required number of objects (Michiel, 2008). The value of “finger” can be found in the naming of poetic meters, namely dactyl, which finds parallels in the Indian myth of Purusha (Jamison & Brereton, 2014).

The analysis of the current language use reveals the fact that people still use their fingers not only as an auxiliary tool for the counting, but also for understanding the quantitative ideas. So, in French and in English *un doigt de / a finger of* have a “measuring” meaning correlated with the idea of “small amount” (cf: *un doigt de vin / a finger of whiskey*). The lexeme “finger” can also act as a reference sample for an indefinitely small quantity during the metaphoric re-interpretative and evaluative understanding of the psychological state indicating additional subjective ideas:

1) That was really all that was left to say, but the finger of fear that she had been avoiding began to crawl up her spine now, too (Steel, 2006).

In addition to fingers, other parts of the body can serve as a counting instrument tool. Modern counting systems studies of some tribes point to the fact that along with fingers other parts of the human body, such as hands and head, can be used as an auxiliary tools for the counting. For example, in the counting system of Oksapmin tribe living near the mountain Ok in Papua New Guinea the numbers correspond to 27 areas of the hands and head (see Fig.1). Representing the cardinal numbers, they are used only for counting and never in arithmetical calculations (Sundaram, 2012).

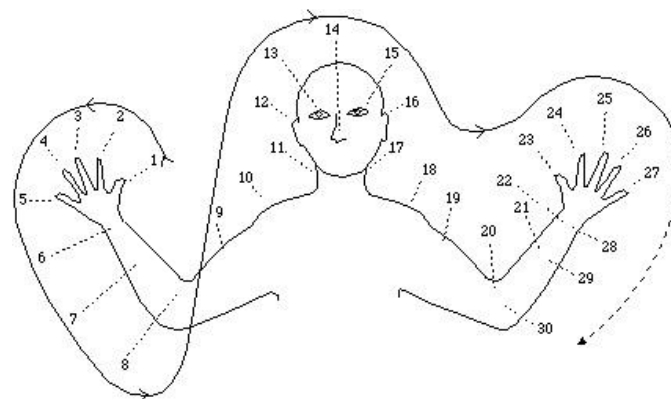


Figure 01. Oksapmin counting system

In general, the number is intended to characterize the physical properties of the real world objects in terms of their size, weight or distance from each other. These characteristics are registered by an ordered set of units in the form of certain numerical invariants. However, alongside the precise and purely mathematical quantity forms associated with the number, there are “non-scientific” quantity forms based on the knowledge which forms the naive world-view.

Thus, elbow is one of the most common units of measurement among different cultures throughout the history of humanity. Its existence is first noted in Ancient Egypt in the form of a granite stick with a clear division into "fingers" so that people could apply both the given standard and its fractional parts (Hosch, 2010). In Old English description of the Norwegian Ohthere voyage dating from the late ninth century, the *elles* (derived from elbow) were used to measure various items, such as whales, walruses, ropes (Fowler, 1973).

The analysis of modern linguistic material indicates the use of other anthropomorphic parts as a means of quantitative ideas expression. Here are examples:

2) Portable telephones barely bigger than your ear (McEwan, 2006).

3) Now it's a cosmetic fairground silver trim, gold pillars, marquee lights, brand-name letters the size of a human head (Atwood, 2004).

These contexts demonstrate the integration of the empirical knowledge about the size of various body parts and re-interpretation process. It results in the associative knowledge format which takes the size of human head and ear as the imagery paragon for comparing with the size of the artefacts.

Space Interpretation

The anthropocentric principle often underlies the conscious perception of spatial parameters. First of all, it is worth mentioning that the world creation in the mythology of many peoples is described as the sacrifice of the first man whose parts became the elements of the surrounding space. The most complete versions of these myths have survived in ancient Indian and Germanic traditions.

Thus, in ancient Indian mythology sacrificing of a thousand-headed, thousand-eyed and thousand-legged Purusha gave rise not only to the surrounding space, air, wind, but to all animals. Different parts of his body gave birth to different castes: Brahmins (priests) appeared from the mouth, Kshatriya (warriors) appeared from the hands, the Vaishya (farmers) appeared from the thighs, Shudra (lower caste) appeared from his feet. The poetic meters and ritual formulas were also the result of this sacrifice (Jamison & Brereton, 2014).

In Germanic mythology several songs of the "Poetic Edda" and "Prose Edda" describe the sacrifice of the first man Ymir who was born at the point of fire and ice encounter. The flesh of Ymir became the land, blood became the sea, bones became the mountains, skull became the sky, and his hair became the forest; Ymir's eyelashes were used to build the walls of Midgard (Meletinskiy, 1987). The German giant is more anthropomorphic than the Indian and possesses the ability to conceive a new life since his underarms gave birth to a boy and a girl, and his legs fathered his son, giant Thrudgelmir.

The mentioned mythological scenarios support the idea that nature and the surrounding space were perceived as something animate and inseparably associated with the man.

The previously mentioned Anglo-Saxon description of the Norwegian Ohthere voyage, along with the standardized units of measurement employs quite ambiguous ones pointing to the human "the presence". For example, significant distances are given approximately: the width of moors is measured in the days required to cross it, the distance along the shore is measured in sailing days if the winds are favorable, and the width of the strait is described as "no one will be able to see its shores". Miles, which

etymologically date back to the Latin for "thousand (human) steps", are also mentioned in the text (Fowler, 1973).

It is also necessary to emphasize that the outstanding work of Gamkrelidze and Ivanov (1984) "Indo-European language and Indo-Europeans" contains a large number of reconstructed roots and meanings confirming the thesis that by correlating the bodily parts with the landscape elements the man advanced in the perception of space; its "anthropomorphizing" was performed by measuring space with the man as a paragon. The most evident example is the Indo-European root *d[h](e)ǵ[h]om which means «earth» and «man», i.e. «earthly»: cf. Latin humus and homo (hominis), Lithuanian žemė (earth) and žmuo (man) (Gamkrelidze, & Ivanov, 1984). The naming of such parts of the body like head, neck, eyes have additional topographic values of mountain, hill, water source or lake.

The discussed examples indicate that "on the one hand, language world-view is bound with the language as a semiotic system meant for verbal communication, and on the other hand, there are many "inspired" naive beliefs in it, the knowledge gained by previous generations of people" (Kolesov, 2016, p. 34).

Today, many researchers acknowledge that "anthropomorphic" metaphor is being actualized again in modern science. The point is readily supported by applying the names of human bodily parts and organs to designate artifacts and their spatial properties. As in the examples:

4) In 1984, the 32-year-old NicuMunteanu had presented himself at the American Embassy in Bucharest, claiming that he could identify two spies working in the heart of Washington, information he was willing to trade in exchange for an American passport (Archer, 2005, p. 38).

5) Pausing but to put on his shoes, and having satisfied himself by a glance at the mirror that his appearance was reasonably good, he seized his hat, shot out of the narrow mouth of Arundell Street like a shell, and scrambled into a taxi cab with the feeling that, short of murder, they couldn't make it too delicate and dangerous for him (Wodhouse, 2008).

The simultaneous activation of conceptual fields HUMAN as the source domain and the SURROUNDING SPACE as the target domain is the basis of cognitive interpretation of "the human heart as the center of the city" in example No. 4. This interpretation is further supported by the inter-conceptual relations profiling the attribute "the human heart is the central, main body organ" which introduces an additional possibility of understanding the city in terms of "living organism" with the presence of the center and central government authority. Example No. 5 also indicates the establishment of inter-conceptual relations in the process of conceptual metaphorization and comprehension of the street parametric characteristics in terms of the human body. Conceptual metaphor, therefore, is one of the means of interpreting the world and knowledge about it. Its interpretive potential is determined by the possibility to establish relationships between different concepts or conceptual structures, as well as by the interpretation specifics as a human cognitive activity (Boldyrev, 2008).

Visual modus is known to play a key role in the processes of cognition in general and spatial characteristics in particular. Man cannot comprehend the unlimited infinity: it is always only part of something within the visible horizon. Shmelev (2002) stresses that space is always perceived by an observer as an open space, where the width is present to a greater extent than the height or depth. It is the

inability to cover or fully perceive the object from the point of view of the observer that becomes the motivation for deliberate limitations of the unlimited territory by the sight of an observer:

6) The grounds sweep away from the house as far as the eye can see until they merge seamlessly into Ashridge Forest (Matthews, 2013).

The empirical analysis showed that one of the most simple, convenient and versatile tools to "measure" the spatial characteristics are the human hands. Thus, there is an expression in English, French and Russian languages meaning "at arm's length" which indicates the presence of this anthropocentric measures in the minds of the representatives of these linguistic and cultural communities:

7) He cared more about those two lads than he should. Years of being a prison officer had taught him about that. It was best to keep your distance. Hold the prisoners at arm's length (Matthews, 2013).

8) Et quand je suis à coté de lui, comment je peux rester sans bouger, sans me jeter sur lui... C'est si facile quand il est à portée de main... Etsi compliqué quand il est loin... (Pancol, 2010).

9) Было в нём что-то, что заставляло её держать его на расстоянии вытянутой руки (Severskaya, 2017) (Lit. There was something in him that made her keep him at arm's length).

Reflection on oneself, one's inner world leads to the fact that by knowing themselves people "transfer" the knowledge about themselves in the surrounding reality. In this regard, the fact that the linguistic interpretation of space can be actualized in terms associated with the concept of different physiological states of a person is of special interest. Thus, in example No. 10 a cognitive mechanism of interpretation is represented by a figurative comparison between a headache and the visually observed situation of the suburban areas gradual transformation into a large city on the basis of the intensity attribute profiling :

10) Chicago happened slowly, like a migraine. First they were driving through countryside, then, imperceptibly, the occasional town became a low suburban sprawl, and the sprawl became the city (Gaiman, 2001).

Time Interpretation

Time, being one of the cognition dominants, is comprehensively represented by language units of different levels. This probably indicates a constant human desire to cognize and record this phenomenon.

The units of time are known to be the traditionally accepted values connected with the period of the Earth rotation around its axis and around the Sun and associated with the change of day and night, counting minutes and hours, days, months and years. Therefore, the linguistic interpretation methods of the *Time* phenomenon are also associated with conventional temporal exhibitors with the meaning of 'time interval'.

The names of the months of the year correlating with parts of the human body are still preserved in the Evenk language: тугэнихээн «the top of the winter» – January, эвримир «descending shoulder плечо» – February, эвричээн «descending elbow» – March, эврибилэн «descending wrist» – April, эвриунма «descending back hand» – May, эврихаялра «descending knuckles» – June, дюганихээн «top of the summer» – July, ойчирихаялра «ascending knuckles» – August, унма «ascending back hand» – September, ойчирибилэн «ascending wrist» – October, ойчиричээн «ascending elbow» - November, ойчиримир «ascending shoulder» – December.

In addition, according to the "Materials on the Lamut language" by V.G. Bogoraz, the counting of months in Lamut language is by the joints of the hands in the direction from left to right starting from the middle knuckles (June-July) and rises to the head, then goes to right hand down to the knuckles: хэйэ «the middle of the joints», чордакич «knuckles of the left hand», унма «left back hand», билэн «right wrist», унма «right back hand», чордакич «knuckles of the right hand (as cited in Sharina, 1999, p. 77).

The empirical analysis points to the fact that the linguistic interpretation of time intervals can be realized in terms associated with various physical and emotional states of a person. It is a further proof that a man in various guises is the measure of all things. For example, the interpretation of duration is often associated with highly individual meanings based on personal situational experiences. As in the examples:

11) There was a long pause, as by one who has just been hit in the solar plexus (Forsyth, 2010, p. 68).

12) Her friend was parking the car. He must have parked it in another county, because it was another half-hour before he showed up (Steel, 2004).

13) I couldn't blame her – I can just about remember being that age, when an evening without one's friends seemed to stretch to the length of a prison sentence (Moyes, 2013).

Thus, the cognitive basis of the temporal event evaluation in the present examples is the comparison with some implicit reference situation. In example No. 11, the basis of the pause length interpretation is the time interval required for recovery after a blow to the solar plexus, when a sharp spasm of the diaphragm leads to the inability to fully breathe for a few seconds. In example No. 12, the amount of time required to perform certain actions is taken as a reference period for comparison, and in example No. 13, interpretation of time is connected with personal emotions and feelings.

7. Conclusion

Anthropocentric measures used by man since ancient times for practical purposes reflect human desire to cognize the environment and to register it "in terms of" one's own body.

Language as a form of knowledge registers the results of cognition due to which the units of language often naturally contain the names of those senses by which the world was being cognized. The examples clear confirm the anthropocentricity of language, with the interpretation of quantitative, spatial and temporal aspects of existence being carried out both on the basis of comparison with parts of anthroposphere and by comparison with the human states.

These methods of reality cognition reflecting are motivated by the empirical knowledge as opposed to the scientific method of determining the quantity, space and time.

Interpretation of the objects quantity and parameters includes an act of quantitative evaluation from the point of view of the perceiving subject and is expressed in the use of various body parts as paragon of counting.

Space conceptualization is performed in terms of a perceiving subject. The result of this conceptualization is the description of spatial characteristics not only in conventional units, but in anthropomorphic terms, as well as in the individual author's measurements which reflect the physiological state relevant to the subject of the evaluation.

The intangibility and immateriality of time stands behind the human desire to cognize the time by themselves and their experiences. This explains the fact that the linguistic interpretation of time intervals is often based on the concept of time as a psychological phenomenon: lived and experienced personified time.

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