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CROSS-LINGUISTIC DIVERSITY IN REPRESENTATIONS OF SPACE AS AN ONTOLOGICAL CATEGORY OF PHILOSOPHY

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Сучасні міжмовні дослідження домену простору, виконані в парадигмі посткогнітивізму, демонструють значну варіативність у концептуалізації просторових відношень носіями різних мов. Концептуальний аналіз простору як онтологічної категорії філософії також викриває міжмовні відмінності, що в свою чергу зумовлює специфіку метафізичних концепцій простору в межах різних філософських традицій.

Ключові слова: просторові відношення, онтологічна категорія простору, міжмовна варіативність, метафізика простору.

Современные межъязыковые исследования домена пространства, выполненные в парадигме посткогнитивизма, демонстрируют значительную вариативность в концептуализации пространственных отношений носителями разных языков. Концептуальный анализ пространства как онтологической категории философии также выявляет межъязыковые отличия, что в свою очередь обуславливает специфику метафизических концепций пространства в рамках разных философских традиций.

Ключевые слова: пространственные отношения, онтологическая категория пространства, межъязыковая вариативность, метафизика пространства.

Modern cross-linguistic studies of the domain of space demonstrate significant variation in the conceptualization of spatial reference by speakers of different languages. The conceptual analysis of space as an ontological category of philosophy also reveals cross-linguistic diversity, which is seen as conditioning specific metaphysical conceptions of space in different philosophical traditions.

Key words: spatial reference, ontological category of space, cross-linguistic diversity, metaphysics of space.

Within the modern cognitive approach to language the point of attention has always been the exploration of relations between linguistic and conceptual structures. The central concern of present-day research is analyzing the similarities and differences among various natural languages in how they express and organize conceptual material – such as space and time, motion and location, force interactions, etc. – with special emphasis on the role of metaphor and metonymy in structuring these domains.

Initially regarded as invariant within philosophical, psychological, and linguistic circles, *space* has exhibited a clear cross-linguistic variation in the recent experimental studies, which resulted in a specific typology of spatial frames of reference [9; 10]. In Levinson's classification the intrinsic frame of spatial orientation, typical for such languages as English or Russian, implies that the reference point within this frame can be any kind of object whose shape and structure determine the coordinate axes (e.g. *the man is in front of the house*). In the relative frame, capable of producing secondary subsystems found in such languages as Tongan (Tonga) or Tamil (South India and Sri Lanka), the reference point corresponds to the observer, relating the whole system of orientation to their location in space (e.g. *the man is to the left of the house*). As contrasted to these, the absolute frame, favored in Guugu Yimithirr (Australia) or Tzeltal (Mayan), is characterized by a fixed coordinate system anchored as cardinal direction terms or topographic features (e.g. *the man is to the east/uphill of the house*).

The intrinsic frame of spatial orientation, varying significantly in the languages of the world, turned out to be bearing on such prototypes as names of body parts or parts of some geometrical objects. For example, it is quite naturally to refer to the 'ear'

of the table in Tzeltal [8; 6] or Mixtec (Mexico) [7], while it sounds quite strange in English or Russian where the respective prototypical object is a cube projected on the most of other objects being represented as having top, bottom, front, back and side parts (e.g. *in front of the house*). The relative frame prototypically comes out as deictic and egocentric, its secondary subsystems being created on the principles of reflection, transposition and rotation, which means that the phrase *the man is in front of the house* can be interpreted in English as the man being positioned between the speaker and the house, and in Tongan as the man being positioned behind the house. Finally, in a dialect of Tamil, fixing the rotation subsystem, the phrase *the man is to the left of the house* literally means the man is standing to the right of the speaker [9, p. 85-88]. The third, absolute frame of spatial reference is defined as 'geocentric' and appears to be resting on the prototypes of celestial bodies, landscape features or certain climatic conditions. In some Austronesian languages, for example, it is necessary to refer to the direction of monsoons denoting one axis and to the location of the 'main mounting' or 'principal hill' standing for the other in order to define one's position or direction of motion [11].

Space is also a basic ontological category of philosophy where the problem of identifying its real nature and properties was raised as early as in the old Indian mythological tradition. Proceeding from the level of ordinary discourse where the conceptualization of space implies a specific system of spatial orientation, the level of philosophical discourse suggests a representation of space as a metaphysical notion that needs to be defined and explained theoretically.

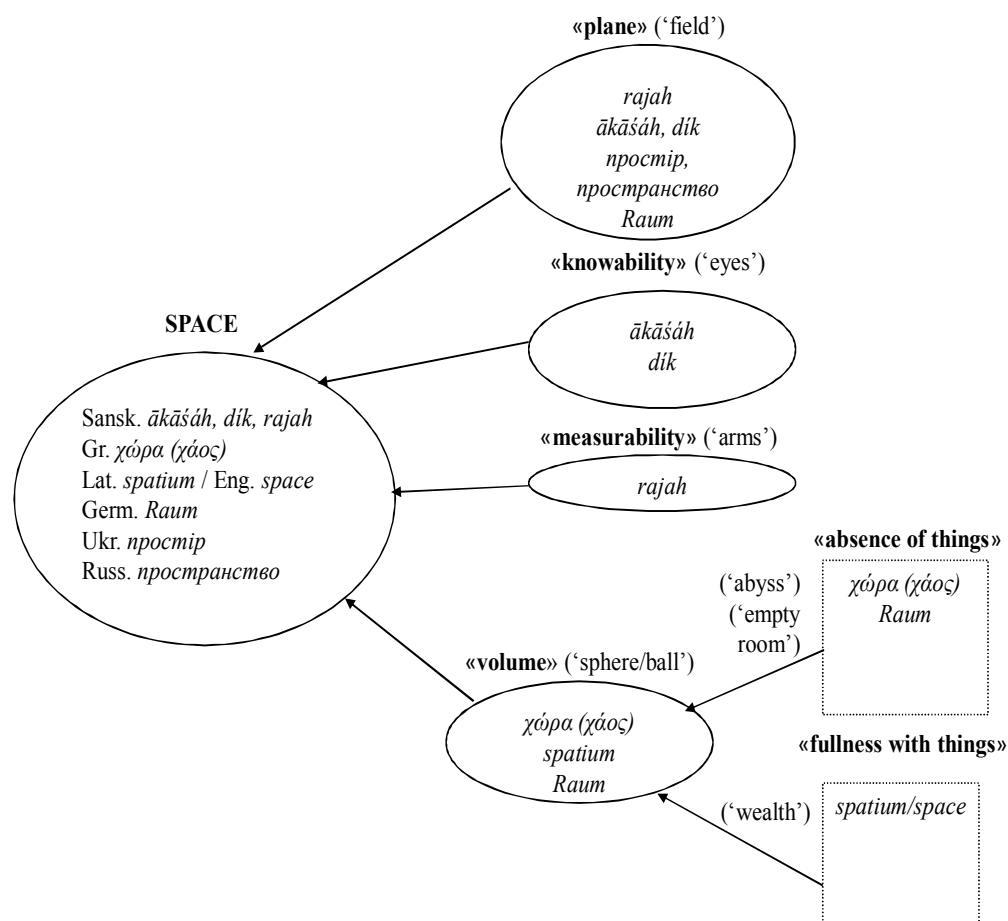
In view of their highly abstract character, different definitions of space given within various metaphysical conceptions have repeatedly posed the question of the interaction between philosophy and natural language in philosophical as well as in linguistic investigations. Ludwig Wittgenstein expressed the idea that philosophical problems arose from a misunderstanding of the logic of language and their solutions were to be obtained by the examination of our ordinary usage [13]. Considering such traditional branches of philosophy as logic, epistemology, ethics and metaphysics, Leo Weisgerber recognized language to be the means of philosophical thought and underlined the idea that metaphysical reasoning was related to natural, informal language to a much greater extent than other disciplines [2]. He refers to the less unified and stable philosophical terminology as an evidence for the primary importance of natural language in philosophical abstractions.

In my research I examine the cross-linguistic variation in representations of space in the languages of the Indo-European family (Sanskrit, Greek, Latin, English, German, Russian, Ukrainian), and elucidate the diverse structures underlying this category on the conceptual level. The data of etymological analysis of the terms denoting the philosophical category of space in the languages indicated (Sanskrit *ākāśāh*, *dik*, *rajah*, Greek *χώρα* (*χάος*), Latin *spatium*, English *space*, German *Raum*, Russian *пространство*, Ukrainian *простір*) are interpreted by means of the prototypical analysis inspired by J. Austin [4]. The identified prototypes of each of the terms suggest a specific frame of representation [5] for the category of space within a particular language. The frame of representation is constructed in such a way as to represent universal and language-specific concepts structuring the metaphysics of space in the respective linguo-philosophical traditions. To provide illustrations for the proposed conceptualizations I analyze philosophical texts discussing the category of space in the indicated languages and demonstrate the parallels between the etymological connections of the terms and their categorial definitions.

The prototypical meanings of the word families the analyzed philosophical terms relate to, suggest an underlying conceptual structure represented as a frame of the philosophical category of space. Frames are the basic mode of knowledge representation [5]. They are used in reasoning in order to generate new inferences. Frames are made up by attributes (concepts representing one aspect of a larger whole) and values representing subtypes of attributes. Attributes in a frame are not independent slots but are often related correlationally and conceptually, appearing together across contexts.

It turns out so far, that against the background of the Indo-European language family the philosophical ontological category of space comprises the attributes of

'plane', 'knowability', 'measurability' and 'volume', the latter also having such two values as 'absence of things/emptiness' and 'fullness with things' (the respective prototypical meanings are given in single quotes in the Pic. 1). However, this representation is not universal in the case of particular languages. For instance, the Sanskrit conceptualization of space combines the attributes of 'plane', 'knowability' and 'measurability', while the Greek one contains that of 'volume' in the meaning of emptiness and nothing else. Latin conceptualization also presupposes the 'volume' attribute but in the opposite sense of 'being filled with things'. The German term suggests the conceptualization comprising both the 'plane' and 'volume' attributes with the 'emptiness' subtype for the latter. The Slavic understanding implies the only attribute of 'plane' (see Pic. 1).



Picture 1. The frame of the philosophical category of space

The analysis of respective philosophical texts provides illustrations for the conceptual definitions of the category of space comprising exactly the features revealed as attributes and values in the given frame representation. For instance, the mythological correlate of the old Indian notion of space, known as the mythical mounting *Lokāloka* and transposed into the developing metaphysical conceptions of Hindu philosophy, makes explicit the attribute of 'knowability' through its definition as a "watershed" between visible world (i.e. 'known and measured space') and darkness ('unknown world'). Together with the attribute of 'plane' they produce a representation of space as a two-dimensional extent partly known by man.

In the metaphysical system of Greek philosopher Democritus space is characterized as a 'great emptiness', which is the very sense Aristotle [3, IV, 1] attributes to the Greek term *χώρας* earlier suggested by Hesiod as a denotation for space as an ontological category. Lucretius used the Latin term *spatium* and described space as emptiness filled with things that are inseparable but not identical with each other [12, p. 426-432]. The idea of space as a fusion of emptiness and

things is implied in the Greek term *σφαίρα* that relates to *spatium* and denotes a single, eternal and immobile sphere comprising Empedocles' notion of the world in general [1, p. 63].

To conclude, we can suggest that the ontological category of space in philosophy gains a metaphorical definition. The two alternative conceptual metaphors prompted by the frame-based analysis imply an analogy with a field (Sanskrit, Slavic, German) in one case and a reference to a ball in the other (Greek, German, Latin, English). Such conceptualizations are in line with the notions of two-dimensional and three-dimensional space, the latter having been gradually developed from the former. Prospective in this respect seems a further investigation of the metaphorical nature of space as an abstract category in metaphysical as well as in scientific (physics) systems.

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