

THE CONCEPT OF QUANTITY AND COGNITIVE LINGUISTICS

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Abstract

This article is dedicated to elucidating the role of human beings and their national-cultural dimensions within contemporary linguistic paradigms, the organisation of knowledge about the world through cognitive models, and the broad functional scope of language as understood through the cognitive approach. The article presents perspectives on how speakers of different languages and cultures perceive, categorise, conceptualise, verbalise, and encode reality into sign systems in different ways. The connection of this issue with characteristics of mentality determined by natural-geographical, socio-historical, religious-philosophical, national-cultural, and other factors is substantiated with supporting evidence.

Keywords: Conceptualisation, Cognition, Cognitive Model, Logical-Semantic Category, Concept of Quantity, Quantitativeness, Quantification.

INTRODUCTION

In contemporary linguistics, the interrelationship between language and cognition is regarded as one of the central issues of scholarly inquiry. Accordingly, cognitive linguistics constitutes one of the most significant and promising branches of linguistic

science, studying language in close connection with human consciousness, thought, and systems of knowledge. Within the cognitive framework, language is considered not merely a means of communication, but also an instrument for organising knowledge about the world through cognitive models and, simultaneously, for expressing that knowledge.

Speakers of different languages and cultures perceive, categorise, conceptualise, verbalise, and encode reality into sign systems in different ways. This is attributable to characteristics of mentality determined by natural-geographical, socio-historical, religious-philosophical, national-cultural, and other factors. Language is a complex sign system endowed with the capacity to reflect the surrounding environment; it constitutes a linguistically constructed model of the world shaped through human cognition. This model is formed in the course of an individual's acquisition of knowledge and assimilation of social experience, and accumulates within the consciousness of language users. In human consciousness, the surrounding environment manifests itself as a complex of concepts, which together constitute the conceptual picture of the world. This picture reflects the results of cognitive activity and encompasses the national-specific features of a given worldview. The linguistic picture of the world is formed in the process of interaction between human beings and society, between thought and language. The conceptual picture of the world and the linguistic picture of the world are organically interrelated: the conceptual picture serves as the foundation of the linguistic one, while the linguistic picture represents the form in which the conceptual picture exists. Language functions not only as a means of storing, transmitting, and processing information, but also as a mode of conceptualisation – that is, as an instrument for reflecting elements of the world picture within human consciousness.

LITERATURE REVIEW AND METHODOLOGY

V.I.Karasik, having analysed the typology of concepts according to their degree of concreteness and complexity and the directions of their study, reaches the following conclusion: "the concept – as a linguistic category – expresses the development of the category (the category of notion) in relation to grammar," and the principal characteristic of a concept is "its reliance upon a specific lexical-semantic complex" [Karasik, 2001, pp. 10–11]. He further identifies, alongside scholars such as O. Jespersen and I.I. Meshchaninov, plurality, materiality, animacy, and modality as basic conceptual categories. M.V. Pimenova proposes a classification of concepts according to several criteria, subdividing them into the following three categories:

Basic concepts – concepts that constitute the foundation of language and the overall picture of the world. These include:

- Cosmic concepts (e.g., time, space, nature);
- Social concepts (society, family, state, law, etc.);
- Spiritual (moral) concepts (love, hatred, happiness, faith, belief, etc.).

Descriptor concepts – concepts that define basic concepts and qualify them in terms of quality and quantity. These are in turn subdivided into three categories:

- Dimensional concepts – concepts denoting measurement (large–small, depth, height, weight, etc.);
- Qualitative concepts – concepts expressing quality (warm–cold, wholeness–fragmentation, hardness–softness, etc.);
- Quantitative concepts – concepts denoting quantity (one, many, few, sufficient–insufficient, etc.).

Relational concepts – concepts reflecting various types of relationships, subdivided as follows:

- Evaluative concepts (good–bad, right–wrong, harmful–beneficial);
- Positional concepts (against, together, beside, near–far);
- Privative concepts (mine–other's, taking–giving, acquiring–losing, adding–separating).

The identification of plurality as one of the fundamental and universal categories of language [Linguistic Dictionary, 1990, p. 535] – and, consequently, its treatment as a concept-forming category – is of considerable significance for the present study.

Another important point noted in Karasik's work is that the type of language plays a decisive role in the expression of grammatical categories (and the concepts based upon them).

RESULTS

Quantity, as a highly abstract concept and one of the linguistic universals, manifests itself in various linguistic units, developing semantically within them and acquiring, under the influence of linguistic and extralinguistic (cultural) factors, a specific cultural interpretation – ultimately attaining the status of a "concept."

Quantitative concepts are formed as a result of historical and cultural experience and reflect significant aspects of human life and activity. They may carry different meanings and associations in various contexts: in religious traditions, in everyday life, and in scientific discourse. These concepts become embedded in language, forming part of collective consciousness, and influence the formation of stereotypes, images, and symbols. Numerals, as the material signs of numbers, also possess symbolic potential. Each numeral may express a particular meaning dependent upon its form, pronunciation, or use in various traditions. In the human mental model, numerals are often associated with cataphoric expressions, metaphors, and symbols. For example, the numeral "1" may denote beginning, singularity, or the Divine; "2" – duality, contradiction, opposition, cooperation; "3" – perfection, triadic unity, harmony, balance, and so on. The symbolic meanings of these numerals find wide application in art, literature, architecture, philosophy, and religion. Numerals have carried different meanings across various

cultures and historical periods. For instance, in Eastern traditions, the numeral "8" is interpreted as a symbol of fortune and prosperity, its form evoking the symbol of infinity. Conversely, the numeral "4" in China and Japan is regarded as inauspicious, since its pronunciation approximates that of the word for "death." The symbolic meanings of numerals frequently draw upon religious and mythological sources. Thus, the numeral "7" is a symbol of divine completeness and perfection, considered sacred in numerous cultures. This numeral is associated with the weekly cycle (seven days), celestial layers, and the symbols of worship in Islam and Christianity. Similarly, the numeral "3" – one of the numerals carrying the greatest symbolic weight – may signify the Holy Trinity in Christianity (Father, Son, and Holy Spirit), the three states of nature (fire, water, earth), or the three phases of time (past, present, and future).

It is particularly noteworthy that numerals serve not only as religious or mythological symbols, but also as mental tools influencing the structure of human consciousness. In the process of thought, numerals generate order, systems, and relationships. For example, expressions such as "three points," "two options," and "a seven-stage path" are frequently employed to articulate worldly and abstract concepts. In this way, numerals manifest not merely as instruments of calculation, but as universal elements carrying a distinctive symbolic and spiritual weight in human thought, culture, and inner life. They serve as instruments through which human beings perceive, express, and comprehend the world. Numerals function as ordering mechanisms of human cognition. They assist in structuring thought, arranging events in sequence, and comprehending time and space. For instance, historical processes, life stages, or even personal plans are frequently expressed on the basis of numerals: "I achieved success in three years," "a ten-step programme," "reaching one's goal in five steps." Such formulations illustrate the significant role of numerals in the structure of human consciousness. Through numerals, human beings organise, systematise, and more readily assimilate information. This is why many pedagogical methods make extensive use of numerical frameworks such as "step-by-step" approaches, "levels of change," and "scoring systems." This demonstrates that numerals carry not only a technical or computational function, but also an ordering, cognitively facilitating, and meaning-laden structural significance. At the same time, numerals exert a distinctive influence upon individual worldview. Many individuals hold the concept of a "lucky number" or an "unlucky number." For some, the numeral "13" may be considered inauspicious, while for others it may symbolise unconventionality and individuality. Such attitudes represent not merely superstition, but personal emotional stances towards numerals – demonstrating that in human consciousness, numerals carry not only objective but also subjective information.

Accordingly, numerals function as one of the symbolic codes within human social, spiritual, and cultural thought. They manifest as a universal and distinctive emblem of human spirituality – serving not only as instruments of calculation, but also as an embodied form of human cognition, belief, values, and aesthetic sensibility. Through numerals, humanity expresses its conceptions of the world, its customs, and its philosophical perspectives. They serve as a source of symbolic meanings in language, literature, art, religious texts, and everyday life.

Each numeral carries a particular meaning and bears a certain spiritual, historical, or cultural weight. For example, the numeral "7" is considered sacred in many cultures, serving as a symbol of perfection, divinity, and completeness. The numeral "9" manifests as a symbol of conclusion, completion, and the highest stage. The numeral "4," in Eastern contexts, is frequently received as a symbol of misfortune, whereas in the West it signifies balance and stability.

Through numerals, human beings express concepts such as the meaning of life, stages of development, good and evil, light and darkness, life and death. They are frequently employed as symbolic instruments in myths, tales, religious texts, rituals, and oral folk art. Such usage further expands the semiotic and cultural potential of numerals, integrating them into human spiritual life. Furthermore, numerals provide the structural basis for symmetry, rhythm, music, and architecture. For instance, specific numerical modules serve as the foundation for the architectural structure of mosques, churches, and temples. In some cases, an entire place of worship or complex is constructed on the basis of the numbers seven or twelve, thereby affirming the sacred and metaphysical essence of the numeral.

Thus, numerals are associated with specific cultural and national symbols, and their meanings are not global but rather local and culturally contextual.

In sum, numerals are not merely instruments of calculation, but an integral part of human culture, worldview, and spirituality. Through them, human beings express their world, their inner experiences, their hopes, and their fears. Numerals serve as a bridge between the spiritual world of the individual and the material world.

The life of every human being and the culture of all developed peoples is encoded in "numbers." Every individual knows their date of birth, the number of years lived, the number of family members, the number of their dwelling, and so forth. Likewise, each of us can name the most significant dates in the history of our country, and possesses knowledge of its territory, population, and annual budget. In everyday life, numbers surround us: wages, taxes, prices, calculations, the number of guests at a celebration, the grades in a child's diary – this list could be extended indefinitely. What, then, do names of numbers signify from the perspective not of mathematics, but of language and culture? Can the universal concept of "number" carry specific connotative meanings (in the terminology of Ye.M. Vereshchagin and V.G. Kostomarov) in different linguistic and cultural contexts? If so, why does this occur? The matter is that, from a purely scientific standpoint, a number is "a very broad abstraction" [Gorskiy, p. 226] which, like any concept, is expressed in language and manifests in the form of a word. A linguistic unit (i.e., a word), as is well known, is susceptible not only to influences specific to language but also to extralinguistic factors, and may acquire additional meanings in the course of its use. For this reason, the absolutely objective quantitative semantics common to all languages – that is, the meaning inherent in the names of numbers – may, in speech use and in linguistic thought, undergo transformation and acquire qualitative and evaluative meanings. Many of these meanings are "culturally conditioned." For instance: in Russian schools, "two" is a failing grade and "five" is an excellent grade, whereas in the German

educational system the reverse applies. A five-storey building may be considered low for a city-dweller but tall for a villager. Many people attach considerable significance to noteworthy dates – the custom of celebrating anniversaries derives from this.

Nicholas of Cusa, the fifteenth-century Russian theologian and philosopher, wrote in his work *De Docta Ignorantia* (On Learned Ignorance): "The primordial exemplar of created things was undoubtedly number in the mind of the Creator." For this reason, "the ancient sages approached complex matters exclusively through mathematical analogies." Pythagoras, "the first philosopher by name and deed," held that the quest for truth occurs exclusively through number [Cusa, N., pp. 24–25].

Through numbers and the practices of counting – that is, through numerology – human beings have always sought not only to comprehend their environment, the macrocosm and the microcosm, but also to conceive of its structure and the laws of being, as well as to determine their own place, role, and conduct in the world [Kirillin, 2000, p. 15]. This implies, in particular, that the general cultural content of the "number" concept, in accordance with the characteristic common to all cultural concepts, may differ sharply from the scientific concept in mathematics: "it may even include content that would appear erroneous or mistaken from a scientific point of view" [Stepanov, 1997, p. 404]. Numerology is defined as a doctrine concerning numbers and their symbolic meanings. According to scholars, numerological ideas have been widely diffused throughout the history of human thought [Ivanov, 1994, p. 5]. Although "number" is not counting itself but "the result of counting," in linguoculturology the concepts of "number" and "counting" are closely interrelated and are examined together [cf. Stepanov, 1997, pp. 363, 367].

From this perspective, the concept of quantity occupies a special place as one of the cognitive structures manifested in the human perception, generalisation, and verbal expression of quantitative relations in the real world. It is situated at the centre of such cognitive notions as number, measure, volume, value, and evaluation in human thought, and manifests through various linguistic means.

In considering the linguistic nature of the concept of quantity, it is first necessary to dwell upon the function performed by the notion of "concept" in cognitive linguistics. In cognitive linguistics, the concept is a unit of meaning that is comprehended through language, takes shape in consciousness, and possesses a particular spiritual-cultural and cognitive content. The concept of quantity is an abstract cognitive unit participating in the process of comprehending and classifying the number, volume, and scope of objects, phenomena, and processes.

The concept of quantity frequently manifests in the following ways:

- Absolute quantity: through specific numbers and units of measurement (one, two, ten kilograms, metres, etc.);
- Relative quantity: through subjective and evaluative words (considerably, very much, slightly, almost, etc.);

- Metaphorised quantity: "a lifetime," "immeasurable affection," "an abundance of ideas."

Such forms of quantity in language serve not only for the purposes of calculation, but also as instruments for expressing cognitive activity and organising the network of knowledge within consciousness.

Cognitive linguistics studies the concept of quantity on the basis of the following principles:

- 1) Experience-based knowledge, i.e., knowledge formed through an individual's real-life processes of seeing, feeling, measuring, and evaluating.
- 2) Frames and mental models – quantity takes shape in consciousness through specific cognitive structures (e.g., "a few people," "the majority," "a sufficient amount").
- 3) Conceptual metaphors – expressing quantity by associating it with concepts such as space, mass, and liquid ("brimming with affection," "ideas finding a place in the heart").
- 4) Categorisation – the human mind, with quantity as an intermediary, distributes objects and events into groups (substance ↔ quantity ↔ capacity).

The concept of quantity possesses both universal and national characteristics. From the cognitive perspective, the concept of quantity is universal, since the quantitative oppositions of "many ↔ few," "present ↔ absent," and "considerable ↔ inconsiderable" exist in the thought of every individual. However, these universal models are enriched in each language by their own national-cultural characteristics. Specifically, in the Uzbek language, expressions such as *bir dunyo* ("a world [of,]"), *yetti bor* ("seven times"), *bir dumalab* ("one roll"), *yetti qavat* ("seven layers"), *etti pushti* ("seven generations"), *bir umr* ("a lifetime"), and *ming marta aytmoq* ("to say a thousand times") represent quantity + cultural code. In Turkish, "qirk kun" ("forty days") and "üç marta" ("three times") are regarded as symbolic quantities – cultural quantitative concepts – whereas in Arabic, "alf marra" ("a thousand times") constitutes a miraculous, sacred quantity. In Japanese, quantifier words (*hon*, *mai*, *nin*) differ depending on the object being counted. This phenomenon confirms the cognitive relativity of the concept of quantity within language.

In cognitive linguistics, quantity is also regarded as a subjective instrument. What is "little" for one individual may be "sufficient" for another. In this way, quantity manifests in language in relation to subjective cognitive evaluations: "Even a small thing made him happy"; "He did not speak particularly much" (particularly ↔ dependent upon personal perspective). Subjectivity links the concept of quantity with emotional and experiential cognitive models [3, 170]. Thus, in cognitive linguistics, a concept is a mental structure that finds expression in language, takes shape in human consciousness, and is accumulated on the basis of particular experience and knowledge. It consolidates, forms, and reinforces representations of the world in human thought. The concept of quantity – one of these concepts – is a cognitive unit pertaining to the human perception,

comprehension, comparison, and expression of the quantity of objects, phenomena, states, and processes in objective reality.

The concept of quantity possesses an abstract, universal, and contextual character in thought, and takes shape in human consciousness on the basis of certain scales, frames, and mental models. The principal characteristics of the concept of quantity are as follows:

- 1) **High degree of abstraction:** Although the concept of quantity is frequently connected to real units such as number, volume, and distance, it often manifests in an abstract and evaluative form. For example, in the expression "to rest a little," what is conveyed is not a precise figure but an emotional quantity.
- 2) **Categorising function:** Through the concept of quantity, human beings classify objects and phenomena in the world: "one person," "two people," "the majority," "the neighbours," "the public" – categories of persons; "a few times," "always," "almost never" – categories of temporal quantity.
- 3) **Classifying and evaluative function:** Quantity serves not only a descriptive but also an evaluative function: "He speaks rather little" (little ↔ silence, seriousness); "Our work was very considerable" (considerable ↔ labour, complexity).
- 4) **Subjectivity and context-dependence:** The perception and expression of quantity is frequently context-dependent and tied to individual cognition. For example, the collocation "in a short time" may signify five minutes for one person and five days for another. Similarly, the concept of "little money" takes shape against a different material background for each individual: one person, upon hearing "little money," may picture ten thousand soums, while another in the same situation may imagine one hundred thousand.
- 5) **Cultural dependency:** The concept of quantity is also connected to the cultural experience of each language and people [5, 100].

From the perspective of cognitive linguistics, the concept of quantity is structured through frames. A frame is a cognitive structure associated with a specific situation or domain of knowledge, expressing the connections between certain elements.

For example, in the "purchasing" frame, quantity is connected with the following elements:

- Buyer – how much quantity is available
- Product – how many items
- Price – how much money is required

Such frames recreate the concept of quantity across various cognitive situations.

CONCLUSION

By way of conclusion, it may be stated that the concept of quantity occupies a central position in human interaction with the world, in the representations of consciousness, and in the system of cognitive knowledge. It constitutes not only an instrument of calculation,

but also an expression of human thought, emotional evaluation, and cultural worldview. The concept of quantity finds expression in language at various levels – lexical, grammatical, metaphorical, cultural, and subjective. In-depth study of this concept creates the opportunity to comprehend the interrelations between language and thought, to reveal the models of national cognition, and to analyse on a scientific basis the cognitive processes of human perception.

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