

Mirroring of Cognitive Bonds and its Reflection in the Language

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Abstract: This paper discusses some peculiarities of historically related world maps evolution. It is proposed that cognitive bonds help reconstruct the structure of the world map, describe concept organization and interaction that is presumably responsible for some lexical peculiarities present in modern languages. As the problems of the genesis of concepts and the reconstruction of cognitive bonds that the concepts establish within the Proto-Indo-European world map are put into context the article focuses on the phenomenon of mirroring of cognitive bonds. This process reflects the peculiarities of their organization and dynamics in daughter conceptual spheres, as well as verbal representation in cognate languages, particularly, Russian, English, Latin and Spanish.

Key words: Proto-Indo-European • Concept • Cognate word • World map • Meaning • Cognitive bond
• Reconstruction, mirroring

INTRODUCTION

The development of the world community greatly depends on successful international communication. Our mental activity is to some extent reflected in the language and by means of its elements segments and determines perception of reality [1]. The principles of classification and systemic representation of units of knowledge [2], as well as interrelations between them reflect a certain perception of the reality, a definite world map. According to Z. Popova and I. Sternin, a world map can be characterized as an ordered array of knowledge about reality that has formed in public and individual conscience [3]. It is quite clear that if compared, the structures of the language world maps have a lot in common. Otherwise speakers of different languages would simply fail to understand each other.

Recent studies have shown that the structures and content of certain concepts, belonging to various world maps, partially coincide [4]. Finding the limits of these parallels becomes possible with the reconstruction of the initial language world map and the diachronic study of the common changes in its structure and organization of cognitive bonds between concepts that followed. It is very likely that the organization of concepts in certain cases may be guided by some underlying principles. This paper analyses one of these that we define as mirroring.

Thus, the primary objective of this paper is to reconstruct some cognitive bonds that linked concepts in the Proto-Indo-European world map and track how their organization evolved into daughter conceptual spheres due to the processes of mirroring.

MATERIALS AND METHOD

It appears quite clear that the Proto-Indo-European world map reconstruction primarily presumes defining its constituents that are concepts. It is possible to obtain some information from the semantics of cognate words and the reconstructed meanings of Proto-Indo-European roots reflected in numerous etymological data-bases and dictionaries. Thus, comparative historical method and etymological analysis are important in these respects, as well as morpheme and component analyses.

Correspondently, it is potentially possible to analyze the Proto-Indo-European root and synonyms if any with semantics equal to the one of a concept's name, the reconstructed derived words that are believed to have existed in Proto-Indo-European and daughter languages, the etymology of the word naming the concept and its synonyms if any in daughter languages that go back to Proto-Indo-European roots with different semantics, in all cases the coinages that derived from these roots and words at different stages of development of daughter languages. The most significant here is how the initial

semantics of a Proto-Indo-European root is being reconsidered when derivatives are created and what figurative, secondary meanings are developed. And in certain cases the development of the initial meaning in words of the same or different roots in various daughter languages runs in the same pattern and reflects the existence or formation of a cognitive relation between separate ideas in consciousness. From this prospective the process of derivation may be considered as a cognitive mechanism. At this point the methods of metaphoric and metonymic modeling may be applied to define the frequent patterns of concept representation. Once cognitive bonds are established the method of frame modeling is used to sort them within the world map and makes it possible to study the principles of their organization. The methods of cognitive bonds modeling were described in detail in earlier papers [5].

RESULTS AND DISCUSSION

The concept VISION establishes rather stable cognitive bonds, reflecting the views of the ancient on the peculiarities of visual perception of the environment that later were retained in developing daughter language world maps. Thus, as the comparative analysis proves it, the cognitive bond VISION-KNOWLEDGE seems to be one of the basic and deep-rooted within the Proto-Indo-European world map. Although SEEING IS KNOWING metaphor was considered in works of G. Lakoff [6] we would like to focus on the origins and peculiarities of development of the two concepts interaction. In Proto-Indo-European the concept VISION is expressed by means of several roots, among which are **sekw*-“to see” (the ultimate origin of the modern form “to see” in English), **weid-/woid-/wid-*, **wer-/wor-/wôr-*–“to look, to watch” [7,8,9], etc. And it is the root **weid-/woid-/wid-* meaning “to see, to notice” should be considered the most significant and worth noting in this respect, as it appears in numerous cognate derivatives in language world maps at different stages of their development and survives in many modern languages to this day. The key point here is that based on this initial meaning an additional sense of “to know” developed in Russian, English and other Indo-European languages thus retaining a cognitive bond between the ideas of visual perception and knowledge acquisition. The fact that this cognitive bond is present in the structure of the Proto-Indo-European world map is supported by the evidence that some daughter languages including Greek and Russian retain cognate lexemes that express both

meanings, e.g. Russian *videt'* -“to see”, *vedat'* -“to know”, as well as the languages where derivatives express either of the two meanings, e.g. Latin *videre*-“to see”, Spanish *ver*-“to see”, Sanskrit *véda-s*-“knowledge”, Old Prussian *waidima*-“I know”, German *wissen*-“to know”, English *wit*. One should say that the lexeme *to view* in English is borrowed from Anglo-Norman dialect and goes back to Latin verb *videre*. On the other hand it is remarkable to note that Proto-Germanic still had cognate forms representing both meanings: **witanan* -“to know” corresponding to Proto-Slavic **vedati*-“to know” and **witjan*-“to see” corresponding to Old-Slavic **videti*-“to see”. The latter, obviously, didn't develop in what became German and English, but the traces of the represented cognitive bond can be found in other Germanic languages, e.g. Gothic *witan*-“watch over somebody” [7,8]. Undoubtedly this cognitive bond is, to some extent, preserved in modern consciousness. Just compare the following examples: Russian proverb “*luchshe odin raz uvidet', chem. Sto raz uslishat'*” literally “it is better to see once than to hear about it one hundred times” is equivalent to “a diagram is worth many words” in English; in Russian the verb *rassmatrivat'* (the initial meaning “to examine, to have a good look at” derived from the verb *smotret'*-“to look”) is used in the meaning “to study” (though far less obvious the meaning of the word *review*-“prepare for an examination” in British English); a Spanish “*más ver cuatro ojos que dos*”, literally “four eyes see better than two” is equivalent to English “two heads are better than one” and Russian “*um horosho, a dva luchshe*” literally “one mind is good, but two are better”; *ha visto mucho en su vida*-“he has a lot of experience, knowledge”, literally “he has seen a lot in his life”, etc.

The cognitive bond VISION-KNOWLEDGE is also reflected in the language in the derivatives of another Proto-Indo-European root related to visual perception **wer-/wor-/wôr-*–“look”, “take notice of”. Thus, in Greek and Latin its derivatives express the meaning “to look”, e.x. lexeme *vereri*-“to look with awe” in Latin. The derived lexeme in English is *aware*-“knowledgeable, informed” (to be aware-“to know”) [7]. The described language facts give a right to conclude that in a very general naïve sense the interpretation of process of knowledge acquisition and a capacity to think at a remote past was linked to the perception of reality by means of sense organs, particularly the eyes.

There is another rather stable cognitive bond linking the concepts of VISION and LIGHT that was developed within the Proto-Indo-European world map and reflects

naïve perception of reality. This can be exemplified by the meanings of the derivatives of the Proto-Indo-European root **ghel-/g'hel-*—"shine, glitter", represented by lexemes *gliadet'*—"to look, to peer" and *vzgliad*—"look, stare" [7,8], as well as a whole word family of run-ons in English among which the closest in the meaning to the Russian cognates are a verb to glare—"shine with a strong or dazzling light; very bright light that is difficult to look at", "stare in an angry or fierce way" and a noun a glare—"a strong or dazzling light; shining", "a fierce or angry stare; penetrating look". So the latter has a number of meanings the most recent of which are similar, to some extent, to those in Russian. It would be quite logical to conclude that the idea of vision and visual perception correlates with and depends on the idea of light and luminescence. The identical development of meaning can also be found in other Indo-European languages. The verb to glint means "to look askance", but also "a small flash of light, especially a reflected one, glitter, glare" and "to flash, to glitter, to glare" are also developments of the initial sense. The meaning "be all eyes, to gape (at)" of the verb to glow, also developed from "to shine, to blaze". The Old English form of it is *glōwan*, meaning "to shine as if red-hot" derived from Proto-Germanic **glō-* [7]. There are also other cognates in English that preserve the initial sense of Proto-Indo-European root and, thus, are also worth noting. Among these are *glisten*—"shine with a sparkling light" that together with *glimpse* go back to Proto-Germanic form **gl̥-*, as well as *glitter*—"shine with a bright, shimmering reflected light; (of eyes) shine with a particular emotion", *gleam*—"shine brightly, especially with reflected light; (of a smooth surface or object) reflect light because well polished; (of an emotion or quality) be expressed through the brightness of a person's eyes", *glimmer*—"shine faintly with a wavering light". There is also a cognate *glenst*—"to look, to search" in Latvian [7].

The Proto-Indo-European root **g'her-/g'hr̥-*—"to shine, to beam, glitter" also shows a parallel development of meaning. Thus, there are lexemes *zērėti*—"shine, glitter" in Lithuanian, *grian*—"sun" in Old Irish, *zarevo*—"glow", *ozariat'*—"to light up, to dawn upon", *zaria*—"daybreak dawn", "afterglow, evening glow" in Russian [8]. But there are other derivatives in the Russian language that developed the meanings that express the idea of vision, e.x. *vzor*—"a look, a gaze", *zret'*—"to see, to gaze" è *zrenie*—"eyesight, vision". There are also set expressions such as to flash a look at or bright-eyed. In Russian one may find: *imet' siaushiy vid*—"have a beam of", literally "to have a shining look", *svetliy vzgliad*, literally "bright look"; *glaza izluchiaut svet*—"eyes shine with", literally "eyes radiate

light"; *blesk v glazah*—"glitter in one's eyes"; *goriashieglaza*—"blazing eyes"; *siaushie glaza*—"ardent eyes", literally "shining eyes", etc.

As it has been illustrated the two cognitive bonds VISION-KNOWLEDGE and LIGHT-VISION have a long-lasting history, originating when Proto-Indo-European was spoken. Concepts linked by cognitive bonds form a network structure. But in this respect there is another interesting phenomenon worth noting. It seems that some cognitive bonds once established have a potential to form new cognitive bonds between the adjacent concepts. Thus, the concept VISION is linked to both KNOWLEDGE and LIGHT, but there are no traces of a cognitive bond that would link concepts KNOWLEDGE and LIGHT in Proto-Indo-European. However there are some interesting examples in modern languages though they are less numerous. Confer the French lexemes *illustre*—"a scientist" and *illustré*—"alight, illuminated" that go back to Proto-Indo-European root **leuk-/lōuk-/*luk-*—"light" that has numerous cognates in other Indo-European languages expressing the same concept, e.x. Russian *luch*—"a ray of light", Spanish *luz*—"light" [8]. Similarly, English has lexemes to illuminate that means both "to light up" and "to clarify, to shed light on, provide with knowledge about smth" and enlighten that derives from "*light*". The very word illustrate presumes that you provide some knowledge by giving examples. In Russian there are derivatives of the word *svet*—"light" (goes back to **k'wei-/k'woi-/k'wi-*—"to light, to show up white" [8]), e.g. *prosvesheniye*—"enlightenment" (obviously a calking), *prosveshenniy*—"enlightened, educated" that appears in expressions such as *prosveshenniy um*—"informed mind", *prosveshennoe mneniye*—"expert opinion", literally "enlightened", but this word also appears in set expressions and idioms, e.g. *svetlaya golova*—"clever brain, lucid mind", *prolivat' svet*—"shed light", *ucheniyе svet*, a *neucheniyе t'ma*—"knowledge is light and ignorance is darkness". In English there are expressions a bright person, a bright intellect, the brightest bulb in a box, etc. Some of these ideas have become universals and travelled around the globe. In Russian the word *ozareniye*—"a flash of understanding" is a derivative from the word *ozariat'*—"to light up, to dawn upon". So, the two concepts KNOWLEDGE and LIGHT adjoined by the third concept VISION by means of cognitive bonds finally made the circle or, to be more precise, a triangle close up. This helps to understand how concepts and their contents interact in human mind and form complex structures within a world map. Such organization of cognitive bonds between three

or more concepts (VISION and KNOWLEDGE, KNOWLEDGE and LIGHT, LIGHT and VISION) that appear to be adjoined is by no means an exceptional case.

Now it would be relevant to turn to the phenomenon of cognitive bonds establishment and organization within a world map that we define as *mirroring*. As the underlying form of this term suggests some cognitive bonds established by adjoined concepts of antonymous nature may form an opposition, e.g. LIGHT and DARK and reflect one another. As analysis of the linguistic material shows some cognitive bonds develop as if in a reflection of a mirror. Thus, the cognitive bonds and their reflection in Indo-European languages established by concept DARK may make one feel as if he had passed through the looking glass. Thus, as LIGHT establishes cognitive bonds with concepts VISION and KNOWLEDGE, the absence of light presumes the state of bad visibility or metaphorically speaking, unhappiness reflected in the eyes and lack of knowledge, correspondently. The development of such cognitive bonds is again very obvious since one can hardly see in pitch-darkness. As it is getting darker the objects are seen less distinctly or appear blurred especially if one has visual impairment. At the same time if one finds himself in pitch-darkness and can't see objects around, a lot of information acquired through visual perception including color, behavioral patterns, intentions, distinctive features that define it as a class may be difficult to get or simply unavailable. All this again demonstrates naïve thoughts and logic and may be illustrated by the following examples.

The cognitive bond linking concepts DARK and INVISIBILITY is represented by a number of Proto-Indo-European roots expressing the notion of darkness and their derivatives in daughter languages, as well as set expressions and idioms. For example, **dhwol-/dhwl-* is represented in Greek by lexeme *tholós*-“dirt”, in Old Irish *dall*-“blind” and in English *dull*-“lacking brightness, wan”, but at the same time “not perceiving things distinctly, weak (about sight)” [7, 10]. These meanings are reflected in expressions *dull light*, *dull lighting*, *dull sight*, etc. The Proto-Indo-European root **mer-* that is the source of Russian lexemes *mrak*-“dark”, *merknut'*-“to grow dark”, words for the period of time between midnight and noon in Germanic languages including *morning* in English, but in Lithuanian there are *amarko*-“has grown dark”, *markst?ti-* “blink”, *merkti-*“screw up one's eyes” [8]. The derivatives of the Proto-Indo-European root **dhem-/dhem-bh-*“smoky, dark” are believed to be Russian *dim*-“smoke”, *dimka*-“haze”, English *dim*-“not

shining brightly or clearly, dark, dusk” [11], “unable to see clearly, made difficult to see by darkness, shade, or distance”. There other interesting examples such as to becloud-“cover or surround with clouds (thus, shading and darkening)” and “making obscure (about vision)”. This may be well compared to Russian *zatumanevat' zreniye*, literally “to befog vision”. The expression *v dimke*, literally “in haze” is used in reference to how objects appear when vision is impaired. Metaphorically speaking, there are *potuhshiye glaza*-“lusterless eyes”, literally “eyes that became dim (when sad or unhappy)” with similar expression in Spanish-*ojos apagados*, *mrachniy vzgliad*-“gloomy, baleful stare”, literally “dark, gloomy stare”. In English there are expressions *dim light*-“low beam of a vehicle's headlights (when visibility becomes weaker)”, *lackluster eyes*-“lusterless eyes” (the derivatives of **leuk-/louk-/luk-*“light” [7,8]), *twilight vision*, etc.

Similarly as a result of mirroring the cognitive bond DARK-IGNORANCE and IGNORANCE-INVISIBILITY are established. Thus among the derivatives of **dhwol-/dhwl-*there are also Old Saxon *dol*-“stupid”; Gothic *dwals*-“stupid” and modern English *dull* that also has a meaning “slow to understand; stupid” [7, 10]. A parallel development of meaning may be seen in the lexeme *dim*-“stupid or slow to understand”, A *dim-witted* person is the one who “is not very clever”. The lexeme *ðäiíúé* in Russian derived from the Proto-Indo-European root **tem-/tm-*“to become dark, somber” [8] is the exact equivalent of the word “dark” in English when used to describe a person means “stupid”. The lexeme *serost'*-“dullness, grey color” derived from *seriy-*“grey” is also used in the meanings “mental darkness, lack of knowledge” and “ignoramus (in personal address)” [8]. The word *obscure* expresses both “hard to make out or define; vague, dark” and “not discovered or known about”; *opaque*-“not able to be seen through; not transparent, foggy, dark” and “hard or impossible to understand, unintelligent, dull”; to *blind*-“cause (someone) to be unable to see, permanently or temporarily” and “deprive (someone) of understanding”. The same meanings are expressed by the lexemes *slepy* in Russian and *ciego* in Spanish. Other expressions are also worth noting: *mrak nevezhestva*, literally “darkness of ignorance”; *pokrito mrakom neizvestnosti*-“shrouded in mystery”, literally “covered with darkness of obscurity”; *navodit' ten' na yasnyy den' / napustit' tuman*-“confuse the issue”, literally “cast a shadow on a bright day” / “put on fog” in Russian. The expressions expressing the cognitive bonds in English include *dull*

mind, to be in the dark (about), remain in shadow, vague explanations, obscure speech, hazy meaning, in nebulous / vague terms, etc.

CONCLUSION

As it has been illustrated, the reconstruction of the structure of the Proto-Indo-European world map is based on the interaction of concepts and the established cognitive bonds that usually reflect naïve and mythological perception, interpretation and classification of reality. The existence of cognitive bonds first evidenced by studying the semantics of Proto-Indo-European roots and the underlying forms of derivatives gets more support in modern world maps as they are expressed by polysemantic words, expressions, collocations, idioms and text units. The study of cognitive bonds organization indicates the formation of more complex structures and points to the foundations for the process of mirroring. This principle is generally based on the opposition of ideas but ultimately results into establishment of new cognitive bonds thus creating a network structure between concepts. To some extent mirroring sheds light on the peculiarities of antonyms and synonyms origins and functioning in the language.

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