DYNAMICAL DESCRIPTION OF LANGUAGE

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ABSTRACT

General system theory is a theory of everything in philosophy. Language of order n, with its motional and dynamic characteristics can be inductively defined. So in this model it is shown for the description of the meaning, speaker and hearer must be taken into consideration and also a suitable system for linguistic variables can be considered. This method contains a solution for meaning of "One".

1. INTRODUCTION

Language in it's most general definitions, philosophically can be considered as a set of symbols. In this definition a set can be classified as:

- A/A mass of symbols;
- B/A systems.

A is a set in which there is no regular relationship among their members. And B is opposite to A. Ruled governed relationships are of two kinds: logical and causal. If the member of a set are objective then the relationship is causal. Otherwise it is logical. In symbolic set of language the relations are logical and being logical they are consistent and immanent and these can be seen in its best form in mathematics.

It is clear that above definition is inductive. And inductive definitions are applicable on logical problems and other knowledge. In fact logic in its traditional form had deductive quality in which every statement had three parts or logical structures: subject, predicate and relation. So by using appropriated lexicon in these structures we can have meaningful and logically analyzable sentences. It is logically essential for a linguistic theory to consider a language that expresses the truth. By applying Aristotelian deductive logic, a language may express the truth if it satisfies the above three old structure. Although most of the languages contain such logical structures, but they also have sentences that don't indicate this relationship.

However this type of approach which combines logic with mathematics as a mean of philosophy was first introduced by Frege. Russell believed that by analyzing symboles instead of linguistic items, language can be logically defined. In this logic known as mathematical logic, classess description theories are of great importance. According to Russell this logical structure can defined the structure of natural languages. For him the multiplicity of syntactic structures which could not be correctly analyzed in the past, may be defined by above theories. For example the redness in "apples are red" refers to apples and "to exist" in "apple exists" also refers to apples. The traditional problem in dealing with differences in redness and existence is believed to be solved by symbols in mathematical logic. The symbolic equivalence of these two sentences will be very different in mathematical logic. Since existence is not the same as the symbol of predicates, but its symbol is existential quantifier (9X).

Russell, although didn't deny the hierarchical nature of language, for example he showed that logical units can't be dealt with in the domain of first language, but his hierarchical analysis had an analogical structure. While in spite of strong analytical foundation in this respect, his theory couldn't be used appropriatly.

2. LANGUAGE OF ORDER N

Definition. Collection $S=\{R_\alpha: \alpha\in\Gamma\}$ is called a system for the set X if satisfies properties (i) and (ii):

i. For all $\alpha\in\Gamma$ there exist a set Y_α such that R_α be a relation from X to Y_α.

ii. For all $x\in X$ there exist $\alpha\in\Gamma$ such that x be in the domain of R_α.

The set X with the system S is called a systematic space [2].

In the following discussion by using systematic spaces we will introduce an inductive definition for language.

The definition or meaning of words are recognized by means of other words while those words sometimes may not have any definition for example "set".

Let L_l be the set of these words, and the system S_l of L_l be the set of all relations which we can define on L_l, for example meanings and conjunctions. This systematic space is called teh language of order one. Let L_n be the union of L_{n-1} with the images of relations in S_{n-1} ($n=2, 3 ...$), and the system S_n of L_n

be the set of all the relations which can be defined on L_n, then $(L_n; S_n)$ is called the language of order n.

With this inductive definition meaning can be formalized because the relations are determined by someone or a method, then, this information can be computerized, and also this definition take care of dynamic nature of language, and has direct relation to human. While language of order n providing inductive arguments has the capacity to deal with motion and dynamic characteristics of language, in other words the relation between language as a purely human phenomenon, and man can be dynamicaly shown. So linguistic variables even in idiolect can be dealt with.

In example 2.1 and 2.2 the relation between speaker, hearer and meaning is described.

Example 2.1. In answering the question "Weather is cold." is it a statement or question form? One may argue it is a statement, but with a stress on the first word it will be considered question form (in meaning).

Example 2.2. What kind of sentences is the sentence "Is weather warm?"? Imagine a classroom in winter, a student opens the window the teacher may say "Is it warm?" meaning "Do not open the window" and for others it may mean "Weather is not warm."

So every model for description of meaning must consider speaker and hearer. The language of order n contains these points, and also provide suitable system for handeling linguistic variables [4].

3. ONE AS A DYNAMIC FUNCTION ON A DYNAMIC SET

From a philosophical point of view in arithmetic most important number is one. According to Phytagoreans, number one has a mysterious concept. For them the basis of the world is number, and among them one is original. For Phytagoreans, even numbers were solvable, and therefore as a result they were considered as transient, feminine and deliquent. Meanwhile odd numbers were unsolvable, masculine and also had a devine essence [1]. In fact Phytagoreans, didn't concern with calculation procedures, but they were interested in that branch of mathematics, that now is called "number theory".

For them number was joined with geometry and believed that for every phenomenon of the world there was a correspondence number. In addition numbers had human adjectives. For example number two represents belief, four is representative for justice (squar root and product of two equal numbers) and five indicates marriage; because marriage is the addition of the first feminine number and the first masculine number [1]. But one indicates wisdom, because it is changeless. One is origin of all numbers.

From a philosophical point of view it seems one as a prestablished unit has a latent and also obvious presence in human, logical pattern, because it is said that when oneness was recognized and plurality of natural elements were withdrawn (inclassical philosophies), human civilization developed its situation. In this process the most important attention to oneness is seen Plato-as superhuman spirit and Aristotle as unmoved morer. In other words these terms indicate the chain of causes and effects must be ended in "one" cause which it isn't an effect. That is to say, existence and it's manifestations only can be explained by the idea of "one". In this respect the basis of all existents originated form one that is the origin of all aposteriori elements.

This universal thinking is even seen in subsets of philosophical systems, because in criticism of dualistic philosophies, such as Cartesian dualism or dualism in Iranian ancient religion, it is said that human must be considered as a whole, and each theory must study him in this way, and doesn't finally analyse him into his parts. Simultaneously, mystical view also retains the situation of unity or the concept of one, because these people maintain plurality is based on unity and in a narrower sense, some of them believe in pantheism: cosmos and it's all manifestations are only "one" existence. Therefore both spiritual manifestations and bodily phenomena are placed in the realm of a superior existent that in turn contains them. Although mystical thinking defines the validity of reasoning, but similar to philosophical or analytical knowledge, explains the world, only in terms of the more concept of the unity.

Then although mystical view of phytagoreans, about the numbers and one as the source of generating other things, have been derided, but in philosophical studies, this procedure finds a deep meaning.

In mathematics, one is defined in different ways. For instance, one in terms of Peano principles is defined in a specific way, whereas a neutral member of multiplication in the field of real numbers is differently considered [3]. But this paper introduces an intuitional definition.

Suppose X_t is a set of nouns in time t. In this way, for instances, a set of nouns in 1999 is shown as X_{1999} and time is explained by year. Depending group of nouns on time provides this opportunity that those nouns can be shown as a set, because members of a set must be distinguished. Suppose Y_t is a set of nouns plus one in time t. For instance "one apple" will be a member of Y_t. In this process, according to an intuitional point of view, "one apple" is only "an

apple" that has meaning. Philosophy of mathematics tries to show a statment about the concept of one, with the further assumption that it's objective correspondences must be meaningful. Therefore, one in time t is defined as a function $One_t: X_t \rightarrow Y_t$, $x \rightarrow One(x)$. For instance "table" becomes "one table".

To conclude, the definition of one is depending on set of nouns, in time t. The latter in itself is a dynamic set; because with passing of time it's members increase. Therefore passing of time cause some development in machine of one.

But is it essential to consider set of nouns in time t? And if instead of it, set of nouns is considered doesn't the definition of one become independent from time. But although a phrase such as "set of nouns" apparantly is a meaningful expression, but it will mathematically be meaningless. Because it's members cannot be distinguished and only with passing of time it will be formed. Therefore X_t instead of set of nouns is chosen.

One as defined above differs from unmoved mover-Aristotle and superhuman spirit-Plato but gradually approach them. This definition can spring to the mind that existence depends on time, and this notion can be an appropriate modality in studying existence. In other word, this view introduces a new methodological tendency about the problem of existence.

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