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# Philosophical roots of Russian terminology

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**Abstract.** The article deals with the description of the philosophical aspect of Russian terminology as a science. The description is concentrated on the creative work of Pavel Florensky, a well-known Russian philosopher, mathematician and theologian. Pavel Florensky was particularly interested in the ontology of term, and devoted much of his life to terminology study. It is important that he stressed the importance of researching terms with regard to the sphere of thinking. He believed that term belongs to knowledge as well as to cognition. He began his research with the etymology of the word *term*. In further researches, he tried to explain that the energy of human thinking was a sort of material, taking a form of an elementary particle that turns to be a term. A great talent and enormous erudition permitted Pavel Florensky to integrate in his conception ontologically different ideas – theology, symbolism, Cantianism, metaphysics and dialectics. He proved that interaction of philosophy and terminology was rather dialectical – they presupposed each other.

**Keywords.** Term, terminology, cognition, scientific speech, philosophy, concept, dialectics of term, symbolarium.

### 1. Introduction

Pavel Florensky (1882-1937) was one of the most important figures in Russian science of the beginning of the XX century (see: Florensky 1998). He was called “Russian Leonardo”. In his image, you can actually find similarity with a great Master of the Epoch of the Renaissance. He was an encyclopaedist, a scientist, a philosopher, a theologian, a polyglot, with a good knowledge of Latin and Ancient Greek, and the majority of European languages, of all the Caucasian languages, of the Indian and Iranian languages. He was a many-sided man – he was a painter, a musician and a craftsman.

Pavel Florensky was born on January 21, 1882 in Yevlakh (now western Azerbaidjan). His mother Olga Saparova belonged to Tbilisi and Armenian nobility. After graduating from the Gymnasia in Tbilisi in 1899, Pavel Florensky entered the faculty of mathematics at Moscow State University. In 1904 he graduated from the faculty of mathematics of Moscow state University. However, being interested in mathematics, P.Florensky attended lectures in philosophy delivered by S.Trubetskoy, and studied independently the theory of arts. He was a friend of such philosophers as Sergei Bulgakov, Nickolai Berdyaev and Nickolai Lossky. Pavel Florensky is known for his famous work “The Pillar and Ground of the Truth”, 1914. Later he proceeded his education in theology at the Clerical Academy in Sergiev Posad.

After the revolution, he tried to convince the new regime to preserve the church and the Lavra as a cultural heritage. He did much for that. After the Bolsheviks closed Troitse-Sergieva Lavra in 1918 and Sergievo-Posad Church in 1921, where Pavel Florensky was a priest, he moved to Moscow and worked there as a specialist in electricity at State Plan for Electrification of Russia.

Since 1927 Pavel Florensky was the editor of “Technological Encyclopedia” (Moscow, 1927-1934, volumes 1-23). He wrote 127 articles for the encyclopedia. On May 4, 1932, Pavel Florensky was appointed member of the Commission for Terminology Standardization. That was part of his life devoted to terminology. He wrote several works on theoretical issues of terminology (“Language Antinomy”, 1918; “Term”, 1917-1922; “The Magic of the Word”, 1920; “The Structure of the Word”, 1922; “Names”, 1926). All these works were not published during his life.

In 1933, he was accused of many political crimes and was sent for ten years of labour into the Soviet Gulags. In the words of Alexander Solzhenitsyn, Fr. Pavel Florensky was a remarkable person devoured by the Gulag. However, being imprisoned, he conducted his research in the production of iodine and agar out of the local seaweeds. Pavel Florensky was executed in Solovki in December 1937. The first publications of Pavel Florensky's works were only in the last two decades of the XX century. For the first time his article "Term" was published in "Issues of Linguistics", a famous Russian journal on theory of linguistics, in 1989.

### 2. Historical situation and terminology study

The aim of our research is to assess the significance of philosophical roots of Russian terminological School at the beginning of the XX century. The beginning of the twentieth century in Russia was called "The Silver Age" of culture and science. This period was characterized by a great interest in human insight. At that time in linguistics, philosophy began to dominate. This radical change involved the recasting of age-old issues, including terminology. The Silver Age precedes the European age of the 30th, focusing on what people do with language (Ludwig Wittgenstein, Bertrand Russell, Alfred Tarski, Rudolf Carnap, J.L. Austin, etc.). That was the period of creativity of great Russian philosophers – Pavel Florensky, Sergei Bulgakov and Gustav Shpet. However, their ideas were widely discussed only after their death.

The roots of the philosophy in terminology go back to the great discoveries in science, such as the principle of complementarity of Niels Bohr, the "disintegration theory" of radioactivity of Ernst Rutherford, the general theory of relativity by Albert Einstein, etc. All those discoveries contribute into a further slacking of methodological axiomatic principles of science. It was a difficult period especially for physicists, since they have to give a definite answer, what takes place inside the atom.

It is clear that the epistemic situation in science of that time was directly connected with terminological issues. Following physics, philosophy put the question about the nature of term. Philosophers of that period concluded that it was necessary to part with the classical atomic theory and to search for a sufficient conception.

At the beginning of the XX century, a new model of the term has been thinking over, on a new philosophical basement linked with synergy of man's activity and the subject of the research. By analogy with the great discoveries in science, it was believed that the energy of human thinking took the form of an elementary particle, which was possible to be regarded as term. Russian philosophers Sergei Bulgakov, Pavel Florensky, and Gustav Shpet were preoccupied with this philosophical idea. The questions that have most preoccupied Pavel Florensky are – What is a term? How is it linked with knowledge? How is it linked with thought? Pavel Florensky regarded these questions to be ontological ones and linked them with the major problems of terminology. Pavel Florensky did a thorough analysis of those questions to find out the presuppositions they rest on (Alekseeva 2012).

Being learned in natural sciences, as far as he was a mathematician by his first education, Pavel Florensky formulated a philosophical view on language and the language unit. The centre of his conception was the suggestion of the integral understanding of the world based on the contradictory. The sense of philosophy he saw in renewing everything, which became habitual and contradictory to the real life. He claims that there is no finite answer to any problem; being correlated with the reality, it stimulates a new question; however, this question will not be finite as well.

The most important ideas of Pavel Florensky referring to terminology are as follows: 1) antinomy and dialectics of term, 2) term and cognition, 3) term as a concept, 4) symbolarium as a type of terminological dictionary (Alekseeva 2009).

### 3. Antinomy and dialectics of term

In his assumptions, he used Humboldtian line of argument. What was important for Pavel Florensky in Humboldt's conception about language? First, that language is dynamic. Following Humboldt, Pavel Florensky extended the idea that individual and social lines are integrated in language. Basing on it, Pavel Florensky did not adopt the idea of an artificially created language, Esperanto. He argued that any language has historical roots and its own history, which should not be disregarded.

P.Florensky's terminological activity was much influenced by his philosophical views of language. His interest in the philosophical issues of language led him to the investigation of a more general question about the antinomical nature of the term. Starting with his landmark article "The Antinomy of Language" in 1918, P.Florensky worked out his theory of language discrepancy.

Pavel Florensky regarded the antinomy of term by means of comparing it with the language unit. He believed that language is antinomical. It has two mutually exclusive perspectives, two different intentions. However, these two essential spirits are not simply two in number, but a couple, existing in the state of conjugation, or syzygy. By means of contradiction, they realize the language; without them, there is no language. None of them, since they are mutually cut out, produces language. Each of them separately, being divorced, becomes fruitless and stops producing any thought (Florensky 2013: 3). Being dissociated the language perishes. The language does not only possess these two fighting extremes, but is possible thanks to their fight, being a dynamic balance of movement and immobility, activity and objectness, impressionism and monumentality. Pavel Florensky attributed this quality to the term. The term must obtain both perspectives at a time; it must be flexible as well as steady, individual as well as universal, spontaneously born and at the same time historically given.

Pavel Florensky called the term a "cultivated word". It reveals two main qualities – firmness and flexibility. On one hand, a cultivated word must represent a very powerful thought, since it is kept in a historical treasure of humankind. The word is given to each individual mind as an already created thing, as an unshakable lighthouse in the comprehension of life (Florensky 2013: 4). On the other hand, it is created by man as the most individual word, corresponding to his individual demand at the given moment and on a very special occasion. Pavel Florensky considered the term to be extremely flexible, because it can transfer the most delicate shade of one's inner spirit.

P.Florensky defined term in many ways: as "the rest (stop) of a thought" (Florensky 1998: 199), as "a marker of the hypothesis" (ibid.: 210), as "a living mental effort" (ibid.: 218), as "a thought economizer" (ibid.: 210), as a concept (ibid.: 223) and as a text condenser.

### 4. Term and cognition

Pavel Florensky regarded this issue with the help of a metaphor. Metaphorically speaking, he compared a cognitive process to the process of thought climbing to the top of the mountain with several stops. At each stop, the thought produces a synthetic word, which Florensky compared to contemplation from the top of the mountain. Nevertheless, it would be a mistake to consider the limit of thought as a simple stop; otherwise, it would be associated with something unmovable. Even if it is a stop, it is a specific stop with inner movement, i.e. a moving stop or a stopping movement. In this sense, the progressiveness of the movement stops, but it does not mean that the movement itself stops, since a climber reaching the highest point of his way substitutes progression by turning around. There are really so wide horizons round him that it is worth contemplating them, a little turn to the right or left would give a climber a new picture from the height. The climber stops on his way; however, as far as the aim of the climbing is not a simple change of places, but the enriching of his experience, the stop at the top of the mountain, holding him by the far horizon outlook and the variety of pictures, is not only a break for relax during his

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climbing, but on the contrary, a break for intension and concentration of movement, if we regard the way from the functional perspective.

Pavel Florensky considered terms to be the most important language units to be used in the process of cognition. He built a hierarchy of language units:

1. *terms* come first, being words of words, a condensed source of ordinary words, an organized energy;
2. *proper names* come second, since they are types of individual structure of soul and body;
3. *ordinary words*, being condensers of will and attention (Florensky 1998: 256).

According to P.Florensky, the term must be correlated with a certain synthetic sentence that serves as its base (“folds in it”) and therefore may substitute it (Florensky 1998: 208). P.Florensky used the terminological conceptions of L.W.Whevell, J.S.Mill, H.Poincare, who also believed that the term economized the thought. Florensky regarded a synthetic word or phrase, to be a technical phrase actually condenses in itself a certain compressed description of the reality, term, as we have previously found out, according to the language general feature should be correlated with a certain synthetic sentence, that can substitute the term and be condensed into it. The condensed sentence is term’s definition; it is not “verbal”, since it is impossible due to the absence of synthesis, but a real definition, which was called by W.Whewell “the Explication of Conceptions”.

### 5. Term as a concept

The role of Pavel Florensky in defining the term is great. What we call now LSP he regarded as technical expressions, which have various properties. Depending on those properties, he distinguished the low level of expression (nomenclature) and the highest level of expression (terms proper).

Pavel Florensky equals a term with a technical name taken from any branch of knowledge and introduced by means of its definition, which is correlated with a certain existential statement, which implies the existence of a certain complex of characteristics integrated together by this definition (Florensky 2013: 9). In his terminological works, P.Florensky regarded the so called “technical expressions” (which may be substituted by a modern term “Language for Special Purposes”). In his view, these expressions may be subdivided into two classes according to their qualities: the low sphere of expressions, comprising nomenclature, and the high sphere of expressions including terminology proper:

- The lowest level (nomenclature): the formula of the object under consideration; the lowest layer of those phrases, which within the Sciences of Classification, according to W.Whewell, is defined as a collection of names of all species, provides us with strictly cut off words taken from the general language;
- The highest level (terms proper): a compressed description, a compressed formula of an object under research. Terminology is a tool by means of which the exact name is created. He regarded the nominative function of term in a specific way. According to Pavel Florensky, to name an object “means to produce a word, in which a common human thought would obtain, on the contrary, a lawful, or an obligatory for itself, link of an external form of expression and an internal form of content, or in other words, a newly created word should be a symbol” (Florensky 2013: 10). Viewing term Pavel Florensky comes close to W.Whewell and G.S.Mill. From them he took the idea of the interconvertability of term and law and evaluation of a great role of term in the history of science.

Pavel Florensky considered the nature of term. He started with the history of term. He was

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interested in what was the term from the etymological and semasiological points of view? He started from the following. Terminus, -i or termen, -inis or termo, -inis came from the root *ter-* which means “to step over”, “to reach the point of destination, which is beyond”. Thus, *terminus* is a border. Originally, it meant a materially marked border, that is why this word meant a “border post”, a “border stone”, any “border symbol”. In the Greek language, as well as in philosophy, the word *term* was corresponded to *ορος*, as well to *ὄρισμός* from *ὄρος* *ἦος*, which meant at the beginning “a furrow”, and later – “a border”. Like all ancient philosophical terms, the word “*term*” has an easily distinguished sacramental original meaning, which is not occasional in the philosophical sphere, but, as we constantly notice in the history of the philosophical terminology, is connected with its primary literal meaning, shaded by the following meanings, which impoverish and dissipate the native integral metaphysical nature of this word (Florensky 2013: 15). Later he spoke of the words *term*, *terminus* and *ὄρος* in philosophical and scientific meanings. In this sense, he associated the *term* with the limit of thought. Their meanings are associated with certain borders and landmarks of the thought. This non-limited possibility of the thought, which in the fluidity of the flow forces to perform various movements in the borderless area, at the same time, establishes hard edged borders, unmovable landmarks, which are sacramentally inviolable, since they are fixed symbolically by the thought itself, by means of a super-logical act and by an extra-individual will, which, although represented by an individual, are spiritually filled with definite absoluteness. In this situation consciousness is born. There is not anything easier than to ruin these borders and to remove the landmarks. It is the easiest physical action. However, for the experienced person they are taboo for the thought, since they are established by this thought exactly in this sense; the thought recognizes in it her own guard of property and fears to break the borders, since they are guarantees and conditions of her consciousness (Florensky 2013: 19). Thus, the *term* in the above sense is the border, by which our consciousness is self-defined and therefore self-comprehended. The way this border is fixed presupposes the way of the self-knowledge of the thought, i.e. the comprehension of the fact, the whole activity, which is done during the establishing the borders. This is the philosophical foundation of *term* as a unit of thought.

### 6. Symbolarium as a type of terminological dictionary

P.Florensky is well known for his ideas concerning a new type of dictionary – *Symbolarium*, linked with the ideographical way of expression of concepts. According to Pavel Florensky, the ideographical sign is either a written linear or a spacious sign that serves to express a certain idea (Florensky 1996). He found out that ideographical systems were used in ancient writing. Each sign meant a definite concept, abstract or concrete. Pavel Florensky believed that ideographic signs had special meanings and for this reason they could be viewed as the universal language of people. He expressed all these views in his article “Science as a Symbolic Description”.

Pavel Florensky tried to solve the issue of ideographical representation of concepts. For this purpose, he worked out the project of a special type of dictionary, which he called *Symbolarium*. He defined the ideographical sign as a written flat or a spacious sign, which serves as the representative of an idea. He claimed that there was an integral proto-culture, where analogous images were used by all the people at all the times. He assumed that principles of ideographical writing did not disappear during the development of culture.

In his view, *Symbolarium* contains visual images, used as concepts; graphical images, like words, which serve to express certain ideas. Graphical images do not belong to individual interpretations, but are the heritage of all humankind.

He believed a visual image, like a word, expresses a certain idea. Graphical images lie beyond individual interpretations and are the heritage of all humankind.

The analysis of symbolic systems of various historical periods helped him to reveal the similarity between historically distant systems. P.Florensky believed that in the course of European culture development there arose several attempts to revise ideography within the frames of cultural

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creativity. These attempts are connected with Christian symbolism of the I-IV centuries A.D., as well as with the medieval period of ideographical system of writing in several scientific branches (alchemy, astrology, natural philosophy). These facts helped P.Florensky to prove that principles of symbolization were in the depths of human consciousness (Florensky 1996: 567).

Basing on this, he formulated the main purpose of the dictionary: to gather various visual images that were used in the function of signification of concepts. The tasks of the dictionary, in his view, were the following:

- selection of visual images,
- comparison of visual images in order to find out their actual meanings,
- selection of quotations, which prove the meaning of each visual image.

Pavel Florensky started to work at the dictionary but unfortunately he was not able to finish it. He researched such symbolic signs as *a dot, a line, a cross, a pyramid, a disk, a circle, a sphere, a triangle*, etc. He assumed that these symbolic images formed the basement for more complex images or graphical signs. More than that, in his view, they represented antinomies that were always in the centre of his attention. He distributed the material in his dictionary according to a certain graphical alphabet, in other words, he started with a simple graphical image, *a dot*, and followed with more complicated images: *a line, a triangle, a square*, etc.

During his life P.Florensky was able to research only one symbol – *a dot*. He defines a dot as a minimum of spacious perception. He believes that a dot is the beginning of everything. Its meaning is dialectical: *it is* and at the same time *it is not* (Florensky 1996: 574). This dialectical quality of the dot converts it into a symbol with a certain potential. The most adequate definition of the dot from the historical point of view was given by the Pythagoreans: a dot is a unit having a certain location in space. This definition presupposes that any geometrical body is a multitude of dots. Pavel Florensky noticed that Euclidean geometry defined the dot in an opposite way, as nothing, a zero. Thus, a unit and a zero as meanings of the dot were limits. In this sense, the dot may be understood as a phenomenon that leads to these limits and therefore it obtains a dialectical meaning of existence and of non-existence. The dot is emptiness and fullness at the same time. However, in both cases it is regarded at the border of existence and non-existence, in other words, at the place of their transition. In this sense, the place of the dot is at the border of the two worlds: the real world and the imagery world. In this way, the symbolic meaning of the dot might be connected with two spheres: positive and negative interpretations of the dot. When the concept of dot is connected with life, it has a positive meaning. When it is connected with the construction of certain abstract schemes, the dot obtains a negative meaning, since they mean not real things. In this case the dot is associated with the centre of gravity, the centre of inertia, with the dots of various physical states – melting, evaporation, etc.

Having researched the main symbolic characteristics of the dot, Pavel Florensky defined symbol as a mental phenomenon that is integrated from the inside but not from the outside. In his view, a symbol is not an abstract concept or an artifact that we can define. It is impossible to state the borders of symbol's meaning. That would be more useful to study its functions since only the research of various cases of its usage will give the possibility to study it. Pavel Florensky believed that his new dictionary, *Symbolarium*, would partially fulfill this task. Although he argued, that it would be impossible to give any finite classification of symbols. All the classifications, in his view, will be flexible and not steady.

### 7. Contribution of Pavel Florensky into philosophy of term

One of his important suggestions was that concerning the role of terminology in science. According to Pavel Florensky, scientific speech, produced from the ordinary language, is the tool with the help of which we acquire the subject of knowledge. The aim of science is to build, or to arrange terminology. To build a proper term from the already known ordinary word means

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to solve the advanced issue. Science is a system of terms. Therefore, the life of terminology is the history of science, no matter what is it: natural sciences, law or mathematics. To study the history of science is to study the history of terminology, i.e. the history how intellect acquires the subject of science (Florensky 2013: 22).

His main contribution into philosophy of term was the proof of the analogy between the content of the discoveries in natural sciences and term's theory. He approached the subject of terminology and the term's space more close than other philosophers. He attributed the ideal character to the term. He made a significant difference between the methodologies in studying the term. On the one hand, one should divide the term into elements in order to examine it. On the other hand, it is necessary to observe term's dynamics and its movement within a human thought. He claimed that images in science were just our views about objects.

Pavel Florensky was able to proof that an ideal terminological space was determined by term's symbolic meaning. He did a scrupulous etymological analysis of the word term, which helped him to comprehend term's symbolic nature. He analysed the term in the meaning of "a border" in the historical aspect. The Term originated as the guard of the border, or of a sacred land, the guard of everything included within the guarded borders. In other words, initially the term was the guard of the border of culture, it structured life; the term established the inviolability of its principles; it did not permit any general mixture; it established rules of life and prepared life for further creative work. Thus, the term in the above sense is the border, by which our consciousness is self-defined and therefore self-comprehended. The way this border is fixed presupposes the way of the self-knowledge of the thought, i.e. the comprehension of the fact, the whole activity, which is done during the establishing the borders. The philosophical meaning of the term Pavel Florensky saw in the following. Being unmovable before the thought, the term is actually a living effort of the thought, which is the greatest discovery of its tension. The more stable is the term, the steadier it stands before the thought; in this case, the thought lives a long life. The history of the term is a series of creative efforts of thought, which is, like a nuclear, wrapped into new exterior obstacles, in order to be concentrated and to obtain a new force and a new freedom.

### 8. Conclusions

1. The foundation of European terminology is usually linked with Eugene Wüster and the Soviet terminological school. We regard as the sources of Russian terminology the views of a well-known Russian philosopher, mathematician and theologian Pavel Florensky. We suggest that Pavel Florensky stood very close to the foundation of terminology as a science. At his time, the epistemic situation in science was directly bound by the terminological problem.
2. He stressed the importance of studying terms with regard to the sphere of thinking. He believed that term belongs to knowledge as well as to cognition. He proved that interaction of philosophy and term was dialectical – they presupposed each other. Philosophical aspect tends to focus on the integrity of the terminology study, based on the integrity of the reality.
3. What does philosophy bring to terminology? First, it enriches the subject of terminology by means of complicating the concept of term at the expense of its function as a mental unit. This causes a great actuality of cognitive research of the term. This perspective makes possible to regard the term as a means of modeling the reality, as a means of thinking about the phenomena that are beyond the frames of common knowledge. Term is a compressed (optimal) sign, which is provided with a great cognitive power.
4. Finally, philosophical view on terminology helps to understand that term belongs simultaneously to knowledge, as well as to cognition. Being the name of a concept, it structures a term system. Term systems fix knowledge and consequently aspire to



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stability. Within these systems concepts, represented by terms, become constructs, which stabilize the system of knowledge. While forming knowledge, terms provide interrelation of term system with the reality. Cognition, in its turn, presupposes the movement of knowledge, i.e. the dynamic work with concepts. Pavel Florensky claimed that cognition is correlated with the energy of cognition.

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