

Subject no. III

The thesis stated in the quotation from Gottlob Frege leads to the central – and still very important – problem of realism. There is a serious danger to all logicians and philosophers of language of falling into idealism – and what Frege does is showing how to provide a realistic position in the terms of logic. In the later analytical tradition the large majority of thinkers, especially including Ludwig Wittgenstein and his school, followed the idea of the main papers of the German mathematician.

Before we examine it precisely, we have to give a general view of Frege's semantics. According to its idea there are two sets of existing entities: *objects* and *functions*. The first one consists of chairs, tables, and other observables or non-observables as well. Each object is denoted by the proper name, e.g. Aristotle is denoted by "Aristotle". Object, in the Fregean terminology, has both the meaning and sense. The meaning is one and only, say, unique, and we refer to it directly. Differently a sense is not settled, it is possible to address Aristotle as a "Plato's student" or "The teacher of Alexander the Great" or "the founder of Lykeon". To speak formally we can say: there is a bijection between objects and their meanings, whereas there is not between objects and their senses. The second class of beings is the set of functions. The Fregean metaphysics is then a bi-ontology. Function is a mathematical notion. It is built with an argument and predicate. So sentences, and also thoughts in logical meaning, are functions. Any sentence refers to a situation – e.g. "Aristotle was a Plato's student" – it denotes it just the same way as with names. A true sentence has as its meaning a logical object, which is to be True, and analogically false.

Notice that at least two problems can be raised here. *Firstly*, in the Fregean bi-ontology it is not clear, whether notions exist or not. Is the *idea of a horse* an object or a function? Due to the impossibility of define such ideas in terms of objects or functions some commenters argue that we should talk rather of the third class of entities, if we want to understand Frege correctly. It is worth to mention but will not be the subject of this essay. *Secondly* – what was pointed by Wittgenstein – there is a wide difference between objects and situations, hence between names and functions. A name denotes, and a sentence, i.e. a function, describes. Wittgenstein showed that Frege's semantics was misleading where it stood for reification of situations, simply taking together a preposition and a prepositional sign.

The Fregean model is a minimal semantics enlighten by the mathematical logic. Many spoke against it and extended his view. As we said the first correct attempt of such generalization was given by Wittgenstein's *Tractatus*. But the spirit of Frege's philosophy was saved there and it is within classical logic. The aim of this writing will be to show the way of realistic metaphysics in respect to Frege's remarks on the *thought*. The author will also try to clarify the core of his logical realism. Let us propose few questions connected with the subject and, later, try to answer them. Is there anything like pure reference to the reality? If so - is only one correct? What is the rule of language in epistemological processes? And what can be said about the "meaning-sense dualism"? These are the matter of Frege's and ours concern.

1.

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At the beginning we should demonstrate Frege's statement and show its connection with what we just mentioned above. He says: "Thoughts are neither things of the external world nor representations. A third domain has to be recognized". Here German philosopher claims that there is a remarkable difference between a thought and e.g. a chair. In accordance with what he wrote in his work on the concept of function functions are *unsaturated* a contrary to objects. This unsaturation is considered in his semantics and showed by his notion of sense. A name designates an object one-to-one. Also a sentence refers to its meaning directly, but not to its sense, which is – saying informally – glimmering. Seemingly Frege was a strict realist when speaking on meaning (denotations) and irrealist about the sense.

Further he points that the third domain "has in common with representation by the senses" and depends on the one's consciousness. At the very moment the problem of realism can be raised: what is the kind of the relation thought-consciousness? We could say, following Locke, that we perceive separated notions and put them together into secondary qualities. That would be in virtue of a rule our mind has in the process of perception. Locke was a pure idealist – as was Berkeley whose epistemological strategy might be even more representative. Berkeley reduced the whole problem to one domain, which was to be a consciousness, and eliminate the real world from the philosophical discourse. What can we do in case of avoiding idealism? Let us back to Frege declaration that the third domain, thoughts, has no "supporting subject" for the mind. Even if the perception is indirect and founded on the base of language – it is not dimmed nor profoundly changed by its influence. More metaphorically we can say that the language is a mirror to the world. This mirror is perfectly clean and reflects the proper reality.

At this place two big subjects meet: language and reality. Frege, and Wittgenstein as well, defended a propositional, based on language, view on our knowledge of the world. But the knowledge, in their philosophy, is not affected by misleading circumstances. It can be seen on the example of Wittgenstein's picture theory of meaning, which was an exact consequence of Frege's thought. Even though philosophy is from time to time infected by idealism, a la Berkeley especially, the aim of logical analysis is to treat such theories.

Following Wittgenstein we are to assume a definition, with all its troubles, with identify a proposition with a meaningful thought. From now we shall focus on the *strong* logical realism and its sacrificed place in the classical logic.

2.

The most significant part of Frege's semantics is identifying denotations of bipolar propositions with logical objects – True and False. The Fregean logic assumes that each sentence is bivalent. So, putting both together, we get a perfectly realistic view of his bi-ontology. In addition, due to the statement that every proposition has exactly one denotation, the relation between the world and language is eternal and only one. We can never "jump out of the language", as Jaakko Hintikka once said. Some doubts may be concerning here – e.g. for the implications of Skolem's theorem (discussed by Professor Hilary Putnam in his work titled *Models and Reality*).

The consequence of the elegance of Fregean logic is a very radical usage of the *logical equivalence*. Notice that each true proposition is equivalent to another one. It is because of the fact that Frege's semantics has only two stages, what enables us not to make no additional distinguish among the

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class of sentences of the same truth-value. That holds truth also for the natural tongue, if we want to investigate it with formal tools. It is a source of so called paradoxes of material inference: e.g. "John is a student if and only if the Riemann's hypothesis is correct".

It leads us to the fact that our criteria of equivalence measure only to meaning, but do not look after the notion of sense. Two equivalent propositions can have very different sense and there is no way, in borders of the classical logic, to give justice to the fact. These features are characteristic for Frege's strong realism. One can claim, what seems to be purely true, that making no distinction between two kinds of references, used in the theory of meaning and in the theory of sense, is troubling. Also Wittgenstein found it inaccurate, and stood for the separation mentioned in beginning of this text (that names denote and sentences describe).

First of all such conviction satisfy the statement that only a meaning, not sense, is important for truth-value function. The truth is a function of meanings, not senses. Whereas one can add a different sense to the sentence than another – they are both addressing the situation (described by this sentence) the same way and, assuming they know what is the status of such a sentence, ascribing the same truth-value to exact proposition.

3.

The strong realism of Frege is tempting. It is also partially correct.

We agree with Frege that thoughts are not things. In Descartes' *Meditations* we find an interesting argument for it, if only we think of the famous experiment with the "minion spirit" as a *reduction ad absurdum*. Can a possible world consist only of a one thing? There are no good reasons to say that each fact is followed by another (in a causal understanding). And that is why a thought, an intentional entity, cannot be a thing. In the world of "the only one thought" there are to be at least two additional objects: a mind and a realization. The idea of self-thinking thought is at least incoherent.

Frege is also right about *stiff* denotations of meaning. We also regard it as a condition of making meaningful proposition in the language. A reference to the reality is arguably not affected by additional circumstances of great significance, which are said to have a mysterious source in the consciousness. There are certain limits of this kind of Kantian model. These limits can be even logically proved, because the thesis that the majority of our beliefs about the reality are false or arbitral (as Postmodernists claim) is unclear. It is self-incoherent and should be abandoned in virtue of a realistic view.

Still there are some disadvantages of Fregean logic and semantic. The most important one has been already mentioned in accordance with *Tractatus*. Wittgenstein argued that sentences describe situations, not logical objects, which are not intuitional entities. So – and here the relevance of Fregean way of thinking of sense was hold – true sentences refers to different beings, i.e. situations. This correction is taken into account in Non-Fregean logic (NFL), the idea of Polish logician Roman Suszko. Apart the sign of *equivalence*, which Frege proposed, Suszko presented the idea of the sign of *identity*. It goes as follows: sentences are *identical* if and only if they describe the same possible situation and they are *equivalent* if and only if when they have same logical value. As we can see Non-Fregean logic is a generalization of the classical one. Suszko's thought satisfied the need of a

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distinct the value of a proposition (true or false) and its meaning (a state of affairs, which it is about). During the last 50 years NFL has been widely developed.

The Wittgenstein-Suszko idea still stands for the statement that a sentence is a true-function of meanings. Neither Frege nor Wittgenstein were realists about the sense (being at one time realists about the meaning). In the last part of the essay we will try to give some picture of such *realism*.

4.

The strong realism says that we address meanings – thanks to the facility of projection senses. This is the core of the Fregean semantic and Wittgenstein's as well. If we say "The teacher of Alexander the Great" or "the founder of Lykeon", we address the same object: Aristotle. A significant support to this theory comes from the causal theory of meaning, proposed by Putnam and Saul Kripke. Whereas it is correct in the theory of names, it is improper in the theory of propositions and even obviously false when it comes to scientific theories.

Hence, the thesis I want to put under discussion is as follows: not only meaning, but also a sense of a sentence, is a true- (or false-) maker of logically correct propositions. In accordance to the consequences of the Skolem "paradox" the thesis that there is only one correct way of referring to the reality is false. So – there are statements (formally correct and semantically adequate) which seems to be incoherent in one system. The first example of such coincidence comes from the theory of sets: we have at least two different notions of set (von Neumann's and Hao Wang's, both accurate and useful), which may provoke inconsistent theorems. For even formal languages are ambiguous, a natural tongue might lead to confusions of the same sort. And these confusions cannot be eliminated by the help of the pure relation of reference (Fregean) between the language and (so-called) reality.

The dispute between realism and irrealism needs to be based on the theory of models and systems. (Consider that realists rarely use the theory of model, whereas irrealist (e.g.) Nelson Goodman do.) Why? The reason is not complex and – once again – formal. Therefore our concept of relation between the language and the reality is a philosophical construction, so a notion of it is built on language features. In case of not to fall in *a vicious circle* we should not make any additional assumption on an exact relation in our systems, since it is already assumed. The bridge between the world and its theory we have is an illusion.

Two statements proposed above – that there is no only one proper relation of reference and that our attempts to formulate a theory of it, which is not affected by prior language attitudes – implies an interesting consequence. If we are right, the distinction between a meaning and a sense should not be seen as a *dualism* at all. A meaning is never separated from a sense. The Fregean idea stated that we can purely address denotations of sentences – True or False. Then it was modified by Wittgenstein and implied to logic by his Polish successor, Roman Suszko. Both Wittgenstein and Suszko modified the Fregean realism making it more intuitional. Even though both of them were radical realist (but not as strong as Frege) their achievements are important for the project of, say, *irrealistic logic*, which respects fuzzy borders between *meaning* and *sense*.

Coming to conclusion we may partially agree with Nietzsche who once said that the entirely realistic reference to the world is a philosophical fiction. Still we need a theory, which would be able to kill two birds with one stone: save both the core of realistic view on the language and inevitable

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elements of perspectivism. Furthermore it would provide us also to the new vision of *ontology*, but that is the subject for another paper...