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REMARKS ON VASIĽIEV'S
INVESTIGATIONS OF CONTRADICTIONS

1. Looking at Vasiľiev's works we notice the influence of Neo-Kantians' views, why we have to separate the real world from the world of thought before we start philosophical-logical investigations. From the point of view of logic, Vasiľiev adopted two assumptions. First, the essence of logic is the division into truth and falsehood. It is not possible to deal with logic if we cannot differentiate between the two. The second assumption is that logic comprises two types of rules: the first are rules of a purely rational nature, they are absolute and form a part of metalogic — the universal part of logic, which is not subject for change.

The laws of the other type are of an empirical-rational nature, similar to the character of natural rules. All the principles of this kind can be eliminated and replaced by other ones. This part of logic which consists of empirical-rational rules, can undergo various changes. Vasiľiev tried to find the answer to the following question: What type of a principle is the principle of contradictions? The analysis of negative proposition is the starting point of those investigations: The negation found in negative propositions is considered by Vasiľiev in two bearings: a material and a formal one.

The negation examined in relation to materialism — talks about the ground for negation. It is based on some existential assumptions and is of ontological nature.

Formal negation which can be called 'logical', refers to the following characteristic of negation: the negative proposition shows the falsehood of the affirmative one.

1.1. Let us take a closer look at the ontological negation. What is its origin? The direct data of the experience can be expressed only in affirmative propositions. For example, not seeing, not hearing, not feeling something means seeing, hearing and feeling something different. There is no not-A sense, but there is a positive B sense, from which we infer that it is not not-A, so negative propositions are results of deduction.

The pattern of this deduction is as follows: if in the real world A and B exclude each other, and we find that S is B (empirical proposition), we infer that S is not-A. The lack of a characteristic is not enough to form a negative proposition. It is not possible directly create an opinion that a characteristic cannot refer to a thing, because the lack of characteristics has been observed. If we do not find indications of nobility in a man it is not a reason for accounting him to be dishonourable one. One can negate the A characteristic of an object only when we find the B characteristic in it which excludes A. The basis of negative propositions is the assumption that in our world there exist such characteristic peculiarities which cannot be reconciled with one another. Neither the difference between the two properties nor the lack of a characteristic is the ground for negation. Our idea of negation and the notion of contradiction connected with it is created by accumulation of experiences. According to Vasiľiev, ontological negation and the principles based on it are relative. Their quality is closely connected with the existence of particular reality — the existence of our world.

2. Now, let us look at the rule of non-contradiction itself. Vasiľiev differentiated two its formulations: the first one is the principle of non-contradiction, based on ontological negation, which says that "subject A cannot be not-A". It applies only in the world of sensorial subjects and is connected with time; it must refer to the subject at one particular moment, since in different moments what is A, may be not-A. One subject, at a particular moment, cannot combine self-excluding characteristic peculiarities: there cannot be foundation for affirmation and negation at the same time. The principle of non-contradiction only reflects the state of things in the world and is based on the fact that there are characteristic peculiarities a certain characteristic of the real world. This is relative, because we can imagine a world without characteristics excluding one another. It principle loses its importance in reference to the world of thought. It is not accepted in reference to a certain type of propositions, called 'notional propositions'.

At this moment I have to say that Vasiľiev divided propositions into factual and notional ones. Factual propositions ascertain the result of obser-

vation experiences and cannot represent any rules — they can also be called existential propositions. Propositions of this kind include (explicitly or implicitly) qualifiers of time, and sometimes place. Let us take a couple of examples: 'J.J. is drunk now' , 'Mr N. died yesterday morning'. Notional propositions represent rules, but say nothing about existence. Examples: 'People may fall down', 'All triangles have three sides'. There are not any time references. The principle of non-contradiction has to be applied to factual propositions, but not to notional ones.

2.1. The second statement discussed is the principle of the absolute difference between truth and falsehood (or: 'the rule of self-non-contradiction'). It says that 'one proposition cannot be true and false at the same time'. This principle is based on logical negation and keeps its importance for the reasoning of the subject studying. The person reasoning cannot be self-contradictory. This is the rule of logical thinking. Moreover, it excludes any time references: a true proposition cannot become a false one. This principle is not a subject to be questioned.

3. Distinguishing between the two aspects of negative proposition allowed Vasiľiev both to maintain the fundamental division into truth and falsehood and to introduce negative propositions into the investigations. If the negative proposition ascertained only the falsehood of the affirmative proposition, affirmation and negation could never be joined, since in such a case one proposition would be both true and false, which is impossible.

As it was mentioned before, Vasiľiev has distinguished two aspects of negative proposition. Such a proposition taken in its formal aspect says that its truth means the acknowledgement of the falsehood of an affirmative proposition. However, the problem on what we base our recognition of the truth of negative proposition has not been solved yet. The answer to this question is the material one. Retaining formal moment we can change the material moment and we get another type of negative proposition in this way. Vasiľiev introduced fiction: the possibility of the existence of a reality different from ours, in which the subject studying directly experiences the absence of a given peculiarity. He did so because he thought that logic must be justified empirically, so he tried to justify his hypothetical facts using imagined ones. Vasiľiev decided that negation would belong to the nature of impressions, so a not-A sense could exist, for example, the impression of 'non-whiteness'. This was called by Vasiľiev an 'absolute negation', in contrast to relative negation which can be found in our reality. In an imaginary world negative propositions would describe the direct data of an

experience, such as affirmative propositions. In this situation, in imaginary logic, negative proposition would be of independent character.

Vasiľiev also introduced an additional assumption that in an imaginary world properties that could not be reconciled would not exist. Since such a peculiarity would not be vital for the construction of negative propositions, so it has been completely eliminated. This allowed the introduction of the contradictory descriptions of states of things.

For in an imaginary world negative perceptions have become the only rudiment for negation, and such properties that could not be entitled to subjects jointly do not exist there. One and the same subject may create an A and not-A sense, so certain peculiarities of subjects can be the rudiment for both affirmative and negative proposition. In this way we allowed the possibility of the existence of contradiction. Let us consider the following situation which may occur in an imaginary world. Facts a and b take place at the same time. Fact a is essential for the affirmative proposition: 'S is P', and fact b is essential for the negative proposition: 'S is not P'. Facts a and b do not exclude each other as in our reality. Considering a: 'S is P' is true, and considering b is false. Simultaneously, the proposition 'S is P' considering a is false, and considering b is true. Both propositions turn out to be true at the same time, but this is forbidden by the principle of self-noncontradicion. That is why for the case of simultaneous existence of facts a and b there should exist a proposition of a different type, which will be true when a situation described takes place. The third form of proposition: 'S is and is not P' signifies the existence of contradiction in object 'S'. This was called by Vasiľiev indifferent proposition.

4. And just a couple of words to finish our considerations. Vasiľiev tried to translate his ideas into the language of the old deductive system, namely Aristotle's syllogistic. Vasiľiev never dealt with propositional calculus or predicate one. Later interpretation was made by philosophers, assuming that propositional calculus belongs to Vasiľiev metalogic, and predicate calculus to the empirical-rational part of Vasiľiev logic, and that the principle of noncontradiction can be eliminated from the predicate calculus, are too far reaching.

As the principles of metalogic Vasiľiev listed only:

- the principle of the absolute difference between truth and falsity — they can be treated as the counterpart of Aristotle's logical principle of non-contradiction,

- the principle of identity — the meaning of the terms in a proposition always remains the same — it is a general principle of cognitive activity,

- the principle of sufficient argument — every proposition must be justified, i.e., it must have its own arguments.

Vasiľiev accepted also the metalogical rule of excluded third. However, in his works, we will not find this rule specified. Moreover, from Vasiľiev's texts it can be concluded that his metalogic also includeds the special rule of induction. For him induction meant going from a fact to a rule. He did not deal with mathematical induction at all. Vasiľiev considered himself to be a philosopher, not a logician. Being *a fortiori* not a mathematician, he did not feel need to present formal proofs. In his works he used only the traditional deductive system, called Aristotle's syllogistic, as its base.

Therefore, Vasiľiev cannot be claimed to be creator of many-valued or paraconsistent logics. He turned, however, our attention to the possibility of new perspectives, when looking at logic. He might also be considered as the precursor of cognitive science, because, among other things, his treatment of deductive-inductive mechanism opens way to experiences.

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