

- V. L. CHECHULIN, *About the selfconsidering semantic in the mathematical logic*. Perm State University, mathematical faculty, Russia, Perm, 614990, Bukirev nom. st., 15 .

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On the common philosophical foundation (gnoseological aspects) the nonpredicative constructions was admitted, as this discussed in 1st half XX sentry by Mirimanov. On the this foundation the theory of sets with selfconsidering was described, proved the theorem about uncontradictory of this theory, that and other results was described early [1]. The results of this theory was signified so in the logic field:

1. Resolving considerin's paradoxes (and Russel's paradox), for constructive resolving Russel's paradox set of all nonselfconsidering sets  $A$ , which constructed in iteration procedure, consider anyone selfconsidering sets, -  $A = \{[x] \in M \mid x \in \emptyset \text{ or } (x = a, a \notin a, a = V^\alpha(A), \alpha \text{ is number})\}$ ,  $M$  - the set of all sets ( $M = \text{Exp}(M)$ ),  $V(A)$  - inside of set  $A$ ,  $V(A) = \{[x] \in M \mid x \in \emptyset \text{ or } (x \notin A \text{ and } A \notin x)\}$ , (if  $B \notin B$  then  $V(B) = B$ ).

2. This set theory was completeness, but not axiomatisated.

3. In this set theory the model of predicates calculus was described, logic constants was the  $\emptyset$  and  $M$ , attitude  $\in$  was implication  $\implies$ , negation was constructed  $\neg p$  is ( $p \in \emptyset$ ), the theorem about "tetrum non datur" was proved. This model was aloud complacing the objects and the logic of this relations on the one level, without Russel's unnatural logic languages hierarchy.

4. In the this set theory the fully adequate models of the lambda-calculation was described, with claimed of the main property  $D \times D = D$  [2].

5. In this selfconsidering semantics the theorem about uncompleteness predicative formal systems (Goedel) was proved very shortly.

6. The problem of the cycle definitions was resolved too.

[1] CHECHULIN V. L., *About the sets with selfconsidering*, *Vestnik Permskogo Universiteta*, (2005), pp. 133–138.

[2] BARENDREGT D., *Lambda-calculation*, N.Y. 1989