

HOW TO RELEASE FREGE'S SYSTEM FROM RUSSELL'S ANTINOMY

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Abstract. The conditions for proper definitions in mathematics are given, in terms of the theory of definition, on the basis of the criterions of eliminability and non-creativity. As a definition, Russell's antinomy is a violation of the criterion of eliminability (Behmann, 1931; Bochvar, 1943). Following the path of the criterion of non-creativity, this paper develops a new analysis of Comprehension schema and, as a consequence, proof that Russell's antinomy argumentation, despite the words of Frege himself, does not hold in Grundgesetze der Arithmetik. According to Basic Law (III), the class of classes not belonging to themselves is a class defined by a function which can not take as argument its own course of value,

$$\neg \left(\forall \varepsilon \left(\neg \left(\varepsilon \in \{ \varepsilon \mid \varepsilon \notin \varepsilon \} \right) \right) \right),$$

in other words, the class of classes not belonging to themselves is a class whose classes are not identical to the class itself.