

Naive set theory can be formalised in first-order logic as a theory with one axiom (of extensionality) and one axiom schema (of unrestricted comprehension). It is widely known that this theory is inconsistent. What is less known is that a mere reinterpretation of the quantifiers in the schema of unrestricted comprehension blocks all the well-known paradoxes of naive set theory. This is the case when the quantifiers are interpreted exclusively, which is an idea that originates in Wittgenstein's Tractatus in the context of elimination of identity from logic. In the context of set theory, the idea was first used by Jaakko Hintikka thirty five years later. This thesis introduces and investigates the possibility of using exclusive interpretation of quantifiers to avoid paradoxes of naive set theory. The main criterion of success is consistency of the resulting theory. The main result of this thesis is the proof that the set theories, which use the idea of exclusive interpretation and which Hintikka left as possibly consistent, are inconsistent. The inconsistency is discussed in the context of Russell's vicious circle principle, which is found to be inadequate.