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WEAK FORMS OF THE AXIOM OF CONSTRUCTIBILITY

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INTRODUCTION*

§1. *Constructibility*. The notion of constructibility in set theory was first mentioned by Kurt Gödel in [7], in the year 1938. Roughly speaking, he said that a set is "constructible" if it can be obtained from the empty set by the elementary set operations applied transfinitely many times. We then say that if every set in our theory is constructible the axiom of constructibility holds. Gödel used the axiom of constructibility to prove the consistency of the axiom of choice and of the generalized continuum hypothesis (under the assumption that set theory itself is consistent). To do this, he exhibited a model in which the axiom of constructibility holds and then showed that the axiom of constructibility implies the generalized continuum hypothesis and, hence, the axiom of choice.

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