

Skolem's Finitism

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Skolem's finitism has long been a neglected chapter of the philosophy of mathematics and logic. Through a close study of his primitive recursive arithmetic, this paper aims to make clear some implications of his finitism, and to contrast it with other camps of the philosophy of mathematics such as classical and intuitionistic ones. The followings are among our conclusions. Skolem's finitism is unique among the family of constructivism in that it gives the prime importance to particular instances of mathematical formula, typically exemplified by arithmetical equations among numerals, in its ontology, epistemology, and philosophical semantics. It also reduces the whole arithmetic to the sphere, where even an intuitionist admits the principle of excluded middle. By so doing, the finitism trivializes one of the central matters of disputes between the classical and the intuitionistic mathematicians, that is, if the proof transcendent concept of truth does make any sense.