WITTGENSTEIN ON THE NATURE OF PROOF IN MATHEMATICS

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This lecture investigates Wittgenstein's controversial remarks on proof in mathematics. They have seemed to some philosophers (e.g. Dummett) to be implausible ('full-blooded conventionalism'), committing Wittgenstein to some bizarre form of mathematical existentialism. This interpretation is based on misunderstanding. The key to Wittgenstein's reasoning lies in the idea that mathematical propositions are norms of representation, rules rather than descriptions. Proofs involve the derivation of new rules from the existing body of rules in accordance with rules. The notion of 'compulsion' needs to be demystified and the idea that mathematical proofs form new concepts must be explained. Whether one goes on to use the new concept thus formed is a matter of choice and decision. The main background to this lecture is Wittgenstein's *Remarks on the Foundations of Mathematics*, 3rd edition, 1978, especially Part III.