

Re: Name the thesis: "Formal sentences capture informal ones"

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tchow@lsa.umich.edu writes:

> *Then how about, "All informal statements of ordinary mathematics are
> expressible by formal sentences in ZFC"?*

The Church–Turing thesis only requires that for every function computable by an algorithm, there is a Turing machine that computes the same function. It is not required that the Turing machine embodies the same algorithm. The above is a lot more problematic to make precise. What is it we require of a formal sentence in ZFC if it is to express a given informal statement of ordinary mathematics? In practice, we recognize formalizations as adequate, but there are many different ways of formalizing informal mathematical statements, and it is far from clear how to characterize what counts as an adequate formalization.