

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

**Source:** <http://coding.derkeiler.com/Archive/General/comp.theory/2005-01/1187.html>

---

**From:** r.e.s. (r.s\_at\_ZZmindspring.com)

**Date:** 01/29/05

Date: Sat, 29 Jan 2005 20:40:37 GMT

<tchow@lsa.umich.edu> wrote ...

- > *The Church–Turing thesis is familiar to many people, largely because it*
- > *has been widely discussed both in textbooks and in popular science*
- > *writing.*
- > *Having a name helps, too.*
- >
- > *There is an analogous thesis that is relevant to logic and the foundations*
- > *of mathematics:*
- >
- > *(\*) Formal sentences (in PA or ZFC for example) adequately express*
- > *their informal counterparts.*
- >
- > *Years of discussion, on USENET and elsewhere, has convinced me that the*
- > *average level of understanding of foundational issues would be enormously*
- > *improved if (\*) were, like the Church–Turing thesis, given a name and*
- > *widely discussed.*
- >
- > *As matters stand today, a lot of people don't seem to even acknowledge the*
- > *existence of informal mathematical discourse, despite the fact that all*
- > *but*
- > *a tiny fraction of mathematical discourse they've ever seen is informal*
- > *(in*
- > *the sense of (\*)).*

That reminds me of what Davis & Hersh say about  
Hilbert's "formalist premise" ...

"Hilbert's program rested on two unexamined premises;  
first, the Kantian premise that something in mathematics —  
at least the purely "finitary part" — is a solid foundation,  
is indubitable; and second, the formalist premise, that a  
solidly founded theory about formal sentences could validate  
the mathematical activity of real life [...]"

—r.e.s.