

# Re: Cantor Confusion

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- *From:* [Han.deBruijn@xxxxxxxxxxxxxxx](mailto:Han.deBruijn@xxxxxxxxxxxxxxx)
  - *Date:* 9 Dec 2006 11:57:22 -0800
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stephen@xxxxxxxxxxx schreef:

Han de Bruijn <[Han.deBruijn@xxxxxxxxxxxxxxx](mailto:Han.deBruijn@xxxxxxxxxxxxxxx)> wrote:

stephen@xxxxxxxxxxx wrote:

Han de Bruijn <[Han.deBruijn@xxxxxxxxxxxxxxx](mailto:Han.deBruijn@xxxxxxxxxxxxxxx)> wrote:

stephen@xxxxxxxxxxx wrote:

But everything can be  
modelled as a set.

Define "everything" and prove that claim.

By "everything", I meant everything mathematical. Of course that is not 100% precise. And no, I cannot prove it. But so far all the various objects of mathematics can be modelled using set theory. That is what is meant by set theory being a foundation for mathematics. If someone were to invent something "mathematical" (whatever that may mean exactly) that could not be described in terms of set theory, then set theory would no longer serve as a foundation. But given that the basics such as the real numbers, functions, limits, calculus, etc. all can be founded in set theory, it would have to be something strange indeed. Not that there is anything

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wrong with strange, but you probably would like it less than set theory.

Correction. By "everything" you probably mean "everything according to nowadays mainstream mathematics", which is, of course, "mathematics", according to your probably rather limited view. But since you can not really prove anything of the kind, I will rest my case.

It's not much of a case. You have not presented any evidence that there exists any sort of mathematics not describable by set theory. Until such evidence exists, the hypothesis that mathematics can be modelled with set theory has not been falsified. And don't bother presenting something that uses limits, functions, etc. as all of those things can be modelled with set theory.

Ah, now you are trying to put the burden on me. But that is false play, of course. You said something like "all heat is phlogiston". I do not have to argue that this is not so. The burden remains yours. I didn't even say that set theory is useless within mathematics. I've only said that there's more to mathematics than set theory. And I find the claim that set theory is the one and only foundation of mathematics merely a manifestation of a narrow mind, if not irresponsible behaviour. One shouldn't narrow down a beautiful discipline to such a poor paradigm.

To those who are unable to see it, there is no evidence that there is any sort of mathematics not describable by set theory. But this is a vicious circle. Mainstream mathematics simply DOES NOT ALLOW any sort of mathematics that violates set theory. That's what the whole thread here is about. And, as you know, there are, and there have been, many other such threads in 'sci.math'. Personally, I find that (infinitary) set theory is full of inconsistencies and paradoxes. It's unbelievable that it's still finds so much support. Must be on the wrong planet ..

Apart from this, I'm currently in the process of posting some pieces of mathematical theory on Chebyshev polynomials. I seldomly feel the need to employ set theory in this work (I've done it accidentally, though). The reason is that set theory, as such, contributes virtually nothing to understanding. I can do quite well without it, most of the time.

Han de Bruijn

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