Re: Attempts to Refute Cantor's Uncountability Proof?

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- *From*: "Ross A. Finlayson" <raf@xxxxxxxxxxxxxx>

- *Date*: 13 Jul 2006 18:46:38 −0700

David R Tribble wrote:

> Ross A. Finlayson wrote:
>
> > There's only one theory with no axioms.
>
> Jonathan Hoyle wrote:
>
> > Correct. It is the one with no theorems.
>
> Ross A. Finlayson wrote:
>
> > No that's not what it is.
> >
> > Consider Goedel, vis−a−vis incompleteness, and the physicists' notion of a "Theory of Everything". Apparently, those people never heard of Goedel, or didn't agree that his results about incompleteness hold in their case, because they talk about a "Theory of Everything."

You're confused. The physicists' TOE delas with unifying gravity and quantum physics, and while it uses a lot of complex math, it has nothing to do with set theory.

> There is
> no "Theory of Everything" in ZF or other regular set theories. There is no universe in ZF. Quantify over sets, in ZF: it's not a set. So, it's a non−sets theory.

If you mean there can be no "set of all sets", yes, that is well known.

> There's only one theory with no axioms. It has all the theorems. Any other is inconsistent or incomplete, just ask Goedel. Your regular set theory is incomplete, via Goedel, and inconsistent, via universal quantiification, not to mention paradoxes in them, generally paradoxes of unrestricted comprehension or the Liar, or about symmetry/antisymmetry. Incomplete means inconsistent, of a universal theory.
>
> There's only one theory with no axioms, the null axiom theory.
>
> I refute.

It still sounds like gibberish.
Could you show us a theorem in this theory with no axioms?

I think that the axioms of ZF besides regularity are theorems. While that is so, some interpretations of what the objects are lead to differences among what you'd expect primitive objects to be. There are some more theorems than that, that may provide a physical basis.

About a "Theory of Everything", superstrings are mathematical infinitesimals. Technicolor is a notion that there are particles comprising quarks and particles comprising those etc ad infinitum, yet while that is so something along the lines of the atom is a nilpotent infinitesimal, in a sense. The particle/wave duality is not so far removed from, say, various vacuous statements about null vis−a−vis the universe. Colder than absolute zero is hotter than the sun, i.e., infinity = negative one. That might seem rather unobvious, or not. Points are polydimensional, for example real numbers in or on the real number line.

The universe is everything. It's all−encompassing. Were there a parallel "universe", it would be part of the universe also. There's only one universe, by definition, and conveniently in expression, the universe contains itself, it's irregular, not well−founded, as it were, in the views of some cosmologists. The universe is infinite.

There is no universe in ZF. Infinite sets are equivalent because they're infinite. Basically infinite sets aren't regular.

So, there is no universe in ZF. Where there are only sets in set theory, yet no sets, there is nothing. It's only truth is in vacuously being the null axiom theory.

I borrow the book mentioned about universal sets in set theory, I'll

look at it. That is to say: there is a "sets of all sets" considered
as parts of set theory. It is agreed that there is no set in ZF.

Infinite sets are equivalent.

Makes sense to me.

Ross

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