

Re: Cantor Confusion

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- *From:* Eckard Blumschein <blumschein@xxxxxxxxxxxxxxxxxxxxxx>
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On 11/30/2006 9:44 AM, mueckenh@xxxxxxxxxxxxxxxxxxxxxx wrote:

Eckard Blumschein schrieb:

On 11/29/2006 5:24 PM, mueckenh@xxxxxxxxxxxxxxxxxxxxxx wrote:
We have to accept that there are sets which are capable of

growing, as Fraenkel et al. express it.

While there are several books by Fraenkel:

Einleitung in die Mengenlehre 2nd ed. 1923, 3rd ed. 1946,
Gesammelte Abhandlungen Cantor, Dedekind 1932
Das Leben Georg Cantors 1932
Abstract set theory 1961
Lebenskreise – Aus den Erinnerungen eines jüdischen Mathematikers 1967

perhaps there is only one book by Fraenkel et al.:
Foundations of Set Theory 1958. Correct?

Fraenkel, Abraham A., Bar-Hillel, Yehoshua, Levy, Azriel: "Foundations of Set Theory", 2nd edn., North Holland, Amsterdam (1984)

Thank you. I only have the 1st ed. at hand. So the pertaining pages would perhaps not fit.

Having had a very brief look into the book, I am surprised that the two authors (only Fraenkel and Bar-Hillel) confirm conclusions of mine. While Fraenkel 1923 considered Brouwer one of the worst enemies of set theory, the late Fraenkel confirms that Brouwer and incidentally Heyting, too, just intended to save it differently. On the other hand, he did not hesitate to admit at p. 340 that "authors, among whom may be reckoned Poincaré, Brouwer, Wittgenstein, Kaufmann, Skolem, and Goldstein, arrive at their rejection of these transfinite operations from the observation that there exists no decision procedure

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for the truth of quantified statements. Identifying meaningfulness with effective verifiability, they immediately arrive at the conclusion that sentences containing unlimited quantifiers are in general meaningless."

Once again:

Sentences _containing_ _unlimited_ _quantifiers_ _are_ _in_ _general_ _meaningless_"

Isn't this the reasonable and commonly agreeable on position of Galiei? Well Fraenkel does not like this brutal truth. In 1923 he warned (p.164): "Wenn [der Angriff Brouwers] endgueltig glueckt, so bleibt abgesehen von engumgrenzten unangreifbaren Gebieten (namentlich der Arithmetik im engeren Sinn), von der gegenwaertigen Mathematik nur ein ungeheurer Truemmerhaufen uebrig."

In 1958 he warns more modestly: "it would cripple mathematics just as the parallel view concerning empirical statements would cripple empirical sciences."

Maybe serious mathematics has already been "crippled", and the cadaver of putative set theoretic foundation including all nonsensical notions like cardinality, transfinite numbers, alephs, betes, \mathbb{R} , and surreal numbers is just a holy monstrosity for believers.

I recall being a little boy wondering when I was told that while there is no evidence proving the existence of god there is also no evidence showing his non-existence. Are those crippled who don't believe in CH? I consider the background of CH given in the difference between number and continuum. This might be crippled down to the truth? Do you agree?

Then we have finite sets without
a largest element.

Why not with a growing largest element?

That depends on definition. The largest element of a set of numbers today is not the same numbers as the largest element of the set tomorrow. But the object "largest element" considered as a variable, in fact would grow.

Nevertheless this is not what Fraenkel et al. wish to express. They talk about the development of the set of all sets in a Platonic world view.

I almost feel pity for Fraenkel who is challenged to disprove that "Cantor's ideas were but a pathological fancy" and has eventually to

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admit (p. 347) "the foundations of set theory are still somewhat shaky".
Should we really try to retrace the fragile subtile lies of the authors?
I don't think so.

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