Re: Cantor's definition of set

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- *From*: John Jones <jonescardiff@xxxxxxx>
- *Date*: Fri, 26 Oct 2007 13:29:08 −0700

On Oct 26, 2:59?am, G. Frege <nomail@invalid> wrote:

> On Thu, 25 Oct 2007 13:37:58 −0700, John Jones <jonescard...@xxxxxxx>
> wrote:
>
> > Anyway, if the members of a set are unique, then I would not like to
> > say that they have anything in common. So if numbers are unique, then
> > I would not like to say that they have anything in common.
>
> Look, man: if a, b are elements in the set M, then at least they have in
> common that they are elements in M; won't you think so? And that seems
> to be inevitable.
>
> Actually, if we consider the set w (as defined in set theory) we usually
> refer to the elements in w as "natural numbers". Hence any element in w
> is a natural number (by definition). With other words, all elements in w
> have in common to be natural numbers.
>
> So where's the problem? Don't you like natural numbers? Or do you think
> there's a problem with the concept of set? :−o
>
> −−−−−−−−−−−−−−−−
>
> Now let's consider Cantors "definition" again:
>
> "By a 'set' we mean any collection M into a whole of definite,
> distinct objects m (which are called the 'elements' of M) of
> our perception [Anschauung] or of our thought."
>
> So if we assume that there actually are natural numbers
>
> 1, 2, 3, 4, 5, ...
>
> (say in some Platonic sense) we might consider the collection into a
> whole of the numbers

> 1, 2 and 3
>
> (which are definite distinct objects).
>
> Hence let M be the collection containing exactly the numbers
>
> 1, 2, and 3.
>
> In symbols:
>
> M = {1, 2, 3}.
>
> Where's the problem?
>
> F.
>
> −−
>
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I was going to give a general response to all, will still do that.

The same two problems keeps coming up, which you have brought up. I'm fine with Platonic numbers − inasmuch as it does not address these problems:

1,2,3,4,5... is often portrayed as numbers. But aren't they examples of the signs we use to portray numbers, and aren't these signs simply arranged in a sequence and not numbers after all? For I cannot use 1,2,3,4 ... mathematically. 1,2,3,4 ... does not occur in any mathematical calculation. I can find 1, and 2 and 3 and 4 in a calculation, but in finding them don't I merely find the signs and not the numbers themselves? What I am saying is, you can't pull a number out of the application that generates it. It would seem, if this is true, that a set of numbers is an impossibility.

The second major problem which simply won't go away, is this: A set is the concept of a particular collection or group. At least I have seen a set described as either a collection or a group. Now a collection does not support sequence: in fact if a collection could be a sequence, it would be a sequence and not a collection. Don't get me wrong here. I can have a set of sequences, but the the set itself, on its own merits, cannot support a sequence. I must establish the presence of a sequence independently of its membership in a set. This, I advance, is another reason why I cannot have a set of numbers. Numbers in a collection are like numerals in a sack, like lottery 'numbers'.

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