Re: Cantor's definition of set

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- *From*: G. Frege <nomail@invalid>
- *Date*: Sat, 27 Oct 2007 00:15:14 +0200

On Fri, 26 Oct 2007 14:45:48 −0700, John Jones <jonescardiff@xxxxxxx>
wrote:

> > '2' is a numeral. 2 is a number.

Please try to get that straight before engaging in even more idiotic babble, ok?

"2" is a name we use to denote the number 2.

Of course, there are other names too, "1 + 1" for example. Indeed,

1 + 1 = 2.

(See!)

Now you claim:

> The number 2 is always generated by an application, so I cannot propose simply 2. I cannot say 2 is a number and leave it at that. I must specify, and not simply assume, an application that generates it.

Let's −for the sake of the argument− accept that point of view.

YES, We DO specify the number 2 in math. (And especially set theory).

Ever heard of the so called Peano axioms? There we take (exactly) ONE natural number, namely 0, for grated.

Axiom: 0 is a natural number.

Then we can define the number 1 as successor of 0:

1 =df s(0),

and the number 2 as successor of 1:

2 =df s(1).

Hence:

2 = s(s(0)).

(With other words, the number 2 is the successor of the successor of 0.
This is the specification you asked for.)

Now in axiomatic set theory we do not even take the number 0 "for granted". But we _define_ it the following way:

0 =df {},

where {} denotes the so called empty set. And we can PROVE in axiomatic set theory that there is an (actually exactly one) empty set.

> Even if numbers existed in a third Platonic realm as stand−alone real entities, I would not be able to recognize them as numbers except by employing an application, like counting.

Let's −for the sake of the argument− accept that poin