Re: Cantor's definition of set

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John Jones schrieb:

> In that case, the set should incorporate that code in the name of the set. So instead of saying 'a set of numbers', I should also include in the name of the set the application for generating numbers. But in that case, I simply have an application.
>
> More to the point, isn't a set just a name? and doesn't the name of the set desrcibe the set precisely? A set isn't a formula.

Sets are nameless. This follows from the axiom of "extensionality". This axiom exactly says that sets do not have names.

Because the axiom says that sets are already equivalent when they have the same elements in it. So there is no room for a name.

Here is the axiom of extensionality again:

AxAy(Az(z in x <−> z in y) −> x=y)

This is the object level. On the meta level, you can have as many names for a set as you like. You simply pose an equation:

my_lovely_set = {1,2}
my_other_lovel_set = {1}
annas_set = {1,2}

But still you have annas_set=my_lovely_set, although different logical constants/variables are involved on the meta level.

There are some nonstandard set theories, AFA and so on, that work with so called decorated sets. You can view a decoration as a name that has a set attached.
http://inconsistent.typepad.com/home/2006/07/which−sets−are−.html

But this is rather a device to depict these nonstandard sets, that do not follow the well founded axiom. But still they follow also the extensionality axiom!

Bye
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