Re: Set theory and identity theory

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- *From*: MoeBlee <jazzmobe@xxxxxxxxxxx>
- *Date*: Fri, 14 Mar 2008 07:13:25 −0700 (PDT)

On Mar 13, 4:56 pm, G. Frege <nomail@invalid> wrote:

> On Thu, 13 Mar 2008 16:04:12 −0700 (PDT), MoeBlee <jazzm...@xxxxxxxxxxx> wrote:
>
> > But what about the interpretation of '=' when we've used axiomatization Z3? In this case, since we are not "coming from" identity theory, I would think we wouldn't give '=' the special dispensation of a special semantics. In this case, '=' is a defined symbol, and it gets interpreted however it may be interpreted. But then is it the case that for any model of the consequences of Z3, it turns out ANYWAY that '=' gets interpreted as identity on the universe of the model?
>
> I don't think so. Note that here "x = y" just "means" that Az(zex <−> zey).

Sure. But since 'e' is the only primitive, all other properties are "generated" by it. So, I was thinking (not in a rigorous, but rather in heuristic or speculative way) that perhaps the fact that the sole primitive 'e' now "controls every other property down the line" provides us a with a kind of "end run" around the problem that we can't state the identity of indiscernibles in first order (not even in the meta−theory), so that that would lead to some way to show that our axioms of set theory are only satisfied by '=' getting mapped to the identity relation on the universe.

But perhaps not.

So what puzzles me now is when someone says something like "consider a model of ZF", how do I know whether the person intends that '=' is treated as from identity theory and with the ordinary fixed semantics so that the model must map '=' to the idenity relation on the universe or whether the person is taking '=' as defined, thus without the fixed semantics, so that '=' might not map to the identity relation on the

universe? This ambiguity is real since it's usually the case that we talk about set theory without being so specific about where our '=' came from, whether from identity theory and its fixed semantics or from definition from the sole primitive 'e'.

MoeBlee

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