Re: Moore on Skolem's Paradox

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- *From*: "William of Ockham" <d3uckner@xxxxxxxxxxxxxx>

- *Date*: 24 Sep 2005 11:41:10 −0700

Ullrich
> Do you specify in the article that the author does
> not know exactly what Skolem's theorem states?

I have looked at the paper again. In an earlier section, which I did not quote, Moore writes

"One truth about sets, which can be established by Cantor's diagonal argument and couched in this first−order language [whose sole non−logical constant is the two−place predicate 'is a member of'], is that there is no one:one correlation between w, the set of natural numbers, and its own power set; that is, uncountably many sets belong to P(w). Let S be the sentence which expresses this truth. It is a consequence of the Loewenheim−Skolem theorem, in the version whose proof requires the Axiom of Choice, that any true sentence from this language, under the intended interpretation, will still be true under an interpretation which results from the intended interpretation by the elimination of all but countably many of its sets. In particular, this is true of S. Not that this is paradoxical; nor does it constitute our difficulty."

You said the author does not know exactly what Skolem's theorem states. Is what he says above incorrect, then? He later says, in the version which I did quote, what the "problem" alluded to above really is. I shall quote it again.

" Our description of P(w) as uncountable, even though correct, must be understood relative to our own current point of view. From another point of view this very set may be countable. But I want to argue that such relativism, compelling though it is, is subject to the by now familiar predicament that any statement of it, if it is to be intelligible at all, will have to be understood within a framework that casts it as a straighforward error. ****It is this which I take to be Skolem's paradox****."

That is to say, when it is claimed that P(w) is not _unconditionally_ uncountable, we have no way of understanding this except as the demonstrably false claim that it is not uncountable at all.

On your remark about philosophers in the other thread (which I won't reply directly, for reason of the mistake referred to), I wonder if mathematicians actually read any philosophers? I mean, what appears in peer−reviewed journals, as opposed to popularisations such as Hofstadter, Rucker et nauseous alia?

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  - ***Re: Moore on Skolem's Paradox***
    - *From:* David C . Ullrich

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    - *From:* David C . Ullrich

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