

Re: Moore on Skolem's Paradox

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- *From:* David C. Ullrich <ullrich@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sun, 25 Sep 2005 09:33:23 -0500
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On 24 Sep 2005 11:41:10 -0700, "William of Ockham"
<d3uckner@xxxxxxxxxxxxxxxx> wrote:

>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."

And this makes what you said about what he didn't say kind of
funny. In a parallel post we read

[Me:]

>> The "paradox" has to do with the existence of models of
>> set theory with certain "paradoxical" properties.

[You]

>If you read Moore's article, you will see he does not state that. "

He doesn't use the word "paradox" in the paragraph above.
He does use the word later. You say he doesn't state that
this arises from the existence of certain models of set
theory. Did you see the sentence "...will still be true under
an interpretation which results from the intended interpretation
by the elimination of all but countably many of its sets."

Re: Moore on Skolem's Paradox

You do realize that an "interpretation" in which the axioms of set theory are true is exactly the same thing as a "model" of set theory, right?

Evidently not, or you wouldn't be saying the things you've said about my comments.

>You said the author does not know exactly what Skolem's theorem states.

I was referring to the author of that Wikipedia page. That would be you. No, you do not know exactly what the 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.

And now explain to me exactly what he might mean about talking about this and that from this point of view versus that point of view, _except_ that this or that is true in one model and false in another.

Jeez.

>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 straightforward 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?

David C. Ullrich

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- *Follow-Ups:*
 - ◆ *Re: Moore on Skolem's Paradox*
 - ◇ *From:* William of Ockham

- *References:*
 - ◆ *Moore on Skolem's Paradox*
 - ◇ *From:* William of Ockham
 - ◆ *Re: Moore on Skolem's Paradox*
 - ◇ *From:* David C . Ullrich
 - ◆ *Re: Moore on Skolem's Paradox*
 - ◇ *From:* William of Ockham

- Prev by Date: *Re: Moore on Skolem's Paradox*
- Next by Date: *Re: Moore's account of Skolem's Paradox*
- Previous by thread: *Re: Moore on Skolem's Paradox*
- Next by thread: *Re: Moore on Skolem's Paradox*
- Index(es):
 - ◆ *Date*
 - ◆ *Thread*