Re: A simple question?

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- *From*: "MoeBlee" <jazzmobe@xxxxxxxxxxx>
- *Date*: 6 Nov 2006 16:13:50 −0800

David Marcus wrote:

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> > > > > MoeBlee wrote:
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> > > > > > I don't see why not. There's no modality of "can" in the formal theory. "can" is a loose way of speaking, which is okay, but I don't know of anything in IN the theory to distinguish 'can' from 'is'.
> > > > >
> > > > > I think we can give a formal meaning (and I think Enderton would agree with this): If we say "S is a well ordered set", then we

really mean
"(S,R) is an ordered pair
where S is a set, R is an
ordering on S, and R
is a well ordering".

You left 'R' free in that formulation. But,
other than 'S', there is
no free variable in 'S is a well ordered set'.

Well, just because you don't see it, doesn't mean it isn't
(implicitly)
there. If S can be free, then why can't the (invisible) R?

Of course, any unbound variables will be bound by putting
"for all"
around the entire statement.

'S' is implicity bound by a universal quantifier. But it doesn't work
for 'R' that way. Or, tell me what formulation you have in mind where
'R' is bound by a universal quantifier to translate, specifically, "S
is a well ordered set".

Does "S is a well ordered set" appear in the hypotheses or in the
conclusion?

Neither. Or either. "S is a well orderded set" can stand on its own.

So for your formulation
to work, it has to be, "There EXISTS an R
such that <S R> is a well
ordered set" or "There EXISTS and R such
that <S R> is structure in
which R is a well ordering of S."

I'd do "For all S, for all R, if <S,R> is a well ordered set, then
..."

How is it different from saying "G is an abelian group"?

First, just as a personal matter, I just don't like "<S R> is a well
ordered set." Yes, <S R> is a set, but, to me, what is well ordered is
S, not <S R> (well, actually, quite literally, <S R> is well ordered

>> since it is {{S} {S R}}, which is a finite set, hence it has a well ordering; but that is not what we have in mind). So, I say S is well ordered by R and S is a well ordered set and <S R> is a well order structure.

> I don't really follow. I suppose that technically I'm saying that a "well ordered set" isn't a set. It is an ordered pair, etc. You seem to want a "well ordered set" to be a set (ignoring for the moment that formally everything is a set).

Basically that's it. Granting that the way I'd like to use the words may not be in accord with common use, it still seems better to me to regard statements about S to be statements about S and not with an UNbound R that comes along with S; and statements about <S R> are then fine onto themselvese too.

If I were the Dictator of Terminology, I'd have us say:

S is well ordered <−> ER R is a well ordering of S.

<S R> is well order structure <−> R is a well ordering of S.

And as the Dictator, also I should be free to take "S can be well ordered" to mean "S is well ordered".

MoeBlee

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