Re: A simple question?

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- *From*: David Marcus <DavidMarcus@xxxxxxxxxxxxxx>
- *Date*: Mon, 6 Nov 2006 16:27:59 −0500

MoeBlee wrote:

> David Marcus wrote:
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> > MoeBlee wrote:
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> > > 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?

> > 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).

> Second, I don't see the relevence of your analogy. We were talking
> about formalizing "S is a well ordered set" not some other larger
> statement "If S is a well ordered set, then [...]"

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David Marcus
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