Re: An infinite debate

Source: http://sci.tech−archive.net/Archive/sci.math/2006−11/msg04728.html

- *From*: "Albrecht" <albstorz@xxxxxx>
- *Date*: 17 Nov 2006 05:23:29 −0800

William Hughes schrieb:

> Albrecht wrote:
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> > William Hughes schrieb:
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> > > Tony Orlow wrote:
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> > > > David Marcus wrote:
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> > > > > Tony Orlow wrote:
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> > > > > > William Hughes wrote:
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> > > > > > > Let T_c be the set of all times at which an element is added to the sequence. T_c is bounded

above and below, so T_c has both an infinmum and a supremum. The infimum is an element of T_c, so T_c has a minimum. The supremum is not an element of T_c so T_c does not have a maximum (This can only occur if T_c has unboundedly many elements).

Since

T_c does not have a maximum, there is no time at which the event of completion occurs.

Let the supremum of T_c be t_f.

If that is the LUB of T_c, then there really is no such thing, the way I see it. I know you claim omega to be the smallest infinite ordinal, and some sort of a LUB on N, but I rather see that as antihtetical to the notion that adding any nonzero quantity x, positive or negative, to any quantity y, yields a sum z<>y. As a limit ordinal, omega−1=omega, violating this principle. If the basics of addition are upheld, then the conclusion that there is no smallest infinity, or LUB on the naturals, is the only conclusion.

T_c is a set of *times*. So, T_c is a set of real numbers between −1 and 0. Are you denying that a set of real numbers between −1 and 0 has a supremum?

Uh, no, but I am denying that there is a supremum or LUB of N, which is mapped to T_c.

However, since T_c has a supremum whether of not N has a supremum
it is far from clear why you are doing this.

At any time

s<t_f the sequence is not completed. At any time t>= t_f the sequence is completed.

So there is a time, t_f, such that before t_f the sequence is not complete and by t_f the sequence is complete.

That implies that the sequence is completed at t_f, except that no elements are added at t_f. That's a contradiction.

What does it contradict?

The fact that, if t1<t2 and at t1 the set is not complete and at t2 it is, then there exists a t3 such that t1<t3<=t2 when the set became complete.

Well this would be a big problem except for the fact that "there exists a t3 such that t1<t3<=t2 when the set became complete" is not true for a process with no last step.

In the present case t_f is noon. So before noon the sequence is not complete, and by noon the sequence is complete.

Which means it's completed at noon, a moment when no elements are added.

Exactly. You've got it!

Except that in order for the sequence to go
from incomplete to complete,
elements must be added to it. Do you
disagree with that?

Yes elements must be added. No, it is not true that
there must be a last element added. If there is no last element
added then there is no element added at the first time
by which the sequence is complete.

− William Hughes

Ah, I'm hopeful you have found a definition of "complete", did you do?

I know lots of definitions of complete. In this present case
it means that every element of the sequence has been added.
However, none of these definitions, including this one, match
your usage. Have you managed to figure out what you mean
by "complete" when you use it?

− William Hughes

I like to use the same definition like you do in this case. It's good
enough for my usage.
Thank you.

Best regards
Albrecht S. Storz

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