

Re: infinity

Source: <http://sci.tech--archive.net/Archive/sci.math/2005-08/msg04290.html>

- *From:* Virgil <ITSnetNOTcom#virgil@xxxxxxxxxxx>
 - *Date:* Tue, 23 Aug 2005 13:37:54 -0600
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In article <MPG.1d74edad4517e12698a137@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Tony Orlow (aeo6) <aeo6@xxxxxxxxxxx> wrote:

> Virgil said:
>> In article <MPG.1d6feff9bc68c90398a10f@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, >> Tony Orlow (aeo6) <aeo6@xxxxxxxxxxx> wrote:
>>
>>> Randy Poe said:
>>>>
>>>> David Kastrup wrote:
>>>>> Tony Orlow (aeo6) <aeo6@xxxxxxxxxxx> writes:
>>>>>> It's the balls inserted AT noon that still remain AT noon.
>>>>>> That moment is where n becomes infinite.
>>>>>
>>>>> There are no balls inserted at noon. Every ball is inserted
>>>>> before noon.
>>>>>
>>>>> Well, in TO-world, there are balls with infinite-digit natural
>>>>> labels inserted right at noon.
>>>>>
>>>>> But wait... since all balls are inserted at time $(1/2)^n$ before
>>>>> noon, is TO saying that all infinite naturals n have the same
>>>>> value for 2^n ?
>>> Obviously, you mean for $1/2^n$, and no, those "zeroes" differ by
>>> infinitesimal amounts which distinguish them, as points on a line
>>> may be infinitesimal distances apart.
>>
>> Then those balls TO claims are to be inserted infinitesimally
>> before noon are also to be removed infinitesimally before noon, and
>> do not remain at noon.
>>
> So it may seem from your perspective, and yet, the fact remains that
> before each removal of a single ball occurs the addition of ten
> balls, so the number of balls can never decrease to zero under any
> circumstances given the stated problem.

Then it must either increase to zero or jump to zero, because it certainly is zero by noon.

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- > This becomes clear when you
- > remove balls 1, 11, 21, 31, etc, which is precisely the same problem,
- > but with the balls labelled in a way that is actually helpful, rather
- > than confusing to certain sensibilities and therefore clouding the
- > issue.

How is never removing a particular ball, say #2, the same as removing it?

- >
- > This should really be a lesson in one of the major caveats of your
- > approach which seems to be all too often ignored. You can't rely on
- > simple arguments like "every ball corresponding to a natural number
- > is removed before noon".

So that TO refuses to rely on valid statements? What sort of statements does he then consider reliable?

- > That statement carries with it all sorts of
- > assumptions about infinite sets and numbers which are not necessarily
- > justified to begin with

Then the entire gedankenexperiment does the same, since the statement is an immediate and inevitable deduction from the statement of the gedankenexperiment itself.

- > and in this case cause nonsensical results,
- > because they don't even really apply to the problem.

That conclusion is built into the problem itself. Only those who wish to violate the very rules of the gedankenexperiment itself instead of following them can dispute that the gedankenexperiment **REQUIRES** that "every ball corresponding to a natural number is removed before noon" be valid.

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- ***Follow-Ups:***

- ◆ ***Re: infinity***
 - ◇ *From: aeo6*

- ***References:***

- ◆ ***Re: infinity***
 - ◇ *From: David C . Ullrich*
- ◆ ***Re: infinity***
 - ◇ *From: Martin Shobe*
- ◆ ***Re: infinity***
 - ◇ *From: aeo6*
- ◆ ***Re: infinity***

- ◇ *From:* David C . Ullrich
- ◆ **[Re: infinity](#)**
 - ◇ *From:* ae06
- ◆ **[Re: infinity](#)**
 - ◇ *From:* Randy Poe
- ◆ **[Re: infinity](#)**
 - ◇ *From:* Jesse F. Hughes
- ◆ **[Re: infinity](#)**
 - ◇ *From:* ae06
- ◆ **[Re: infinity](#)**
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 - ◇ *From:* Virgil
- ◆ **[Re: infinity](#)**
 - ◇ *From:* ae06
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 - ◇ *From:* David Kastrup
- ◆ **[Re: infinity](#)**
 - ◇ *From:* Randy Poe
- ◆ **[Re: infinity](#)**
 - ◇ *From:* ae06
- ◆ **[Re: infinity](#)**
 - ◇ *From:* Virgil
- ◆ **[Re: infinity](#)**
 - ◇ *From:* ae06

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