Re: Logarithm of transfinite numbers

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- *From*: "Ross A. Finlayson" <raf@xxxxxxxxxxxxxx>
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Jonathan Hoyle wrote:

> Do you ever remove more than one at a time? No. Does the vase
> become empty? According to you.

So far we understand each other.

> So, how many balls were in the vase right before it became empty?

Please define "right before". You can answer that with an Iteration # for some n, or if you prefer, give me a time T. Once I know what you mean by "right before", I can happily give you answer.

> Yes, you have a contradiction here. According to the gedanken,
> you must have had −9 balls in order to empty the vase.

The gendanken says nothing of the kind. The only contradiction here is with the false assumption that there is a last iteration before the process ends. And this is a false assumption that you are making, not I. The gendanken, once freed from your erroneous proposition, quite contently and consistently empties all the balls from the bin, one at at time, Ball #n at Iteration #n.

> I didn't label the balls. I don't need labels.

No of course you don't! The labels are entirely your undoing here! You want to change the problem and ignore the labels, because you know (whether you wish to admit it publically or not), these labels entirely throw out your whole theory.

> You ask about the labels. I say they don't matter. The balls are
> all labeled '1', okay. It doesn't matter. This is one of many reasons
> I cannot ascribe to transfinite set theory.

So instead of honestly answering the question as given, with the labels, you choose instead to pretend they don't matter. But if they didn't matter, you wouldn't have a problem answering the questions, would you? They matter all right. They matter so deeply that your house of cards crumbles with their admission. You so desperately want to avoid the labels, but I'm not letting you. If they truly don't matter, then you should be able to answer the damn question.

But you can't, can you? All these many months of posting and hours upon hours of investing yourself into this group, you are finally seeing a flaw, a crack in your armor. You would rather throw out the thought experiment than face the possibility that this past year's postings have all been in vain.

I know you still deeply believe that the growth of 9n balls per iteration leads to an infinite number of balls at the end. And I know you believe deeply that your system is equi−consistent, at least until recently. But now, you are finding that there are unnatural side−effects to your theory, and it's here that I am asking you to have the courage of your convictions and intellectual courage to honestly answer these tough questions.

Ever vigilant,

Jonathan Hoyle

It seems a simple rate problem.

How about this, I'll insert a golem between the balls and the vase.
For each ten it gets, it puts nine in the vase and hands one back.
Full vase? It doesn't care what the labels are.

It's kind of funny that this kind of talk has to do with the logarithm, here in decimal, decary or base ten, and what that means in terms of the infinite and that task that takes 1/2^n time units to complete task n.

In this talk of tasks of tasks re sets of sets and the universe in itself and so forth, the notion of the logarithm in the infinite appears to be instead of a simple linear scaling as might be quite obvious with the 1:9 and the 1:10 and so forth.

This vase problem is reminiscent of Achilles and the tortoise and hare. Achilles travels at v = 10, the tortoise at v = 1, and both do complete the race, Achilles in time t and the tortoise at time 10t, but they are only at the same mark and the start, and at the end of the race when both have reached the finish line, Achilles either stopped or just completes lap ten. Compare and contrast "at" and "in".

In terms of a rate problem, consider a large bucket with 10 volume units of fluid per time unit entering, and 1 leaving through a leak. At time t there are 9t units of fluid in the bucket. _If_ fluid is stopped pouring into the bucket at time t, and time 10t and not before the bucket is again empty. That again involves different times of completion of the tasks, and a transformation from one time to the other for where they are the same.

I would say something along the lines of that it has to do with geometric mutations in the small.

There are a variety of systems with a point at infinity. There are those in specific denial of that kind of notion, for example delta−epsilonics and hypernaturals, with point at infinity somewhere in between, non−"standard" natural integers with a maximal element, in this case that which occurs at time 1 for task n at time 1/2^n, for n positive.

There are a variety of systems with a universal element or maximal element in the naturals or ordinals where, for example, Goedelian incompleteness does not hold, tasks complete, time proceeds apace, etcetera. One's called reality, you might want to check it out.

I hear there was just found massy neutrinos so the universe is again much larger than previously thought. The universe is infinite, infinite sets are equivalent. There is no universe or largest ordinal in ZF or models of ZF, or rather there is and is not.

Happy daylight savings time.

Ciao,

Ross F.

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