

Re: abundance of irrationals!)

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- *From:* "Russell" <russell@xxxxxxxx>
 - *Date:* 10 May 2005 10:15:24 -0700
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aeo6 Tony Orlow wrote:

[snip]

> Excuse me, but the nodes of an infinitely deep binary tree can obviously be
> enumerated in a linear manner, corresponding to binary integers and thus to the
> naturals.

Yes.

If you want to complain that it would require infinite digits for
> most values,

Huh? What does that even mean? What values are you talking about? And digits of what?

> that's irrelevant. it's still an enumeration of the reals.

No. The obvious linear enumeration of **nodes** is not an enumeration of the reals. For that, you need to enumerate the different paths. That's not merely a rearrangement of the enumeration of nodes; if you think it is, then please tell us how you associate each node with one and only one path. Can't be done.

> Enumeration is irrelevant to the level of infinity, except insofar as we must
> rearrange the quantities in order to enumerate them linearly. Don't look in
> your bag of axioms for proof of this. It's been conveniently excluded.

Yes, it would be rather inconvenient to make that an axiom, since it's inconsistent with the other axioms. I think you've gotten stuck thinking about rearrangements that turn out not to exist in fact.

• *Follow-Ups:*

- ◆ *Re: abundance of irrationals!*
◇ *From:* mueckenh
- ◆ *Re: abundance of irrationals!*
◇ *From:* aeo6

• *References:*

- ◆ *Re: abundance of irrationals!*
◇ *From:* mueckenh
- ◆ *Re: abundance of irrationals!*
◇ *From:* Virgil
- ◆ *Re: abundance of irrationals!*
◇ *From:* mueckenh
- ◆ *Re: abundance of irrationals!*
◇ *From:* Randy Poe
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◇ *From:* mueckenh
- ◆ *Re: abundance of irrationals!*
◇ *From:* Virgil
- ◆ *Re: abundance of irrationals!*
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- ◆ *Re: abundance of irrationals!*
◇ *From:* aeo6

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