

Re: The Law of the Excluded Middle again (long)

## Re: The Law of the Excluded Middle again (long)

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- *From:* Randy Poe <poespam-trap@xxxxxxxxxx>
  - *Date:* Tue, 4 Dec 2007 05:30:50 -0800 (PST)
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On Dec 3, 11:33 pm, Angus Rodgers <twir...@xxxxxxxxxx> wrote:

On Mon, 3 Dec 2007 20:09:02 -0800 (PST), Randy Poe

<poespam-t...@xxxxxxxxxx> wrote:

On Dec 3, 6:32 pm, Angus Rodgers <twir...@xxxxxxxxxx> wrote:

On Mon, 3 Dec 2007 14:12:38 -0800 (PST), Randy Poe  
<poespam-t...@xxxxxxxxxx> wrote:

Why do you think we can't say "either  $x > 1$   
or  $x \leq 1$ "  
in a proof? If  $x$  is a real number, there aren't  
any other possibilities.

We are apparently in heated agreement! Nothing at all  
bothers  
me about such a statement occurring in a proof! But  
apparently,  
according to constructivists such as Keith Ramsay and  
galathaea,  
it /ought/ to bother me; and, as both those people are better  
mathematicians than I am, it bothers me that they think that it  
should bother me, when it doesn't.

Somehow I think you're seriously mangling something  
perfectly reasonable other people are saying.

Oh dear! That's always possible, I suppose. And given that it's

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now after 4 a.m. over here, and I'm dog-tired, I am very probably going to mangle something reasonable you've said! Please accept my apologies in advance.

Am I right in inferring that you think I have made constructivism seem unreasonable? (I certainly wouldn't claim to have done so using rational argument, and I don't think I have done so using devious misrepresentation either.)

But apparently I should instead think of a hypothetical situation in which someone (not necessarily a single individual, but some kind of generalised subject) has actually constructed some numbers  $x$ ,  $y$  and  $z$ . In such a situation, it is not possible to say with certainty either that  $x > 1$  or that  $x \leq 1$ , because either of these statements would require a proof, which simply might not be available (to the person or "subject" in question).

Yes, it is possible to say that. For every real number, either  $x > 1$ , or  $x \leq 1$ . There are no real numbers which fail to meet one of these conditions. That requires no proof. It is in fact a restatement of the trichotomy axiom.

So you are directly contradicting what you said above. I asked you what problem you had with the statement "either  $x > 1$  or  $x \leq 1$ ". You said you had no problem with it. A short paragraph later, you say you can't accept it as true without "proof". That constitutes a problem.

Perhaps, but it is a problem very easily solved by the simple devices of repetition and underlining (in a monospaced font):

On Dec 3, 6:32 pm, Angus Rodgers <twir...@xxxxxxxxxxxx> wrote:

But apparently I should instead think [...]

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The whole paragraph was a paraphrase of what I have been told by certain other people.

OK, then as I said you're mangling what other people are saying.

No, I don't believe anybody would say it is impossible to say with certainty that either  $x > 1$  or  $x \leq 1$ .

– Randy

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