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

Source: http://sci.tech−archive.net/Archive/sci.math/2007−12/msg00561.html

- *From*: quasi <quasi@xxxxxxxx>
- *Date*: Mon, 03 Dec 2007 04:24:27 −0500

On Sun, 02 Dec 2007 23:17:36 +0000, Angus Rodgers
<twirlip@xxxxxxxxxxx> wrote:

> On Sun, 02 Dec 2007 16:44:23 +0000, I wrote:
>
>> This application of the Law of the Excluded Middle [...]
>> has a characteristic which I didn't notice at the time,
>> and which no−one else has pointed out either: it is applied only
>> to propositions containing only free variables.
>
> Inside the scope of quantification, and applied only to propositions
> not themselves containing any quantifiers, it seems impossible (i.e.
> even more impossible!) to equate (or confuse) truth with provability.

But you managed to do it −− you are confusing it.

> There is no question of "proving" that x >= 1, when x is a free
> variable not yet subject to quantification.

If the variable x is free, there's no such thing as a valid statement
of the form "x >= 1" unless the statement has an implied
quantification. By default, the implied quantification is "for all",
so the statement x >= 1 is false (and provably so) if the domain for
the variable x is, for example, the set of real numbers.

Quantification of free variables _must_ be specified, either
explicitly or implicitly, otherwise you don't even have a valid
statement.

The distinction between truth and provability, as Goedel's results
clearly show, is a real distinction, but applies only to _valid_
statements. Thus, lack of quantification doesn't yield an example of a
non−provable statement, but rather an invalid statement.

quasi
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