

Re: The fallacy of strengthened liar's paradox.

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- *From:* Charlie-Boo <shymathguy@xxxxxxxx>
 - *Date:* Sun, 6 Jan 2008 07:56:54 -0800 (PST)
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On Dec 30 2007, 11:42 pm, Jim Burns <burns...@xxxxxxx> wrote:

Marshall wrote:

On Dec 29, 3:40 pm, djr...@xxxxxxxxxxx wrote:

The statement "1/0" is not syntactically correct.

An intriguing statement! Can you supply further justification?
It appears syntactically correct to me, but perhaps I am not clear what you mean by that.

Further thoughts:

What is the meaning of the expression

$$1/(x-1)$$

When $x=2$? When $x=1$? It is the same syntax in both cases, isn't it?

The expressions [2] and [1],

$$\begin{array}{ll} 1/(x-1) & [2] \text{ (note: } x = 2\text{)} \\ 1/(x-1) & [1] \text{ (note: } x = 1\text{)} \end{array}$$

have exactly the same characters in the same order, since

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the additional information noted is not part of the expressions. I am tempted to say that they therefore have the same syntax.

However, in English, the same expression, character for character, placed in different contexts can have clearly different syntaxes. A good example that comes to mind (Groucho Marx:) "Time flies like an arrow; fruit flies like a banana." Certainly, the goal in mathematics is to be completely unambiguous, very much unlike English,

Both mathematical procedures and the Liar get into an infinite loop – no real difference.

C–B

but I can't say, myself,
whether we've arrived at our goal.

In its most common context, the expression " $1/(x-1)$ " carries an often-tacit assumption that $x \neq 1$. What does it mean to me to have contradictory assumptions to deal with? Not much, unfortunately. If I fall back upon my classroom experience, all I can remember is that this is a situation to be avoided.

Is there a /syntactic/ difference between having a contradiction and not having one? I guess I don't know what is and is not syntax well enough to be sure. I am willing to be educated on the point.

I think what the poster you're responding to may have meant that the expression " $1/0$ " can be determined to be forbidden by purely mechanical means (hence, "syntactic").

Given a definition of syntax that broad, I would stick my neck out and say that, yes, the syntax of the expression " $1/(x-1)$ " is different when $x = 2$ from when $x = 1$.

Jim Burns– Hide quoted text –

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