

## Re: The fallacy of strengthened liar's paradox ---- NAFL-acceptable self-reference

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- *From:* "R. Srinivasan" <[sradhkr@xxxxxxxxxxx](mailto:sradhkr@xxxxxxxxxxx)>
  - *Date:* Thu, 3 Jan 2008 01:55:14 -0800 (PST)
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On Jan 2, 10:05 pm, "R. Srinivasan" <[sradh...@xxxxxxxxxxx](mailto:sradh...@xxxxxxxxxxx)> wrote:

On Jan 1, 10:55 pm, Marshall <[marshall.spi...@xxxxxxxxxxx](mailto:marshall.spi...@xxxxxxxxxxx)> wrote:

On Jan 1, 8:26 am, "R. Srinivasan" <[sradh...@xxxxxxxxxxx](mailto:sradh...@xxxxxxxxxxx)> wrote:

Lat us say Mr. X blurts out "This sentence is....." and exactly at that point he drops dead. Can you now let us know what is the sentence that Mr. X had in mind? The answer is we cannot be sure at all. All we can say is that if Mr. X had no sentence in mind at the time of his death, he was attempting to attribute some property to a non-existent sentence.

Suppose Mr. X had a sentence in mind, but because of some drug-induced state instead said "False this is sentence." What does that tell us about the meaning of some other sentence? Nothing. Even if the other sentence we wish to consider is a reordering of the words of the first sentence.

Sure. But that is because "False this is sentence" is not even grammatically correct. I wouldn't call it a sentence. But let us take "False' is the truth-value of this sentence". That would seem to override my objection at first sight. But it really doesn't. The same objection applies, because how can someone know the truth-value of a sentence before even defining it? If Mr. X were to drop after uttering "False' is the truth value of this...." then again assuming "this"

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points to the sentence under construction, Mr. X cannot possibly have had any sentence in mind to which he is trying to attribute the truth-value of "False".

The problem here is that we human beings can parse sentences only when their words are read sequentially, which means that the informal notion of "time" is important in understanding what sentences mean.

Syntax does not require time. It just requires order.

That is correct. A sentence must be presented with the words in the correct order. But the issue I am considering is how a human mind actually understands that sentence. Just as a human being can utter only one word at a time, I claim that a human being can also read (or conceptualize, understand etc.) only one word at a time. For example, consider "This sentence is meaningless". Although all the words are visible at any given time, the human mind actually reads "This" first, then "sentence" and so on. While reading a word, we actually "utter" it in our minds, and while uttering it, we have no other word in mind. It is our memory that enables us to make sense of all the words put together, after having read them one at a time, in the given order. To see this clearly, just consider that somebody else is reading out that sentence out to you. You clearly hear only one word at a time, and it is your memory that enables you to put them all together and make sense of the sentence.

As for "order", it is the human conception of space and our ability to distinguish left from right, top from bottom, etc. that makes "order" possible. In other words, even "order" could actually be a mind-dependent concept, in the sense that some other alien creature could have senses that take in the words of the presented sentence in a different order, or maybe not even in any fixed order.

Keeping this in mind, let us re-formulate the sentence in question in an \*exactly\* equivalent manner as follows:

"This sentence, which has not yet been defined, is meaningless"

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Now we can clearly agree that the above sentence attempts to attribute the property of "meaninglessness" to a non-existent sentence.

I do not agree that the above sentence does not exist.

To the left of and including "defined" in the above sentence, we clearly have no completed sentence. To the right we have "is meaningless" which makes an assertion \*about\* a sentence, which we have just correctly asserted as incomplete and therefore non-existent. As I said in my previous post, to assert that a sentence indeed exists you would have to accept Platonic existence of the sentence independent of our attempted definitions. So in the above sentence, "is meaningless" actually is about that Platonically existent sentence which "exists" despite our incomplete definition. In other words, if "This sentence" actually points to that Platonically existent object, then our inability to demonstrate a construction for that object before declaring it as "meaningless" is not a fatal objection. This may be OK in classical logic, but not in NAFL, which requires us to explicitly construct the objects being referred to.

Conclusion: When somebody utters "This sentence is blah blah blah..." then s(he) should have a \*constructed\* sentence in mind the moment "sentence" is uttered.

A different syntax could put the word "sentence" at the end, and then your objection goes away. Your objection depends on English word order.

No not really. I have given an example at the beginning of this reply.

There is a way to override the objection that I presented and make self-reference (of sorts) acceptable in NAFL. The three main criteria that should be satisfied are:

1. A logic is needed to account for the time-dependence involved in sentence creation and the human process of reading (understanding) that sentence. NAFL fits the bill.

2. When a sentence is being created, it can refer to itself as an incomplete sentence. It cannot refer to itself as a completed sentence even if "sentence" occurs at the end of the sentence in question. The reason is that some constructive property of the sentence in question, which needs to be verified, will then occur at the beginning of the sentence and no construction will be available for that property when it is mentioned. See the examples given below.

3. A sentence cannot refer to its own semantics (i.e., its truth or falsity of meaningfulness or meaninglessness, etc.). This is so because the semantics of a sentence is up for consideration (i.e. can be decided upon) only \*after\* the construction of that sentence is complete, i.e. the human mind must have a construction available for the completed sentence before considering its truth, falsity etc. Truth, falsity or meaningless, etc. are not formalizable within NAFL theories and therefore cannot appear within formal sentences in the language of NAFL theories. However, a sentence can validly make constructively verifiable prediction(s) about its own \*syntax\*. See the example below.

Keeping 1–3 in mind, consider the following sentence:

This incomplete sentence, which is under construction, will be completed and when completed, will contain seventeen words. (P)

There is still a question mark as to which sentence a human being would have in mind when uttering "this incomplete sentence" above, but let us take for granted that "this incomplete sentence" points to the same sentence under construction. Note that the sentence P only refers to its own syntax, i.e., it predicts its own completion and also predicts that it will contain seventeen words when complete. So let us now assess the semantics of P from the NAFL point of view.

Let us consider a human mind which is reading the sentence P.

— While the human mind is reading P, and gets to "This incomplete sentence" there is a construction available for the incomplete sentence, namely "This incomplete sentence". So there is no problem from the NAFL point of view.

— After the reading is complete, the human mind verifies (constructively) the two facts mentioned about the incomplete sentence, namely that it has indeed been completed and that its completion does contain seventeen words. So the human mind concludes that P is true with respect to a suitable theory in which the terms contained in P are defined and the truth of P is via a constructive proof in that theory. Note in particular that when "seventeen words" is read by the human mind, a construction is indeed available for the seventeen words in question.

Observe that P only refers to itself as an "incomplete sentence". Next

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consider the following sentence in which a completed sentence is referred to:

Seven words are present in this sentence (Q)

Again let us take for granted that "this sentence" refers to Q. Now the word "sentence" in Q refers to the completed sentence Q and indeed a construction is available for Q when "sentence" is uttered. But when the human being utters "Seven words", it does not have seven words in mind and I feel that Q is still not an acceptable sentence within NAFL theories.

Note that P is not vulnerable to this objection. When "seventeen words" are uttered by the human mind, it does have a construction for the seventeen words.

Regards, RS

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