Re: Set Theory: Should You Believe

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If 'l.i.m.i.t' is the sign which is employed when certain manoeevures need to be made in mathematics, then we need not associate any meaning with the letter sequence, or word: if the word 'limit' has any meaning it would be a meaning we associate with familiar objects and behaviours. But if mathematics does not deal with familiar objects and behaviours then its term 'limit' cannot convey meaning. As mathematics does deal with familiar objects and behaviours then we can safely assume, if mathematics is consistent in its use of terms, that we can, as I said before, understand the term in its simple, originary meaning. Even if the symbols with which the term 'limit' is associated are different, the intuitive, metaphysical, familiar behaviours or acts which the term invokes would be similar. That is, the term limit must always refer to simple behaviours and objects to have meaning.

By saying 'the number which is not a limit of a sequence of numbers is not found "in a sequence of numbers"', I do not mean to say that numbers are transferable between sequences. Numerals are transferable because they are not bound to any application.

Its difficult to imagine how a sequence of numbers can be a sequence of 'numbers'. It seems that a different application is made for each 'number', and that the results are gathered and placed in an order that is largely visual and impressionable, rather than 'mathematical'. In which case, not least because we are trying to transfer numbers between applications, it seems that we have numerals, and not numbers. And a sequence is pictorial, which is why I said it might be a representative structure, and strictly not a mathematical device. Regarding your point about grasping a number, of course I think there is some confusion where numbers and numerals have the same form. Also, as you say 'there is no number to be grasped' unless we make one.

> Perhaps a different notation will be helpful. Suppose we represent the sequence of numbers (or numerals) as a_1, a_2, a_3, etc. We can now specify the sequence by specifying what a_n is to refer to for each number (or numeral) n, e.g., in this particular case we can say that a_n = 1 for each n. In the other example (below) that for each n, a_n = n. This would fix the position of each

> element, because each element has a unique nametag, which not only names the element but gives its place in the sequence.

Yes, if each element has a different name tag then I can distinguish the start of the sequence from the end; or if not exactly the 'end', then the identifying act which identifies the 'limit' of the sequence. Just off the cuff, I think the problem with this idea is that I need to place the tags in order, if I want to identify the object to which they are attached. We could just have sequence of numbers as they arise in addition, 1,2,3,4 seems to identify element and position... but does it identify an element with its position? After all, the tags are arbitrary.

> There may be a problem here in distinguishing between "the sequence" as an object concretely given, i.e., numerals, and "the sequence" as the (presumably existing) object referred to.

Yes, it seems that sequence is more like an act that yields a pictorial form or order. In which case the act that constructs this order is not the act of making the numbers that are said to compose it. This might mean that I have no means of mapping 'number' to 'position'.

> > > Do we agree that the limit of this sequence is a member of this sequence?

> > Not if my examination above, top, was correct.

> I suggest that the new notation meets the objection of indeterminacy of position.

Yes, this needs some more exploration. See also my response above.

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