

# Re: Review of Mueckenheims book.

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*Source:* <http://sci.tech--archive.net/Archive/sci.math/2007-03/msg01085.html>

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- *From:* "Dik T. Winter" <[Dik.Winter@xxxxxx](mailto:Dik.Winter@xxxxxx)>
  - *Date:* Tue, 6 Mar 2007 11:46:46 GMT
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In article <1173165366.640448.190440@xx>  
mueckenh@xxxxxxxxxxxxxxxxxxxx writes:

On 5 Mrz., 01:22, "Dik T. Winter" <[Dik.Win...@xxxxxx](mailto:Dik.Win...@xxxxxx)> wrote:

In article <1172914305.525476.55...@xx>  
mueck..=

.@xxxxxxxxxxxxxxxxxxxx writes:

>>>> But in all this is nonsense. The sequence of digits indeed  
>>>> does not converge.

>>>

>>> That means it does not exist as a recognizable entity.

>>

>> Oh. I would think that also non-converging sequences are  
>> recognisable entities. Consider the sequence 0 1 0 1 0 1 ...,  
>> a pretty recognisable entity, I would think.

>

> Fairly well. We know at least that there appears never a digit 3 in  
> it.

So your statement "that means it does not exist as a recognizable entity"  
was nonsense?

No.

Sorry, but you stated that it did not exist \*because\* the sequence of  
digits does not converge. Was that nonsense or not?

To know that there appears never a digit 3 is better than not to  
know it but it is not sufficient to recognize the sequence.

End that was specifically \*not\* what was under discussion.

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- > But is that sufficient for a well-
- > defined mathematical entity? With  $a_n \cdot 10^{-n}$  the possible error gets
- > less than is necessary to mention.

Well, according to Cauchy, yes.

Although he was an engineer, he knew too little about reality. Not his fault – he lived too early.

Mathematics is *\*not\** engineering.

- > Koenig (1905) used this definition to construct a paradox. "Die bisher
- > entwickelten Annahmen  $f = F$  Chren in merkw= $F$  Crdig einfacher Weise zu
- > dem
- > Schlosse, da= $DF$  das Kontinuum nicht wohlgeordnet werden kann."

But *\*that\** is not proven. Moreover, the two quotes are in contradiction with each other. The first quote states that there must be a definition that given a number  $k$ , gives a real number. The second states that each definition delivers a different number.

That is the paradox.

No, that is not the paradox, that is due to a faulty definition.

- >>>> But according to
- >>>> this,  $\sqrt{2}$  is a number.
- >>>
- >>> Yes.
- >>
- >> So  $\sqrt{2}$  is a number after all.
- >
- > So  $\sqrt{2}$  is called a number after all.

Above you agreed with "this *\*is\** a number". And according to your definition (trichotomy with other numbers), it *\*is\** a number.

No. There is only trichotomy with *\*some\** other numbers like 1 or 2 or 1.4142.

You agreed that it *\*is\** a number, see your statement above: "Yes.". But with what number is there no trichotomy?

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