Re: Cantor Confusion

Source: http://sci.tech−archive.net/Archive/sci.math/2007−03/msg03625.html

* *From*: Virgil <virgil@xxxxxxxxxxx>
* *Date*: Fri, 16 Mar 2007 14:18:09 −0600

In article <1174054064.244699.153490@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
mueckenh@xxxxxxxxxxxxxxxxx wrote:

> On 16 Mrz., 14:35, Carsten Schultz <cars...@xxxxxxxxx> wrote:
>
>> mueck...@xxxxxxxxxxxxxxxxx schrieb:
>>
>>>> On 16 Mrz., 01:31, Virgil <vir...@xxxxxxxxxxx> wrote:
>>>>
>>>>> In article
>>>>> <1173954799.919385.61...@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
>>>>>
>>>>> For even binary trees (where even here
>>>>> means all paths are of equal
>>>>> length),
>>>>
>>>> Only those are under discussion here.
>>>>
>>>>> the number of paths increases exponentially
>>>>> with number of
>>>>> levels (lengths of a path). Adding 1 to the
>>>>> number of levels doubles the
>>>>> number of paths.
>>>
>>> The tree is continuous

because its nodes are
connected by paths.

That is a distinctly non−standard meaning
for "continuous" in
mathematics.

It shows, however, that the number of paths cannot jump
from finite to
uncountable.

Using a word does not constitute proof.

And indeed sup_{n<aleph_0} 2^n = aleph_0 < 2^aleph_0,
so in this sense the function kappa |−> 2^kappa is not continuous. If
you can prove (not claim!) by using your tree that it is, then you will
finally have succeeded in showing that ZF is inconsistent.

Have fun,

I had already quite a lot.

The function of all cross sections, f: n |−−> 2^n, is "continuous" in
the sense that never a jump by more than a factor 2 can occur because
the nodes of the tree are connected by an untearable network.

Following WM's argument, g:n |−−> n is even more continuous in that it
can never "jump" by a difference of more than 1, so can never become
infinite at all. Thus WM's "untearable" network can never represent
anything but strictly finite trees, unless he is wrong about them.

The
domain is the same as the range, namely N.

The range of f: n |−−> 2^n can never be the same as the domain, unless
both are empty.

That is fact, not by claim
but by construction of the tree. That's why I constructed it.

A construction which requires N for both the domain and range of
f: n |−−> 2^n is fatally flawed.

And this is equally true whether one uses the definition of function favored by Moblee or that favored by me.
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