

# Re: Cantor and the binary tree

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*Source:* <http://sci.tech--archive.net/Archive/sci.math/2005-06/msg02922.html>

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- *From:* Virgil <ITSnetNOTcom#virgil@xxxxxxxxxxx>
  - *Date:* Fri, 17 Jun 2005 13:07:44 -0600
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In article <1119027204.954585.120070@xx>, mueckenh@xxxxxxxxxxxxxxxxxxx wrote:

- > Virgil wrote:
- >
- >>
- >> Two paths in a maximal binary tree are distinct if and only if there is
- >> a node at which one branches left and the other branches right.
- >>
- >> If this does not happen there is no "them" to distinguish, only an "it"
- >> which cannot be distinguished from itself.
- >
- > You insist that some numbers do exist though you know that they don't.
- > Therefore I spoke of "them".

I know no such thing.

- >
- > Nevertheless. The nodes are the only chances for paths to separate /
- > distinguish themselves from others. Therefore there are only countably
- > many different paths.

Non sequitur.

This no more proves countability of the set of paths than the fact that lists of bits can represent all reals in  $[0,1]$  proves the reals countable. The set of all such lists, like the set of all those maximal paths, is uncountable.

- >
- > Regards, WM

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  - ◇ *From:* mueckenh
- *References:*
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