

## Re: Peano's space-filling curve

**Source:** <http://sci.tech-archive.net/Archive/sci.math/2004-06/1949.html>

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**From:** John Morgan ([john.morgan\\_at\\_REMOVECAPSataraxie.fr](mailto:john.morgan_at_REMOVECAPSataraxie.fr))

**Date:** 06/10/04

Date: Thu, 10 Jun 2004 18:34:05 +0200

Jesse F. Hughes <[jesse@phiwumbda.org](mailto:jesse@phiwumbda.org)> wrote in message  
news:87fz94iyyl.fsf@phiwumbda.org...

> *"John Morgan"* <[john.morgan@REMOVECAPSataraxie.fr](mailto:john.morgan@REMOVECAPSataraxie.fr)> writes:

>

>> *Jesse F. Hughes* <[jesse@phiwumbda.org](mailto:jesse@phiwumbda.org)> wrote in message

>> news:87aczf2vq1.fsf@phiwumbda.org...

>>

>>> *Evidently, you work in a scientific field so simple*

>>> *that every theory of the field can be explained*

>>> *and justified to a layman using just the standard*

>>> *tool of Usenet. In only a few posts.*

>>

>> *Yes, yes, yes. And maybe. How very perceptive of you.*

>> *But maybe you read my post where I said what I did*

>> *(oops – used to do).*

> *I don't believe any of your answers,*

Do I detect the beginning of a scientific argument  
approaching. This P-K4 is a good solid start.

> *however. I don't believe that you can succinctly*

> *state and justify every ecological theory to the*

> *layperson.*

I am, of course, over-generalising. But even some of the  
more obscure stuff, like applying Shannon-Weiner measure to  
diversity can be described, thanks to the existence of  
simpler methods of measure viz. species richness. This  
technique could work even in mathematics, I believe. If  
someone understands a wooden ruler, and knows how to smash  
it into bits, you should have no difficulty giving them at  
least a feeling for the meaning of Lebesgue measure.

> *just as simple to explain at the drop of a hat to the*

> *interested listener.*

I didn't propose anything that quick, and you know it.

> [...]  
>  
>> *I apprehend some things, though, including simple set  
>> theory, Cantor's middle third and his diagonal proof of  
>> the alephs. When I first saw it, Peano's curve didn't  
>> seem to me to be a whole lot more involved. What I  
>> was unprepared for was the  
>> welter of jargon embedded in unfamiliar semantic  
>> surroundings.*  
>  
>*As far as I can tell, it is not the jargon that has caused  
>your problems so much as the logic. When someone  
>wrote that (1) there are bijections between  $[0,1]$  and  
> $[0,1]^2$  and (2) the Peano curve is a continuous  
>surjection, you guessed that (2) was "because  
>of" (1). This isn't a problem with technical terms.  
>This is simply going beyond the explicit statements  
>and making guesses without reason.*

And the scientific method worked perfectly. It always does and always will. The data (read sci.math subscribers) failed to support this hypothesis (which I think is a slight mis-quote, but I'm not going to back track to see, so we'll let it go) and I rejected it. N.b. Due to the power of any test of the data never being 100% I could have rejected a true hypothesis :-) Cue next hypothesis.

> *Elsewhere, you claimed that  $(1/3, 2/3)$  is not on the  
> curve because it isn't on any of the approximations.  
> This could have been a logical error or it could have  
> been a fundamental failure to understand what  
> the limit of a family of curves is, i.e., a jargon error.  
> I'm not sure which.*  
>  
> *To some extent, of course, problems with jargon are  
> inseparable from logical errors.*

The hanging hypothesis then. Our patient scientist scrutinises sci.math for fresh data. Maybe an experiment (fresh post) will sort it. N.b. Actually, I'm already part way down the road to solving this one. But don't hold you breath as a bend in the road revealed some roadworks ahead. Damn. Why didn't I opt for an automatic gearbox. Stop. Go. No messing with the shift needed

<snip>

> *I am a fan of sorts. I regard Dylan as a touch more  
> perceptive than Harris, but I don't use Dylan in my*

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>.sigs (*though I do use some other musicians*).

Name names. I like good poetry. Oh, and good irony,too.

Cheers

John