

# Re: Well Ordering the Reals

---

*Source:* <http://sci.tech-archive.net/Archive/sci.math/2006-02/msg02476.html>

---

- *From:* Tony Orlow <aeo6@xxxxxxxxxxxx>
  - *Date:* Tue, 14 Feb 2006 16:58:00 -0500
- 

Virgil said:

In article <MPG.1e5bbe88bf4af7f98aa3d@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Tony Orlow <aeo6@xxxxxxxxxxxx> wrote:

Virgil said:

In article  
<MPG.1e5a76a391d3f51c98aa33@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>, Tony Orlow <aeo6@xxxxxxxxxxxx> wrote:

David R Tribble said:

Virgil wrote:

TO-numbers  
cannot  
support  
a  
standard  
arithmetic  
as  
described.

Tony Orlow wrote:

The  
arithmetic  
isn't exactly  
standard.  
It's  
somewhat  
restricted.  
But, there is

## Re: Well Ordering the Reals

arithmetic  
possible  
with these  
numbers,  
and they are  
an  
improvement,  
I think, over  
the  
adics.

That could be your first  
useful proof. Take an  
arithmetic  
problem that is difficult or  
impossible using p-adics  
and show  
how easier it is using  
T-riffic numbers.

Well, we could talk about how the 10-adics  
...111, ...112, and  
...113 are all apparently evenly divisible by  
7, which makes no  
sense, whereas 1:000...000 when divided by  
7 has 6 possible  
remainders, none of them 0, which makes  
perfect sense. Or, we  
could talk about how the infinite sum of the  
divergent infinite  
series  $1+2+3+4+\dots$  can be expressed precisely  
as  
 $0:100\dots000:100\dots000$ , with limit points as  
 $2\log_2(N)$  and  $\log_2(N)$ .  
We could talk about how the T-riffics  
handle negative values as  
well as positive, and how addition works  
between them as it does  
for normal n-complement numbers. What  
other problems are there  
with the adics? The T-riffics probably solve  
all of them. :D

But TO-numbers cannot solve the problem of how they can  
exist when  
all standard set theories say they cannot.

## Re: Well Ordering the Reals

The T-riffics are not subject to your puny standard theories and their bogus theorems.

TO is, in effect, declaring that his number system is not subject to logic. Non-logical systems, such as his, are also non-mathematical, as mathematics conforms to logic.

I am saying it is not subject to the standard set theoretical axioms regarding what it calls sequences. Your claim that a sequence can't be infinite is bogus, and a measly attempt to subject the only rational expression of infinite numbers devised to date, to your petty constructions. :) See? I can be pompous too. Pretty good, huh?

They are a simple extension of the digital number system allowing for values of infinite ratio within the set.

But they extend to properties of sets beyond the bounds of any known set theory and in direct conflict with any known set theory. So that, absent an axiom system consistent with them, they are of no more substance than castles in air.

What properties of the set is "beyond the bounds of any known set"? I already showed you a sequential ordering of the reals, even if you don't believe it, so there you have an uncountable sequence. We are not amused with your finite infinities, snicker as we may.

They scoff at your  $\aleph_0$ , your cutest little infinity, and countability as a criterion for anything. The T-riffics are immune to your proofs. Haha (I am in a silly mood today).

TO has been in silly moods every day he has posted here. Does he have any other kind?

Oh sure. Sometimes I am quite serious about these things, and other times it rather amuses me. Do you really think I am always silly, or just plain moronic and crankish sometimes? :)

## Re: Well Ordering the Reals

It is not my job to account for your misconceptions regarding infinite sequences.

That's our line!

Sue me!

TO-numbers require a sequentially ordered uncountable set to index it digits, but all standard set theories, with their standard inductive axioms, allow simple proofs that sequentially ordered sets are, at most, countably infinite.

And yet, it's funny how declaring bits at infinite positions in the string hasn't led to any obvious contradictions. Given the repeating strings defining the infinite distances between limit points, an uncountably infinite string is defined.

One can define all sorts of things that do not exist, like four cornered triangles and TO-numbers. One needs to see PROOF that the defined objects actually exist before one need regard them as anything but fantasy.

I suppose, to be mathematically rigorous. And yet, if someone said, "why don't you run the bus's exhaust pipe up the back, so it spews out the top, and not into people's faces," the equivalent of your position would be to demand a full schematic of everything in the car before even considering if the idea made sense.

Therefore, the T-riffics are an empirical counterexample to your "proof" that no such sequence can "exist".

No more empirical than four cornered triangles!

## Re: Well Ordering the Reals

Well of course trianguloids have four vertices in three dimensions. You would call this a tetrahedron.

Now, as far as being able to specify any possible exact sequence, this can only be done over a countable domain. So, given only the zero point, we have only finite numbers that can all be specified. When you add limit points at infinite positions, you add new countable neighborhoods in what is really, ultimately, an uncountably long string of bits, and this doesn't break anything concerning the finite numbers. They are the subset of the T-riffics that only contain a limit point at 0, normally, or in general, only contain limit points at finite positions, and the question of infinite repeating strings between limit points is moot.

Still no more empirical than 4 cornered triangles.

Are you honestly saying that you can't see that the normal finite system is the T-riffic system with a single limit point at the 0 bit? One might wonder at you not having fallen down a well or something, but perhaps you're tied to your computer.

SO that absent a TO axiom set for his TO numbers which somehow allows uncountably infinite sequentially ordered sets, TO is SOL.

Don't be such a potty mouth.

I am only describing TO's position. It is his fault that he is in it.

Oh, I feel quite lucky to be able to discuss this stuff with people all over the world. Life's a miracle, even with all the shit. Have a nice shit, uh, I mean, life!

—

Smiles,

Tony

Re: Well Ordering the Reals

