

# Re: Epistemology 201: The Science of Science

**Source:** <http://sci.tech-archive.net/Archive/sci.math/2005-02/3090.html>

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**From:** Lester Zick ([lesterDELzick\\_at\\_worldnet.att.net](mailto:lesterDELzick_at_worldnet.att.net))

**Date:** 02/09/05

Date: Wed, 09 Feb 2005 17:44:03 GMT

On Wed, 9 Feb 2005 10:17:09 -0500, Tony Orlow (aeo6)  
<[aeo6@cornell.edu](mailto:aeo6@cornell.edu)> in comp.ai.philosophy wrote:

>Lester Zick said:

>> On Tue, 8 Feb 2005 12:39:54 -0500, Tony Orlow (aeo6)

>> <[aeo6@cornell.edu](mailto:aeo6@cornell.edu)> in comp.ai.philosophy wrote:

>>

>> >Lester Zick said:

>> >> On Mon, 07 Feb 2005 12:38:29 -0500, Wolf Kirchmeir

>> >> <[wwolfkir@sympatico.ca](mailto:wwolfkir@sympatico.ca)> in comp.ai.philosophy wrote:

>> >>

>> >> >Tony Orlow (aeo6) wrote:

>> >> >[...]

>> >> >>

>> >> >> Lester, I have to respectfully disagree with you on the relationship  
>> >> >> between math and logic. As I said in a different post, mathematics is  
>> >> >> the study of measurements and their relations.

>> >> >

>> >> >No, taht's engineering and physics.

>> >> >

>> >> >

>> >> >> In the area of logic,

>> >> >> what is being measured is "truth", which varies between zero (100%  
>> >> >> false) and 1 (100% true) as a probability. It seems obvious to me that  
>> >> >> the study of one type of measurement is a subset of the study of  
>> >> >> measurements in general. Disagree?

>> >> >

>> >> >Logic is the study of argument patterns.

>> >> >

>> >> >> "Truth" is an axiomatic meta-term. That is, its meaning depends on the  
>> >> >> context within which it's used, and on what statements containing the  
>> >> >> term are meaningful within that context. The ordinary or commonplace  
>> >> >> meaning of "truth" is vague, confused, inconsistent, and ambiguous. Most  
>> >> >> people think they know what "truth" means, and that other people  
>> >> >> understand the word the same way. They are wrong on both counts.

>> >>

>> >> Truth in universal terms is only defined through finite tautological  
>> >> regression to self contradictory alternatives. Otherwise there is no

>> >> *guarantee of universality.*  
>> >>  
>> >> *Regards – Lester*  
>> >>  
>> >Lester – *What do you mean by truth in universal terms? It sounds like*  
>> >*you're talking about consistency within a system of statements. I'd like*  
>> >*to hear more about this, but.....*  
>>  
>> *Hi Tony – I wish there were more time to discuss this in detail*  
>> *because it's a fascinating topic I've written about extensively,*  
>> *mostly on comp.ai.philosophy. But as you can see I've had my*  
>> *hands full the last couple of weeks with the present thread. So, I*  
>> *hope you'll be content with a thumbnail sketch for the present.*  
>>  
>> >*I am not speaking of consistent logical systems of statements at this*  
>> >*point, but simply the use of probability in as a percentage to measure*  
>> >*the truth value of any single given statement or logical construction of*  
>> >*statements. The entire point was to defend the general definition of*  
>> >*mathematics as the study of measures and their relations, and to*  
>> >*demonstrate that formal logic falls under that category if the*  
>> >*calculated truth values actually boil down to a measure of some sort,*  
>> >*which they do. The measure may not be an integer, or a real, but is a*  
>> >*measure nonetheless.*  
>>  
>> *Well, see, you're looking at the problem the wrong way around. Let's*  
>> *say we want to prove something I'll call an empirical observation true*  
>> *universally. This means true for all things under all circumstances at*  
>> *all times everywhere in the universe. How can we possibly proceed?*  
>>  
>> *Obviously we cannot test such an observation empirically, running*  
>> *around the universe looking for exceptions to demonstrate truth. This*  
>> *is what the approach you suggest above amounts to and it's exactly*  
>> *what's wrong with contemporary approaches to concepts of truth.*  
>>  
>> *Instead we have to proceed in the reverse direction. We have to ask*  
>> *what it means to be false and then deduce the fact of universal truth.*  
>> *To do that we need to find something whose alternatives are all false*  
>> *leading to the necessary inference that that something is universally*  
>> *true.*  
>>  
>> *Now the only definition of false universally applicable to all things*  
>> *at all times under all conditions everywhere is self contradiction. So*  
>> *we deduce from this that the only thing which can be universally true*  
>> *at all times under all conditions everywhere is contradiction because*  
>> *alternatives to contradiction represent the contradiction of*  
>> *contradiction and are thus self contradictory. This is true whether we*  
>> *call the specific form involved contradiction, differences, or not.*  
>> *They all amount to the same thing in mechanical terms.*  
>>  
>> *This means that the only empirical observation universally true of all*  
>> *things at all times under all conditions everywhere is contradiction,*

>> *differences, or not. In effect we prove the empirical observation Not*  
>> *necessarily true in universal terms because alternatives are Not Not*  
>> *and are self contradictory for that reason. In effect this is the*  
>> *finite tautological regression through to self contradiction I've*  
>> *referred to previously.*

>>  
>> *I hope this outline addresses your questions adequately for the time*  
>> *being at least. I can repost certain things I've written on the*  
>> *subject if you're further interested. Thanks for the interest.*

>>  
>> *Regards – Lester*

>>  
>> *Hi Lester –*

>  
> *Well, having come into this thread somewhere in the middle, I guess I*  
> *missed the original intent, despite my efforts to catch up. (whew)*  
> *Thanks for starting it, by the way. It's been very stimulating.*

Well, thanks for the compliment, Tony. Yes it's been fascinating. To think that just last week I told Osher Doctorow I thought the thread had pretty much runs its course. It's been pretty hectic, I agree. You lance a boil and all kinds of puss starts running out I guess.

> *This particular threadlet, regarding the relationship between logic and*  
> *mathematics, made me voice my view that logic is a branch of mathematics*  
> *and not the other way around. I wasn't really addressing your idea of*  
> *tautological regression to find universal truth, but just the numeric*  
> *nature of truth values for statements in general, in the normal*  
> *mathematics of logic, to show that under the definition of mathematics*  
> *as the study of measures and their relations, logic is a type of math. I*  
> *guess that was a tangent like so many others in the thread. Hopefully*  
> *it's more interesting than who read Cantor first, or who's the biggest*  
> *nincompoop, or whether philosophy is better than engineering....*

>  
> *As regards your idea, now that I get what you're trying to communicate,*  
> *more or less, it sounds interesting. The first thing I thought of as I*  
> *read it was scientific method. Running around testing everything to*  
> *eliminate all possible alternatives to a candidate truth doesn't sound*  
> *very efficient, but that's pretty much the method. Each experiment*  
> *either supports or contradicts a theory to the extent that it is well*  
> *designed and precise. One can never prove a theory to be correct, but*  
> *can increase the probability of correctness with better and more precise*  
> *experiments, or dash the probability to nil. This goes back to my*  
> *probabilistic truth values of course ;)*

>  
> *When you get into contradictions of contradictions (which I would*  
> *logically calculate to be true statements, the negative of a negative),*  
> *and derive the idea that all that is universally true are differences,*  
> *contradictions and NOT, you lose me. Alternatives to contradiction*  
> *include consistency, from what I see, and I don't follow the logic that*  
> *equates differences, contradiction and NOT. I'm not sure you can*

*>logically derive a universal truth that's any better than "is is". I  
>think universal truth has to be derived through other means. I  
>personally prefer the Tao. But it is an interesting discussion.  
>  
>I agree in a way that, empirically, difference and contradiction are  
>universal truths in a sense, because what we observe consists of  
>difference, change and contradiction. At least that's what we learn from  
>and that's what catches our mind's eye. Is this at all related to what  
>you are saying?*

Well, Tony, I can tell from what you're saying that there is a lot more to be said on the subject than I have time right now. As far as issues in empirical science and empiricism are concerned, there are two previous installments in the Epistemology series you might find a good preface to the ideas of universalism in science and mathematics: Epistemology 101 – 12/26/4 – and Epistemology 102 – 1/3/5. I would ask you to read them as a general overview to the approach I'm taking in universally exhaustive logic generally.

Once the heat is off on this thread I'd be happy to spend more time discussing the general issue. But I'm afraid right now I'm facing a deadline of sorts in jury duty in the coming weeks that may prevent me from devoting any extensive amount of time apart from this thread.

Regards – Lester