

Re: mathematical language

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From: Lester Zick (lesterDELzick_at_worldnet.att.net)

Date: 12/13/04

Date: Mon, 13 Dec 2004 01:54:55 GMT

On 12 Dec 2004 16:46:47 GMT, harrisq@tcs.inf.tu-dresden.de (Mitch Harris) in comp.ai.philosophy wrote:

>Lester Zick <lesterDELzick@worldnet.att.net> wrote:

>>

>>The definition I used is just the dictionary definition.

>

>A mathematical dictionary? Regular definitions are notoriously confusingly
>different from the mathematical ones.

Well, dictionaries can be confusing in this respect. But I think the idea of tautologies as inclusive of all possibilities is reasonably ancient. Alternatively we could describe some formalism such as $t:[\text{subject}][\text{not subject}]$ in which the t stands for always true so as to eliminate any conflict with established usage for tautology.

I don't see that use of the term tautology is essential to analysis of the general problem, but I think that my interpretation of standard usage is reasonably accurate.

>However you seem to have placed a lot of extra nontraditional semantics on
>the word tautology, just like has already been done by logicians. So
>you're struggling against a (very successful and much older) tradition.

Yes, but also a very much less illuminating tradition. The only reason I got interested in tautologies is that they are always true and yet almost universally considered useless yet they serendipitously connect with some of my own ideas related to empiricism and universal truth. The truly fascinating thing is that we can discover knowledge which is demonstrably true for all times and places and not just in some mathematical valhalla. The formalized statement of these truths is what really interests me in connection with the tautology. They turn out to represent a quite simple and instructive formalization method.

>>Given a particular proposition, p , is

>> p true or false? If we take a proposition such as p "car", meaning "it

>>is a car", is the proposition true or false? If we combine propositions

>>to form $t:[\text{car}][\text{not car}]$ we form a tautological proposition which

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- >>>covers all possibilities. The halves referred to are just parts of the
- >>>tautological proposition, positive and negative parts. I call the
- >>>positive half or part an empirical observation.
- >
- >So, for you, are all propositions of the form "t:[x][not x]"?
- >How do you "combine" propositions?
- >Can you give some more examples of propositions (as you think of them)?

You know, the only examples I've formulated so far represent tautologies themselves and their properties in general in connection with empirical observation, logical interconnection, and self contradiction. Given the general form, empirical observations can be interconnected through continuum boolean logic in every imaginable way, at least that I can imagine, to reach what I consider universal conclusions, or conclusions drawn through negation and the presence or absence of differences . But the extrapolation remains to be seen in terms of examples. It's my contention that every aspect of the brain's operation in terms of what we consider mental effects represents differences between differences and that the tautological formalism I suggest shows how and why this occurs mechanically.

- >>>>(Conversely, circular logic such as "it is a car because it
- >>>>is a car" includes no logical possibility and is considered always
- >>>>>false for this reason.)
- >>>
- >>>the commonly accepted way to rewrite this sentence is as " $P \rightarrow P$ "
- >>>which is (also commonly accepted to be) a tautology.
- >>
- >>For what it's worth, I'm trying to avoid specialized notation whether
- >>commonly accepted or not.
- >
- >Why? It makes things clearer. Everybody agrees on the notation so then
- >everybody can speak without being misunderstood.

Yeah, but there are often disadvantages offsetting advantages if people misunderstand the terminology. I'm trying to avoid any sense or suggestion of arcana or mystic mumbo-jumbo. I'm convinced these things need to be explainable and explained in plain language as a precursor to formalization. If these ideas are correct, they'll be correct as well in plain language. Believe it or not all of my preceding posts on the subjects of differences and differences between differences have been in plain language just to avoid the intellectual overhead of a reader's having to come to terms with specialized formalisms and terminology. It just so happens I developed tautological formalisms recently as a succinct expression of these general ideas and decided to use it for readers more used to formalisms.

- >>>I realize the notation I've adopted seems
- >>>pretty specialized, but it's easy enough to explain in plain language
- >>>without resort to commonly accepted formalisms.
- >

>It should be easy enough, but so far in the case of
>discussions using your language, it is obviously –not– easy in plain
>language.

I recently developed the notation in conjunction with the analysis of properties of tautologies in the post "Tautologies and Categories" and will append a copy at the end so you can see which, if either, makes better sense. The posts are brief and to the point.

>>For a given tautology of the
>>form $t:[\text{subject}][\text{not subject}]$ there is a negative part $[\text{not subject}]$
>>and a non negative or positive part $[\text{subject}]$. I consider the non
>>negative or positive part to be the same as what we call an empirical
>>observation and the negative part to be a logical observation.
>
>Nothing here matches up with anything I can conjure in my imagination.
>How can positive correspond to empirical and negative to logical?
>If true is positive and false is negative, aren't these both logical?

True isn't positive and false isn't negative. Empirical is positive and logical negative. True in universal terms is achieved through the mechanization of empirical observations in negative terms.

On Wed, 27 Oct 2004 20:02:58 GMT, lesterDELzick@worldnet.att.net
(Lester Zick) in comp.ai.philosophy wrote:

>
> *Tautologies and Empirical Truth*
> -----
>
>In a frank discussion with Wolf Kirchmeir yesterday concerning whether
>tautologies constitute empirical evidence he took occasion to remind
>me quite candidly that tautologies are always true. And the moral he
>drew from this was that tautological truths can't be empirical because
>empirical observations are always problematic and tautologies are not.
>
>Then I got to pondering. It seemed a shame to have something that was
>always true and not be able to draw some useful information from it.
>Here was this beacon of universal truth, and we had no use for it. I
>understood that philosophers and scientists consider tautologies
>useless despite their universal truth. However, I decided that the
>final chapter on usefulness of the tautology had yet to be written.
>
>Let's suppose we have a tautology, any tautology. And we recognize the
>universal truth of that tautology. What conclusions can we draw from
>this?
>
>If a tautology is universally true, alternatives to the tautology
>cannot be true and must be universally false. And, further, this

>must be true of all tautologies.
>
>Consequently, everything including empirical evidence represents a
>tautology or it cannot be true and must be false.
>
>Thus any empirical observation which is problematic must represent
>part of a tautology. For example, three inches and not three inches or
>blue and not blue. These are empirical observations and form parts of
>tautologies or they cannot be problematic and must be false.
>
>In point of fact each part of a tautology is an empirical observation,
>and this is what we mean by an empirical observation despite the
>conventional interpretation of empirical observations as inherently
>problematic.
>
>Further each part of the tautology is subject to evaluation either in
>terms of problematic correctness or in terms of self contradiction. If
>either part of a tautology is self contradictory, it must be false and
>the other part must be universally true whether empirical in
>conventional problematic terms or not.
>
>In other words, even though tautologies in themselves are not
>problematic and cannot represent empirical observations, the reverse
>is not true and empirical observations can and do represent parts of
>tautologies.
>
>And finally we conclude that all this must be true because the
>combination of tautology and not tautology itself forms a tautology
>and must always be true.
>
>Fascinating. Absolutely fascinating.
>
>The tautology has finally proven useful after all.
>
>Regards – Lester

On Wed, 03 Nov 2004 00:31:04 GMT, lesterDELzick@worldnet.att.net
(Lester Zick) in comp.ai.philosophy wrote:

>
> *Tautologies and Ultimate Truth*
> -----
>
>We know that every empirical observation must form part of a tautology
>or it cannot be true (*Tautologies and Empirical Truth*). However, what
>can we make of the other part, the non empirical part, of tautologies?
>
>If we consider any given tautology $t:[\text{subject}][\text{not subject}]$ we find
>that the only difference between components is the term "not". Now, we
>draw from this the empirical observation that every tautology is
>formed through the same mechanism and that the term "not" or its

>functional equivalent is present of necessity in every tautology.
>
>This empirical observation we then use to derive another tautology
>T:[not][not not] consistent with formation of tautologies in general.
>Alan Jones asked what alternatives there could be to any particular
>tautology t:[subject][not subject]. And the only possibility which
>would not invalidate the truth of t:[subject][not subject] would have
>be self contradictory and could not be true.
>
>Hence the alternative to t:[subject][not subject] would have to be
>u:[subject not subject] such that combined with tautology t, u would
>preserve the character and truth of the original tautology. Tautology
>t would thus remain always true because u is always false and together
>they could be used to form a new tautology.
>
>Thus the alternative to any tautology t:[subject][not subject] would
>have to be of the form t2:[subject][not subject][subject not subject].
>
>However, in the case of the empirical observation P:[not] it is not
>possible to regress T in the same way because T already contains it's
>self contradiction. And we find that there are no alternatives to T
>not already implicit in T:[not][not not]. And from this we conclude
>that P:[not] must necessarily be empirically universal because
>Q:[not not] is self contradictory, and, as Wolf Kirchmeir reminds us,
>tautologies are always true.
>
>Regards – Lester

On Wed, 03 Nov 2004 00:31:04 GMT, lesterDELzick@worldnet.att.net
(Lester Zick) in comp.ai.philosophy wrote:

>
> Tautologies and Universal Truth
> -----
>
>Throughout history tautologies have been considered devoid of value.
>However, if one looks closely at the structure of tautologies, one can
>see a definite utility to them in strictly mechanical terms.
>
>All tautologies are of a common structure t:[subject][not subject].
>And all empirical observations form one component of tautologies
>(Tautologies and Empirical Truth). The only problem is how we can
>employ tautologies in constructive and useful ways.
>
>Now the obvious answer is that we can't. Yet we must ask the question:
>how is it exactly we put empirical observations together in mechanical
>terms? We have isolated empirical observations like "car color" and
>"red", but we don't just weld them together with a blowtorch. There
>has to be some mechanism at work that produces in combination the
>universal truth that "car color is red".
>

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>This is where the tautology comes in handy. Given the tautologies
>t1:[car color][not car color] and t2:[red][not red], we can combine
>these in different ways to produce the difference between "car color"
>and "red" to produce some universal and not empirical truth. The
>result is universal and non empirical in the sense of not relying on
>empirical observation for its truth. Thus "car color" and "red" each
>represent empirical observations. However their combination does not
>because it is reached independently of those observations.

>

>In other words, we do not observe "car color is red" empirically. We
>have to put that conclusion together and thereby knit up the raveled
>sleeve of reality lying amid the welter of empirical observations that
>surround us. But to do that we use and need to use tautological
>mechanics and mechanisms.

>

>Tautological mechanisms are thus composed of two parts: empirical
>observations "red" and logical deductions "not red" and universal
>truth is constructed piecemeal of these dual threads in combination.
>Now, I don't know if this insight is original or not. I might scan the
>web with the search argument "tautologies mechanically useful", but
>for the time being I would rather dwell in ignorance and ponder the
>elegance and beauty of a heretofore supposedly useless ugly duckling.

>

>I will say one thing though. It is tempting to draw a speculative
>parallel between this double stranded tautological mechanism and
>the double helix of DNA. However, I have no definite reason to say
>that either is or represents any kind of manifestation of the other.

>

>Regards – Lester

On Wed, 17 Nov 2004 17:32:19 GMT, lesterDELzick@worldnet.att.net
(Lester Zick) in comp.ai.philosophy wrote:

>

> Tautologies and Categories

> -----

>

>Every empirical observation is capable of forming a tautology, and
>there are several types or categories of tautology worth noting:

>

>Particular – any tautology of the form

>

> t:[subject][not subject]

>

>suitable for further regression through self contradiction of the form

>

> t:[subject][not subject][subject not subject]

>

>General – any tautology not subject to further regression of the form:

>

> T:[not][not not]

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- >
- >*Imperfect – any tautology of the form*
- >
- > *t:[subject][not subject]*
- >
- >*suitable for perfection through the addition of self contradiction. A*
- >*tautology is said to be imperfect if it only includes everything true.*
- >
- >
- >*Perfect –*
- >
- >*Any perfected imperfect tautology of the form*
- >
- > *t:[subject][not subject][subject not subject]*
- >
- >*A tautology is said to be perfect if it not only includes everything*
- >*true but everything false as well.*
- >
- >*Regards – Lester*

Regards – Lester