Re: Coextensive properties?

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In article <Smbbd.112121$DH5.2030504@wagner.videotron.net>,
Pierre−Normand Houle <houlepn.nospam@attglobal.net> writes
>
>"patty" <pattyNO@SPAMicyberspace.net> wrote in message
>news:wU2bd.380568$Fg5.217927@attbi_s53...
>
>> "X is a member of class P", or "X has property P" have the exact same
>> logical consequences in every sentence that we could write.
>
>Not true. "Red" is a name of a property : the property of being red.
>I do not have to define tomatoes to be red. One who already knows
>what the property red is can find out whether or not one given tomato
>is red or not. But I do not know what the "red" class is. For all I know,
>you could have defined it to be the class containing the negative even
>numbers, the Empire State Building and the King of Belgium.
>
>Of course, you can define the "red" class to be the class containing
>all red things (all the objects having the property of being red) where
>being red is thus understood as that which, in the world, makes it the
>case that the object belongs to the "red" class as defined. But you can only
>do this if you are a realist about properties. You must believe that there is
>something in the world, reflectance properties of surfaces, say, that make
>it the case that objects are, or aren't, red, independently of what we see
>in particular, possibly illusory prone, circumstances.
>
>Quine might say (but I would have to look further into this) that the class
>"red" which is useful in science (as a starting point) is the class of objects
>x that have in fact prompted, and will in fact prompt, users to
>ascent to the proposition "x is red" when they are (have been) visually
>presented with them.
>
>> In fact we
>> can always replace the one syntax with the other, without disturbing
>> the consequences in the slightest. Whatever metaphysical "essence" that
*>> one *thinks* one is attributing to objects by naming their properties*
>> certainly does not make any difference to the logical consequences of
>> the formulae. It can never make a difference in a prediction. Is that
>> not a fact?

>
>It makes differences in modal contexts. You can say : This car might
>not have been red (it might have been painted blue instead.) That is
*>to say : that *very* car might not have had the *very* property red.*
>But you can not say : This car (which belongs in the "red" class) might
*>not have belonged to it. That is, you can not say : This *very* car might*
*>not have belonged to that *very* class. That is a logical contradiction.*
>A definite class could not have had differnent members. That would
>necessarily have been a different class. But we hold (not Quine, but
>realists about properties) that a definite objects might have had
>definite properties contrary to the ones it in fact has.
>
>> I think objecting to properties because people might think they are
>> "essences" is a red herring. Avoiding properties because Quine said
>> "For science it is classes SI, properties NO", yet not being able to
>> state specifically where it makes a difference, is just stupid.
>
>Fortunately, Quine points out differences.
>
Yes, but she "ignores" or "forgets" or "doesn't know" that for some odd reason, even though it's illustrated, and even though I have repeatedly illustrated it with "said that", "read that" and "remembers that" etc etc with peoples' actual verbal behaviour in this newsgroup. Not to mention providing no end of coverage in "Fragments" and what I have written since.

What's worth remarking upon *forcefully* is this very failure to pick up on, or draw upon what we are talking about. Note how the full original post is not remembered or referred to. What can the question really be? Is it a genuine question, or is it just an effort to neurotically spin out communication the "girlie" charge (cognitive "science" full of "girlies"? surely not!). I'll leave out the second Quine quote his time, and re−position the Place and third Quine quote in an effort to make the point I have been making a little easier to see. Note that the title of the thread was on "inference", ie the classic, pre−Fregian notion of the "mentalistic" syllogism. Ponder that.....what do we do, that we in fact *can't* do??

'The notion of a property is one of various notions,
called INTENSIONAL, that depend thus on the nebulous
notion of meaning. Other examples are necessity,
possibility, and idioms of propositional attitude such
as belief, hope, regret.'

Quine (1985)
The Time of My Life

'At first the problem of mind was ontological and linguistic.
With the passing of mind as substance, there remained a
twofold problem of mentalistic language: syntactic and
semantic. The distinctive syntactic trait of mentalistic

> discourse was the content clause 'that p'. This obstructed
> extensionality: that is, the substitutivity of identity and
> more generally the interchangeability of all coextensive
> terms and clauses salva veritate. It obstructed classical
> predicate logic as a universal theoretical framework. Now
> this quarter of the mind problem is in a fair way to
> dissolution. Quotational treatment of propositional attitudes
> de dicto delivers them to the extensional domain of predicate
> logic, thanks to the reduction of quotation to spelling.
> Propositional attitudes de re, on the other hand, we
> downgraded.
>
> So we see the attitudes de dicto reconciled syntactically
> with extensional logic. A single language, regimented in
> predicate logic, can take them in stride along with natural
> science. The residual oddity of these mentalistic predicates
> de dicto is purely semantic: they do not interlock
> productively with the self−sufficient concepts and causal
> laws of natural science.
>
> Still the mentalistic predicates, for all their vagueness,
> have long interacted with one another, engendering age−old
> strategies for predicting and explaining human action. They
> complement natural science in their incommensurable way, and
> are indispensable both to the social sciences and our
> everyday dealings. Read Dennett and Davidson.'
>
> W. V. O. Quine (1992)
> Intension
> The Pursuit of Truth p.72−73

Note − "incommensurable way" − this is the part of "the double standard" of anomalous monism (and research) that few really grasp the significance of − hence my frequent references to "Two Dogmas of Empiricism".

See "Fragments..." for more details, but the following should give the basic idea:

> 'The new logic is distinguished from the old not only by the
> form in which it is presented but chiefly also by the
> increase of its range....The only form of statements
> (sentences) in the old logic was the predicative form:
> "Socrates is a man," "All (or some) Greeks are men." A
> predicate−concept or property is attributed to a subject−
> concept. Leibniz had already put forward the demand that
> logic should consider sentences of relational form. In a
> relational sentence such as, for example, "a is greater than
> b," a relation is attributed to two or more objects, (or, as
> it might be put, to several subject−concepts). Liebniz's idea
> of a theory of relations has been worked out in the new

logic. The old logic conceived relational sentences as sentences of predicative form. However, many inferences involving relational sentences thereby become impossible. To be sure, one can interpret the sentence "a is greater than b" in such a way that the predicate "greater than b" is attributed to the subject a. But the predicate then becomes a unity; one cannot extract b by any rule of inference. Consequently, the sentence "b is smaller than a" cannot be inferred from this sentence. In the new logic, this inference takes place in the following way: The relation "smaller than" is defined as the "converse" of the relation "greater than." The inference in question then rests on the universal proposition: If a relation holds between x and y, its converse holds between y and x. A further example of a statement that cannot be proved in the old logic: "Wherever there is a victor someone is vanquished." In the new logic, this follows from the logical proposition: If a relation has a referent, it also has a relatum. Relational statements are especially indispensable for the mathematical sciences. Let us consider as an example the geometrical concept of the three−place relation "between" (on an open straight line). The geometrical axioms "If a lies between b and c, b does not lie between c and a" can be expressed only in the new logic. According to the predicative view, in the first case we would have the predicates "lying between b and c" and "lying between c and a". If these are left unanalyzed, there is no way of showing how the first is transformed into the second. If one takes the objects b and c out of the predicate, the statement "a lies between b and c" no longer serves to characterise only one object, but three. It is therefore a three−place relational statement....

Restriction to predicate−sentences has had disastrous effects on subjects outside logic. Perhaps Russell is right when he made this logical failing responsible for certain metaphysical errors.....Above all, we may well assume that this logical error is responsible for the concept of absolute space. Because the fundamental form of a proposition had to be predicative, it could only consist in the specification of the position of a body. Since Leibniz had recognized the possibility of relational sentences, he was able to arrive at a correct conception of space: the elementary fact is not position of a body but its positional relations relative to other bodies. He upheld the view on epistemological grounds: there is no way of determining the absolute position of a body, but only its positional relations. His campaign in favor of the relativistic view of space, as against the absolutistic views of the followers of Newton, had as little success as his program for logic.

Only after two hundred years were his ideas on both subjects taken up and carried through: in logic with the theory of relations (De Morgan 1858; Pierce 1870), in physics with the theory of relativity (anticipatory ideas in Mach 1883; Einstein 1905).'

R. Carnap
The Old and the New Logic (1930)
In A.J. Ayer (ed) Logical Positivism (1959)

'.. consists in characterizing the predicates by their extension instead of according to their content. To each predicate corresponds a certain "class" of objects, consisting of all objects for which the predicate holds. The case of a class containing no object is of course not excluded here. Classes are now to be taken as the entities dealt with by the calculus, which in this interpretation will be called the calculus of classes.

D. Hilbert & W. Ackermann (1950)
The Principles of Mathematical Logic p.46

'We think of a science as comprising those truths which are expressible in terms of 'and', 'not', quantifiers, variables, and certain predicates appropriate to the science in question....To specify a science, within the described mold, we still have to say what the predicates are to be, and what the domain of objects is to be over which the variables of quantification range.'

W.V.O. Quine (1954)
The Scope and Language of Science
The Ways of Paradox and other essays p.242

'Thus we have arrived at something fundamental: our conventions regarding the use of the words "not" and "or" is such that in asserting the two propositions "object A is either red or blue" and "object A is not red," I have implicitly already asserted "object A is blue." This is the essence of so−called *logical deduction*. It is not then, in any way based on real connections between states of affairs, which we apprehend in thought. On the contrary, it has nothing at all to do with the nature of things, but drives from our manner of speaking about things. A person who refused to recognize logical deduction would not thereby manifest a different belief from mine about the behaviour of things, but he would refuse to speak about things according to the same rules as I do. I could not convince him, but I could refuse to speak with him any longer, just as I should refuse to play chess with a partner who insisted on moving the bishop orthogonally.

What logical deduction accomplishes, then, is this: it makes us aware of all that we have implicitly asserted − on the basis of conventions regarding the use of language − in asserting a system of propositions, just as, in the above example, "object A is blue" is implicitly asserted by the assertion of the two propositions "object A is red or blue" and "object A is not red."

In saying this we have already suggested the answer to the question, which naturally must have forced itself on the mind of every reader who has followed our argument: if it is really the case that the propositions of logic are tautologies, that they say nothing about objects, what purpose does logic serve?

..logical propositions, though being purely tautologous, and logical deductions, though being nothing but tautological transformations, have significance for us because we are not omniscient. Our language is so constituted that in asserting such and such propositions we implicitly assert such and such other propositions − but we do not see immediately all that we have implicitly asserted in this manner. It is only logical deduction which makes us conscious of it.

If I have succeeded in clarifying somewhat the role of logic, I may now be brief about the role of mathematics. The propositions of mathematics are of exactly the same kind as the propositions of logic: they are tautologous, they say nothing at all about the objects we want to speak about, but concern only the manner in which we want to speak of them....We become aware of meaning the same by "2+3" and by "5", by going back to the meanings of "2," "3," "5," "+," and making tautological transformations until we just see that "2+3" means the same as "5". It is such successive tautological transformation that is meant by "calculating"; the operations of addition and multiplication which are learned in school are directives for such tautological transformation; every mathematical proof is a succession of such tautological transformations. Their utility, again, is due to the fact that, for example, we do not by any means see immediately that we mean by "24 x 31" the same as by "744"; but if we calculate the product "24 x 31", then we transform it step by step, in such a way that in each individual transformation we recognize that on the basis of the conventions regarding the use of the signs involved (in this case numerals and the signs "+" and "x") what we mean after the transformation is still the same as what we meant before it, until finally we became consciously aware of meaning the same by "744" and by "24 x 31."

> ..at first glance it is difficult to believe that the whole
> of mathematics, with its theorems that it cost such labour to
> establish, with its results that so often surprise us, should
> admit of being resolved into tautologies. But there is just
> one little point which this argument overlooks: it overlooks
> the fact that we are not omniscient. An omniscient being,
> indeed, would at once know everything that is implicitly
> contained in the assertion of a few propositions. IT would
> know immediately that on the basis of the conventions
> concerning the use of the numerals and the multiplication
> sign, "24 x 31" is synonymous with "744". An omniscient being
> has no need for logic and mathematics. We ourselves, however,
> first have to make ourselves conscious of this by successive
> tautological transformations, and hence it may prove quite
> surprising to us that in asserting a few propositions we have
> implicitly also asserted a proposition which seemingly is
> entirely different from them, or that we do mean the same by
> two complexes of symbols which are externally altogether
> different.'
> H Hahn (1933)
> Logic, Mathematics and Knowledge of Nature
> In Ayer (Ed) Logical Positivism (1959)

See the three quotes which open the main text of "Fragments" (after the Chief Inspectorate lead in).

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