Re: syllogism

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In article <%z17d.20748$MD5.1110057@news20.bellglobal.com>, Wolf Kirchmeir <wwolfkir@sympatico.ca> writes
>patty wrote:
>
>[...]
*>> Well i see where we are stumbling over the rather ambiguous (A−−>>>B). I was interpreting it as a first order term with *one* property >>and no quantification (Fa => Fb); but now i see you meant it as >>(for *all* properties F, Fa <=> Fb) which *is* a coding of the >>definition of the identity of a and b:*
>
>Sorry, I thought A−−>B was a commonly understood representation >of "If A, then B", or "A implies B." I also think that since I used this >symbolism in the context of implication, it should've been clear to >you that's what I intended. I use => only as "equal to or greater >than", never as a logic operator.
>
>Thus A−−>B is false if "A true", and "B false", and true otherwise. If >A, B are truthfunctions, then sometimes (A−−>B ANDF B−−>A), and >sometimes not − depends on A, B. IOW, [(A==B) iff (A−−>B AND B−−>>A] When it comes to truthfunctions, that does not mean A, B are >indistinguishable. It means that either can be transformed into the >other, but that operation is meaningless unless A, B were >distinguishable to start with. Right?
>
>Whether it makes sense to say that A, B have the same properties >in this case I'll leave to other thinkers. I'm getting leery of the term >"property."
>

The law of extensionality is what's missing in this discussion, and I suspect Patty of a little obfuscation or at least a little foggy writing here as I suspect she does know the intensional nature of properties.

> '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

Quine does a nice comparison of properties vs classes in Quiddities:

'If it makes sense to speak of properties, it should make clear sense to speak of sameness and differences of properties; but it does not. If a thing has this property and not that, then certainly this property and that are different properties. But what if everything that has this property has that one as well, and vice versa? Should we say that they are the same property? If so, well and good; no problem. But people do not take that line. I am told that every creature with a heart has kidneys, and vice versa; but who will say that the property of having a heart is the same as that of having kidneys?

In short, coextensiveness of properties is not seen as sufficient for their identity. What then is? If an answer is given, it is apt to be that they are identical if they do not just happen to be coextensive, but are necessarily coextensive. But NECESSITY, q.v., is too hazy a notion to rest with.

We have been able to go on blithely all these years without making sense of identity between properties, simply because the utility of the notion of property does not hinge on identifying or distinguishing them. That being the case, why not clean up our act by just declaring coextensive properties identical? Only because it would be a disturbing breach of usage, as seen in the case of the heart and kidneys. To ease that shock, we change the word; we speak no longer of properties, but of CLASSES.....

We must acquiesce in ordinary language for ordinary purposes, and the word 'property' is of a piece with it. But also the notion of property or its reasonable facsimile that takes over, since these contexts never hinge on distinguishing coextensive properties. One instance among many of the use of classes in mathematics is seen under DEFINITION, in the definition of number.

For science it is classes SI, properties NO.'

W. V. O. Quine (1987)
Classes versus Properties
QUIDDITIES:

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)

'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".

I thought the following worth repeating too:

> 'The first−order predicate calculus is an extensional logic
> in which Leibniz's Law is taken as an axiomatic principle.
> Such a logic cannot admit 'intensional' or 'referentially
> opaque' predicates whose defining characteristic is that they
> flout that principle.'
>
> U. T. Place (1987)
> Skinner Re−Skinned P. 244
> In B.F. Skinner Consensus and Controversy
> Eds. S. Modgil & C. Modgil

But I bet none of this will make any difference to what is posted by most folk here. It has all been posted in the past, as has much else besides but they insist on having it rehashed. Here's just one example:

<http://groups.google.com/groups?selm=spr961206123219−4437@kauri.vuw.ac.nz>

What does this tell one other than that people have very short memories and aren't really here for much more than post to post verbal jousting? <g>

Kind regards,

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David Longley
http://www.longley.demon.co.uk/Frag.htm