

Qualia Logic

Let p be a statement of classical propositional calculus. We want to add cases for which p is a statement about qualia. Classically, if p is a statement it can have truth values T or F . But if p contains qualia it contains ineffable information. One way to allow for this is to let p take on the truth values (T) , (F) , (T, i) or (F, i) for 'true', 'false', 'true and ineffable' or 'false and ineffable' [2]. For example I would give the sentence

'one way that green appears to me is ■'

the truth-value (T, i) .

If p is true and q is true then $p \wedge q$ is true. Some reflection shows that if p is true and q is true and ineffable, then the proposition $p \wedge q$ is ineffable... One can go through the truth value alternatives for $p \wedge q$ systematically and construct a truth table for $p \wedge q$:

Truth Table (matrix) for $p \wedge q$

	q	(T)	(F)	(T, i)	(F, i)
p					
(T)		(T)	(F)	(T, i)	(F, i)
(F)		(F)	(F)	(F, i)	(F, i)
(T, i)		(T, i)	(F, i)	(T, i)	(F, i)
(F, i)		(F, i)	(F, i)	(F, i)	(F, i)

If p has truth value (T, i) , then $\neg p$ could have either truth value (F, i) or (F) . The first case happens when, for example, I assert that I'm seeing green when I'm really seeing purple. The second happens if I'm a zombie. In that case I would not be experiencing color at all, so $\neg p$ gets the value (F) .

A first attempt at a truth table for $p \vee q$ is

	q	(T)	(F)	(T, i)	(F, i)
p					
(T)		(T)	(T)	(T, i)	(T)
(F)		(T)	(F)	(T, i)	(F, i)
(T, i)		(T, i)	(T, i)	(T, i)	(T, i)
(F, i)		(T)	(F, i)	(T, i)	(F, i)

Apparently truth tables could be given for other operators too. These give a 4-valued logic that one might call Qualia Logic (QL). Notice in the above tables the and-over-or distributive law fails.

A first guess at a truth table for $p \rightarrow q$ is

	q	(T)	(F)	(T, i)	(F, i)
p					
(T)		(T)	(F)	(F)	(T)
(F)		(T)	(T)	(F, i)	(F, i)
(T, i)		(F)	(F)	(T, i)	(F, i)
(F, i)		(F, i)	(F, i)	(T, i)	(T, i)

Notice that if p is going to answer the Hard Problem(s) (how and why qualia?), it must imply some proposition q that has a truth value (T, i). But in the (tentative) truth table above, this is not possible if p has truth value (T). Therefore the truth value of p must be (T, i). Therefore the answer to the Hard Problem will itself be constituted at least partially by ineffable qualia.

Questions: What's the difference in the logic (metaphysical or epistemic) of a zombie and the logic of those of us who do experience (or have) qualia? (I suppose a zombie cannot assign a truth value (T, i) metaphysically...) If we consider our experiences related to time as the 'input' qualia, can we apply QL and derive a temporal logic? Can QL be construed as an enlargement of the scope of the logic of physical laws?

References

[1] Merriam, Full Variables, 8/9/11 blog *ReflectionsOnTime*, <http://reflectionsontime-pmer.blogspot.com/search?updated-max=2011-08-28T19:58:00-07:00&max-results=100&start=47&by-date=false>

[2] Priest, Graham, Beyond true and false, *aeon Magazine*, <http://aeon.co/magazine/world-views/logic-of-buddhist-philosophy/>