"NOT BOTH p AND NOT q, THEREFORE IF p THEN q" IS A VALID FORM OF ARGUMENT

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Recently (*Mind*, vol. LXXXII (1973), p. 280), Geoffrey Hunter has offered what he thinks is a counterexample to the valid argument form

(1) not both p and not q, therefore if p then q.

His example reads as

(2) Not both Geoffrey Hunter is a bachelor and Geoffrey Hunter is not married. Therefore if Geoffrey Hunter is a bachelor then Geoffrey Hunter is married.

Below I show that (2) fails to establish a counterinstance to (1), and that this is the result of logical and semantical confusions. Surely, Hunter would concede that

(3) $\qquad\qquad$ bachelor $\equiv$ a not married male.[1]

If so then the proper abstraction of (3) is

(4) $\qquad\qquad\qquad\qquad p \equiv p.$

However, (1) requires that the propositional variables be *distinct*. This is obvious from examining the truth table of (1). In other words, the truth value assignments of p and q are not the same (i.e., each has a different matrix):

(5) $\qquad\qquad\qquad\qquad \sim(p \equiv q).$

But p abstracts the same thought—bachelor, not married male: the "not" is part of the predicate, and hence, it cannot be removed by the simple operation of negation as Hunter has done in the conclusion of (2). So in (2), Hunter cannot assign p to bachelor and q to a not married male, because they are synonyms, and p and q must abstract different states of affairs. (Again, this would be required by the truth table.) And furthermore, these states of affairs are to be independent of each other. There is an intensional relation between marriage and bachelorhood which there is not, say between bachelors and logicians; in negating the one conception—a married male—one arrives *a priori* at the other—bachelorhood, these are mutually exclusive and jointly exhaustive. Hunter's example (2) is possible

because of the semantic dependency which holds between the two terms, which does not exist between bachelors and logicians, so an argument using the latter terms is permissible. The sort of situation Hunter has devised, i.e., involving the use of a polar concept, between variables has been deliberately avoided in the propositional calculus, so that sentence valuation is determined solely on the basis of truth functions and not on the basis of intensional predicates.

Given all this, the following argument would not be a suitable example of (1) either, because the conclusion is rendered ambiguous.

(6) Not both Geoffrey Hunter is a bachelor and Geoffrey Hunter is married. Therefore if Geoffrey Hunter is a bachelor, then Geoffrey Hunter is not married.

Is the conclusion symbolized as $p \supset q$ or $p \supset q$? If one ignores the intensional property then it is the former; however, if it is acknowledged then the whole argument would best be abstracted as

(7) not both p and not p, therefore if p then p.

And of course, (7) does not have the exact, same configuration as (1). So (2) and (6) involve an equivocation which is objectionable according to the rules of the propositional calculus.

It follows that (1) *is* a valid form of argument, and that (2) is no threat to the formal definition of material implication.[2]

NOTES

1. This equivalence could be challenged by suggesting that "bachelors" and "married males" are not the only species of the genus, the marital status of males. Namely, the genus is to include the widowed, and possibly the separated. But this is of no substantial merit because such an admission would undermine Hunter's own counterexample. In such a case, (2) would no longer have a true premise and a false conclusion, for it would be possible to conceive of a man who is a bachelor and who is living with a woman, and hence who would be participating in a married life-style. Our language pertaining to one's marital status, one might be inclined to argue, is used in more than legal contexts; it also refers to life-styles. We say, for instance, that John is a bachelor again or has returned to bachelorhood since Jane has left him, i.e., living in an apartment, cooking his own meals, eating out frequently, etc. Another tack on (3) could be the question of age. Some children may be unmarried males, but not bachelors (in the sense of life-style). This would make the premise in (2) false. So this line of criticism on (3) is not open for Hunter. Furthermore, it is one that I myself would not endorse, mainly because my argument is more in line with the language of marital status (predominantly legal) than this criticism is.

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