A NOTE ON CONTRARIETY

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In "Contrariety" Storrs McCall introduces the concept of contrariety as a one-place propositional function using Lewis modal systems as calculi models for a propositional calculus with contrariety.[1] An elementary law in this calculus is

1 $CRpNp$

(where Rp is the strong contrary of p).[2] He goes on to claim that an indefinitely large number of derivative laws can be obtained from 1 by substitution, transportation and double negation. Thus we get, for example,

2 $CpNRp$

Also, substitution and double negation yield

3 $CRNpp$

But how are we to understand the contrary of a negation? Consider an instance of 1;

1a *If x is not-red then it is not the case that x is red.*

Now the move from 1 to 3 must give us

3a *If not-(it is not the case that x is red) then x is red.*

Notice that in 1a the contrary function in the antecedent is not a propositional function at all! It is a predicate function. That is why 3a strikes us as so odd; it tries to make a propositional function out of the contrary operator ("not-"). Note also that in 3a "not-" and "it is not the case that" do not cancel each other out because they are different kinds of negation. The first is a predicate operator, the second a proposition operator.

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1. *Notre Dame Journal of Formal Logic*, vol. VIII (1967), pp. 121–132.

2. While "*x* is red" and "*x* is blue" are (weak) contraries, "*x* is red" and "*x* is not-red" are strong contraries.