ON DE MORGAN'S ARGUMENT

DANIEL D. MERRILL

*In a recent article, R. G. Wengert[1] has suggested that the common formulation of the conclusion of a traditional argument is defective. That argument, which is emphasized by De Morgan,[2] is "Every man is an animal; therefore, every head of a man is the head of an animal." The premise of the argument is formulated easily by

(1) $(x)(Fx \supset Gx)$.

In most logic books, the conclusion is formulated as

(2) $(x)[(\exists x)(Fx \cdot Hyx) \supset (\exists x)(Gx \cdot Hyx)]$.

Wengert suggests, however, that this formulation is defective, since it does not make clear that whatever animal of which y is the head is the same as the man of which y is the head. To achieve this effect Wengert suggests the formulation

(3) $(x)(y)(Fx \cdot Hyx . \supset . Gx \cdot Hyx)$.

Both (2) and (3) follow from (1); but while (2) follows from (3), (3) does not follow from (2). In (3) the desired effect is obtained by using the same variable "x" in both the antecedent and the consequent of the conditional, rather than having separate quantifications in the antecedent and consequent, as was the case in (2).

Wengert's proposal raises two sorts of issues. The first issue arises from Wengert's claim that (3) is the proper formulation of the conclusion of (1), at least in the context of that argument. However, while he convincingly distinguishes between (2) and (3), he does not support the claim that (3) is preferable, apparently taking this as obvious. His only attempted