

NOTE ON CARNEY'S "INTRODUCTION TO SYMBOLIC LOGIC"

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The following argument is obviously invalid:

Someone is a Democrat. Hence Richard Nixon is a Democrat.
 Nevertheless, a "proof" for this argument can be constructed in the
 quantificational logic developed by James Carney in his recent text [1].

1. $\exists xDx$ A
2. Dn 1, EE

Carney warns the reader about such proofs,¹ but fails to state the rule of
 Existential Quantifier Elimination (EE) in a way that excludes them. He
 provides this formulation of EE:²

$$\frac{\exists vA}{A(t/v)} \text{ where } t \text{ is not limited.}$$

(The restriction is that t not be limited *prior to* the EE inference, since it
 is automatically limited by the EE step.) Carney defines "limitation" as
 follows:³

t can become limited iff either

- (1) t is introduced by EE,
- (2) t appears in an undischarged assumption line, or
- (3) t appears within the scope of an existential quantifier later removed by
 EE.

In the proof displayed above, ' n ' is not limited in any of these three ways
 prior to the EE step; hence that step is not prohibited. Clearly, Carney
 requires a fourth clause in his definition of "limitation":

- (4) t appears in the conclusion line.

¹Pp. 141-42.

²P. 140.

³P. 145.

REFERENCES

- [1] Carney, James D., *Introduction to Symbolic Logic*, Englewood Cliffs, New Jersey, Prentice-Hall, Inc. (1970).

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