

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.