

A QUESTION ABOUT INCOMPLETENESS

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At the conclusion of his discussion of the incompleteness of the nineteen rules of inference, Irving M. Copi presents a valid argument form which cannot be proved valid by the nineteen rules alone. This argument, $A \supset B \therefore A \supset (A \cdot B)$, known as "absorption," is easily proved valid by using the method of conditional proof. Thus the rule of conditional proof is a "genuine addition" to the proof apparatus. "Not only does it permit the construction of shorter proofs of validity for arguments which could be proved valid by appealing to the original list of nineteen Rules of Inference alone, but it permits us to establish the validity of valid arguments whose validity could *not* be proved by reference to the original list alone."¹

I do not doubt that *absorption* cannot be proved using just the nineteen rules, but I find it interesting that a proof is possible which does not employ the rule of conditional proof. Instead, the principle of Excluded Middle is introduced as an additional premise:

1. $A \supset B$	$\therefore A \supset (A \cdot B)$
2. $\sim A \vee B$	1, Impl.
3. $A \vee \sim A$	additional premise (Excluded Middle)
4. $\sim A \vee A$	3, Com.
5. $(\sim A \vee A) \cdot (\sim A \vee B)$	4, 2, Conj.
6. $\sim A \vee (A \cdot B)$	5, Dist.
7. $A \supset (A \cdot B)$	6, Impl.

In his discussion of arguments involving relations, Copi sanctions the introduction of additional or enthematic premises in cases where the premise is clearly or obviously true. In the case of the argument, "Tom has the same weight as Dick. Dick has the same weight as Harry. Therefore, Tom has the same weight as Harry," it is necessary to add the

1. Irving M. Copi, *Symbolic Logic*, 4th edition, The Macmillan Co., New York (1973), p. 53.