

ON CERTAIN INCAPACITIES CLAIMED FOR LOGICIANS

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Paul Foulkes¹ has recently expressed certain dubiety about 'and' as a logical constant. He alleges a general failure by logicians to distinguish two different meanings and functions of 'and' in ' α and β ':

First, there is the conjunctive "and", which puts items in the same place: it is collocative, or syntopic. Secondly, there is the prepositional "and", which binds items into instrumental relation: it is colligative, or syndetic.²

According to Foulkes, logicians since Leibniz (or Aristotle) have interpreted 'and' in the *syntopic* sense, ignoring the *syndetic* sense of 'and' altogether.³

My concern here shall be Foulkes' polemics, not his work in defining the syndetic 'and',⁴ something requiring no excuse—though his criticism of logicians does appear just such an unnecessary apology. As might be supposed, because $\lceil \sim(\alpha \cdot \sim\beta) \equiv (\alpha \supset \beta) \rceil$, Foulkes' doubts are part of a general suspicion of rendering *deduction* by extensional (truth) functions of propositions.⁵ He adduces it to be "a sorting mechanism for truth values" committed to "idealist metaphysics: the view that everything is connected with everything else, or that all propositions are ultimately interlinked, this is a theory that has the ring of Hegelianism."⁶ But this is extravagant, for deductive rules of inference (procedure) are indifferent to whatever metaphysics is involved in an object language and the semantic conception of truth is metaphysically (and epistemologically) neutral.⁷

A leading idea recognized in the development of Logic since Boole has been that of supplementing syntactical calculi with different interpretations.⁸ Yet Foulkes intimates that a study of *deduction* is to issue from historical semantics, and thereby that Logic is to reduce to the formalization of colloquial language.⁹ Unfortunately, as such a reduction of the *logica utens* of colloquial language would be descriptive linguistics, norms for 'correct' deduction (the *logica docens*) would not be forthcoming.¹⁰ However, a theory proposed as a norm of valid deduction need not be itself in the first instance a theory of inference; it need only provide methods (these

need not themselves make reference to deduction) whose application to any true proposition will yield other true propositions. Furthermore, as Norbert Wiener points out: "If the natural history of the process of inference is a branch of Logic, it is a Logic of a very different type from that which it is the purpose of logicians to develop, and there is no reason under the sun why this latter Logic should be doomed under penalty of death to make use of our everyday notion of implication."¹¹

NOTES

1. *Vide* [3], [4], [5], [6], [7].
2. [3], p. 284; *cf.* [5], pp. 260-261; [7], p. 66.
3. [3], pp. 284, 287; [7], p. 66.
4. [3], pp. 284-287; [7], pp. 66-71.
5. *Vide* [3], [6], [7]. The cavalier dismissal of Quine's treatment of '⊃' is an example of Foulkes' captious objections in this matter (*cf.* [7], p. 64; [12], pp. 31-33; [13], pp. 42-44).
6. [7], p. 65.
7. [10], pp. 152-278; [11], pp. 69-74; *cf.* [9], p. 323.
8. [1], pp. 37-38; *cf.* [14], p. 405.
9. [3], pp. 284-287; [7], pp. 66-72. But if he means that no theory of deduction is correctly founded without reference to linguistics, then he begs the question.
10. Though this is a problem for Foulkes, it may not be for Peirce (e.g., [8], 1.186, 191, 5.34-40, 121, 126; *cf.* [2], pp. 187-193).
11. [15], p. 657.

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