

that it is false that p ." This is not a good interpretation, for " $\sim p$ " is a sentence of the object language, while "it is false that p " is a sentence of the syntax language. (Compare for instance Quine, *Mathematical logic*, p. 27.) In particular this use causes confusion when iterated and coupled with the interpretation of the word "true" in this book, for then " $\sim(\sim p)$ " must be read: "it is not a theorem that it is not a theorem that p ."

The second disagreement concerns the use of the word "categorical." This is defined on p. 44: ". . . In many deductive theories we wish the axioms to be categorical, that is, that the system should be adequate to decide the truth or falsehood of any proposition which can be formulated in the system. In the frame of A 1''-A 7'' (a formulation of the propositional calculus-rev.) we can give this demand the strong form that for every $p \in C$ (C is the class of wff's-rev.) either $\vdash p$ or $\vdash \sim p$ " as this is contrary to the general usage of this word (cf. Fraenkel, *Einleitung i.d. Mengenlehre*, 3d ed., p. 349), the reviewer would in this case suggest the use of the word "complete." A similar objection applies to the use of the word "true." On page 94 we find the definition "A sentence q is said to be true if there is a proof of q ." The reviewer would prefer the word "provable" in this connection. If "true" is used with Rosenbloom's meaning, every undecidable sentence is false. This contradicts the following statement on p. 179: "Thus any canonical language which is consistent and adequate for arithmetic will contain undecidable sentences expressing elementary arithmetical propositions. There will even be such sentences which we can prove to be true by an argument in the syntax language." The reviewer noted a few misprints, also a few misreferences (e.g. T9'' referred to on p. 44 could not be found, however T13 (p. 35) could be used here, also there is no Lemma 6 (cf. pp. 44-45), only Theorem 6 (on p. 22), also on p. 54, the ref. to A5'' seems incorrect).

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Espaços vetoriais topológicos 1. By L. Nachbin. (Notas de Matematica, no. 4.) Rio de Janeiro, Boffoni, 1948. 2+100 pp. 70 Cruzeiros.

This is intended as the first volume of a self-contained treatise on topological vector spaces. Of the 9 chapters it contains, chapters 1 to 4 are devoted to algebraic and topological preliminaries (topological spaces, fields, topological fields, vector spaces); in addition chapter 7 discusses mainly absolute values on fields and their generalizations, so that only 4 chapters remain for topological vector spaces proper.