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Multiple forcing, by Thomas Jech. Cambridge Tracts in Mathematics, vol. 88, Cambridge University Press, Cambridge, 1986, vii + 136 pp., $34.50. ISBN 0-521-26659-9

In set theory truth is approached from four directions, not just the usual two. A given proposition may be true or false, but it may also be consistent with or independent of "the usual axioms for set theory", that is to say the Zermelo-Fraenkel system of axioms together with the Axiom of Choice, the whole denoted by ZFC. Moreover, these independent propositions take up part of the life of every set theorist. They are not the sort of propositions that only a logician could love; frequently they are powerful, fundamental assertions that occur naturally, and they require study. To follow this Fourfold Way of Truth one must master, in addition to proof and refutation, the method of forcing.

Forcing, of course, was invented 25 years ago by Paul Cohen as the key element in his proof that the Continuum Hypothesis is independent of ZFC. It can best be regarded as a way of adjoining to the universe of set theory new sets with special properties. For example, to make the Continuum Hypothesis false one might adjoin $\aleph_2$ new real numbers. Now from the point of view of the universe V of set theory any new sets have got to be fictitious, since V is nothing else than the collection of all (well-founded) sets, so there is a flavor of sand-castle-building to the whole enterprise of forcing. One way of dealing with this is to treat the extension of the universe as a collection of artificial constructs, "fuzzy" sets if you