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Construction of truth predicates: Approximation versus revision.

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This paper very nicely reviews the kind of formal constructions of truth predicates that derive from Kripke's 1975 paper "Outline of a theory of truth", and shows how these constructions lead, in various ways, to fixed points. This approach to truth is then compared with the "revision theories" of Herzberger, Gupta, or Belnap. Of particular interest is how the author isolates the key assumptions underlying Kripke's original fixed point theorem, and shows how varying these assumptions can lead to other fixed points. So there may be decreasing as well as increasing sequences of predicates; there may be paraconsistent as well as partial predicates; there may be nonmonotonic anti-inductive sequences as well as monotonic inductive sequences, etc. Thus a variety of different theories are given a homogeneous treatment. Revision theories, while they do not lead to fixed points, employ instead a notion of stable truth (falsity), and it can be shown that for any classical initial predicate S_0, every true (false) sentence in the Kripkean fixed point constructed from S_0 is stably true (false) in every revision sequence beginning with S_0 (and every sentence true (false) in the minimal fixed point is stably true (false) in every revision sequence). This paper examines the formal aspects of these theories; it does not investigate their philosophical motivations or interpretations.

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Keywords: fixed point theories; revision theories of truth; stable falsity; formal constructions of truth predicates; stable truth
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