The War on Statistical Significance:
The *American Statistician* vs. the *New England Journal of Medicine*

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Abstract

In early 2019, editors of the *American Statistician* firmly said, "Abandon the concept of statistical significance." But four months later, editors of the *New England Journal of Medicine* politely said, "No." This paper summarizes the main argument in a new book about the disagreement between the editors. The book focuses on the usefulness of *p*-values and statistical significance in the publication of scientific journals. It argues that a journal's use of a sensibly chosen threshold *p*-value (e.g., 0.05 or 0.01) as a necessary (though not sufficient) gateway to publication of a paper in the journal helps journal editors and researchers maximize the overall *scientific and social benefit* of scientific research. This is accomplished by achieving a roughly *optimal* trade-off between the rates of costly false-positive and false-negative errors the journal makes in accepting or rejecting papers for consideration for publication.

Keywords: *p*-value; hypothesis test; false-positive error; false-negative error; replication crisis