

## COMMENT ON GELMAN AND HENNIG: BEYOND SUBJECTIVE AND OBJECTIVE IN STATISTICS

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I applaud the authors' advocacy for subjectivity in statistical practice and appreciate the overall attitude of their proposal. But I worry that the proposed virtues will ultimately serve as a shield to deflect criticism, much like objectivity and subjectivity often do now. In other words, won't acceptance of 'virtue' as a research standard in short order be supplanted by the "pursuit to merely *appear*" virtuous?

I believe Gelman and Hennig when they assert, "[W]e repeatedly encounter publications in top scientific journals that fall foul of these virtues" (p. 27). I'm less convinced, however, that this "indicates [...] that the underlying principles are subtle". This conclusion seems to conflate *doing* science and *publishing* science. In fact I suspect that most scientists are more or less aware of these virtues, and many would agree that these virtues are indeed virtuous for doing science. But I'd expect those same scientists to acknowledge that some of these virtues may be regarded as vices in the publishing game. Just think about the lengths to which journals go to maintain the *appearance* of objectivity. They achieve this primarily through peer review, which promises transparency (V1), consensus (V2), and impartiality (V3) but rarely delivers either. It should be no surprise that a system so obsessed with appearances also tends to reward research that 'looks the part'. As "communication is central to science" (p. 6) and publication is the primary means of scientific communication, is it any wonder that perverse editorial behaviors heavily influence which virtues are practiced and which are merely preached?

Finally, I ask: just as statistical practice is plagued by the "pursuit to merely *appear* objective", is science not also plagued by the pursuit to 'appear statistical'? Judging from well publicized issues, such as p-hacking (Gelman and Loken, 2014; Nuzzo, 2014; Wasserstein and Lazar, 2016), and my own conversations with scientists, I'd say so. To borrow from Feyerabend (2010, p. 7), "The only principle that does not inhibit progress is: anything goes". So why not simply encourage scientists to make convincing, cogent arguments for their hypotheses however they see fit, without having to check off a list of 'virtues' or run a battery of statistical tests.

Wasserman (2012) invites us to imagine "a world without referees". Instead, I'm envisioning a world without editors, journals, or statistics lording over science and society. Without 'objectivity' obscuring the objective, and without 'virtues' standing in the way of ideals. That world looks pretty good to me.

**References:**

P. Feyerabend. (2010). *Against Method*, Fourth Edition. Verso.

A. Gelman and E. Loken. (2014). Data-dependent analysis—a “garden of forking paths”—explains why many statistically significant comparisons don’t hold up. *Am. Sci.*, 102(6):460.

R. Nuzzo. (2014). Scientific method: Statistical errors. *Nature*, 506:150–152.

L. Wasserman. (2012). A world without referees. Accessed April 19, 2017 at <http://www.stat.cmu.edu/~larry/Peer-Review.pdf>

R.L. Wasserstein and N.A. Lazar. (2016). The ASA’s statement on p-values: context, process, and purpose. *Am. Stat.*, 70:129–133.

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