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EDITORIAL



Announcing a new type of manuscript submission: the "retake"

A tale of two controversies

The scientific study of religion has recently experienced two high-profile controversies.

"Declines in Religiosity Predicted Increases in Violent Crime—But Not Among Countries with Relatively High Average IQ," which appeared in *Psychological Science*, found that trends in religious attendance correlated with homicide rates in low-IQ countries, but not in high-IQ countries (Bauer et al., 2020). As it turned out, the study's methodology and measures were deeply flawed. The authors quickly and graciously requested retraction of their paper, citing problems with their measures (Bauer et al., 2020). Such problems were surely sufficient for retraction and the editor-in-chief agreed. However, topics such as using country-level indicators to infer psychological processes, questions about the initial theory, and worries about causal inference remain unaddressed. Given the retraction, it is hard to imagine how these issues will ever be clarified.

Another high-profile controversy involves the 2019 Nature publication by Whitehouse and colleagues. The team purports to show that the emergence of "moralizing gods" occurred after the emergence of complex civilizations, and as such, beliefs in moralizing gods could not have played a causal role in evolving big civilizations (Whitehouse et al., 2019). This finding is interesting because it contradicts previous evidence that moralizing gods anticipated the rise of large societies (Johnson, 2005; Swanson, 1964; Watts et al., 2015; Wheatley, 1971). However, shortly after the Nature study was published, two specialists who were not part of the study independently discovered that sixty percent of the cases in the 2019 study were missing observations, originally coded as "NA" but recoded with "0" meaning "No god." Critics argue that replacing missing data with evidence that confirms a theoretical hypothesis is deeply flawed (Beheim et al., 2019; note that an editor of this journal (JB) is an author on this paper). Separate criticisms of Whitehouse et al.'s key coding decisions appeared in other work (Slingerland et al., 2019). As of January 2021, Whitehouse and colleagues stand by their original study, arguing that, in the absence of specific information about historical religious culture, researchers are entitled to state with confidence that these ancient cultures did not have moralizing gods. At the current time, almost two years after this study was published, Nature has yet to issue a decision about whether to retract this study. So much time has passed that a prominent statistical textbook now uses this *Nature* paper to illustrate the perils in non-probabilistic imputing of missing observations (McElreath, 2020).

In both high-profile controversies, more is at stake than the evaluation of theoretical hypotheses about religion. Although the world has become more accepting of retractions, in many corners, the moniker of "retraction" carries overtones of shame. Like it or not, the funding, hiring, and promotion metrics that most academic institutions use to evaluate the quality of researchers do not motivate decisions to retract. It is one thing for a well-respected tenured professor to point out errors and humbly retract, yet quite another for an unknown, untenured postdoctoral candidate hoping to secure a scarce job in a fiercely competitive market.

"Always about the wedding, never about the marriage"

During the past decade there has been mounting criticism that the most prominent scientific journals hinder science by favoring studies with big headlines over smaller, safer, substantive contributions. As one prominent commentator puts the problem, science journals are "All about the wedding, never the marriage." 1

As a specialist journal, *Religion Brain & Behavior* (RBB) has the luxury of publishing research for its inferential value. We require that our authors clearly state their objectives, motivate the importance of those objectives, and clarify the extent to which their work contributes to understanding. Although we presume all submissions are unworthy of attention until their intellectual motivations are clarified, we do not judge submissions by their results—results are, after all, outside a researcher's control. For this reason, we do not require publications to achieve some pre-specified threshold of confidence as indicated by a test statistic such as a p-value (Bulbulia et al., 2016). Rather, we ask our authors to describe how uncertainty has shifted, if at all, for whatever question their study has taken to hand. We seek practical, interpretable discussions of a study's results, and where possible some clarification about which questions follow. Is this enough?

It is easy to focus on the problems with publications in high-profile science journals. However, we think that it would be a mistake for specialist journals such as RBB to let ourselves off the hook because we are not chasing headlines. We believe RBB's standards for publication are sensible, but we also recognize that these standards pertain to the acceptance of articles for publication—the wedding. Can our journal motivate a systematic, rigorous, ongoing engagement with previously published research? And can we motivate such review in a constructive, collegial setting in which even those authors whose work is being revisited might want to participate enthusiastically? To evaluate the possibilities, we first need to consider limitations in the current systems for revisiting previously published research.

The gap

Academic journals support four primary vehicles for revisiting previously published work.

- (1) The retraction, in which the scientific community is politely asked to forget the retracted work ever existed. Every page of the on-line versions of the retracted study is stamped with "RETRACTED" in bold letters. The retraction is the academic equivalent of the annulment; the stamp might just as well read "NEVER HAPPENED." While some studies deserve such an ignoble fate, the road to more perfect intellectual unions is unlikely to be paved with heads.
- (2) The *erratum*, in which the scientific community is politely alerted to some trifling error such as a poorly labeled figure, a misstated equation, or the omission of an author. The erratum is the academic equivalent of a marginal note in the wedding guest book and not a firm foundation for the marriage of a progressive scientific culture.
- (3) The *replication*, in which a researcher walks through the protocols of a previous study as nearly as possible to assess whether similar results obtain. The replication is akin to renewing wedding vows. As we discussed in our editorial on RBB standards, the deepest problem with scientific culture isn't replication but rather the all-or-nothing attitude to scientific work as either vindicated or disproved (Bulbulia et al., 2016); science tames uncertainty but does not eliminate it. The point of revisiting past work must be to reduce the uncertainties of current and future scientific work.
- (4) The *meta-analysis*, in which a researcher gathers studies in an area of research to consolidate confidence by combining effect-size estimates and regularizing them using partial-pooling estimation. Here, a researcher uses a body of research to effectively replicate itself. Meta-analysis is an extremely useful tool for quantifying uncertainty, but it is also a limited tool (Gurevitch et al., 2018). As with replication, meta-analysis is inherently retrospective because it is restricted to the methods and framing that guided previous research (Bulbulia et al., 2016). Meta-analysis can inform questions of how future science might do better, but the tool itself provides no guidance for learning from the limitations of past research, or for imagining new possibilities.

There are other minor vehicles for revisiting past research. For example, at RBB we foster conversations through book symposia and target articles, asking contributors to focus their attention on a specific work. However, we suggest that the primary mechanisms for revisiting past research—retraction, erratum, replication, and meta-analysis—represent only small regions in the spectrum of possibilities for revisiting previously published research.

Announcing the "retake"

We are pleased to announce a new journal submission format called the "retake." The retake concept begins with an appreciation that what we presently call the "original research article" is best approached as the first take—the wedding. In a first-take publication, a researcher collects data, performs an analysis, and reports a result, which is reviewed, revised, and if appropriate, published. Whatever its virtues, first-take research is always a creature of its time, limited by prevailing methods, perspectives, methods, and norms. Like a wedding, a study happened, and it was over. Just a day, just a take.

- (1) To constitute a retake, a submission will identify a previously published study in the biocultural study of religion and engage it using novel data or methods, or a new conceptualization/framing.
- (2) Retake authors are encouraged to collaborate with the authors of the previously published
- (3) Authors of the previously published study are encouraged to submit a *retake* of their previously published research.
- (4) RBB invites special issue submissions in which curators will coordinate multiple analyses of the same dataset by separate teams—what we call a "many takes" issue.
- (5) Where there is internal disagreement among authors about the conceptualization, analysis, or interpretation of a study, we will allow multiple "takes" within the same submission; RBB will require a clear explanation for the differences as well as their implications.
- (6) The same standards that apply for original submissions (Bulbulia et al., 2016) will apply to retakes.

We do not pretend that the concept of a retake is sufficient to resolve all problems in scientific publishing, but it has the potential to make an incremental improvement. To realize this potential for improvement, we have to avoid being trapped into thinking of retake merely as replications or meta-analyses. As the authors of RBB's special Hilbert Problems issue contend, the evolutionary study of religion requires "fresh takes" (Sosis et al., 2017). We agree. However, no fresh take is a first take. Expressions such as "footnotes to Plato," "turtles all the way down," and "standing on the shoulders of giants" are commonplace for a reason. Every fresh take is a species of retake. To think otherwise would be to ignore how future generations will regard the limitations (and blunders) that define the science of our own time.

We believe that incentivizing researchers to revisit past research with an eye to constructively and collaboratively improving on it requires new categories for publication. Researchers should want to revisit previous research without committing the hari-kari of retraction; indeed, they should be rewarded for doing so. Re-taking a previous study does not imply the study was misbegotten-a "mis-take" that memory must banish. Indeed, as anyone who has tried to record their voice on message is aware, there are no guarantees that a second and third and fourth take will out-perform the first take.

We are excited about the *retake* concept because we believe it has the potential to incentivize a constructive, collaborative practice of re-engaging previous research. Retakes draw attention to and underscore the provisional nature of previously published research, and supply a constructive and collegial motive to revisit it. Send us your retakes!

Note

1. https://statmodeling.stat.columbia.edu/2009/05/24/handy statistic/

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