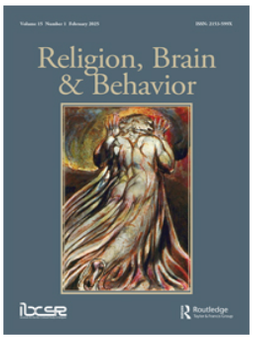

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Religion's Hilbert problems, ten years later: progress, pitfalls, and new horizons

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EDITORIAL

Religion's Hilbert problems, ten years later: progress, pitfalls, and new horizons

> If I were to awaken after having slept for a thousand years, my first question would be: Has the Riemann hypothesis been proven? (attributed to mathematician, David Hilbert)

Science tends to progress most effectively when many researchers devote their energy to solving the same problem. When COVID-19 emerged, scientists from around the globe tirelessly focused their attention on developing a vaccine. Within less than a year, effective vaccines were rolled out across the world. Progress was made because of the efforts of many, working for one solution.

Fields outside of the health sciences rarely muster such widespread concentrated attention. A notable exception occurred when at the turn of the twentieth-century mathematician David Hilbert articulated what he believed were the ten most pressing and central problems in mathematics. After Hilbert's initial presentation, other mathematicians quickly contributed additional problems, and scholars now recognize a total of 23 Hilbert Problems (even though some of these were not contributed by Hilbert himself). In the over 100 years since these problems were articulated, scores of scholars have worked on them. Some Hilbert Problems have been solved, some haven't, while others have been deemed unanswerable. Regardless of the outcome of the study of any particular problem, the field of mathematics progressed because the central problems of the field were highlighted, and researchers focused their attention on solving them.

In an attempt to similarly stimulate conversation, attention, and work in the biocultural study of religion, the final *Religion, Brain & Behavior* editorial of 2015 asked scholars to submit "what they take to be the most pressing Hilbert Problem in the study of religion" (Bulbulia et al., 2015, p. 264). These problems had to be clearly stated, have the potential to alter how the field understands religion, be relevant to the study religion as a human phenomenon, and include methods for potentially answering the problem as articulated. In all, we received 30 submissions, 17 of which were ultimately published in a special issue in 2017 (Sosis et al., 2017). We also had eight leading scholars in the scientific study of religion provide commentaries on these Hilbert problems. These commentaries recognized the limitations of current knowledge, but also offered optimism for the future of the field.

Now, roughly ten years after our initial call, we feel it is time to take stock of the progress that has been made on the 17 problems published in that special issue. We invite the authors of the original problems, as well as other scholars, to:

- report on progress (or lack thereof) made on answering any of the published Hilbert problems
- describe challenges faced when attempting to answer any of the published Hilbert problems, and
- detail any new questions that have emerged from work on one of the published Hilbert problems, and/or how the original problem might be better formulated

Submissions on previously published Hilbert problems can take the form of a short report or commentary and should be between 1000 and 5000 words (not including references), and must be received by 1 October 2025, to be considered for publication.

We also welcome new Hilbert problem submissions, and these must adhere to our original guidelines (Bulbulia et al., 2015):

- The question must be stated clearly. As Hilbert wrote, quoting an old adage about mathematical problems: "A mathematical theory is not to be considered complete until you have made it so clear that you can explain it to the first [person] whom you meet on the street." This point applies to empirical questions and theories.
- The question must really be fundamental. The theoretical implications of an answer must be capable of reconfiguring how scholars understand religion.
- The question must be profoundly relevant to actual religion, not mere abstractions of religion. Here we advise people to talk with scholars who have not embraced the biocultural study of religion. Why are they skeptical of biocultural approaches to religion? What would they like to understand most? Answers might take the field in directions that presently are virtually unexamined such as climate change; within-group (and not merely between-group) competition; religious diversity; path-dependent histories; the good, bad, and ugly in religious leadership; religion and peace-making; and undoubtedly others.
- A clear method for addressing the question must be described. We anticipate that most of the field's Hilbert Problems will require collaborative efforts: spell out how collaboration would have to work.
- Motivation for a question and method for previously unsubmitted Hilbert Problems must be stated in fewer than 1000 words (not including references).

All submissions, whether new Hilbert problems, or those that represent updates on previously published ones, will be reviewed by *RBB*'s co-editors. We will again invite leading scholars in the biocultural study of religion to comment on the Hilbert problems, their potential, and progress.

Of course, science typically works incrementally; real progress usually takes time. Sometimes what initially seems like a great idea later seems ill-conceived. Research trajectories often reach dead ends. Through the course of evaluation, as scientists we frequently recognize that we were initially asking the wrong questions, or not looking at things in the correct way. We may realize that we can never know what we thought we could. All of these probable outcomes are valuable and represent progress. While we expect research on some problems to have progressed more than others, we expect that all authors of the Hilbert Problems in the biocultural study of religion have faced obstacles, considered solutions, and have important lessons to communicate. We look forward to their updates, as well as reports from scholars who were inspired to pursue research on one of the original Hilbert Problems.

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