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**Jeff Buechner\*** ([buechner@rci.rutgers.edu](mailto:buechner@rci.rutgers.edu)), Conklin Hall 430 Dept Philosophy, 175 University Avenue, Newark, NJ 07102. *A New Look at Wigner's 'The Unreasonable Effectiveness of Mathematics in the Natural Sciences'*. Preliminary report.

There are several problems in the philosophy of mathematics that are intertwined in Wigner's elucidation of the unreasonable effectiveness of mathematics in the natural sciences. One problem is that of irrelevant inferences in mathematical proofs—that is, the question of when a proof of a mathematical theorem is genuine. Another problem is Kripke's skeptical problem for functionalist accounts of the mind, which gains traction from the way in which abstract objects are imperfectly realized in the real world. A third problem is that of the underdetermination of theory by data. That is, there are infinitely many incompatible functions each of which will (i) provide the same finite set of successful predictions and (ii) accord with the finite set of datapoints. This provides a reason for why the accuracy of a mathematical theory of the real world cannot be taken as a criterion of its truth—of reality and shows how the Kripke skeptical problem for functionalism is also a problem about the nature of physical reality. (Received September 15, 2013)