EMPIRICISM, PROBABILITY, AND KNOWLEDGE OF ARITHMETIC

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In this talk, the tenability of extending arithmetical knowledge by way of confirmation is examined, where the relevant notion of confirmation is understood probabilistically in the manner familiar from Bayesianism. The motivation here is to see what can be said for a pre-Fregean view to the effect that mathematical induction– one of the Peano axioms– is akin to enumerative induction in certain of its epistemic features. I will focus on one ostensible problem with this view, namely that from certain perspectives the arithmetical probabilities in question seem just as intractable as arithmetical truth itself, either because of the inherent complexity of the probabilities in question as measured by the methods of computability theory, or because the most obvious examples of arithmetical probabilities in this sense are counting measures and hence in essence are just weighted averages of arithmetical truths.