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Jozsef Beck* (jbeck@math.rutgers.edu). *The big vague probabilistic conjecture.*

The decimal digits of special numbers like square-root of 2 or e or “pi” show remarkable randomness up to the central limit theorem, but we cannot even prove that these numbers are “normal” in the sense of Borel. The Riemann hypothesis has a probabilistic interpretation, and the spacing of the zeta zeros also shows some rescaled randomness. Again what we can prove is almost nothing. Can we talk about a priori probabilities when there is no intrinsic symmetry? Does there exist advanced randomness, up to the square root law, when there is no apparent independence? The subject of my talk is this fundamental problem. (Received August 06, 2007)