

Those probability estimates are likely to change by *many* orders of magnitude as additional evidence accumulates, but comparing them at least provides “checks and balances” against our ignorance, similar to how independent governmental branches limit the damage that misguided officials might otherwise do in civic life. We might lack any good (reasonably probable) explanations at this time, and might simply need to keep patiently searching!

Paleoanthropologists *compare* the probabilities that curious stones could have been shaped without design (through erosion, tumbling, fracturing, etc.) to the probabilities that humans could have designed them for some purpose. Forensic scientists *compare* the probabilities of a nondesigned death (by accident or illness) to the probabilities of the particular individual dying by design (suicide or murder). These scientists reach a conclusion only when the estimated probability of one scenario becomes sufficiently high.

Even the search for extraterrestrial intelligence (SETI) works the same way. Just as currently unexplained functional or “specified” complexity in living cells is not yet—by itself—positive evidence of intelligent design, an unexplained pattern in radio waves apparently coming from deep space would not be—by itself—positive evidence of extraterrestrial intelligence. The probabilities that any known natural (pulsars, etc.) or terrestrial (human-designed) source could generate the mysterious waves might be vanishingly small, yet SETI researchers would still compare those, not to a universal probability bound, but to an actual estimate of the extraterrestrial design scenario’s probability. They would calculate the latter by assuming that intelligent embodied extraterrestrial agents would have to evolve and generate the waves within reasonable energy constraints, and that the waves would have to travel from the distant source at the known speed of light within reasonable time constraints given the known age of the universe.

Science is limited indeed, but it is not the only way of knowing. One may have reasons from beyond science, for example, to believe that the sex of one’s next child will be predictable (or even designed) from God’s perspective, while still accepting that from a scientific perspective such individual events are nondesigned and random, predictable only in the aggregate by the laws of probability. Likewise, ID theory’s unidentified designer(s) certainly can be supernatural, but only if such uncon-

strained ID theory is understood as metaphysics rather than science.

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## Seeing with Both Eyes

I thank Charles Austerberry for his comments, and *PSCF* for allowing me to respond.

Austerberry finds arguments for transcendent design problematic because “one cannot estimate the probability of something without assuming that it is subject to the natural laws of the universe.” I agree that relevant natural regularities must be held fixed for probabilistic calculations to be made, as would all ID theorists.

What ID theorists are assessing is *not* the probability of God having done something, but the probability of undirected nature having produced a complex specified structure given a fixed backdrop of natural regularities. When and if this probability can be demonstrated to be effectively zero using the undirected causal resources of the material universe, other explanations must be sought. And, barring a presumptive metaphysical naturalism, they are available. Dropping naturalistic vocabulary and stating things theistically, design inferences distinguish between God’s ordinary providential activity (maintaining natural regularities) and certain extraordinary providential activity (discrete injection of complex specified information).

More precisely, if we partition the sample space of causal explanations into mutually exclusive and jointly exhaustive classes of nonintelligent (undirected material) causes and intelligent causes—or, isomorphically, ordinary versus extraordinary providence—then if the probability of undirected material explanation is sufficiently close to zero, the probability of intelligent causation is close enough to one to be embraced. We do not distinguish between embodied and transcendent intelligent causes because design mathematics is *indifferent* to this distinction, just like the calculation of quantum probabilities is indifferent to metaphysical interpretations of quantum theory.

Moreover, calculating the universal probability bound is uncontroversial, with results ranging from a stringent  $1/(2.6 \times 10^{92})$  through  $1/10^{120}$  to the quite

# Letters

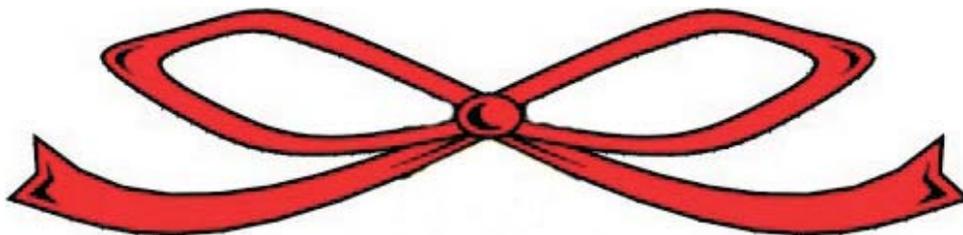
liberal  $1/10^{150}$ . But even by the most *liberal* standard, certain complex specified events lie beyond the undirected causal capacity of the observable universe. This universal probability bound provides an *absolute* basis on which to establish a rejection region for undirected material causes of specified events. In short, the relevant statistical methodology is Fisherian and *eliminative*, not Bayesian and comparative, as Austerberry asserts. Significance testing like this is widely used in the sciences. Furthermore, as William Dembski has shown, Bayesian statistical rationality is parasitic on the Fisherian approach for design inferences (see <http://www.designinference.com/documents/2005.06.Specification.pdf>).

Nonetheless, ID theory *still* fits the framework of multiple competing hypotheses and abductive inferences characteristic of historical sciences (geology, paleontology, evolutionary biology, etc.). Probabilistic elimination of competing causal explanations for instances of specified complexity and the comparative adequacy of intelligent causation will point to ID as the best explanation for the phenomena. If one is intractably devoted to comparing epistemic probabilities for different hypotheses, however, one might try adapting to biology Robin Collins's rigorous likelihood argument for the superiority of theistic design over multiverse explanations of cos-

mological fine-tuning. Either way, making design inferences is not clapping with one hand; it is removing the conceptual obstacles to seeing clearly with both eyes.

I must also address Austerberry's appeal to naturalistic explanations yet to be imagined. This "naturalism-of-the-gaps" is a faith-attitude rooted in false narratives of the inexorable march of materialist explanations in the history of science. Setting such narratives aside, we are left with the best explanations science currently can offer, no more and no less. Lobbing empty "what ifs" from the bleachers may cheer up your team (which all sides can do), but it does not move the ball down the field. The fact is that design inferences have always been possible in science and have expanded in number, quality, and methodological precision in the modern era. Neither ID nor the reputation of theism rests on the fate of particular instances, and science would never get anywhere if everyone remained silent for fear of being wrong.

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