Science by Committee?

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One of science's great virtues is that it is not democratic: we pride ourselves, and rightly so, in our determination to look to nature, not political consensus, to give us the answers we seek. So what should one make of it when a political instrument, like a carefully worded policy statement, is put forth to address a scientific issue? Please don't get me wrong: scientists have political interests, and just like everyone else, we are free to associate into political bodies to advance those interests. But a body of scientists expressing a collective preference on, say, a piece of legislation that will affect their profession seems quite different from crafting a political statement that offers a robust defense of, say, the value of π. There's nothing *wrong* with it, of course, it's just … curious.

The newly promulgated American Society for Microbiology Statement on the Scientific Basis of Evolution, which serves as the focus for this group of essays, is a case in point. The question veritably leaps out: why would a committee of busy scientists engage an entire professional organization to craft and approve what is essentially a textbook recitation of well-accepted principles of evolution, and the central role that microbes have played in establishing them? The answer, of course, is embedded in the middle of the resolution: to shake a figurative cross at the dreaded "alternatives to evolution" that are floating around the culture these days. Truly, the aim is laudable, but one wonders whether it will do anything to settle the issue. Indeed, it may have a contrary result, inviting skeptics to pose an uncomfortable question: if you are so sure of the science, why do you feel compelled to cloak it in political armor?

Before judgments start snapping too loudly, let me say that yes, I'm fully aware of the political assertiveness and sophistication of anti-Darwinian ideas like Intelligent Design theory. To which, I can only ask "so what?" How is, say, the Discovery Institute any different from a host of other well-connected and well-endowed political pressure groups lobbying to advance their educational agendas? We live in a free society, after all, and the Discovery Institute has as much right to advance its agenda as does, say, the American Society for

Microbiology. My question, rather, is whether dealing with the issue in resolutions or legislatures or courts actually helps or hinders the interests of science itself? My worry is that it not only will not help, it might actually weaken the scientific enterprise. Sophocles could teach us why.

Consider this small example: the supposed irreducible complexity of the bacterial flagellum, which figures prominently in the ASM statement. Say what you will, irreducible complexity is certainly a testable idea—the flagellum either is irreducibly complex or it isn't—and if a plausible model for the flagellum's piecemeal evolution can be demonstrated (which most would agree it has), then the irreducible complexity hypothesis has been pretty decisively falsified. So far, so good. *Hubris* creeps in when one goes from that satisfying conclusion to then argue, as many do, that Intelligent Design is unscientific because it is untestable. What does it say about us that so many walk so blindly into such a simple logical trap: perhaps we're just a tad overconfident? At the very least, the common commission of such a logical blunder probably does little to persuade the wavering that Darwinism really *is* the best explanation for the evolution of such complex structures.

The issue goes deeper than such logical quibbles, however. Scientific overconfidence can blind us to the fact that Darwinism is not just a well-established scientific idea: it is also a radical philosophy of nature. It is folly, therefore, to dismiss philosophical doubts about Darwinism as simply recalcitrant stupidity or political cynicism: there are, in fact, serious philosophical issues over which sane, reasonable, and intelligent people can differ. It's puzzling, then, why our scientific brethren should so frequently respond that such philosophical doubts should be met with a kind of academic *apartheid*, walling off science (whatever that is) over *here* from philosophy (whatever *that* is) over *there*: to "separate one's personal beliefs from the pursuit of understanding of the natural world," as the ASM statement puts it. Really, when has this ever been done? Stephen Jay Gould, for example, was always quite open about his personal Marxist beliefs informing his thinking about evolution, and evolutionary biology is the richer for it. Similarly, Richard Dawkins has never been shy about keeping his personal opinions about religion and science to himself, nor should he be. And I wonder where our understanding of the natural world would be today if Charles Darwin had *not* kept his personal beliefs about natural selection to himself for more than twenty years? One cannot escape the blunt truth: strictly separating science from philosophy is not only unrealistic, it's boring. You won't win many hearts and minds that way.

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