Science Without Expertise: Defending My Defence of Intelligent Design (Nearly) a Decade Later
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Introduction

Since early 2005, when I was first recruited to act as an ‘expert witness’ for the defence in what became the landmark US case on intelligent design, Kitzmiller v. Dover School District, my career has taken some curious but always interesting turns, most recently a plenary session at the 2014 European Society for the Philosophy of Religion conference, during which I declared an abiding interest in God as opposed to religion. On several occasions over the past nine years I have responded to my numerous critics, a combination of academics and non-academics, all claiming to know a science when they see it. My omnibus reflection on the academic response was published in 2008 in Spontaneous Generations, the house journal of the University of Toronto’s History & Philosophy of Science and Technology Department. In what follows, I address an article that appears in the September 2014 issue of the French sociology journal, Socio, dedicated to ‘chercheurs à la barre’ (‘researchers at the bar’). My response, largely reproduced below, is also published (in French) in that issue, along with a brief reply by the article’s authors, two young French social historians, Volny Fages and Arnaud Saint-Martin (hereafter ‘the authors’), who entitled their original piece ‘Jouer l'expert à la barre: l'épistémologie sociale de Steve Fuller au service de l'intelligent design’ (‘Playing the expert at the bar: Steve Fuller’s social epistemology in the service of intelligent design’).

The authors’ strong suit lies in their ability to capture the surface drama of denunciation and defiance that characterised, say, the first year or two of my defence of intelligent design (ID). And if their whole point was to capture an event on an English-speaking planet several light-years away, then they have done an admirable job. But I suspect that they aim to say something more. In that case, the distance in time matters for a proper epistemological assessment of these events, especially my participation in them. Their article could have been written, say, two weeks after the conclusion of the Kitzmiller case in December 2005, which was when Michael Lynch commissioned the special issue of Social Studies of Science dedicated to condemning my actions. I believe that the most charitable way to read the authors’ article is as a projection of their own fears, which may be rooted in the French—not American—need to maintain a strong distinction between secular and religious matters in public affairs. It is a policy that France has prosecuted much more consistently than the USA since the advent of the Third Republic in 1870. Thus, their article reads like an exercise in wish fulfilment. Specifically, I am regarded an object lesson of what goes wrong when the science-religion boundary is breached.

Science and Technology Studies and Me

At the outset, two points need to be made clear, one about the field of Science and Technology Studies (STS) and the other about me.

First, while I am strongly (and rightly) associated with STS, my views have never been mainstream. I have always seen the field’s strong empiricist orientation as no more—but
no less—than a salutary check on the abstract excesses of normative epistemology and philosophy of science of the mid-20th century. My book, *The Philosophy of Science and Technology Studies* (Routledge, 2006), which was written before my participation in *Kitzmiller*, captures well my chequered relationship to STS. I want STS to reform and strengthen philosophy, not destroy it or cause it to ‘wither away’, à la Wittgenstein. In this respect, I was profoundly disappointed by STS’s general response to the ‘Sokal Hoax’ of 1996, which was to abandon its deconstructive sense of authorship and agency by granting Sokal the right to dictate the meaning of his own text and hence to determine the fate of STS. In this context, Bruno Latour functioned as a Marshall Pétain figure by conceding that indeed STS had gone too far: When historians try to explain why STS failed to achieve its potential, they should start with Latour’s essay: ‘Why has critique run out of steam? From matters of fact to matters of concern’ *Critical Inquiry* (2004) 30: 225-248.

Second, contrary to the general tenor of the authors’ article, my career has not taken a nosedive following my participation as an expert witness in *Kitzmiller*. I was elected President of the Sociology and Social Policy division of the British Association for the Advancement of Science for 2008-9, the Darwin anniversary year, during which—as the authors note—I staged a play at the annual meeting that was widely seen as calling into question Darwin’s contemporary relevance. Moreover, my election to the UK Academy of Social Sciences and the European Academy of Sciences and Arts has come only in the last few years, as well as my current chair and honorary doctorate from my home university. In 2014 I keynoted the annual conference of the British Sociological Association. Clearly, then, not everyone thinks that I am such an embarrassment! Of course, I would not pretend for a moment that all—or any—of these entities endorse my participation in *Kitzmiller*. However, they have not condemned it, and my guess is that they (rightly) see it as a defensible intervention in a rather long game, the final outcome of which will be determined by future historians. To my knowledge, the only important negative impact that I have sustained may be my Wikipedia entry, the ‘talk’ section of which would make a great topic for a clever Master’s thesis on the politics of ‘neutrality’ in knowledge production. But even that is slowly being amended in the direction of genuine balance, as people begin to locate my defence of intelligent design (ID) in my larger intellectual context.

Moreover, I still publish in places of the same quality today as I did before 2005, and I am subject to roughly the same amount of praise and abuse. After all, my most widely reviewed work, *Thomas Kuhn: A Philosophical History for Our Times* (University of Chicago Press, 2000), was trashed in *The New York Times* five years before *Kitzmiller*. I am no stranger to serious, even harsh criticism. Indeed, I may court it. Perhaps I underestimate my opponents—or, I simply refuse to treat them as seriously as they treat themselves. In any case, the authors get my bottom line right, albeit grudgingly: I practice what I preach. A few months prior to my involvement in *Kitzmiller*, I had published my ‘guide to life’, *The Intellectual* (Icon 2005), which is all about the conditions under which one might speak truth to power. I took these into account when considering whether to become involved in *Kitzmiller*. First, I had already written quite a lot suggesting that the scientific establishment is in need of ‘affirmative action’ (the phrase appears in *The Governance of Science*, Open University Press, 2000), and if I can
say such a thing in an academic text, then I should be willing to say it in a public forum, including a trial, even granting its hazards as a discursive field. To do otherwise would simply repeat what I regard as Thomas Kuhn’s cardinal sin: the ‘double truth’ doctrine (i.e. one truth for the elites, another for the masses). Finally, I assumed (rightly) that I was institutionally secure and had nothing much to gain or lose materially by my participation which might compromise what I say.

**Intellectuals, Secular Prophets and the ID Movement**

Clearly the authors fail to grasp my *modus operandi*. But ‘opportunism’ does begin to get at it—if one then thinks in world-historic terms about the concept, as, say, Hegel did. In particular, the ‘cunning of reason’ converts the pursuit of short-term ends into a vehicle for promoting long-term ends that often cast the short-term ends in an ironic light. An intellectual—especially one with the institutional protection afforded by tenure—is uniquely positioned to adopt this way of being. Not surprisingly, Hegel himself belonged to the first generation of professors (i.e. the ‘German idealists’) who took such a proactive approach by organizing their scholarship so as to justify a future that they believed was within reach, even if not fully acceptable to themselves. This mode of secular prophecy, so characteristic of Marxism from its inception, fell into disrepute after the First World War, as famously articulated in Max Weber’s final address to graduate students, ‘Science as a Vocation’. My own response to Weber is simply to issue a health warning, as in cigarette packets, whenever one engages in secular prophecy—but by no means to ban its practice.

In that spirit, I always present the intelligent design (ID) movement to students as a vehicle for promoting a progressive, post-Darwinian understanding of biology. On the one hand, ID recovers a lost sense of nature’s intelligibility that had been so effective in the two centuries prior to *Origin of Species* in motivating science as a completion of Christian theology (aka Newtonian mechanics), whereby humans finally come to occupy the role of the deity in whose image and likeness they were supposedly created. On the other hand, ID also comports with the spirit of contemporary biology, which is increasingly—and successfully—fixated on reverse engineering the components of life to specific novel ends in service of an ‘enhanced’ humanity. Indeed, as I dramatized in *Lincoln and Darwin—For One Night Only!*, Darwin’s personal world-view would be seriously challenged by the amount of ‘creative destruction’—from vivisection to stem cell research—that has been committed over the past 150 years in the name of ‘life science’. Ironically, ID supporters tend to ignore that the natural theologian whom they most often cite in defence of their position, William Paley, viewed God as a rather cold and detached being who appeared to tolerate—if not outright promote—enormous misery in pursuit of divine ends. Not surprisingly, Paley was an early supporter of fellow cleric Thomas Malthus, whose proto-version of natural selection Darwin developed—and, in the process, left behind his faith in God.

Put bluntly, ID does not justify the God of ‘compassionate conservatism’ and ‘family values’. On the contrary, it is the God of the Industrial Revolution and the Christian dissenters who consulted their consciences in the spirit of a calculation and saw nothing demeaning about conceiving of the deity as The Big Engineer in the Sky. ‘Utilitarianism’
became a secular movement only with Jeremy Bentham’s coinage. Before then it was the logic of theodicy, the branch of theology that rationalized God’s handiwork according to ‘the ends justifies the means’ principle. The maturing of *Homo sapiens* into a fully adult ‘human’, a familiar Enlightenment trope, was associated with our assuming the powers that had been previously treated as the sole possession of God—and his representatives on earth, as in the ‘divine right of kings’. Instructive for my purposes is a transitional figure between Paley and Bentham, the radical cleric and chemist, Joseph Priestley, who figures prominently in my post-*Kitzmiller* works and provides an important bridge to my current inquiries into ‘Humanity 2.0’—that is, the emergence ‘post-’, and ‘trans-’ human futures. (Another such bridge figure is Pierre Teilhard de Chardin.) Priestley believed that science had sufficiently penetrated the world’s intelligent design that humans were on the verge of redeeming its imperfections through their own ingenuity, an age of invention and revolution, both human expressions of our divine capacity to create *ex nihilo*. In the end, Priestley was driven into exile from Britain to the newly independent USA.

**ID and Transhumanism**

Like most of my critics, the authors fail to see that the details of the *Kitzmiller* case and even the specific arguments mounted for and against intelligent design (ID) are simply hooks for a much more general point: Science does not eliminate the need for the supernatural but rationalises it, ultimately as a secular motive for the pursuit of a superhuman—or, in the preferred term, ‘transhuman’—state of being. Indeed, both of my follow-up works, *Science vs. Religion?* and *Dissent over Descent*, present the history of science as framed by a theological predicament: Are we trying to re-embed with the animals in nature or escape to some higher-order form of existence? This basically marks the post/trans- human divide, and in the former book I actually characterise it in terms contemporary difference between Peter Singer’s and Ray Kurzweil’s ways of projecting the human future. In either case, ‘theology’ needs to be taken literally as the systematic quest to discover God, just as we might any other unobservable theoretical entity in science. This is less far-fetched than it might seem. After all, the concept of life is at least as diffuse, contested and elusive as ‘God’, yet scientists seem to have no problem accepting its existence and defining their activities around it. Indeed, nowadays ‘life’ has all the properties of ‘God’, but without the sense of a responsible agent capable of judging the beings it has generated. (Perhaps that explains life’s popularity as a scientific concept!)

If this merging of ID and transhumanist interests appears strange, then it is worth recalling that a founder of ID’s leading think-tank, the Discovery Institute (DI), was George Gilder, who in the late 1980s coined the phrase ‘quantum economics’ to capture nanotechnology’s potential as a fount of wealth creation, as it permits us to inject a new and improved sense of order in nature. Priestley had thought similarly about chemistry at the time of the Industrial Revolution. Also in the late ‘80s, the physicist Frank Tipler developed the ‘anthropic principle’, whereby the very presence of humanity is taken to be luminous for making sense of the universe, a thesis that Tipler has subsequently pursued in the direction of a Christian version of what Kurzweil calls a ‘singularity’, that is, the point when our computational capacity enables us to merge with a cosmic intelligence
(aka God). Indeed, in his popular work, *The Physics of Christianity*, Tipler invokes the Bible to stray far beyond the comfort zone of most ‘Creationists’.

Perhaps all that I have explained is why DI withdrew its experts from *Kitzmiller*, once it realized that the Dover school board were using ID as a fig leaf for ‘Young Earth Creationism’. Nevertheless, I stuck with the case, despite knowing this fact. As the authors acknowledge (albeit perplexedly), I adhere to the positivist distinction between the contexts of discovery and justification of scientific research. This means giving both sides of the distinction their due—and in an educational context, it means privileging the discovery side. In other words, if we are talking about teaching rather than testing science, then students need to acquire frames of mind that are sufficiently expansive to encompass the cosmic questions that motivated the deepest scientific discoveries. History amply shows that theological issues—of the sort that Abrahamic believers are routinely exposed—have provided that pretext. Such secular substitutes as ‘curiosity’ and ‘beauty’, albeit popular, at most explain why certain people might be driven to do science, but not why science should be privileged as a way of being in the world. Of course, any theologically inspired claims to knowledge need to be judged by scientists who start from very different—if not absent—theological premises. Nevertheless, the discovery-justification distinction would better serve to guide state policy on the relationship of religion to science than some putatively hard separation of church and state. Religion should be prohibited from science classrooms only if it fails to promote science—not simply for being religion, as happened in *Kitzmiller*.

Yet, there does seem to be a problem with religiously inspired knowledge claims in secular society. For example, it remains unclear why a cloud of suspicion should hang over DI for using its capital and influence to try to sway the scientific agenda in its preferred direction—especially in a democracy, where it is expected that everyone will be jockeying for position in the public sphere, relying on the state to be a fair broker. Nevertheless, much of *Kitzmiller* was devoted to unmasking DI’s ‘Wedge Strategy’ devised by the Berkeley lawyer Philip Johnson to insert the teaching of ID into the state school science curriculum. The Strategy involves drawing a sharp distinction between the scientific method (aka empirical testability) and the metaphysical commitments of many who practice that method (aka naturalism). Even if we grant that the strategy was launched out of religiously inspired motives, it operated within the letter of US law by not invoking any religiously inspired prerogatives. Truth be told, the Wedge Strategy is no more than an application of ‘instrumentalist’—or even ‘positivist’—philosophy of science of the sort that Johnson’s legal colleague from an earlier age, Francis Bacon, would have recognised as the ‘scientific method’. Johnson’s (evil?) genius was simply to reveal a hidden side to this doctrine.

**Ultimate Causes and The Politics of Science**

Normally instrumentalism is interpreted as implying the removal of discussion of ultimate causes from science altogether. This was how the Catholic physicist Pierre Duhem originally thought about the matter in the Third Republic, specifically as a stopgap against science colonising the space previously occupied by religion. Here Duhem anticipated the politically correct segregationist settlement of science and religion
as ‘separate but equal’ realms of reality, one dealing with ‘how’ and the other with ‘why’ questions. But a more intellectually engaged understanding of instrumentalism would simply prevent any particular account of ultimate causes from dominating a perfectly permissible discussion about them. This is Johnson’s view, which he reads (rightly I believe) as the implied policy implication of the US Founding Fathers’ original call for the ‘separation of church and state’, the Constitutional principle that figured most prominently in Kitzmiller. If so, I agree with his interpretation. But it must be said that once Judge John Jones returned an unfavourable verdict, intelligent design (ID) supporters—say, on the website Uncommon Descent—reverted to the more traditional understanding of instrumentalism as aiming for a ban on discussions of ultimate causes in science, whether naturalistic or supernaturalistic. This runs counter to my own interest in the ID movement, which in its efforts to ‘teach the controversy’ had rightly positioned science as a space for enacting the ‘open society’ to the full, regardless of the conclusions reached. The fragility of this understanding of science as an open society comes to light when we recall that Kitzmiller was triggered by science teachers being required merely to tell—not teach—students that there are alternatives to Darwin’s account of the origins of life.

In terms of the history of recent politics of science, the only thing that the Discovery Institute (DI) is guilty of is failure at a task for which it is not especially well set up to do. After all, DI is just a think-tank that generates some income from its policy papers but otherwise channels funds from various large donors who share its agenda to reform the teaching of science and a larger cultural transformation of America. It is not like, say, the Rockefeller Foundation, whose income stream has been regularly sustained by the channelling of profits from associated lucrative businesses through which they already exerted some leverage. But in the end, I believe that, like so many other of DI’s critics, the authors object to the think-tank, not because of its lack of expertise or its private sector status, but simply because of its ideological orientation. The comparison with the Rockefeller Foundation—however unflattering to DI—is not accidental, and worthy of further exploration in this context.

The Rockefeller Foundation

Suppose we are told the story of the rise of molecular biology as an attempt by moneyed interests with no expertise in any of the relevant fields to shift the overall drift of the study of life from the field to the laboratory, in the aid of acquiring greater control over the means by which meaningful (i.e. self-productive) entities come in and out of existence. The story is, strictly speaking, true. But it is also very unflattering to the Rockefeller Foundation and its director of natural science research, the mathematician Warren Weaver—of Shannon-Weaver information theory fame—who coined the phrase ‘molecular biology’ in the 1930s to initiate a funding programme that eventuated two decades later in the discovery of the structure and function of DNA. Moreover, despite the support of its general aims by prominent (albeit non-expert) scientists such as Erwin Schrödinger, the Rockefeller Foundation was often treated with suspicion and resistance by both self-styled ‘traditionalist’ and ‘progressive’ academic staff at its host universities, including Harvard, Cambridge and the London School of Economics.
Nevertheless, no one doubts that the Rockefeller Foundation is a private sector entity that decisively shifted the course of science in the 20th century, largely against the prevailing opinion of academic scientists—and before ‘peer review’ became the epistemic gold standard of scientific evaluation. In hindsight, the Rockefeller Foundation may well be the entity that exerted the most influence in the previous century’s science policy—even including the policies of nation-states and the pronouncements of Albert Einstein. It certainly can claim credit (or blame?) for having provided the incentive structure for at least a couple of generation of physicists and chemists migrating to biology to radically re-make that field in the image of their home disciplines, eventuating in the so-called ‘converging technologies’ agenda promoted by science policy agencies on both sides of the Atlantic at the dawn of the 21st century. Thus, while we still pay lip service to Darwin as the founder of modern biology, he would find today’s emphasis on pharmaceuticals and biotechnology—let alone nanotechnology—completely alien to his own *modus operandi*. But this would not be the case with Darwin’s great rival, Lamarck. Without denying the enormous creative effort that went into forging today’s ‘Neo-Darwinian synthesis’, Lamarck, even after we concede his empirical inaccuracies, remains the better guide to the overall direction that the history of biology has taken. In particular, we are finding more evidence of intelligence spontaneously emerging in nature, not to mention our own efficacious intelligent intervention in various life processes. In short, we are becoming—however fitfully—self-creators, which vindicates the Lamarck’s vision of what he coined as ‘biology’, something that the Rockefeller Foundation promoted to great effect in the twentieth century.

Perhaps more relevant to our concerns is that John D. Rockefeller was a Christian dissenter who was swayed by the Methodist founder John Wesley’s ideal: ‘Gain all you can, save all you can and give all you can’. This became the guiding principle behind the Rockefeller Foundation, which was implemented in its early years by the Baptist minister Frederick Gates (no relation to Bill Gates, though the style of Gates’ own philanthropy bears comparison with Rockefeller’s). The broad ideological rubric under which Foundation operated was the ‘Efficiency Movement’, which is nowadays pejoratively referred to as ‘Taylorism’. The basic idea was that it is always good to improve the conditions of the poor so that they can be productive for others. The policy amounted to a privately administered ‘workfare’ scheme, though it was clear that Rockefeller believed that the poor should incorporate Wesley’s ideal in their own lives, just as he had in his. Thus, in exchange for basic food and shelter, workers were required to undergo specific training and ultimately demonstrate performance on tasks set by the benefactor.

No doubt all of this seems ‘politically incorrect’ by today’s standards. But it is not really ‘conservative’ in any recognisable sense. To be sure, the Rockefeller Foundation and the Discovery Institute are ‘anti-establishment’ institutions, and in both cases the main enemy or obstacle is academia, which operates as a ‘clerisy’, that is, a ‘lay clergy’, which is an important sense of ‘expert’ that was popularised—and often valorised—in France’s Third Republic. According to the analogy, the expert’s learning and research amounted to a secular form of revelation that was respected in court proceedings and, in any case, not subject to challenge by non-experts. What prevented such expertise from acquiring the absolute authority of a Comtean priesthood was its circumscribed boundaries, outside of which the expert would not comment. From the standpoint of those of us who continue to
identify with the original 18th century Enlightenment, there is always the problem of whether this sort of expertise is the mark of an enlightened polity or simply a secular reproduction of the Enlightenment’s mortal enemy, the clergy. The authors clearly think the former, whereas I think the latter. Readers can decide for themselves which side is more entitled to the Enlightenment legacy.

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