In Steve Fuller's Words: Intelligent Design
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The following text is a collection of quotations from books, papers, interviews, journalistic articles, videos and audio lectures by Steve Fuller, August Comte Chair of Social Epistemology at Warwick University, on the topic of 'intelligent design' (ID). They have been collected over the past 5 years and are now arranged in such a way as to give an opportunity for those unacquainted with or lacking a wider picture of Dr. Fuller's position regarding ID to become familiar with it. This is not a definitive collection as surely it would be next to impossible to gather all of his publically expressed thoughts on this topic.

Instead, this document represents what I have found most relevant and germane in his works regarding the conversation between evolution, creation and intelligent design. Steve is perhaps best known by some people for his participation in the Dover Area School District trial about ID in 2005, however, quotations from the transcript of that trial are not included here as they would have added significantly to the length and because his contribution to ID has been developed and honed since that time. Some themes in the quotations are twice or several times repeated, given the nuances in meaning and purpose displayed in different media settings. Any further relevant and documented quotations by Prof. Fuller are welcome to be added to this collection by sending them to my address provided at SERRC. Likewise, I will continue adding new quotations when they arrive as Fuller's work on 'intelligent design' continues.

This leaves the question of why it makes sense to display Steve Fuller's thoughts about evolutionism, creationism, ID, neo-Darwinism and related topics. Frankly, I think Fuller is the most perceptive and broad-ranging thinker today on these topics. His works cross a variety of fields, from history, philosophy and sociology of science, to social epistemology, science and technology studies and generally involve interdisciplinary methods and themes. And he is unashamed to take his message to the public through a variety of media channels. He is not prejudiced by the politics and religion dialogue in the U.S.A. (i.e. where the IDM originated), though he learned about these things through his education, teaching experiences and upbringing there. Now, living in the U.K., where religion is officially established and active in education by decree of the government (cf. Will & Kate's wedding in Westminster Abbey), Fuller's perspectives offer many insightful points that are not to be found in works by scholars, scientists and lobbyists in the U.S.A. Party-line new atheists would do well to heed the messages he brings in transition from 'secular humanist' to Abrahamic theistic defender of ID as a legitimate research program for study in science, philosophy and religion/worldview discourse.

After that brief introduction for context and preparation, I bow out now as appreciative collector and give space to Steve Fuller's voice on the topic of 'intelligent design.'

From: *Humanity 2.0: What it Means to be Human Past, Present and Future.*
Palgrave MacMillan, 2011.

"… [S]cientific creationism and intelligent design theory [are] versions of natural theology that refuse to accept the Neo-Darwinian orthodoxy in biology that would cast the difference between humans and other animals as merely a matter of degree, not kind." (4)

"… [I]ntelligent design theory taps into the vast majority of science that has been done under the assumption that nature is a unified rational whole; and humans have been specially created to understand, manage and possibly improve it, if not to bring it to outright completion." (15)

"Intelligent design theory, in its quest to achieve intellectual respectability as an opponent to Neo-Darwinism, has somewhat mimicked its opponent by adopting a conception of 'intelligent designer' just as open as that of the Neo-Darwinist conception of 'evolution'. I argue that neither strategy works well, either epistemologically or politically." (164)

"… [T]he theory's proponents have tried to treat the concept of 'intelligent design' very much as Neo-Darwinists have treated 'evolution', namely, as a 'big tent' for many different competing interpretations that do not necessarily add up to a coherent or compelling theory." (171)

"The failure of intelligent design theory to specify the intelligent designer constitutes both a rhetorical and an epistemological disadvantage … The epistemological disadvantage is subtler, namely, that intelligent design theory is unnecessarily forced to adopt an instrumentalist philosophy of science, whereby its theory is treated merely as a device for explaining particular phenomena (i.e. as products of intelligent design) without allowing inferences to the best explanation (i.e. the properties of the implied designer)." (171)

"I believe [it] is *necessary* [to] return to theology as the source of theoretical guidance on the nature of the intelligent designer (Fuller 2008a)." (171)

"In short, by studiously avoiding the appeal to theological arguments as part of their scientific explanations, intelligent design theorists only inhibit their own ability to meet the opposition of Neo-Darwinian apologists like Sober. Admittedly, making such appeals would mean not only re-opening old theological debates but also making them part of secular academic debate. A test of our collective intellectual maturity will lie in our ability to tolerate such a newly charged situation. But as it stands, intelligent design theory does itself no intellectual favours by keeping the identity of the intelligent designer as vague as Neo-Darwinians keep the identity of evolution, even if that practice appears justified as politically expedient." (173)

"Theology at its best: Intelligent design as heuristic for scientific discovery" (173)

"For nearly all creationists and many intelligent design supporters, the legally relevant question here is whether restricting publicly funded science instruction to the pronounced anti-humanism of Darwin's theory of biological evolution constitutes an encroachment of the state into matters that are constitutionally delegated to civil society. Thus, the legal mind behind intelligent design theory, Philip Johnson (1991), has accused the singular promotion of Darwinism in schools of fostering a naturalistic *religion*. And he is literally correct, as long as US courts insist on upholding the idea that science requires a belief that natural history is entirely the result of processes observable today under normal circumstances. This insistence ties 'naturalism' to what in the 19th century was called 'uniformitarianism' but which nowadays might be regarded as a species of 'inductivism'. It harks back to David Hume's rather muted defence of Newtonian mechanics as a mathematically elegant and useful summary of the solar system's regularities – but not a glimpse into the deep causal structure of the natural world – and hence not a basis for launching a design-based argument for God's existence." (176)

"…[M]y own interest in promoting intelligent design in schools, which is much more positive than Johnson's original worries about naturalism turning into an established religion. I actually believe that the deep theological roots of intelligent design theory provide a robust basis for perpetuating the radical spirit of inquiry that marks both philosophy and science at their best – not at their worst, as their collective response to intelligent design has put on public display (Fuller 2009b). As a true social constructivist (Fuller 2000b: Preface), I see myself as one of the constructors of intelligent design theory. I am not simply remarking from the sidelines about what others have done or are doing, as a historian or a journalist might. Rather I am making a front-line contribution to defining the theory's identity." (177)

"In terms of pedagogical implications, my support of intelligent design goes beyond merely requiring that students learn the history and philosophy of science alongside their normal studies. It involves reengineering the science curriculum so that its history and philosophy falls within its normal remit." (180)

"…[W]e should not be surprised if in the next few years Johnson's worst fears are vindicated by a major lawsuit brought against some science instructor whose overzealous naturalism leads him [or her] to deny divine causation in a public school district whose tax base is funded mainly by religious believers." (181)

"It is very unlikely that science would have taken the course it has – and [be] valued as much as it has been – were it not for the Abrahamic belief that humans were created in the image of God." (183)

"A careful reading of the various historical and contemporary theorists of intelligent design reveals a diversity of opinion about the identity – or even the identifiability – of the intelligence informing nature's design comparable to the diversity of processes endorsed by self-avowed 'evolutionists'. It is unfortunate, albeit understandable, that

these differences remain largely suppressed in the culture war with the Darwinists. However, I have been quite open about identifying the 'intelligence' of intelligent design with the mind of a version of the Abrahamic God into which the scientist aspires to enter by virtue of having been created *in imago dei*. This claim implies – in a way that has been very controversial in theology but crucial for the rise of modern science – that human and divine intelligence differ in degree not kind. In terms that medieval scholastics of the Franciscan order, notably John Duns Scotus, would have approved, a univocal sense of 'intelligent' is attributed to both God and humans, the only difference being that the former possesses infinitely more than the latter. Thus, to say that God 'intelligently designed' reality is to implicate the deity in a process in which humans, however very imperfectly, also engage. Without admitting this semantic point at the outset, the 'intelligence' behind intelligent design would be mysterious and useless to science." (187)

"… [A] unified science of intelligent design that divides into two main branches: divine artifice (aka biology) and human artifice (aka technology) – the former literally considered as a superior version of the latter, or the latter an inferior version of the former, or perhaps the two artifices co-produced in some way, all depending on one's theological starting point." (191)

"Other than whether to take biology's pervasive design talk literally, the most controversial question relating to design in nature concerns the 'units of design': Exactly what sort of thing is supposed to be, in the intelligent design jargon, so 'irreducibly' (Behe) or 'specifically' (Dembski) complex as to imply a designer? William Paley, the historic standard-bearer for intelligent design theory – largely because of the negative example he provided for Darwin – proves to have been a transitional figure in the history of design thinking. To be sure, Paley retained the ancient Aristotelian *typological* perspective, which presumes that every normal member of a recognised species is designed (or 'pre-adapted') for its environment. However, Paley supplemented this with a *populational* perspective, indebted to his fellow cleric Malthus, which justified differential rates of survival – especially amongst various nations and classes of *Homo sapiens* – as providing at least indirect lessons in the conduct of life. Thus, Chapter 26 of Paley's *Natural Theology*, entitled 'On the Goodness of the Deity', is devoted to a defence of Malthus' controversial (at least amongst Christians) for his call to end Poor Laws as a futile exercise in resistance to divine will. Darwin not only abandoned the typological in favour of the populational side of Paley's scheme, but he also divested the populational side of its link to theodicy, reflecting Darwin's unwillingness to credit a Creator who would allow so much wasted life. For Darwin, ever the Epicurean, suffering as such is evil, even were it to come from a deity whose ultimate sense of benevolence is brought about by such cruel means as mass extinction. (192-3)

"For better or worse, and perhaps surprising to all concerned, social engineering is a secular offspring of intelligent design theory." (195)

"…[W]hatever role God assigns to humanity in his cosmic plan, it must be, like the deity's plan itself, potentially subject to self-legislation. Bluntly put, to be accorded the respect to which we are entitled by virtue of having been created *in imago dei,* we must be able and allowed to choose to be part of the divine scheme, as if we had a hand in its design." (219)

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From: "Science in God's Image." *The Guardian*, 2010.
(http://www.guardian.co.uk/commentisfree/belief/2010/may/03/science-religion-intelligent-design)

"Intelligent design theory (ID), the latest version of scientific creationism to challenge the Darwinian orthodoxy in biology, is in the unenviable position of being damned as both bad science and bad theology. However, if those charges are true, then the basis of our belief in both science and God may be irrational. At the very least, ID suggests that belief in the two may be interdependent."

"The most basic formulation of ID is that biology is divine technology. In other words, God is no less – and possibly no more – than an infinitely better version of the ideal Homo sapiens, whose distinctive species calling card is art, science and technology. Thus, when ID supporters claim that a cell is as intelligently designed as a mousetrap, they mean it literally. The difference between God and us is simply that God is the one being in whom all of our virtues are concentrated perfectly, whereas for our own part those virtues are distributed imperfectly amongst many individuals."

"The Christian doctrine of providence, which was designed to instill perseverance in the face of adversity, is the model for this curious, and some would say, blind faith in science. Certainly such a view makes more sense if God is thought to reveal his handiwork in nature, as ID supporters presume, than if the deity is inscrutable or non-existent, as ID opponents normally do."

"[Darwin] began as an ID supporter but fell from the fold when he could not square the mass extinctions, monstrous events and design flaws so evident in nature with a super-smart, super-good, super-powerful deity that might serve as a beacon for human progress. As this awareness set in, Darwin gradually became more pessimistic about science's capacity to ameliorate the human condition."

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From: "*Science: The Art of Living*. Ten Questions for Steve Fuller." 21 September 2010.
(http://blogs.warwick.ac.uk/swfuller/entry/interview_on_my/)

"I also point out that much of the supposedly 'anti-scientific' sentiment of our times – ranging from New Age medicine to Intelligent Design Theory – really marks a

maturation of the scientific sensibility in society at large. This is captured by 'Protscience'. Instead of kowtowing to a science they don't understand, people are increasingly motivated to learn about science for themselves and draw their own conclusions about its relevance for their physical and spiritual lives."

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From: *Science: The Art of Living*. Acumen, 2010

"Even if intelligent design theory appears to enjoy less scientific support than neo-Darwinism, it is nevertheless more likely to promote faith in the scientific enterprise than neo-Darwinism itself." (3)

"The pursuit of science is more often defended for what it makes possible than for what it actually does." (5)

"In contrast to the fundamentally species- egalitarian position of Darwinism, science requires that reality be anthropocentric, although not necessarily *anthropomorphic.* In other words, the world must be constructed so that we may master it but not because we ourselves have constructed it." (16)

"… [T]he systematic erasure from both professional and lay memory of natural science's indebtedness to social thought has done the most to drive the wedge between modern science and its monotheistic origins… Lest the reader doubt the extent to which major natural science breakthroughs have been inspired by the social sciences, understood as disciplines that by example bear witness to God's intelligent design, simply consider how statistical thinking entered physics in a famous address given by James Clerk Maxwell at the annual meeting of the British Association for the Advancement of Science in 1873." (20, 21)

"…[T]he Abrahamic faiths cannot straightforwardly coexist with the atheistic naturalism behind Darwin's theory of evolution, which as a matter of principle limits its explanatory resources to what can be normally encountered in nature." (30)

"The key question is whether scientific progress has been advanced or retarded by the spread and elaboration of design talk. The answer that comes through loud and clear from normal scientific usage itself is that design language possesses heuristic value, in that the more it is used, the more science tends to advance." (39)

"… [T]he "natural selection" that neo- Darwinists claim to have been revealed in the lab is simply a mischaracterization of a very controlled form of artificial selection, in which the creative power of the experimenter is transferred to nature, almost in the manner of a ventriloquist, in order to satisfy a prior commitment to metaphysical naturalism, whereby success in the laboratory is presumed to be indicative of natural processes that would have occurred even without the experimenter's intervention." (42)

"While 'scientists' names a group people with increasingly specialized credentials, scientists themselves resist embracing all the implications of a scientific priesthood, leaning instead on the more "Protestant" idea of a "scientific method" whose observance is potentially within any sincere enquirer's reach." (46)

"That idea of "science as a vocation", as Max Weber called it with a nod to Luther, is essentially religious. The original model was monasticism, but it was updated in the nineteenth century when the word "scientist" was coined to describe someone with credentials in scientific subjects who was thereby authorized to provide deep, rational, unifying explanations of naturally and artificially produced phenomena." (55)

"Here the internet functions as the printing press did five hundred years ago: an information technology that provides vernacular conveyance of alternative models for applying canonical concepts, be they religious or scientific … Just as the Protestants sought to recover the original biblical spirit behind centuries of encrusted tradition and ritual, today's Protscientists wish to revive the empowering spirit of scientific enquiry from the institutions that shackle it." (62)

"…'[P]ublic understanding of science' is tantamount to the scientific establishment's Counter- Reformation, with Richard Dawkins behaving like an especially fiery Jesuit." (63)

"Would it [science] suffer even if we added intelligent design to neo-Darwinism as a permissible general explanatory theory? ... [V]ery probably not." (65)

"…[T]here is no reason to think that rejecting a grand explanatory theory nurtured by the scientific establishment, such as neo-Darwinism, entails rejecting any of the technical aspects of science that serve us so well." (66)

"By the end of the twenty-first century, the sociology of scientific authority will probably look very much like the sociology of religious authority today." (69)

"Whatever one ultimately makes of [Stephen C.] Meyer's argument, its reception shows that the public harbours enough scientific literacy to pick and mix from what the scientific establishment would rather have them accept or reject as a package deal. Welcome to the world of Protscience!"

"It is only when biologists feel collectively under threat that they take refuge under a specifically Darwinian rubric and rally around a purposeless sense of natural selection for their definition of evolution." (79)

Q: "What has atheism – old or new – ever done for science?" (Chapter title, 86)
A: "Atheism as a positive doctrine has done precious little for science." (110)

"…[B]elief in a very old earth is an outright conceptual requirement of Darwin's theory of evolution, which explains organic change by nothing more intelligent than random variation and natural selection. From a Darwinian standpoint, the older the earth the better, since it allows that much more time for undirected chance- based processes to work themselves out in nature." (89)

"On the one hand, Dawkins provides protective colouration for gunshy so-called *theistic evolutionists* who wish to admit the reality of design in nature without having to enter the public minefield of theorizing about whatever (divine) intelligence might be informing it. This is the spirit in which Cambridge's Professor of Evolutionary Palaeobiology, Simon Conway Morris, has expressed his grudging admiration for Dawkins. On the other hand, and perhaps more importantly, Dawkins provides licence for atheistic evolutionists to make glib assertions, in both popular and technical forums, about "suboptimal" features of organisms and their parts that purport to demonstrate the lack of intelligent design in nature. Such assertions presuppose that one already knows, or can imagine how a superior intelligence would design nature, so that by nature failing to bear the relevant signatures, it can be inferred that no such intelligence is to be found… the seriousness with which the public takes pronouncements about nature's suboptimality by theologically illiterate atheists is nothing short of amazing." (96)

"Whereas Newton, fuelled by confidence in the biblical account of humans as creatures *in imago dei*, concluded that his theory had mapped the divine plan, Darwin, starting out with similar confidence, was ultimately persuaded by the evidence that humans lacked any natural privilege, not least because there was no plan beyond the actual unfolding of natural history. Both worked on their grand projects for twenty years, the result of which reinforced the faith of one scientist and removed the faith of the other." (105)

"Whatever its concrete scientific benefits turn out to be, intelligent design theory has already succeeded in reasserting science's rootedness in theology's quest for a normatively unified sense of ourselves as enquirers and the reality into which we enquire. However, this quest for normative unity poses its own deep problems, ones that constitute a field that has periodically surfaced in this book: *theodicy* … theodicy was the original science of intelligent design, a comprehensive master discipline that hails from a time – the late seventeenth century – before theology, philosophy and science were neatly compartmentalized into discrete academic fields. The fundamental question posed back then was how could the divine creator, who is described in the Bible as omniscient, omnipotent and omnibenevolent, produce a world that is imperfect in so many respects." (113)

"In short, our free will, as the expression of our divine origins, could redeem creation in the end." (115)

"Thus, today's intelligent design theorists regard biological cells as *literally* high-tech information processing systems whose functionally integrated machinery and error-correction-and-repair systems outpace our current engineering know-how. Yet, many

theologians have bristled at such a specific characterization of God's *modus operandi* – versions of which can be found throughout the history of theodicy – because the more we think we understand the implicit logic of divine creation, the more that suffering and evil look like something that God had planned all along. This has potentially troubling consequences for the lessons we, again as creatures *in imago dei*, should draw for the conduct of our own lives." (116-7)

"*Natural Theology* [by William Paley], a book normally celebrated in intelligent design circles for its remarks about evidence for design in living organisms but ignored for its acceptance of poverty and shortness of life on a mass scale as equally providing evidence of the divine plan." (120)

"If humans are the crown of creation, as the Abrahamic faiths would lead us to believe, then the metaphysically levelling character of Darwin's theory of evolution needs to be actively resisted." (121)

"It was just this respect for the decision-making powers of the individual – accepting that they might make the wrong decision – that fuelled the Protestant Reformation's return to the Bible and the Enlightenment's championing of free expression. It is also in just this spirit that intelligent design theory wishes to recover science from its captivity in such authoritarian institutions as national academies of science that do not permit a free vote on epistemic matters among all certified scientists." (129)

"… [A]n overriding faith in scientific progress makes sense only because we imagine the history of science as a long collective quest to recover Adam's original closeness with God that was lost with the Fall, and which we, as Adam's heirs, dimly remember and in turn drives us to seek an understanding of reality that transcends the knowledge needed to maintain our sheer animal existence." (130)

"…[H]umanity's free will, the spontaneous creativity that entitles us to the status of creatures *in imago dei*." (131)

"…[E]ven when regarded in purely metaphysical terms, Darwinism offends. There is something profoundly irrational in hitching one's fate to a theory in which all that is meaningful is ultimately based on chance-based processes, the plausibility of which depend on an ever-expanding and aging universe." (146)

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From: "Do We Need God to Do Science?" Audio, with Thomas Dixon. Unbelievable Radio, 6 February 2010.

"From the standpoint of a pure scientific naturalism, there's no reason to privilege human beings."

"What exactly is special about human beings once you take a pure Darwinist line, which is a kind of species egalitarian line?"

The idea that human beings were/are created in the image of God, "enables scientists to trust their intellects."

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From: "Modes of Enchantment and Disenchantment in Science: A 21st Century Perspective." Audio, workshop in memory of Professor Mariano Artigas, organized by the Thomas More Institute and the Research Group on Science, Reason and Faith (CRYF) of the University of Navarra, 2009.
(http://www.youtube.com/watch?v=nArnOwBtLZo)

"It isn't so hard to imagine that God is a big engineer."

"The way the arguments get conducted on the intelligent design side is from an engineering perspective."

"The difference between God's creation and our creation is a difference in degree and not kind."

"We are more closely associated ontologically with God than with natural creatures."

"Cracking the genetic code was the real Newton moment in biology, not Darwin."

"The spirit in which you should enter into the discussion of intelligent design is that there is depth there. And it's not reducible to just a handful of people you hear about in the media."

"Intelligent design people are not anti-science, but they are anti-establishment."

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From: *Dissent over Descent: Intelligent Design's Challenge to Darwinism*, Icon Books, 2008.

"ID theorists tend to reinterpret existing science rather than do original research. Their short-term goal is to justify room for alternative explanations for the emergence and maintenance of life on Earth to that of modern evolutionary theory, or 'genetically modified Darwinism'." (1)

"ID's long-term goal is to reorganise the sciences so that biology and technology come to be treated as 'design sciences' in exactly the same sense, the former a science of God's

design and the latter of human design. According to the ID theorist, technology imitates and – where possible – improves upon and perhaps even completes biology." (1)

"The book before you begins by challenging the taken for-granted idea that there is a consensus of opinion in the scientific community." (4)

"… [A] single-minded dedication to science would not make sense without faith in the intelligibility of all nature." (50)

"Like other figures associated with the Scientific Revolution of the 17th century, Newton took literally the idea that the universe is a divine artefact; specifically, a great machine whose design we can reverse-engineer, and possibly improve and even perfect. This attitude continued to inform the scientists who migrated from physics to biology in the 20th century, first into genetics and then molecular biology, to such an extent that biotechnology forms the vanguard of today's life sciences." (51)

"For Darwin, 'natural selection' was, as we now put it, a 'science-stopper' that provided an absolute limit to our comprehension and control." (51)

"…[M]ost contemporary biological research is not beholden to Darwin's purposeless vision of life. The non-Darwinian history of modern biology, which goes from genetics to molecular biology to biotechnology, certainly vindicates the idea that nature has been designed with sufficient intelligence to be susceptible to purposeful human modification. This is a conclusion worthy of the title of 'science', something that Darwin once again claimed *not* to have practised." (53)

"Impolitic though it may be to admit, to view science as an endeavour whose value surpasses that of other secular activities makes sense only if there is an overall design to nature that we are especially well-equipped to fathom, even though most of it has little bearing on our day-to-day animal survival. Humanity's creation in the image and likeness of God, a doctrine foundational to the three great monotheistic religions – Judaism, Christianity and Islam – provides the clearest historical rationale for the rather specialised expenditure of effort associated with science. The much-vaunted 'creative' dimension of science that culminates in 'genius' comes close to acknowledging this divine spark." (76)

"Darwinian evolution's capacity for obscuring the nature of life is epitomised by Ayala's subtitle, 'Design without a Designer'. This mysterious phrase presupposes a curious dualism. Not only are there designed things with a clear designer, namely human artefacts, but there are also supposed to be designed things without any designer. The natural theologian William Paley coined the phrase 'design without a designer' in 1800 *as an oxymoron*. Whatever his other failings, when compared with today's evolutionists Paley had a remarkable sense of intellectual parsimony. He treated all designed things as what they literally are: *artefacts*. For Paley and all ID theorists after him, biology and technology are two species of the same genus, namely, 'design sciences', the former

concerned with divine and the latter with human design. Thus, Paley notoriously likened the idea of nature as divine artifice with a watch found on a heath." (118-9)

"Paley argued that 'there cannot be design without a designer' in the same sense that there cannot be 'order without choice.' By the end of the 19th century Newton's solution had come to be interpreted in thermodynamic terms, with the ordered state of the universe featuring as an improbable outcome of the laws of statistical mechanics. This suggested to ID theorists like James Clerk Maxwell and Ludwig Boltzmann that the universe was designed to be understood by creatures like us, an idea that is nowadays often called the 'anthropic principle'." (121)

"Indeed, were Darwin transported to our times, he would concede, in light of the largely laboratory-based work in genetics and molecular biology that has transpired since his death, that there *is* design in nature and that he had prematurely dismissed that prospect simply on the basis of the nature of life (and death) as he had observed it in field settings." (122)

"Darwinism played a crucial role in the spin given to Mendel's work; Darwinism enabled the Nazis (among others) to avoid taking personal responsibility for deciding who was fit to live and die by portraying eugenics as simply a matter of following nature's orders, a slight personification of natural selection. Thus, artificial selection became less the *intelligent design* than the *blind execution* of natural selection." (131)

"Perhaps Behe should not have taken Darwin's bait: 'If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down.'… An elementary course in the rhetoric of science would have taught Behe that all arguments from impossibility in science are doomed to failure: they always end up revealing the arguer's lack of imagination. Darwin's so-called challenge is best read as a rhetorical flourish, since you can't prove that something is impossible unless its existence would amount to a logical contradiction. In that sense, Darwin has already won his own be … Thus, whenever Behe claims that a cell, organ or organism could not have evolved bit by bit over a very long time, because its intermediate 'incomplete' versions would have lacked the adaptive capacity to survive another generation, his nemesis Kenneth Miller converts the claim's topic from natural history to experimental demonstration. In the process, Miller does not actually show what Behe says cannot be shown. Instead, he shows how today's scientists can simulate in the lab what modern evolutionary theory presumes to have happened in the past without the intervention of the scientists themselves – or, more to the point, God. In short, Miller provides an actual model of a possible history. The rhetorical import of Miller's response is to leave the impression that even if Behe is eventually proved correct in his claim that natural selection does not explain how the cell actually came to be as it is, in the short term he appears to be pre-emptively excluding a demonstrably possible account of the cell's emergence." (146 & 148-9)

"In the jargon of the philosophy of social sciences, Neo-Darwinism confuses *nomothetic* and *idiographic* inquiry, the study of recurrent tendencies and the study of unique events. The former is conducted in the lab, the latter in the field, yet evolutionists routinely elide methodologically significant differences between these rather different data-gathering sites – sometimes from one sentence to the next …We might regard this development as ID's revenge, since the idiographic method itself was originally justified by each human's possession of a unique consciousness, or 'soul'." (147 & 152)

"The social sciences enjoy an epistemological privilege in this discussion because they have most rigorously addressed the complex of issues implied here: how are we to relate together the findings reached by multiple methods that are meant to be applied to settings rather different from the ones in which the knowledge was first obtained? We might be interested in knowing about the remote past (e.g. the 'origin of species' in biology) or what is likely to work in the future (e.g. the prospects for eradicating a disease or preserving a species), but any knowledge we acquire, by whatever means, is in the so-called extended present … In this respect, regardless of their substantive views on the evolution–ID debate, social scientists can perform a valuable service simply in questioning the methodological assumptions made by evolutionists as they glide effortlessly between data gathered from radically different sources." (149 & 151)

"… [D]oes the experiment Miller cites really refute ID? To an ID theorist, all successful laboratory demonstrations of evolution attempt to simulate on a small scale God's own world-creating methods. These involve controlling certain conditions and allowing others to vary, both by acts of will. The extent to which the human simulations approximate to divine creation may be measured by their generalisability to situations outside the laboratory in so-called 'real life' or 'in vivo' settings. It is here that the gap in knowledge and power between the human and the divine is most keenly felt. But if the gap can be narrowed over time – in such a way that the artifices of the laboratory can be increasingly used to turn nature to human ends – then the ID theorist is justified in concluding that scientists are coming closer to grasping the divine creator's methods." (154)

"Dawkins, despite his self-avowed 'intellectually fulfilled atheism', has quite happily helped himself to design-based language, not least 'selfish gene' and 'blind watchmaker', to cite the titles of two of his books. In his hands, 'adaptation' is a secular synonym for 'design', and 'natural selection' a secular synonym for 'God'." (157)

"It was only once atomism and Epicureanism were embedded in a universalist cosmology subject to intelligent design that they contributed to the organised resistance against nature that has been characteristic of modern science. This cosmology derived from the biblical religions, in which the deity, in whose image humans are uniquely created, is presented as engaging in an ongoing but ultimately successful struggle against nature to realise his intentions." (182)

"In response to his great contemporary and rival René Descartes, Gassendi ventured that human psychology is not especially well-designed to receive the truth, given our

susceptibility to what most immediately attracts the senses. This is a version of the problem that had faced Tertullian in the early days of Christianity. However, Gassendi did not share Descartes' optimism that rational self-discipline informed by Christian principles would enable us to comprehend the divine plan. Instead he concluded that God designed us in such a way that his nature would remain forever elusive, rendering the palpable imperfections of the world-system largely inexplicable." (185)

"Since Darwin doubted that artificial selection could match the feats of natural selection, he resisted any hint that God might be an amplified version of a genius inventor who created the eye in the manner of the telescope." (187-8)

"…[T]he overriding influence of Paley's argument for God's existence, which left the impression that design-based arguments imply a complacent creator whose handiwork can be understood simply upon inspection and admired by a grateful but passive humanity. However, the strongest arguments for design have placed the free will of both God and humans at their centre." (191)

"Why is Intelligent Design Unlikely to Go Away?" (Chapter title, 194)

"An important strategic problem facing ID defenders is exactly what to make of the considerable, possibly even increasing, overlap between the language of design that they and their evolutionary opponents use. The existence of such overlap would seem to suggest that the two sides differ more at the level of overall research orientation – what Karl Popper called 'metaphysical research programmes' – than of testable scientific claims issued from the laboratory bench and recorded in peer-reviewed journal articles. This is reflected in the different phenomena with which both believe 'the facts of life' need to be rendered 'consilient', another word coined by Whewell, this time to describe Newton's feat of unifying findings from a variety of disciplines under a set of simple laws. Within a broad definition of the 'scientific community' (that is, knowledge workers whose expertise is drawn mainly from mathematics or the natural sciences), ID derives its greatest support from fields peripheral to Darwin's original concerns. These include the branches of biology closest to chemistry and physics, as well as engineering – including software engineering – and parts of medicine. In contrast, evolution's heartland is to be found among the historically field-based disciplines in which Darwin himself would feel most comfortable today: zoology, botany and palaeontology. Genetics is a battleground common to both. Yet, truth be told, the emergence of the Neo-Darwinian synthesis in the 20th century has largely amounted to the displacement of Darwin's own competences by people possessing much the same training and sensibility as those now inclined to support ID." (197-8)

"ID operates with an anthropomorphic, even literal, sense of intelligence that is indebted to the Abrahamic idea of humans as created *in imago dei*. In that sense, ID supporters remain true to the etymology of 'intelligence', which derives from the Latin for 'understand'. Something possesses 'intelligence' if it can be understood, which is to say

if *we* can understand it. The idea is ultimately sociological: something is intelligible only if it involves a meeting of minds." (199)

"Neo-Darwinism and ID face complementary challenges. Neo-Darwinism needs to justify the continued pursuit of science, given the diminished cosmic status that the theory accords to our species and the ecologically destabilizing consequences of the science that we have increasingly pursued. For its part, ID needs to adopt a consistently progressive stance towards the pursuit of science, as befits creatures designed *in imago dei* to master nature. If this dual challenge seems disorientating, that is only because, on the one hand, Neo-Darwinists continue to dine out on ID-based reasons for esteeming science as the signature project of human privilege, while on the other, ID theorists have yet to take the full measure of the literal force of our biblical entitlement, which requires embracing, however tentatively, science's Faustian dimension." (226)

"Much of the discontent generated by the prospect of creationism, or even ID, being introduced into science classes rests on two confusions that evolutionists tend to promote. The first is a failure to distinguish between attempts to remove evolution from the curriculum and attempts to add some form of creationism or ID. The spirits of the two proposals are rather different. Calls for the removal of evolution tend to object to the theory on more than strictly scientific grounds, appealing to the supposedly adverse political and moral consequences of, say, promoting the idea that humans are nothing but evolved animals. In contrast, calls for the inclusion of creationism, while often agreeing with the spirit of the former proposal, grant that evolution has significantly increased our understanding of natural phenomena, but hold that the Neo-Darwinian explanatory framework may not be adequate, and in any case would benefit from regularly having to confront historically relevant alternatives. Most so-called creationist movements in today's world, including the campaign for ID, fit into this category." (228)

"ID needs to revisit the intellectual schisms in biology that the Neo-Darwinian synthesis overcame in the middle third of the 20th century, versions of which still endure in the social sciences: qualitative vs. quantitative methods, field vs. lab research sites, macro vs. micro perspectives. To a large extent, the language of modern evolutionary theory papers over, rather than resolves, the divergent perspectives of these scientific cultures by portraying them as ultimately contributing to a common vision of reality that was first outlined in Darwin's *On the Origin of Species*." (229)

"On the religious side, ID needs to reassert the specificity of the Abrahamic God as the implied intelligent designer. Without this specificity (which still allows for considerable theological dispute), the concept of an intelligent designer becomes devoid of content, adding to the suspicion that ID is no more than 'not-evolution'. In this spirit, ID's critics have proffered a 'flying spaghetti monster' and an 'orbiting teapot' as alternatives to a more biblically inspired deity. In response, ID defenders should openly confront the relatively recent anti-religious judicial reading of the US Constitution's separation of Church and state, which now excludes even religiously motivated views from public science education: the issue should not be whether ID is primarily science or religion, but

whether it passes scientific muster as an openly religious viewpoint with scientific aspirations – a matter to be decided by actual educational practice." (231)

"… [T]he 'track record' of Neo-Darwinism is parasitic on prior creationist breakthroughs over which Neo-Darwinists now claim sole ownership, and which creationists have yet to claim back as their own." (233)

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From: *Science vs. Religion? Intelligent Design and the Problem of Evolution*. Polity Press, 2007.

"I believe that the version of creationism nowadays called 'intelligent design theory' (or IDT), which takes inspiration from the Bible but conducts its business in the currency of science, was responsible for the modern scientific world-view that evolution nowadays exemplifies so well. Even those who were led to reject IDT, not least Charles Darwin, began by assuming its vision of nature as a rational unity designed for human comprehension. In contrast, the general evolutionary perspective that Darwin ultimately championed has many cross-cultural precedents but these have tended to discourage systematic scientific inquiry, stressing instead the need to cope with our transient material condition in an ultimately pointless reality. I believe that to lose touch with the creationist backstory to modern science would be to undermine the strongest reason for pursuing science as a transgenerational universalistic project that aims to raise humans above the animals." (2)

"In short, contrary to what advocates on both sides of this dispute appear to believe, IDT provides a surer path to a 'progressive' attitude to science than modern evolutionary theory. Darwin's theory of evolution by natural selection managed to create such a furore in the West – but not in the East – because his careful organization of the scientific evidence appeared to imply that the pursuit of science itself is ultimately meaningless the diversity of life would seem to lack the cosmic design that had inspired previous generations of Christians, Jews, and Muslims to study nature systematically. In effect, Darwin undermined what had always been a fundamentally religious motivation for doing science: the ennoblement of humanity, and the species created in God's image." (2)

"Darwin's achievement has been largely rhetorical, as the theory of evolution by natural selection loosely constrains a vast range of biological disciplines, more in the spirit of a political party platform than a mathematical theory. I show that this looseness enables modern evolutionary theory to appear much more unified than the comparably arrayed disciplines in the social sciences, without having to encompass the social sciences into a kind of 'sociobiology'." (9)

"…[T]he main constituency for IDT among scientists, namely, those who think of themselves as doing on a smaller scale (or perhaps bringing to completion) work that the creator has done on a grand scale." (57)

"…[B]oth friends and foes of the theory are profoundly ignorant of the centrality of intelligent design to the rise of modern science. There is much more to IDT than simply the sum of unsolved problems faced by modern evolutionary theory." (162)

"…[A] biological science founded on intelligent design would radically reconfigure the disciplines. It would not simply be the flipside of the evolutionary paradigm." (163)

"Were Darwin transported to today's world, and educated in such largely design-based sciences as genetics and molecular biology that were developed after his death, would he continue to interpret the balance of the evidence as telling against intelligent design in nature? Evolutionists take for granted that the answer would be 'yes.' However, if you believe (as I do) that the advent of genetics and molecular biology in the first half of the 20th century, culminating in the discovery of DNA's double-helix structure in 1953, outweighs the significance of Darwin's own work, you would be forced to conclude that Darwin would reinterpret natural selection as a design-based mechanism, possibly propelled by a divine engineer who could even command Newton's respect." (164)

"It may be time to replace a diffuse appeal to natural selection which metaphorically shadows a divine presence with a humanly accountable sense of intelligent design, which implies that we take full responsibility for the planet – as if we were its creators." (164)

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From: "Debate on Evolution and Intelligent Design." Audio, with Lewis Wolpert. Royal Holloway College, London, 25 February 2007.
(http://www.pc.rhul.ac.uk/sites/debate/debate_audio.html)

"Darwin … would become a believer in intelligent design."

"Design without a designer is a science-stopper as far as I'm concerned."

Lewis Wolpert: "There is a designer isn't there?"
Steve Fuller: "Yes of course."
Lewis Wolpert: "Who do you think the designer is?"
Steve Fuller: "I think this [Designer] is a reference to God, of course it is."

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From: *The New Sociological Imagination*. Sage, 2006.

"Lurking behind this 'greening' of the political left is the most fundamental challenge facing the future of the social sciences: Are humans always the privileged members of society? The question arises once we consider that the Neo-Darwinian synthesis of Mendelian genetics and evolutionary biology does not privilege *Homo sapiens* above

other animals. Because animals share 90+% of their genes, species turn out to be convenient taxonomic schemes, not natural kinds. From a strictly Neo-Darwinian perspective, even commonsensical appeals to a 'human nature' that sharply distinguishes us from the 'brutes' is little more than a myth." (29)

"The karmic spirit runs deep in the Neo-Darwinian synthesis in evolutionary biology. It certainly helps to explain the knee-jerk Darwinian resistance to an idea that seems perfectly acceptable to most Americans, namely, that evolution itself may be a product of a divinely inspired 'intelligent design,' which humans are especially well-placed to fathom, complete, and/or master." (165-166)

"[Z]oocentric misanthropy" (187)

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Steve Fuller and Intelligent Design
Other Audio Resources:

'Humanity 2.0', LSE, 22 February 2012
http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/sfuller/fullers_index/audio/lse_-_22_feb_2012.wma

Cambridge Lecture on 'Dissent over Descent', 11 July 2009
http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/sfuller/fullers_index/audio/steve_fuller_lecture_with_intro.mp3

The Struggle for the Soul of Engineering (On God as the Divine Engineer behind Intelligent Design): Dublin Institute of Technology, 3 July 2009
http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/sfuller/fullers_index/audio/ws310026.wma

Plenary address to the British Sociological Association sociology of religion study group (Intelligent Design: What is it -- and why now?), Durham, 31 March 2009
http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/sfuller/fullers_index/audio/durham_bsa_religion_keynote_31_mar_09.wma

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