Intelligent Design as Social Epistemology: Collective Judgment Forum
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> "There is a sociological dimension to science and to the prospering [or failure] of scientific theories." – William Dembski (2002)

> "[N]ot every statement by a scientist is a scientific statement." – Michael Behe (2005)

To consider intelligent design (ID) as social epistemology (SE), we will look at those elements related to it that are social, or collective or group-oriented.

The 1993 meeting in Pajaro Dunes, California organised by Phillip Johnson with 14 participants set the stage for an "intelligent design movement" (IDM) of scientists, scholars, activists and PR-figures that oppose neo-Darwinian evolutionary theories and the ideology of naturalism. As Stephen C. Meyer writes: "At Pajaro Dunes, 'the movement' congealed." (2008, 229) Paul Nelson suggests that a "person is welcome to join the community [IDM]. The admission price is minimal: *one need only allow for the possibility of design*." (original emphasis, 2005)

Social epistemologists, following work done in Science and Technology Studies (STS), might ask the questions: Which science? Whose science? Which design? Whose design? To answer the first question, the IDM seeks to "detect design" that is supposedly present "in nature." On the second question, it is "design" as interpreted by scientists or non-scientists who are either religious or persons of theistic faith, i.e. those who proclaim divine meaning, purpose and plan in the universe, and in their lives.

As Steve Fuller writes: "In effect, to see life as the product of intelligent design is to conceive of biology as divine technology." (2011, 14) If one believes in any of the so-called "Abrahamic" faiths, suggests Fuller, one gains a "vision of nature as a rational unity designed for human comprehension." (2007, 2) Though spokespersons for the IDM do not always admit it, the involvement of religion, theology or worldview in dialogue with philosophy and science is thus unavoidably at the heart of ID. As Meyer, Director of the Discovery Institute's Centre for Science and Culture, states about ID, the theory has "obviously friendly implications for religious belief." (2008, 240)

It therefore makes sense that religious people are far more likely to accept ID than non-religious people because ID seems to agree (at least generally) with their already held belief in a "Creator" or "Designer". As Del Ratzsch writes, "the overwhelming bulk of ID

advocates take the designer in question to be God" prior faith in God thus marks the IDM with a "sociologically dominant peripheral belief." (2002) Though I am not aware of any studies done on the topic to verify the following claim, the rate of religious disbelief among ID proponents who are religious may be as low as or even lower than the rate of belief in God proportion of among evolutionary biologists who are either atheists or agnostics (4.7%, according to a Cornell University project reported on by Graffin and Provine, 2007). In terms of SE, this can be represented we can identify by familiar "underlying commitments" or "background beliefs" involved in adhering to either ID or evolutionary biology.

From a SE standpoint we can therefore say that certain people are more likely than others to accept or to reject ID, to study and promote evolutionary biology or to call themselves a "(neo-)Darwinist". If a person believes in the Abrahamic faiths or, more specifically, if a person attends an evangelical Christian church in the United States they are more likely than others to support ID. Websites, networks, think tanks, forums and student clubs dedicated to ID at universities in the United States display the evangelical sociality and post-neo-creationist support base of the IDM.

Prominent ID proponent William Dembski asked in 2003, seeking to "exit the ghetto" in academia: "is it [ID] increasingly confined to American evangelicalism?" The IDM's leadership has insisted upon ID-as-science, thus denying that it is predominantly about philosophy, religion or theology. Yet a view of ID as SE enables open and honest verification of ID's religious propensities, without necessarily compromising its aspirations in various fields of natural and/or applied sciences.

As Fuller contends, "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" (original emphasis, 2008, 231). "On the religious side," says Fuller, "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'" (2008, 231). Here is an example of counsel on science and religion dialogue being offered from one of the founders of contemporary ID theory to the IDM, which has a particular approach to science and the educational system based on legal precedents in the United States.

Instead of taking an unambiguous position that promotes science, philosophy and religion together, the IDM has created a so-called "big tent" strategy (Nelson 2005), which supposedly allows people of all religions or none to embrace it as long as they are willing to focusing on "design" as a legitimate "scientific" concept. Yet the Discovery Institute, the IDM's main think tank, advocacy and PR hub, accepts money from openly right-wing political-religious proponents in the USA and continues to cater predominantly to evangelical Christians. Meanwhile, the Templeton Foundation has withdrawn its support for ID due to the IDM's political and educational "revolutionary" crusades, indicating

that the politics of ID does have an impact on the movement's ability to engage in legitimate scientific work and to raise funding.

According to the IDM, "information" and "design" inescapably imply mind/Mind. SE then asks: Which mind and whose mind? William Dembski calls human beings "mundane designers", in contrast with "transcendental designers". However, the IDM's Discovery Institute's lack deficiency in scholars from the human-social sciences demonstrates a gap in their approach, as if what people believe doesn't really have any impact on how they "do science". In other words, the minds and hearts of scientists themselves are not considered part of ID theory as it is currently formulated, whereas ID as SE brings the thought processes and beliefs of scientists who may or may not posit ID to the forefront to interpret ID's human-social meaning.

As Fuller cautions: "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" (2011, 187). A recurring strategy of the IDM has thus been to feign coy about which "intelligent agent(s)" are said to have "designed" biological information (as well as when, where and how this is said to have happened). Yet what this easily shows to social epistemologists is why the IDM uses the "uniform experience" of intelligent human agency to analogically imply a deity and/or divine meaning of human existence. That is, because human beings design, have minds and (many) believe in the divine, we must have been designed by a divine Mind at some point or via some historical process, whether natural science can prove it or not.

Stephen C. Meyer calls ID a "historical science" (cf. geology, palaeontology, archaeology) and then promotes an inference to the best of "competing explanations" for the "origins of biological information" based on analogy with human intelligence. He repeatedly cites human-made artefacts and social actions as examples that produce his particular religion-friendly philosophical meaning of "information". But Meyer rarely makes appeal to God in his "professional" writings, thus keeping "science" and "religion" seemingly in separate spheres. Should we believe that Meyer's opposition to materialistic, naturalistic and scientistic ideologies and his personal embrace of a spirituality reality in human existence have nothing whatsoever to do with why he proposes ID in the first place, especially given its obvious extra-scientific implications? If we take a SE approach to ID, no, we need not believe that or divorce science, philosophy and religion from each other unnaturally. We can then fairly conclude that Meyer's faith-based worldview does indeed impact his acceptance and promotion of ID in the first place and then put that "agent-based" knowledge on the table for discourse that inevitably cannot be entirely "objectivistic".

One might recall W.I. and D.S. Thomas' dictum: "It is not important whether or not the interpretation is correct — if people define situations as real, they are real in their consequences." For the IDM, it is not so crucial if "design" is correct, but that people interpret their lives as if the universe and human existence is "designed", "fateful" or

governed by "Providence". This apologetic "design argument" historically pre-exists the IDM, while co-existing with it for today's religious IDers. People in the ID community thus emphasize the role of purpose and a divine plan against the "unguided" or "accidental" notions present in many if not most versions of neo-Darwinian evolutionism, as biology or worldview, which suggest no "meaningful" life for humanity beyond a small window on Earth itself.

To get at the heart of ID as SE, we can admit that everybody believes in "design" is linked with "intelligence" in one way or another simply because they are reflexively intelligent persons who have "reflexive" contact with the world and other people. If human beings could somehow stop being reflexive or acting reflexively, they would stop seeing "design" in the world; they would not detect or perceive "intelligence" and "purpose" in human-made things. But since we cannot easily "turn off" our human reflexive human capacities, we inevitably see design and purpose, if not always or even easily "in nature" then at least often and everywhere "in human society". As Fuller notes, ID is thus more appropriately seen to means that "nature is God's machine, which we can understand by virtue of our own ability to make machines" (2011, 170). In other words, ID demonstrates reflexive instead of positive knowledge, which is inevitably based on our (un)common human experience of making machines and other artefacts.

What Fuller is thus calling for is "a humanly accountable sense of intelligent design, which implies that we take full responsibility for the planet — as if we were its creators" (2007, 164). This alternative meaning of ID posits human beings in the role of designers and co-creators on Earth in contrast to un-embodied or external-to-Earth designers (cf. Thomas' E.T. ID below). Such an approach makes sense for ID as SE, then I do not know what is and shifts the focus from what IDM-ID has thus far explored to a more fruitfully "anthropic" (Fuller 2006) contribution capable of (re-)integrating scientific, philosophical and religious perspectives with a new sociological imagination.

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The Search for Extra-Terrestrial Intelligent Design?
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His own protestations to the contrary, I think Richard Dawkins gave the game to the intelligent design movement (IDM) in Ben Stein's film *Expelled* (2008) when he considered even the possibility of an extra-terrestrial designer. Dawkins is, of course, entirely right that this does not explain everything, since the "life" and "intelligence" *of the designer* would now also need to be explained. But so long as it is possible that we (human beings) are the product of an ancient alien adventure of interplanetary "seeding", and that our genetic code might contain some evidence of this pedigree, perhaps even some kind of actual "signature", he has acknowledged the scientific foundations of the IDM. It's still a highly speculative venture, to be sure, but there is nothing in principle "unscientific" about it. Life "itself" may not be the result of design, but our lives may nonetheless be.

The question that Gregory has put to us, or at least the question I have chosen to answer, is whether the "theory" of intelligent design is a proper object of study by social epistemologists. In general, I'd argue, that certain things must be true of intelligent design (ID) in order for it to become a proper object of social epistemology: first, it must be an example of human knowledge, not mere folklore, mythology, or even ideology. The latter are the proper objects of other disciplines. Second, it must be situated in an interesting social context, and one that conditions whether or not we know any particular (historical) fact. As social epistemologists, that is, we must approach our truths as more or less socially convenient.

My own approach is to compare cases. Dawkins provides us with a very obvious one. Many so-called "skeptics," like Carl Sagan and James Randi, are as staunch supporters of the search for extra-terrestrial intelligence (SETI) as they are opponents of ID. But are these two projects really so different? SETI, i.e., the use of radio astronomy to discover signs of possible alien civilizations, was originally presented as a scientific alternative to UFO-ology. It was highly unlikely that "advanced civilizations" would venture across space in "ships", since the physical laws of the universe seemed to make this an inexorably slow process. It would be much more likely that they would send radio signals at the speed of light, in an attempt to find similarly clever life forms out there. That argument was enough to ground a research programme in the mid-1960s.

ID, it seems to me, just allows us to imagine an even cleverer (or perhaps just more imaginative) solution to the problem of crossing physical space. If it is really going to take thousands, perhaps millions, of years to reach a planet suitable for "colonization", then why not let it take millions of years to colonize it? Why not colonize it, that is, at the molecular level? Simply install some genetic material in the primordial soup with a mildly teleological bent towards becoming vaguely "human", with all the flora and fauna of a vaguely human environment, and then give the process the time it needs. I say "vaguely" human because the cleverness in this approach lies in accepting whatever forms of life are possible as adaptations to the initial conditions that are available in the "soup". Indeed, by starting from "the beginning", the question of what counts as a "suitable" planet (such as our Earth) can be answered much more broadly, as the specific attributes of the colonizing life form become "adaptations" to the local environment, which, of course, changes too.

But since social epistemology as I understand it must be sensitive, not just to the relative intelligibility of a purported knowledge claim, but also to its relative social convenience, we can't leave things here. So how does SETI compare to the IDM? Well, both are reliant on private funding to enable viable research programs. But while SETI has an effective and largely uncontroversial outreach program to all levels of school education, ID is just as regularly opposed, especially when it comes to the level of (public school) curriculum.

Both SETI and the IDM claim to have a hopeful and inspiring message to students. And surely a major discovery by either would be equally epochal. A credible signal from

another planet would once again alter our view of our place in the universe (a "Copernican revolution" with epistemological significance), but so too would a designer's signature in our genetic code. Nonetheless, one program is accepted by mainstream scientists as perfectly plausible and a legitimate exemplar of the sort of research a career in science might involve, while the other is considered "out there," i.e. outside of permissible epistemological boundaries of what qualifies as "science." One program is promoted to "get young people interested in science" the other is denounced as a corrupter of those same young minds.

As an individual, I'm in fact skeptical of both projects. It is not that I don't think there might be alien civilizations or that we might have been intelligently designed. It's that I think we exaggerate our ability to know such things. After all, we might make as interesting conversation partners for aliens as ants or trees make for us. Likewise, we might be as much a part of the goal (*telos*) of our genetic design that as the ants and trees that exist in our environment. In fact, it is not at all clear that our designers would be "alive" in a sense we would recognize as human beings. Suppose your electric toaster began to develop notions about whether or not it had been "designed". In truth, it was designed by a person or persons. But a toaster can learn very little about the designer by studying itself.

What I find interesting as a social epistemologist, however, and at the same time intermittently distressing about this subject, is the rancor and pettiness of the participants in their conversations and relations. Surely, I think to myself, these are just interesting questions. An alien designer is "an intriguing possibility," as Dawkins rightly admitted. So, too, is the possibility that somewhere, out there, a civilization might be trying to reach out to us with radio waves. As with all great questions, I'm not likely to learn the answer in my lifetime. But I think the conversation we might have about these things is important more or less for its own sake, for the falsehoods it would articulate as much as for the truth it would help us to discover. That conversation could be vastly improved over the next decade, such that the bounds of scientific permissibility may include proponents of ID, just as SETI has come to be accepted as a serious research program. And social epistemology clearly has a role to play in that development.

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Intelligent Design and New Atheism
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> "Professor Behe and the entire ID movement are doing nothing to advance scientific or medical knowledge and are telling future generations of scientists, don't bother." — Eric Rothschield (2005)

This comment made by Eric Rothschield in response to Professor Behe's testimony in the Dover "intelligent design" trial sums up the typical attitude of what has been called "New

Atheism" regarding whether or not Intelligent Design makes a valuable contribution to the production of knowledge.

In *The God Delusion*, Richard Dawkins contrasts intelligent design theory with science, suggesting that they are opposites. He argues that: "science seeks out areas of ignorance to target research, ID does it to claim victory by default" (2006, 153). This seems to be one of the most common arguments against ID being a form of science; namely that rather than to investigate phenomenon, ID proponents just give up and say God did it. ID therefore uses gaps in knowledge as a way of winning by "default".

For Dawkins, rather than being a form of social epistemology, ID is actually a club of creationists masquerading "in the politically expedient fancy dress of "intelligent design" (or cf. "creationism in a cheap tuxedo"). Through reducing ID theorists to creationists dressed up, Dawkins continually attempts to undermine the position of ID as an intellectual project. For Dawkins it is clear that one cannot be an atheist or a real scientist if they entertain the plausibility of ID. It certainly would seem, therefore that new atheists would be more likely to oppose ID than other groups. New Atheism presents ID as worse than pseudo-science; it is religion trying to pass itself off as science in order to be acceptable.

This is part of a larger dichotomy which New Atheism deliberately constructs; that of religion versus science. Science is cast as progressive, forward thinking and logical whereas religion and especially faith is portrayed as infantile, archaic and opposed to logic. Here we can see the reiteration of the warfare thesis. It is interesting that the New Atheist movement argues for a "natural" separation between faith and science, casting the two as opposites, given the history of science as a discipline. In fact, faith has traditionally played an important role in the process of doing science, often providing the motivation to keep trying even when results are not returned straight away (see for example, Fuller 2010).

Whilst New Atheism portrays ID as opposed to science, the scientists of the scientific revolution took a very different stance. There was no question of the merits of ID as a theory, rather most scientists assumed the existence of an intelligent designer and saw their role as scientists to be that of exploring the universe that had been created, determining natural laws and investigating the gaps in their knowledge. Here, we do not see ID theory as antithetical to science;, instead it is supplementary and provides the motivation and reasoning behind doing science. Furthermore, "gaps" in knowledge are not seen as a way to lazily default to Intelligent Design theory, rather the same inquisitive approach that Dawkins assigns to modern day science (and which he claims ID theory lacks) is evoked.

It is clear from reading *The God Delusion* that Dawkins would lump together ID theory with creationism and all the dangers and lack of intellectual thought that this school of thought is associated with. For Dawkins there is no spectrum of religious belief, it is not possible that one simply accepts the possibility of an intelligent designer and remains

ambiguous to religion. If the plausibility of ID is entertained, the person is automatically written off as part of the religious camp, and ergo not worth listening to, nor are they capable of contributing anything of value to the body of scientific knowledge.

As Steve Fuller remarks, and as Gregory mentions above, the debate concerning ID should not be reduced to whether or not it is a science. However, this does seem to be the main criticism that is leveled against ID theory by its opponents, especially those who pitch themselves against religion such as the New Atheists. Although this is not the most useful way of framing the debate it needs to be responded to, if only to demonstrate that the New Atheists are guilty of the same "crime" that they accuse ID theorists of — that of resorting to a lazy default. For, rather than listening to and engage with ID theory's arguments they simply write them off as part of a deluded belief system, or in other words — rather than engage with theories that challenge you, just give up and proclaim your opponents belong to the "creationist camp" and that cannot and should not be tolerated.

Admittedly, many books supporting the theory of ID are written by Christian apologists (such as John Lennox) who argue for ID based on the theory of creation found in Christianity. This feature of ID apologetics does not help to dispel the notion that ID is an idea that is found solely in the creationist camp. However, rather than to dismissing the arguments of ID *a priori*, atheists should respond to them intelligently and consider ID as a scientific hypothesis to be explored (albeit one that is very difficult to test). This approach can be seen in Victor Stenger's *The Fallacy of Fine-Tuning*, a book that seeks to dispute ID theory but does this by engaging with it on a scientific level. In sum, whilst New Atheism certainly seems to have positioned itself as directly opposed to ID theorists in the same way that it is opposed to religion, the disputes would be more convincing and potentially productive if they engaged with ID in an intellectual and scientific manner.

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Bayes, Paradigms, and Intelligent Design
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One's interpretation of a particular piece of evidence is dependent on his or her prior beliefs about other things. This is legitimate: If I hear a sound in the kitchen while home alone, it is less reasonable to attribute it to a cat if I know I don't own any pets! The projects of logic and science — the *Organum* and *Novum Organum* — aimed to give us the tools we need to mechanically break controversial topics down into manageable sub-problems and experiments, the interpretation of which can be agreed upon, solving the controversy. The message of contemporary philosophy of science, however, is that scientific interpretation is greater than the sum of its parts: to engage an opponent's interpretation of one case may entail a clash of whole worldviews.

The more priors involved, the more difficult it is to justify one's position to an opponent. Whether there is a cat in the kitchen is relatively simple, but whether a particular political

policy is to be preferred draws heavily upon myriad beliefs regarding economics, human nature, ethics, and the opposition's motivation. Many of these prior beliefs may be difficult to substantiate in turn, or may have been uncritically inherited from one's peculiar cultural milieu. The interdependent nature of one's inferential matrix can make communicating about our disagreements very difficult. In this provocation, I propose that the Bayesian model of inference can be used to intuitively sketch complex differences of opinion that would normally be very difficult to communicate about. More importantly, this method suggests that two individuals can disagree on a particular scientific question, and still be epistemic peers — that is, of equal intellectual capacity and perspicuity.

Consider the case of the Intelligent Design (ID) controversy. Call *IC* the observation of apparent irreducible complexity in a biological system (on any level, molecular or macroscopic). Then we can attempt to divide the problem into manageable pieces by a single expansion of Bayes' theorem:

$$P(Design \mid IC) = \frac{P(IC \mid Design)P(Design)}{P(IC \mid Design)P(Design) + P(IC \mid \neg Design)P(\neg Design)}$$

I invite the reader to ponder the implications of this equation: What beliefs, experiences, or social considerations contribute to the priors on the right hand side? A cursory breakdown is as follows:

> 1. *P(Design)* is heavily affected by the subject's pre-existing beliefs about candidates for the designer. For most subjects, *P(Design|God)* >> *P(Design|¬God)*.

> 2. *P(IC| ¬Design)* represents the probability that a seemingly irreducibly complex system would emerge via natural processes. This assessment depends on one's understanding of the *limits* of evolution's capacity for generating complexity.

> 3. *P(IC|Design)* is a query into what kind of choices a designer would make. While this can only be speculation, it seems safe to assume the probability of irreducibly complex designs is fairly high.

Proponents of ID claim that the value assigned to (2) should be so low as to render the design hypothesis scientifically plausible for any reasonably open-minded religious prior (1). Most biologists disagree. At this juncture, communication generally breaks down.

Is it plausible that natural selection could produce a given irreducibly complex system *X*? Current science cannot pinpoint the limits of evolution's creativity very precisely, and so a complex set of priors comes into play: since natural evolution is deemed to be on solid ground from other evidence (biogeography, genomics, paleontology, etc), scientists find it reasonable to conclude that it can explain everything we have seen so far. As I argue

(2011), if there are systems in biology that are beyond the capabilities of natural forces, present science is too immature to discern them.

This train of thought is only accessible, however, to those who have confidence in common descent. Many members of the general population don't believe the fit between the data and common descent is all that strong. Further discussions, then, will be required with these individuals to hash out yet another level of priors: Do genomic data really fit a tree structure that well? Are the mutation rate assumptions used in the algorithms reasonable? Do they depend on how much of so-called "junk" DNA is functional? Is "common design" just as plausible? Few of these questions can be addressed in isolation, but instead our confidence in one area is affected by our confidence in another.

Examples of cross-paradigm dialogue that have been patient enough to wade effectively through the vast network of beliefs that constitutes a paradigm are few and far apart. Actually comparing two paradigms completely can be very difficult. Kuhn thus argued that the logic of an opposing paradigm "cannot be made logically or even probabilistically compelling for those who refuse to step into the circle" (1996, 94).

If we are indeed to treat paradigms as holistic, then we must resist the urge to dismiss as incompetent those who disagree with our answer to a particular question, such as design inference. This author happens to believe that the question of evolution is firmly settled — but the process of convincing someone of opposite persuasion that evolution accounts for the complexity in nature must needs be an involved one, and can only be inhibited by a belief in one's own superiority. Dissuading an opponent on one node of their paradigm (which we might visualize vaguely as a vast Bayesian network) may require a rejiggering of their priors in many areas, many of which are fixed by cultural considerations. A highly rational person who is as informed as any expert in evolutionary biology may find, for instance, that his or her theological commitments, adopted in part from a religious community, make the inference of design quite plausible indeed, even without discounting the strength of fit between Darwin's theory and the other data. We need not allow faith considerations into the canon of science to cede that these persons often behave quite rationally.

Bayesianism is notoriously controversial, and some ID proponents explicitly reject it in preference of a less subjective inferential framework (Dembski, 2004, chapter 33). I do not claim that Bayesianism is epistemological gospel — I only propose that it can and should, on a qualitative level, bring a new importance to the proverb: *Before you condemn your opponent, you must understand him*. Specifically, in many cases we should not expect one of our opponents — much less all of them — to cede to our interpretation on a matter such as design if we are not prepared to invest in dialoguing about all of the prior beliefs and cultural influences that inform such an interpretation. As Ratzsch puts it, in debates such as these "the harder the lines are drawn, the less actual communication there is and, indeed, the less importance actual communication seems to have" (1996, 9). Such cycles of war make it very difficult to respect alternative points of view, even when

such respect is more than merited. It is little wonder, then, that progress is seldom made in such charged areas.

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