

PE1530/C

Professor Paul Braterman Letter of 23 October 2014

Personal response to the Centre for Intelligent Design (C4ID) submission regarding PE01530

I will be as brief as possible. C4ID have forced the issue of whether the current biological theory of evolution is reliable science, and this must now be addressed.

They also mislead, and I would not wish the Committee to remain misled, on many secondary topics.

There is no ambiguity. The present-day science of evolution, as the term is used in the petition, rules out separate creation of kinds, and therefore clearly includes what C4ID describe (1.7) as “macro-evolution”). It follows that

EITHER C4ID are correct, macro-evolution is, in their words, “unobserved and speculative”, and separate creation of kinds (the only other option) is a viable alternative, regarding which the petition attempts to suppress discussion. More specifically, C4ID asserts (3.2) that “The evidence for adaptation is largely uncontroversial; however, the evidence for common descent and the development of complex life forms from simple ones is much more sparse and ambiguous”. **If the Committee agrees with this position, it should indeed reject our petition and state this as their reason.**ⁱ

OR the evidence for macroevolution is overwhelming and pervasive, C4ID are seeking a licence to impart disinformation and obfuscation to children under the guise of promoting debate, and **those children need the protection that we seek for them.**

This is a difference that cannot be split. The rest, which I deal with later, is peripheral distraction.

The evidence in favour of macroevolution (catalogue at <http://www.talkorigins.org/faqs/comdesc/>; books placed in evidence; TV documentaries including Open University, David Attenborough, Alice Roberts, Brian Cox) has grown steadily since the idea was first proposed and is now overwhelming. It includes a fossil record that bridges all the major transitions among animals since at least the Cambrian, with for example 20 distinct pre-human hominin species, 10 whole families of extinct species intermediate between whales and the terrestrial artiodactyl (related to the cow and the hippopotamus) from which they are descended [<http://link.springer.com/article/10.1007/s12052-009-0135-2/fulltext.html>], well-characterised transitions between reptiles and mammals, and between (non-avian) dinosaurs and birds, and the evolution of feathers from a heat-retaining fuzz to their present complexity. To this we can add the most long-established evidence for evolution (family relationships among living things, as shown by characteristic details of anatomy), and the most recent (that derived in the past 30 years or so from molecular phylogeny).

The objections that C4ID raise to the theory of evolution (now a theory only in the sense that atomic theory is a theory) have been refuted many times, some, spectacularly, in famous US courtroom cases such as *Edwards v Aguillard* and *Kitzmiller v Dover*. A lengthy catalogue of these and similar objections, with references back to the scientific literature, can be found at: <http://www.talkorigins.org/indexcc/list.html>.

The claim that macroevolution is “unobserved” is misleading rhetoric. It is true only if we confine ourselves to recorded eyewitness observation, when it is trivially bound to be true by virtue of its timescale. It is therefore irrelevant to its validity. In this sense, the Ice Ages are “unobserved”.

Turning now to other matters, which are, in comparison, secondary.

The petition itself does not request action regarding Intelligent Design, except to the extent that it implies creationism, an implication that C4ID itself (1.2) strongly rejects. For more on Intelligent Design, see footnote.ⁱⁱ All this, however, is peripheral to our actual petition.

The claim (1.3) that evolution science presupposes naturalism originates with Dr Noble’s philosophical mentor, Phillip Johnson (*Defeating Darwinism by Opening Minds*). As I point out in my one and only contribution to the professional level Philosophy of Science literature (<http://scientiasalon.wordpress.com/2014/07/14/the-natural-the-supernatural-and-the-nature-of-science/>) this is precisely back to front. Science has involved in its methods by experience, vastly extending the concept of “natural” in the process (from Newton’s introduction of action at a distance to today’s quantum entanglement). Nothing in the petition rules out any kind of evidence-based explanation; on the contrary, it is C4ID that asks us to accept limitations, by asserting in advance that some phenomena are not capable of natural explanation.

1.5 is pure misrepresentation. We do not discuss the general problem of origins (of life, the universe, or consciousness), referring only to “the history, diversity, and complexity of life on earth”. The origin of life is an unsolved problem, but since it chronologically precedes biological evolution, it lies outside the scope of our petition.

1.7 is crucial, and addressed above at the outset.

1.8 is irrelevant to our actual petition, but too involuted and divorced from reality to be dealt with briefly. I discuss it, for completeness, in a Footnote.ⁱⁱⁱ

1.9 accuses us of stifling debate. On the contrary, we explicitly welcome debate. What we do not welcome is the propagation of proven falsehoods.

2.0; the petition does not mention religion, nor does it claim that all things had been explained. The topic of information is discussed in Footnote ii, in relation to the status of Intelligent Design.

3.1 is uncontroversial. 3.2 repeats the critical error of 1.7, discussed at the outset.

3.3 misrepresents the Altenburg meeting, confuses criticism (Altenburg meeting, Fodor, Gould, Margulis) of naive Darwinian adaptationism with rejection of common descent, and suppresses the facts that Denton in his more mature work (*Nature's Destiny*, 1998) accepts the fact of common descent, as does Behe. Likewise, revision of the "tree of life" concept stems from the importance of horizontal gene transfer, and this increases, rather than reducing, the degree of interrelatedness of all life, which C4ID wish to call into question. 3.3 also repeats a journalistic misunderstanding of the ENCODE project.

3.3 goes on to state "The growing body of doubt about Darwin cannot be ignored and should be part of progressive science education. Only ideologues dismiss it." This sentence distorts the ongoing refinements of Darwin's original ideas (after all, he died over 130 years ago) into alleged rejection of his basic concepts. The opposite is the case. Although C4ID refers endlessly to Darwin (15 times in its submission), present-day biology is decidedly post-Darwinian, but this is tribute, not criticism. We know, as he did not, of mutation, population genetics, DNA, gene duplication, control genes, horizontal gene transfer, endosymbiosis, epigenesis, and random drift, but all of this enriches, rather than undermining, his initial contributions.

4.0 etc. attack a straw man; see 1.3 above.

5.0 also attacks a straw man. We do not mention Biblical literalism, but merely point out that the denial of "macro-evolution" logically entails separate creation. Nor do we in the petition itself ask for any restriction on discussion of Intelligent Design, except to the extent that it is linked to separate creation, although the guidance in England, which we quote, does include such a restriction. See also Footnote ii and the above comment on 1.2.

6.0 also attacks a straw man. We do not seek to restrict evidence-based discussion, but our targets, separate creation and a Young Earth, are contrary to the evidence.

7.0 is either meaningless, or a demand that biology classes also double as RMPE classes. (If only we had the time and resources!)

Disclosure: My own doctoral subject, like that of Dr Noble, was within Inorganic Chemistry. However, I have since worked on topics related to evolution, the origin of life, and conditions on the early Earth, and my research in this area has been funded by the UK National Research Council, the US National Science Foundation, and NASA (to whom I also acted as consultant), and published in frontline scientific journals including Nature.

ⁱ Of course, one might claim that the evidence for common descent etc. really is more sparse than that the adaptation, on the trivial grounds that much or all of the evidence for common descent is also evidence for adaptation, but I trust that C4ID means sparse enough to engender legitimate doubt.

ⁱⁱ By Intelligent Design, we mean the oft-refuted claim, repeated here by C4ID (1.7), that natural processes cannot generate the kind of new information required for evolution; for refutation see e.g. <http://www.talkorigins.org/indexcc/CB/CB102.html>, which cites from among the numerous examples of new information increased genetic variety in a population (Lenski 1995; Lenski et al. 1991), increased genetic material (Alves et al. 2001; Brown et al. 1998; Hughes and Friedman 2003; Lynch and Conery 2000; Ohta 2003), novel genetic material (Knox et al. 1996; Park et al. 1996), novel genetically-regulated abilities (Priambada et al. 1995), and many more.

For what it's worth, Intelligent Design was ruled to be a form of religiously motivated creationism by Judge John E. Jones in *Kitzmiller v Dover Area School District*. It has virtually no support within the scientific community, not least because attempts to apply it (e.g. Behe, *Quarterly Reviews of Biology*, December 2010) fail on their own terms, because its philosophical foundation is bankrupt (see the analysis by Boudry et al., cruelly included in that same number of *Quarterly Reviews of Biology*), and because it still leaves all the work to be done since design is nothing without fabrication.

iii 1.8 reads "Ironically, Intelligent Design is the position which gave rise to modern science in the first place because it gave a basis for the conviction that rational and systematic investigation of nature is a reliable and productive pursuit. The Neo-Darwinian position that life and the universe, including conscious thought, are the result of blind and purposeless processes gives no reason to believe that our investigations and conclusions have any validity or truth. Students should be aware of this."

The first sentence here confuses belief in overall design, a legitimate philosophical position, with the belief that organisms are perfectly designed living machines, an idea that did not arise until a century after Newton. The second sentence refers to the claim by the philosopher Alvin Plantinga that undirected evolution could as readily have led to mistaken as to correct ideas about the world. Thus (Plantinga's example!) it could as easily have given rise to the mistaken beliefs that it is delightful to be caught by a tiger, and that the most effective way to be caught is to run away from it, as it could to the correct beliefs that it is horrible to caught and we should flee. Thus, Plantinga argues, if our minds are trustworthy they must be the result of supernatural intervention. Few people share Plantinga's view, but Dr Noble seems determined to squeeze in any argument that supports creation over evolution. It is unclear what "this" in the final sentence refers to, but presumably C4ID is saying that students should be told that the claims in the first or the second sentence, or both, are factually correct. I disagree.