

*Is Science about being open minded?*

*Is Science about following the evidence, wherever it leads us?*

*or*

*Is Science about censoring ideas we do not agree with and the vilification of people we disagree with?*

These are exciting times for those involved in science and in science education.

Spurred on by the impending donation of a DVD on the origin of life to high schools, we are currently witnessing an organised campaign of scientific censorship and vilification the like of which has not been witnessed since the time of Galileo.

The irony is that this time the censorship is being orchestrated by secular forces. The media campaign has actually failed to address the main point of the “Unlocking the Mystery of Life” DVD.

There are 3 big questions in biology:

1. How do variations arise in existing life (Microevolution)?
2. How do new living forms with new structures like wings and eyes arise from existing species (Macroevolution)?
3. How did life originate on earth in the first place (Chemical Evolution)?

The first question has been answered by evolutionary biology. Microevolution is a scientifically robust fact, tested in real time, in the laboratory. Peppered moth varieties change in proportion as environmental pressures change and bacterial colonies evolve antibiotic resistance.

Macroevolution, is an evolving theory, which relies primarily on fossil evidence. Charles Darwin claimed the mechanisms of microevolution (known for thousands of years in agriculture and animal husbandry) could be extrapolated and given the power to create new organisms and structures not found in the gene pool of the organisms involved.

The 70,000 Australian science teachers and scientists, on whose behalf Professor Michael Archer (UNSW) makes his comments about Intelligent Design are primarily concerned with macroevolution. They are concerned that Intelligent Design theory may raise difficult new questions in relation to macroevolution.

Science should not shy away from the hard questions. They need to be asked, and debated in an open, non-adversarial environment, so a deeper scientific understanding can develop.

The controversy in the media arises from the misconception that Intelligent Design theory casts doubt upon the validity of natural selection operating within existing life-forms. It does not. The DVD does not address this, nor does it have much to say about macroevolution.

“Unlocking the Mystery of Life” primarily addresses the question of how life originated on earth in the first place. It is well known in the scientific community that progress in this area (Chemical Evolution) has been stalled for some time.

The Internationally renowned “Skeptic” Magazine is known to be strongly committed to the evolutionary world view, and strongly opposed to creationism and any concept of a God or the supernatural. In Volume 10, Issue 4, 2004, page 81 a book review on “The emergence of life on Earth. A historical and scientific overview” (Dr Iris Fry, Rutgers Univ Press, 2000, ISBN 1-85343-481-7.)

“In 1953, the same year that Watson and Crick discovered the double helix structure of DNA, Miller performed his

famous experiments showing that an Oparin-Haldane-type soup can indeed produce amino acids and other building blocks of life. Alas most modern textbooks of introductory biology stop at this point, not only ignoring the fascinating research that constitutes the second half of Fry's book, but committing the unpardonable mistake of giving students the impression that the Oparin-Haldane scenario is still valid. It isn't, as some creationists have pointed out, and as biologists have known for decades. Furthermore Miller's experiment was conducted in what is now (but not then) thought to be an unlikely set of conditions for the primeval earth".

Dr Fry is trained in Chemistry, Biochemistry, and the Philosophy of Science. Her religious position is clearly atheist or agnostic. Fry's book is an excellent and up to date treatise on Chemical Evolution, pervaded by a sense of optimism in the face of disappointment, like most recent books and review articles on this difficult topic.

There is a sense that surely the question of how life arose on Earth should have been answered by now, and a fear that in this knowledge vacuum, the design option may once again rise and take centre stage. There is fear that Intelligent Design theory may raise difficult new questions.

We should not shy away from hard questions. They need to be asked, and debated in an open, non-adversarial environment, in order for deeper scientific understanding to develop.

The Australian media has raised a number of accusations. For those who are interested, these are summarised on the following pages, together with responses to them.

*1. 70,000 Australian Scientists and Science teachers denounced ID as non-science.*

As the 70,000 teachers and scientists on whose behalf the Michael Archer group make this claim have not seen "Unlocking the Mystery of Life". DVD upon what basis do they make this pre judgment?

*2. ID is not science because it fails the test of science.*

Intelligent Design theory is a long-established and robust branch of science that intersects with the disciplines of applied mathematics and philosophy. It has been used successfully for some time, in a number of areas, including:

- a) Archaeology
- b) SETI Research
- c) Criminology
- d) Insurance fraud detection
- e) Cosmology
- f) Biochemistry

*3. ID theory is about a Designer and as such cannot be tested or observed, so therefore it is religious.*

Detecting evidence of design and identifying the designer are two separate tasks. For example:

- a) Archaeology – distinguishing between an actual artefact and an interesting rock does not require the identification of the ancient maker of the artefact.
- b) SETI Research - the identity of the extra-terrestrial life is not relevant to the mathematical algorithms used to distinguish intelligent transmissions from random noise.
- c) Criminology – establishing whether a mysterious death was a murder or a suicide is a separate issue from the identification of the murderer
- d) Insurance fraud detection – the detection of a fraudulent claim is usually independent from the identification of the perpetrator

e) Cosmology –The use of applied mathematics and theoretical physics to detect probable design in the fundamental constants of matter has been carried out for some decades independent of the question of the identity of any possible “designer”.

f) Biochemistry – The biochemical evidence and mathematics used by ID to demonstrate specified complexity in the fundamental biomolecular systems of life is completely independent of the question of the identity of any “designer”.

*4. ID is just another re-run of Biblical Creationism and “Creation Science”.*

ID supporters hold to a broad range of views. Most accept the following scientific facts:

- a) The currently accepted age of the Earth of about 4.5 billion years.
- b) The currently accepted age of the Universe of about 10 to 15 billion years.
- c) The Big Bang theory.
- d) The proven fact of Microevolution.

Those who watch the DVD will quickly realise that this often repeated claim is quite spurious. The application of applied mathematics by ID theorists to chemical evolution is a scientific exercise and does not depend on input from any of the world’s religions.

*5. The DVD Unlocking the Mystery of Life is religious.*

Making this claim implies not having seen the DVD. It is rather an engrossing science documentary. Please watch and judge for yourself.

*6. The DVD is part of a political campaign to change science curriculum and have ID taught in schools.*

This is an exaggerated extrapolation from the fact that Dr Brendan Nelson the education minister has viewed the DVD. Dr Nelson merely voiced a personal opinion that the logic of the DVD was quite sound. You may want to watch the DVD and see if you agree with him.

*7. There are no published research papers in peer review journals by ID advocates or on ID.*

Peer reviewers have made it very difficult for scientists to publish biochemical papers on ID theory. A few dozen have been published. Many thousands of ID papers have been published in the areas of cosmology, archaeology, SETI research and criminology. Much current published research provides ample evidence in support of the design hypothesis.

Publishing actual ID papers in the biochemical realm can result in the termination of one’s career. See point 9 below.

*8. ID is just a “God in the Gaps” philosophical argument and will lead to a break down in sound scientific thinking and processes, leading to spoon bending and astrology in science classes.*

It has been said that in the past religious forces have tried to censor new scientific theories. Galileo is the archetypal example. Ironically, the current scientific censorship campaign in Australia, against the application of Intelligent Design theory to the field of biochemistry, is driven by secular forces. The approach taken has been twofold:

- a) Labelling ID theory “creationism” and “non science” for the purposes of stifling discussion.
- b) Vilification. Equating ID theory with spoon bending, flat earthism, astrology, flying spaghetti monster (<http://www.venganza.org/>), and other demeaning comparisons.

By censoring ID, other disciplines like archaeology, SETI, cosmology, and criminology, and many

other areas of scientific endeavour that rely on ID theory are in danger of also being relegated to the realm of pseudo-science. All this is done to suppress discussion about the application of ID theory to biochemistry. Open minded people will look deeper and evaluate the evidence themselves.

*9. Discussing ID Scientists promoting ID are all religiously motivated and pushing their religious beliefs in the name of science.*

A mainstream scientist declaring support for ID in the biochemical realm may be committing career suicide. An example is the termination of the position at the Smithsonian Institute of Dr Richard Sternberg (not himself an ID advocate) for even allowing an ID Chemical Evolution paper through the peer review process. See <http://www.npr.org/templates/story/story.php?storyId=5007508>

Generally the only scientists prepared to publicly declare their solidarity with ID theory are those for whom principle of truth is higher than that of self preservation. A recent anonymous Australian online poll on Catalyst (following a negative ABC Catalyst report on ID) found 34% in favour of allowing ID to be introduced into Australian schools, hardly a unanimous negative vote, and this before anyone had actually seen the DVD.

*10. ID is not science because it cannot satisfy the test of all science as summarised by the Prof Archer group's open letter: "For a theory to be considered scientific it must be testable - either directly or indirectly - by experiment or observation. The results of such tests should be able to be reproduced by others as a check on their accuracy (and, importantly, if repeated testing falsifies the theory it should be rejected rather than taught as part of the accumulating body of scientific understanding).*

This criterion applied to current Chemical Evolution theory, would rule it out as science. Nobody has been able to test Chemical Evolution, to falsify it or verify it.

ID in the biochemical realm is a new perspective contributing fresh ideas where Chemical Evolution is failing. ID is a step in the direction of testability and is therefore a positive move forward.

Charles Darwin wrote:

*"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".*

In the current era of genome sequencing and biomolecule manipulation, we have exciting new insights in this area. The DVD is a science documentary that sheds new light and is not afraid to ask the hard questions. Please evaluate the evidence presented yourself.