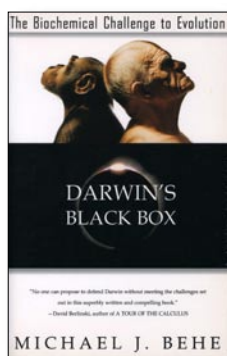


- 2 In Daniel 9:26 we read: "And after threescore and two weeks shall Messiah be cut off, but not for himself: and the people of the prince that shall come shall destroy the city and the sanctuary". The Messiah of this verse is Jesus, and the "people of the prince" the Roman army. Therefore Messiah appears to own the Roman army in some way. This would have to be in a virtual sense. We can be certain that the Roman army had no idea that Jesus was in control of events. Even if Jesus was physically present in A.D. 70, he was invisible, which is not the same as a normal physical presence anyway.
- 3 God has put the affairs of the world under the control of Jesus, as we read in 1 Peter 3:21,22: ". . . Jesus Christ: who is gone into heaven, and is on the right hand of God; angels and authorities and powers being made subject unto him". This would include control of the Roman armies in A.D. 70 with the help of the angels.

## A scientist challenges evolution

Malcolm Edwards



***Darwin's Black Box: The Biochemical Challenge to Evolution.***

**Michael J. Behe (1996), Touchstone, 1998.**

**Previously reviewed by David Burges in [March 2000, p. 93.](#)**

**T**HE AUTHOR of this book is a professor of biochemistry, who does not write especially as a creationist, but as one who is convinced from his own studies that intelligent design is behind life on this planet. The reviewers' comments on the back cover speak for themselves:

- An overwhelming case against Darwin on the biochemical level
- The most thorough and clever presentation of the design argument that I have ever seen
- A well-written and thoughtful statement on the biochemical challenge
- A valuable critique of an all-too-often unchallenged orthodoxy.

The work is not too technical for the average layman, especially since the writer uses many analogies to explain some of the tricky terminology and complex processes in his field of study. The value of the work to creationists is that he repeatedly demonstrates that Darwin's step-by-step theory of natural selection, which is accepted by most biologists and geologists, cannot explain the microscopic world of biochemistry, where

matter is very much more complex than most people realise. For Darwinian evolution to be convincing it must be shown to have happened, or be happening, at the molecular level, and the author demonstrates convincingly that in this regard it always falls down.

He defines the 'Black Box' of the title as "a whimsical term for a device that does something but whose inner workings are mysterious". He uses the illustration of a computer, which many people use but have not the slightest idea of how it works.

### No small jumps

The greatest black box of all is how life itself actually works. How does an eye see? How does blood clot? How do antibodies operate? Darwin could not answer any of these questions. In questioning the Darwinian theory, the author remarks: "With the advent of modern biochemistry we are now able to look at the rock-bottom level of life. We can now make informed evaluation of whether the small steps required to produce large evolutionary changes can ever get small enough". Thus he continues that on such a microscopic scale unbridgeable chasms occur.

The author's simplified explanation of the biochemistry of vision is where the layman is likely to get lost, yet even a rudimentary understanding of the process is sufficient to show the impossibility of such a complicated, yet amazing, interactive system evolving randomly. He comments: "Each of the anatomical steps and structures that Darwin thought were so simple involved 'staggeringly complicated' biochemical processes that cannot be papered over with rhetoric".

### The bombardier beetle

The book cites the remarkable case of the bombardier beetle, which creationists often use in argument against evolution, an argument which Richard Dawkins, their arch-enemy, has tried to refute. The beetle has the ability to squirt a lethal mixture of hydroquinone and hydrogen peroxide into the face of its predators, and within the beetle's body there is an inhibitor for its own protection. The author continues: "Dawkins has not explained how hydrogen peroxide and quinones came to be secreted together at very high concentration into one compartment that is connected through a sphinctered tube to a second compartment that contains enzymes necessary for the rapid reaction of the chemicals". The writer then spends several pages explaining the complexity of the bombardier beetle's system, placing it quite beyond any evolutionary explanation.

### Swimming cells

When Professor Behe gets around to the method some cells use to swim, it defies credulity, other than from the viewpoint of intelligent design. He shows that the microscopic cilium "looks like a hair and beats like a whip" and operates similar to a boat oar. Some organisms even gang up and 'row' together rather like Roman galley slaves. Such an irreducibly complex system could not possibly have evolved randomly.

But, more remarkable still, we are then introduced to a cell-swimming mechanism called a flagellum, which rotates not unlike a single-bladed boat propeller. There is a shaft that fits through the cell wall and is retained in sleeves or bushes. On the inside end is affixed an acid-motor, equally complicated, which is the prime mover. On the outside end is a kind of rotating elbow, which holds a flailing filament that beats as it rotates. The whole is a microscopic and complex rotary impeller that could not possibly drive the cell along unless each component was in place.

The author then devotes some twenty pages to the intricacies of blood clotting, in which he cites the attempts of evolutionist Russell Doolittle to explain blood clotting without any causative factors. Thus things "appear", are "born", "arise", "spring forth", and are "unleashed". The author shows that blood coagulation is a paradigm of the staggering complexity that underlies even apparently simple bodily processes. It renders the Darwinian theory totally silent.

### Space probe analogy

In explaining the work of the cell itself and all its complicated machinery, the writer uses the analogy of a spherical space probe. The probe represents the cell itself; its library is the cell nucleus. The blueprint is DNA. The blueprint copy is RNA.<sup>1</sup> The window of the library is its nuclear pore; the master machines are the ribosomes; the main area is the cytoplasm.

On the barren planet where it has landed the probe has to be totally self sufficient, with the ability to recycle its own batteries and treat its own garbage. Every item has to be drawn and copied, and so on. This analogy helps to explain the complexity and working of each one of the millions of cells within each of us, each repeating this process countless millions of times every single day. He concludes this section with the words, "science is stranger than fiction".

### Antibodies

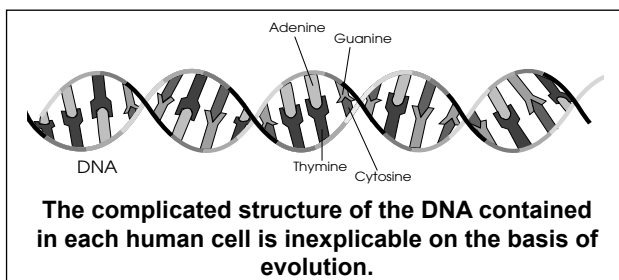
There is also a section on antibodies that is no less amazing in terms of the complex microscopic machinery that simply cannot be explained by random evolution. This time the analogy used is that of automated 'star-wars' anti-missile systems. The human body has a similar fully-automated defence system in which the bacterial cells of the invader have to be detected and distinguished from blood cells. Viruses have to be distinguished from connective tissue, and, since all this is totally non-visual, our immune system relies on antibodies, which Professor Behe describes as the fingers of our blind immune system. How these antibodies detect and repel invading viruses is a fascinating story. His question is, How could such a complex defensive system have evolved step-by-step?—since, in order to be any defensive use at all, every part of it would have to have been in place from the start.

### Journal of Molecular Evolution

In view of all this, it comes as a surprise to learn that there is in circulation a regular monthly publication called the *Journal of Molecular Evolution (JME)*. This periodical was established in 1971 and is devoted to investigations into how life began at the molecular level. Its title presupposes

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1. RNA stands for Ribonucleic acid, a compound similar to DNA but with only a single strand instead of the double helix of DNA; it is responsible for copying the genetic information from DNA to synthesize proteins in the cell.—D.J.B.



that molecular evolution is unquestioned. The search began following the publication of Stanley Miller's experiments at the University of Chicago around 1952, in which he produced amino acids from a boiling mixture of water, methane, ammonia and hydrogen, into which he introduced electric sparks.

Later experiments by others showed that hydrogen cyanide would react with itself to yield a number of products, including adenine, which is one of the building blocks of nucleic acid. This opened up investigations into DNA and RNA. But in connection with life's origin the author points out that producing DNA from chemicals is not the problem, since any chemistry undergraduate can do that. The point to remember is, "There were no chemists four billion years ago. Neither were there any chemical supply houses, distillation flasks, nor any of the many other devices that the modern chemist uses daily in his or her laboratory". In spite of its suggestive name, the *Journal of Molecular Evolution* has, says Behe, not begun to

answer "the challenge to evolution posed by blood clotting, cellular transport, or disease fighting". He goes further and says that the *JME* has never produced a detailed model to show that a complex biochemical system has ever been produced by a Darwinian step-by-step evolutionary process.

### Intelligent design

Thus the writer moves to the subject of intelligent design, returning again and again to the problems he sees with evolution at the molecular level. He says that investigation into life at the molecular level "is a loud, clear, piercing cry of 'design'", and he rates this discovery as even rivalling the discoveries of Newton and Einstein. And he says that the main reason why scientists will not accept the discovery is because it can be attached to the name of God.

The author cannot see why the discovery that intelligent design is behind our universe should be any problem. We, of course, ask the very same question. The answer can only be that for unbelieving scientists to acknowledge God would mean facing up to religion and, in our own view, the Bible teaching attached to it.

Thus we repeatedly find that it is morals more than reason that drive most scientists into seeking explanations for life in Darwin's deepening black box. To us it can be found, with a lot of other information so vital to salvation, inside a certain black book.