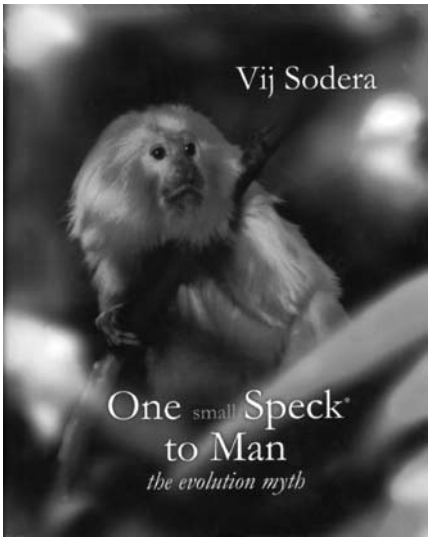
Debunking the molecules-to-man myth

A review of
One Small Speck to Man
by Vij Sodera
Vij Sodera Publications,
2003



Philip Bell

This is a significant work tackling the premier myth of our time. That is, that natural processes and lots of time were sufficient to change a primordial speck of matter into all organisms, including humans. The author's expertise as a surgeon,[1] ability to make astute observations and keen analytical mind make this especially formidable. Throughout its pages, the >800 animal photographs, clinical photographs, x-rays and other illustrations (most of them by the author himself) complement the well-written text. So it is clear that the book is the product of many years of painstaking research and effort. Unlike many self-published items, this large format, 463-page book is a very smart, cloth-bound, hardcover book with an attractive dust jacket.

Due to its textbook-like scope, this review necessarily chooses from among the many subjects that the author discusses. Also, it is inevitable that different readers will find some parts more compelling than others. In a number of cases, I found the treatment of specific issues to be quite brilliant and highly original. In a minority of cases, some readers will doubtless have niggles (as I did) and there are, unsurprisingly, a few areas where the author's arguments touch on controversial areas among young-earth creationists.

The author himself is a Christian and believes in a young earth.[2] Throughout the book, when he is writing of the evolutionists' dates or ideas, he invariably prefixes these with 'supposedly' or '(supposedly)'—highlighting that the 'ages' and 'dates', are suppositions. Having said this, Sodera has made this an evidentialist critique rather than an argument from the presuppositional stance of an historical Genesis. He put it this way in a letter to an AiG staff member: 'My objective was to write a book for the general market place that was entirely scientific in stance, deliberately making no reference to any religious views.'[2]

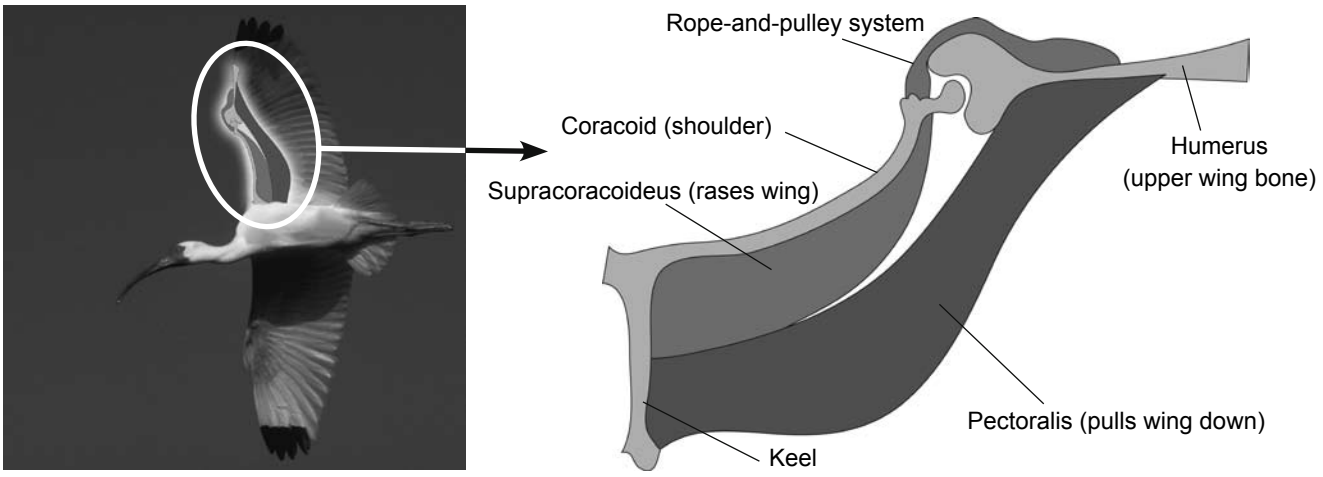
For instance, although the author is clearly cognizant of creationist writings, the quotations he uses are all from secular sources. This also applies to topics which *originated* with leading creationist or Intelligent Design (ID) authors, such as the dating of contemporary rocks at Mount St. Helens (p. 41), the stratification seen in granular mixtures (p. 56), and the use of the term 'irreducible complexity' (p. 157). Presumably, by omitting any mention of biblical data and overtly creationist writings, he hopes that the book will attract a broader readership. However, in a few places, particularly in relation to the fossil evidence, I felt that the text really needed the discussion to be continued along the lines of '… all this is consistent with the biblical record of a global tectonic upheaval at the time of Noah …'—in other words, a plausible mechanism needed to be suggested. Or if Sodera really wanted to exclude biblical references, '… all this is consistent with a global hydraulic cataclysm in earth's recent past …'.

Structure

Following a short prologue, the book is divided into fourteen chapters which are sorted into five main sections. The following subjects receive fairly exhaustive treatment: arguments for a young earth; fossil distribution; mass extinctions; biological variation and its limits; DNA and proteins and the impossibility of their gradual genesis; irreducible complexity of various molecular machines; whale evolution; bird evolution; eye evolution; alleged 'ape-men' ancestors; bipedalism; chromosome numbers versus alleged evolutionary trends; intelligence and animal behaviour and evolution. Along the way, many other subjects are covered, some of them in considerable detail. Selected highlights follow.

Fossils

During his discussion of fossils, the author effectively highlights some enormous inconsistencies in just-so evolutionary story-telling. One of the ways he does this is to tell an evolutionary story of his own, then to critically examine it in order to show how implausible it is in actuality. He sets out his 'Intermediary principle' (p. 69) which is a rationale for why the numbers of intermediate fossils should exceed those of the progenitor and extant organisms. He also brilliantly demonstrates that the odds are totally stacked against accumulating a series of mutations to effect an evolutionary change. This is further elaborated as the 'What you want you won't get (WYWYWG) Principle' (p. 70)—not rocket science but sound logic, and applied in several places in the book to various alleged fossil intermediates, including the infamous horse series. He does a good job of showing why fossil



The sophisticated supracoideus pulley system of birds is vital to accomplish the wing upstroke for flapping flight. But the idea that it arose in a neo-Darwinian fashion seems impossible and is certainly unsupported by fossil evidence.

stasis in some creatures is evidence against millions of years (p. 78):

> '… it is implausible that a creature which is battling against environmental changes so deleterious that natural selection should (supposedly) force some of its cousins to change into some completely different creature, could itself survive unchanged for millions of years.'

Sodera gives an excellent refutation of the idea of migration/evolution of reptilian jaw bones to become the inner ear bones of mammals (pp. 80–81). Whereas the mammalian inner ear possesses three bones (malleus, incus and stapes), only one (stapes) is present in reptiles. How could hearing have been maintained while the alleged precursors of the malleus and incus (quadrate and articular bones in the reptilian lower jaw) gradually migrated to the inner ear and were inserted between the ear drum and the stapes? Sodera points out that it would necessitate

> 'an articulation being made between the quadrate and the stapes … the union of the malleus to the ear drum; and the linkage of these bony changes to other changes, such as the appearance of the *tensor tympani* muscle which regulates the tension of the ear drum, and the appropriate nervous control for its proper function … . Genetic coding for the embryological manufacture of altered structures and joints must appear *de novo*. In other words, the correct *information* that is necessary for beneficial changes to be constructed must appear *by chance* …' (pp. 82–87).

There is also a superb criticism of the evolution of monotreme, marsupial and placental mammals.

Fossil whales

In chapter seven, Sodera shows that extinct creatures like *Artiocetus* and *Rhodocetus* are highly improbable ancestors of whales—his anatomical knowledge comes to the fore in a comparison of the ankle bones of artiodactyls and these claimed whale ancestors. The claims for various terrestrial/aquatic mammal transitional fossils are shown to be totally unfounded, although it is a little surprising to see the omission of one of the evolutionists' favourite walking whales, *Ambulocetus*.[3]

Following a common-sense refutation of the just-so stories about what would cause a terrestrial mammal to take to the water (pp. 206–209), there is a thorough refutation of the idea of a gradual nostril migration and blowhole origin (pp. 209–214). Evolutionary ideas of tooth evolution (from terrestrial mammal to various whale types) are shown to be totally baseless (pp. 214–221). The genetic control of lower jaw, skull and teeth are quite separate—congenital abnormalities arising from mutations amply demonstrate this fact—so there is no reason to suppose that elongation of jaw and skull and radical changes to dentition should/could evolve hand-in-hand by random mutations. In fact, tooth abnormalities are known to be associated with numerous detrimental abnormalities of the rest of the body, a further blow to just-so stories of whale jaw and tooth development.

Fossil birds

The eighth chapter is devoted to alleged dinosaur-to-bird evolution, demonstrating that birds have always been birds. The author's treatment—much of it refreshingly different from other creationist sources—is first rate and his wide-ranging, detailed arguments exercise his readers' critical thinking skills. Some of his lines of argument are unique within creationist literature. There is a helpful critique of the cursorial (what the author calls 'running-flapping') theory for wing evolution (pp. 245–256).

For instance, he points out that most birds find food by swimming, climbing or running and only a small minority actually catch *flying* insects. Goshawks fold their wings completely while chasing small mammals on the ground, specifically to avoid drag and loss of manoeuvrability. Another observation is that, with the exception of one 2.5-m-long bipedal dinosaur called *Unenlagia* (too big to become

airborne), 'no other dinosaur is known to have had the necessary anatomical arrangement at the shoulder to lift the forelimbs upwards [above the back]' (p. 247)—yet a wing upstroke is impossible otherwise.

The author's anatomical knowledge is brought to bear on the action of the antagonistic flight muscles of birds and whether they could have evolved; e.g. the impossibility of neo-Darwinian development of the supracoracoideus pulley system to accomplish the upstroke of the wings in flapping flight. Ten pages are devoted to showing that the scales-to-feathers idea has absolutely no empirical evidence in its favour (pp. 256–266)—e.g. 'the highly specific shapes of the barbs and barbules [on a flight feather] are the result of differential cell death and differential cell cohesion within the epidermal cells' (p. 263). Authoritative critiques of reptile-to-bird heart and lungs (pp. 269–276) are exemplified by discussion of genetic abnormalities of heart and lung that greatly reduce functionality; showing that the step-wise evolution of these organs is impossible.

Biological variation

Chapter four ('Variation—the dice of life') kicks off with a sound and interesting discussion, showing the limits of natural selection, exploring the difficulties of defining what a species is and highlighting that certain distinct 'species' can actually interbreed and even produce fertile offspring (e.g. polar bears and brown bears).

The human 'races' concept is shown to be genetically unjustified. Sodera applies this in an interesting way as part of a discussion that critically analyses the 'ring species' concept (such as the famous example of black-backed and herring gulls around the North Atlantic) in order to demonstrate the evolutionary fallacy of believing that intermediate species must have existed in the past.

He points out that we shouldn't confuse shuffling of genes with the production of new organs, etc., but allows for the existence of rare beneficial mutations (p. 101). There is very good discussion of variation in cichlid fish, Hawaiian honey creepers and finches. Is each modification an adaptation, as evolutionists claim, or, as the author suggests, are some of these 'designs' actually inbred genetic abnormalities—i.e. the survival of the 'not-so-fit'?

There is a really thorough critique of the idea that long-trunked elephants evolved from ancestors with shorter ones (pp. 118–126). Sodera has an insightful critique of the notion (from Darwin onwards) that disuse alone can result in degenerative organs and body structures (e.g. cave fish, certain flightless birds etc.). Rather, a degeneration or abnormality (such as eyes in blind cave fish) results from a congenitally degenerative structure no longer being available for use (pp. 127–132). In the latter case, 'the mutation resulting in blindness is not the result of the environment and the blind cave fishes have not adapted to the dark'. He underlines that no new genes arose to code for new structures in the case of these examples of degenerative change.

Molecular machines

Sodera's treatment of mutation-induced diseases is first rate, as is his argument against the evolution of essential DNA-repair mechanisms. The latter are envisaged to conserve the genetic code in the face of mutations, be they good, bad or ugly. Identical genes in unrelated organisms (e.g. yeast, humans) are convincingly shown to be powerful evidence against long time scales and thus molecules-to-man evolution. There is a helpful discussion of tandem-repeat genes (pp. 148–149), effectively arguing against their stepwise production; mutations that reduce the number of these tandem repeats are known to be deleterious or even fatal. Many other excellent points are made throughout chapter five too numerous to discuss; e.g. discussions of tryptophan synthesis, types of mutations, transposons, aminoacyl-tRNA synthetases, and protein folding—his nine-page treatment of the improbability of various gradualist scenarios for their assembly is enjoyable and thought-provoking. Towards the end of the chapter, having outlined various (im)probability calculations, he writes:

> '… we must accept that the chance of even one specific protein arising since the dawn of time is so unlikely that *we can safely convict evolution and sentence it to eternal imprisonment in the dungeon of myths*' (emphasis added), (p. 175).

Chapter six provides very good critiques of the alleged step-wise production of: eukaryotic flagella and cilia, the bacterial flagellum, the muscle sarcomere and the cellular apparatus that results in separation of homologous chromosomes during cell division (including the kinetochore portion of the centromere). *Hox* genes are discussed and their alleged support for evolution summarily critiqued.

For instance, while 'there is no doubt that hox genes are responsible for the development of the body segments in creatures as diverse as mammals and insects' (p. 189), the origins of muscle and other deeper tissue cells are very different in invertebrates and vertebrates. Furthermore, 'the spinal cord lies along the back in the vertebrate, whereas the main nerve trunks lie on the underside of an invertebrate' (p. 191). Mutations in hox genes can result in the misplaced expression of entire structural entities such as 'the manufacture of a balancer [haltere] instead of a wing' in a fly (p. 192). However this gives no insight into how the complex of genes for wings and halteres evolved in the first place.

Chromosomes

The numbers and shapes of chromosomes in different vertebrates are shown to bear out no evolutionary trend whatsoever (pp. 396–403); thus, translocations and other chromosomal changes do not result in new organisms, although they *are often* associated with disease or deformity. Differences in chromosome number often exist

between very similar creatures; e.g. two different (but virtually indistinguishable) species of muntjac deer have 7 and 46 chromosomes (diploid) respectively! The patterns of sex chromosomes in birds and reptiles (their alleged ancestors) are seen to be inconsistent with evolution. Also, the overall amount of DNA among widely diverse animals does not fit evolutionary trends—in fact this doesn't even correlate with the complexity of those organisms. Considering the appalling health defects that do occur because of chromosome abnormalities—showing up the vital importance of so many body structures and functions—how did hypothetical intermediate creatures exist before the requisite parts of these chromosomes evolved?

Sodera gives an in-depth comparison of human versus ape chromosomes and genes (pp. 403–412), including critiques of: the alleged significance of percent DNA similarity figures for humans and chimps; the alleged divergence of human and mouse genomes (which have 99% of their genes in common) from a common ancestor, living 75 Ma; and the alleged merging of chromosomes from 48 in apes to 46 in men.

The latter idea principally involves a 'fusion' of two chimp chromosomes (2p and 2q) to become the human chromosome 2. If this occurred in an ancestral ape by a single balanced translocation (BTC1), it would end up with 47 chromosomes. To arrive at the 46 chromosome number, two BTC1 apes would need to mate. However, such a pairing, though it might result in a BTC2 ape (balanced translocation of both homologous chromosomes, resulting in a reduction of chromosome number to 46), could also produce individuals with either monosomy (only one of a pair of homologous chromosomes which can't survive), trisomy (also unlikely to survive) or BTC1. For such a series of changes to be selected and fixed in the population, some survival advantage would need to exist. But 'since the chromosomes of normal, BTC1 and BTC2 individuals [48, 47 and 46 chromosomes respectively] would carry identical genes…' (p. 408), they would likely look and behave the same so that they would probably be equally attractive to potential mates. Furthermore, we know from today's chimps and bonobos that they mate indiscriminately (especially bonobos), so the isolation of individual groups of this sort is highly unlikely.

Human origins

Chapters 10 and 11 constitute 75 pages of well illustrated arguments against the evolution of humans from apes—considering the amount of information per page, this equates to a small book on the subject, and an excellent one at that. The author has examined pertinent fossils and visited some of the well-known fossil sites. Some of his ideas are quite novel and deserve to be widely read by creationists, although his overall conclusions are in keeping with those of other creationists; such as Marvin Lubenow.

Sodera takes a semi-detailed look (unless otherwise stated) at each of the following fossils: Australopithecines, *Kenyanthropus* (a cursory look), *Sahelanthropus* (written before the rather distorted skull was reconstructed in early 2005), *Homo habilis*, *H. erectus* (great detail), archaic *H. sapiens*, Neandertals, *H. antecessor*, KNM-ER 1470 skull, the OH8 foot (great detail), KNM-ER 1481 and KNM-ER 1475 femurs, Laetoli footprints, KNM-ER 20419 radius (great detail), KNM-KP 29825 tibia, and KP 271 lower humerus. He makes many excellent and convincing points.

His own research offers independent confirmation of a number of conclusions reached by other creationist researchers; e.g. that australopithecine feet were fully apelike; their teeth were not intermediate between apes and humans; they had 6 lumbar vertebrae, compared to 3–4 in modern apes and 5 in humans—i.e. not transitional; etc.

There is a fascinating examination of the effect of rickets on a number of skeletal and dental features (pp. 347–354); Sodera shows that vitamin D deficiency was quite possibly a major factor in producing the classic, enlarged, elongated and flattened Neanderthal skull, with occipital bun. In line with those creationists who have emphasised the cold-adapted features of Neanderthals, he attributes these features to Neanderthals having to endure the Ice Age—witness the gradation of increasing Neanderthal features (read rickets-induced features) as one moves from the equator towards more northern latitudes. In this view, Neanderthal features consequently disappeared as the climate became more favourable with the waning of the Ice Age.

His treatment of the hominid fossils that are assigned 'early', 'pre-human dates' but which show entirely human-like features is really first rate. For example, the '1.9 my' OH8 foot and the '4.1 my' KNM-ER 20419 radius—debunking the paleoanthropologists' dating scheme for human evolution.

In a chapter devoted to bipedalism, there is an excellent section on the uniqueness of the human foot and hand and their non-evolution from the ape foot/hand (pp. 385–390). Sodera demonstrates conclusively that the genetic control of the particular characteristics of the hands and feet are variously linked or separate—based on the evidence of known abnormalities in humans. This becomes a compelling argument against the alleged evolution of these organs from apes to humans. For instance, known mutations that affect digits also have multiple other deleterious effects in the body, resulting in deformity, disease, tumours etc.

In his chapter on intelligence, Sodera critiques the prevalent evolutionary idea that brain size correlates with increased intellect (pp. 429–436). In humans, congenital abnormalities that affect skull and brain size do not usually affect intelligence unless there is an associated rise in intracranial pressure. Gene alterations often produce malfunctions and brain damage—these are observable facts—whereas *no evidence* exists for a mutation that made a brain more complex/more human.

Areas of controversy and/or weakness

This section will draw attention to a few points on which fellow 'young-earth creationists' will likely disagree. Of course, whether or not one agrees with Sodera's stance will largely determine whether the items in question are viewed as weaknesses! For instance, he firmly nails his colours to the mast regarding the nature of the fossil record:

> '… nowhere on the planet are there found sequences of fossils in the order invertebrates-fish-amphibians-reptiles-mammals (from deep to superficial) in contiguous layers of sedimentary rocks representing the different ages of the Earth. Instead the fossil record is an artificial composite constructed out of comparisons of diverse rocks from all over the world' (p. 37).

Most creationists would agree (e.g. John Woodmorappe[4]), but many would not. Much of chapter two is devoted to an argument that, from the patterns of living animal and fossil distribution, the continents separated very recently. However, based on Sodera's arguments, it appears that he envisages continents splitting sub-aerially—although he doesn't spell this out as such. The point is that this is quite different from the submarine plate divergence model that most YECs prefer and which is surely more consistent with the biblical time frame; i.e. if catastrophic plate tectonics occurred *during* the Flood year, there is no problem for biblical chronology.

Does Sodera think that the continents split during Creation Week or post-Flood? Surely not the former, as creatures were created after the land masses. If post-Flood, this has very obvious implications—what could survive the global volcanism and mega-quakes associated with rapid plate movements. But this would presumably necessitate a tectonic 'division' in the days of Peleg as some have suggested.[5] However, AiG follows Calvin, Keil and Delitzsch and Leupold in arguing that it was a linguistic division.[6] The author is silent on the mechanism or timing of this plate division.

In the context of the latter discussion, at several places in the book, Sodera offers explanations for today's distribution of related species. For instance, he discusses (pp. 58–59) how the Indus and Ganges River dolphins (India) and the Yangste River dolphin (China) came to be isolated. He suggests that the original Asian river system (in which the dolphins resided) was split up when the Indian and Asian plates collided. No date for this process is suggested but such a scenario would seem fraught with problems if it is envisaged to have occurred *since* the Flood. Sodera writes, 'It is most unlikely that they were once sea-going animals which found their way into inland waters …' (p. 59). However, from a Genesis Flood perspective, surely this is not unlikely at all.

In this and subsequent discussion of South American river dolphins, the author seeks to demonstrate that uniformitarian dating of plate movements is in error. Since dolphin origins are conventionally dated to 15 Ma and since river dolphin species are so similar globally, the dates of Asian & South American plate movements (50 Ma and 135 Ma respectively) must be grossly in error. Thus, he argues that the dates of the fossil record are also in serious error. Sodera's conclusion I agree with—but I'm less convinced about his reasoning to get there.

Similarly, in seeking to explain the distribution of giant tortoises on the Galápagos Islands, in Madagascar and the Seychelles, the author argues for the ancestral population being broken up 'into isolated populations as the land masses on which they lived, separated' (p. 103). He also mentions (p. 132) the possibility that the continent-split explanation could explain the origin of the 'truly' flightless birds (emu, ostrich, rhea, cassowary and extinct moa) from a common ancestor.

In chapter 4, the author unusually argues (pp. 97–98)—albeit with some thought-provoking points—that lions and tigers may always have been lions and tigers. But this would seem to be biblically impossible—God created creatures to reproduce after their kind, not interbreed across the kind boundary. Yet tigers and lions can interbreed to produce tigons and ligers, so they must be from the same big-cat baramin[7]—though he doesn't reject this completely. That Sodera accepts that significant variation and natural selection do occur makes his views all the more interesting.

Archaeopteryx, in Sodera's view, could be considered a 'feathered dinosaur'. However, leading evolutionary paleo-ornithologist Alan Feduccia said:

> 'Paleontologists have tried to turn *Archaeopteryx* into an earth-bound, feathered dinosaur. But it's not. It is a bird, a perching bird. And no amount of "paleobabble" is going to change that.'[8]

But Sodera apparently is prepared to concede the 'feathered dinosaur' point for the sake of the argument, because it still furnishes no evidence of dinosaur-bird links because its mosaic of features aren't themselves transitional. In other words, he allows the *possibility* that some dinosaurs had feathers but this need not be taken as support for dino-bird evolution; *c.f.* hairy frog and scaly mammals. At one point, he even describes *Archaeopteryx* as a type of flying dinosaur—a bridge too far for many/most creationists I suspect—but also states that birds are not dinosaurs: 'The mental hurdle to overcome is the acceptance that feathers are not the sole preserve of birds' is one of his concluding statements to the chapter (p. 279). But Sarfati has pointed out:

> 'There is nothing in creationist theory forbidding dinosaurs from having feathers—it would not make them any more a transitional form than the egg-laying mammals, the platypus and echidna. But so far the evidence is lacking. And even if they existed, it would not prove they evolved from scales—feathers are completely different from scales in just about every respect.'[9]

Inaccuracies

For a book with such a broad scope, there are very few quibbles. Risking the charge of nit-picking, here are the ones that I felt worthy of note. Some might find it mildly irritating that the use of italics and capital letter for generic names is frequently inconsistent; e.g. *Eurotamandua* in one place (formally correct), but eurotamandua a few sentences later. 'Coprolith' (p. 30) should really be coprolite (fossilised/petrified dung); coprolith is a medical term for a concretion of (dried) faecal matter, in an intestine for example.

Coal formation is described as being due to the burial—albeit argued to be rapid—of *in situ* forests (p. 30), mistaking upright trees in coal as indicative of their original growth position. However, numerous creationist reports have discussed the significance of the absence of soil horizons beneath coals, the multiple 'layers' of fossil trunks (i.e. the burial of logs from forests destroyed by volcanism) and so on—evidences which militate against the legitimacy of burial of *in situ* forests.

The horse-shoe crab, *Limulus sp.*, is said to date back 140 Ma (p. 35) but should be 350 Ma at least, from a uniformitarian viewpoint—the subject of a recent book by multiple contributors.[10] Finally, 'The peppered moth (see later) is a good example of this [natural selection]' (p. 91). Obviously the author was unaware of the problems with this evolutionary icon,[11] however, his later discussion of this example (pp. 104–105) is sound nevertheless, showing that it is totally unhelpful to evolution.

Conclusions

The concluding chapter of the book is entitled 'The natural mystery'. The author states:

> 'For its manifestation, the organisation that we observe in the biological world requires information. But information is a reality that is separate from time and space, energy and matter. Naturally, the question arises: can information exist in the absence of intelligence?' (p. 451).

He then makes a logic argument, concluding that certain inviolable absolutes must have existed 'before' the time/space/energy/matter universe came into existence; i.e. 'this suggests the existence of an intelligence prior to the origin of the Universe.' Later on he writes:

> 'Many will still cling onto flawed science and claim that the truth is that we are just evolved and particularly clever apes. But whatever your own conclusion, let it be based on reason and knowledge and possibility and probability' (p. 452).

At this point, although I agree with these comments, I am longing for the author to discuss the most importance source of knowledge and information—namely the Revelation of the Creator Himself—which is ultimately the only reliable basis for drawing the right conclusions about 'One small speck to Man?' In a statement earlier in the book, Sodera indicates that people should be totally objective and let evidence speak, thus allowing them to arrive at the correct world-view by logic alone:

> '…a scientist should strive unemotionally to look at *all* the evidence, *all* the possibilities, and be ready and willing to alter his stance and viewpoint when fresh or conflicting evidence appears' (p. 137).

But should a Christian have this attitude whenever 'fresh or conflicting evidence' appears to cast doubt on the biblical record? The book remains an evidentialist critique of evolution to the end, with the logical problems this entails.[12] While pointing out that the inherent design in life points to purpose, Sodera writes:

> 'However, in deciding that a given theory is false, *it is not necessary to provide an alternative*. Any theory stands on its own merits as being either false or the best representation of the known data' (p. 452; emphasis added).

But surely this ignores the fact that peoples' views about who they are, where they come from, and the meaning of life are inextricably bound up with their origins beliefs. For most people, it is simply not tenable to have no particular belief/understanding about the origin of the Universe, i.e. be a true agnostic.

In conclusion, this is a very fine book—very well written, well illustrated, well structured and thought provoking. There is much here for both the novice and the well informed creationist to digest and assimilate—along with some great lessons in how to demolish proud evolutionary arguments (2 Corinthians 10:5).

References

1. Vij Sodera, MB ChB FRCS, i.e. Fellow of the Royal College of Surgeons, Edinburgh. Sodera has authored three surgical textbooks.
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