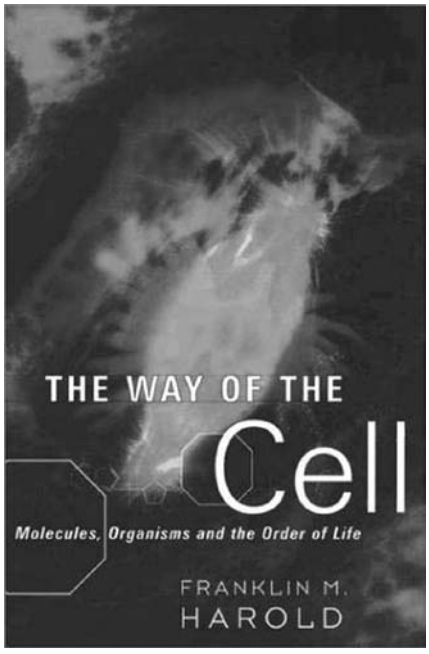
Misunderstanding the phenomenon of life

A review of
The Way of the Cell: Molecules, Organisms and the Order of Life
by Franklin M. Harold
Oxford University Press,
New York, 2001
(paperback, 2003)



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The author and his assumptions

The German-born author of this text 'was educated at City College of New York and the University of California at Berkeley.' His specialty is microbiology, and currently he is Professor Emeritus of biochemistry at Colorado State University (p. v). The author proclaims that,

> 'The bedrock premise of this book is that life is a material phenomenon, grounded in chemistry and physics … The findings of biologists … compel us to admit that we humans, like all other organisms, are transient constellations of jostling molecules, brought forth by a mindless game of chance devoid of plan or intent' (pp. 254–255).

Consistent with the theme of 'biological organization' (p. xi), the avowed *purpose* of the book 'is to assess how far we have come toward a scientific understanding of the phenomenon of life' (p. ix).

Coverage

The topics covered include: the quality of life, cells in nature and in theory, molecular logic, morphogenesis, advance of microbes, descent with modification, and searching for the beginning.

Harold says that,

> 'living things differ from nonliving ones most pointedly in their capacity to maintain, reproduce and multiply states of matter characterized by an extreme degree of organization' (p. xi).

Others have characterized life minimally as something capable of metabolism and reproduction.[1] Harold stresses organization which of course would be vital for both metabolism and reproduction.

Other interesting material involves a stress on microbes including that 'the operation of the biosphere is wholly dependent on microbial ministration' (p. xi). Through the book, Harold emphasizes Monod's concept of 'chance and necessity' for evolutionary progress, and he steers a middle course between reductionism and holism (pp. 14–15).

Covered are many classification topics including kingdoms and the higher taxonomic categories called domains. Recently there has been some emphasis upon protein folding which of course would establish the form of these molecules. This form, he says, is more important for protein function than the sequence of residues in its polypeptide chain. This helps us 'understand the many instances in which three-dimensional structure is better conserved than the sequence' (p. 60).

He discusses a topic that I think needs more careful and thorough analysis by creationists. This concerns similar features found for example in both arthropods and vertebrates that usually are widely separated on evolutionary trees. Evolutionists say that essentials are not as subject to change as are the chemical and developmental pathways for arriving there. A creationary response has been common design or possibly 'off the shelf technology'. [2]

Philosophical naturalism

Harold's book is loaded with a wealth of valuable factual information, but at the same time it is a provocative book. It concerns me when the author for example switches to one of his philosophical modes and proclaims,

> 'There is no evidence to indicate that it [the living world] was shaped by the mind and will of an external creator [p. 190] ... evolution as a fact of biological history [p. 191] … Natural selection emerges as the preeminent creative force to which we owe all the marvels of biology' (p. 192).

The cell certainly *is* a marvel of design. But when Harold finds 'no cosmic plan, only molecules whose writhings and couplings underlie and explain all that the cell does' (p. 65).

Roots of the 'tree'

In Chapter 8 Harold tries to unravel the early history of life and regrets 'that more than three quarters of that history does not lend itself to public display, for it is wholly the record of microbial life' (p. 159). He has a diagram of a basic 'tree', but he says,

> 'there is no simple relationship between evolutionary distance and the passage of time, and therefore

> the universal tree has no intrinsic time scale … it implies more than we know … Just in the past few years, new findings have appeared that conflict with the universal tree; not all students of microbial evolution would subscribe to it, and some would redraw the scheme altogether' (pp. 161–162).

After expressing his concerns about tree problems he still has the 'courage' to say, 'The great tree is likely to be seen as one of the triumphs of biology in the twentieth century' (p. 162).

Harold recognizes that evolutionary judgments are based upon both fact and surmise. Determining divergence patterns often are made on the basis of 'ribosomal RNA sequences' (p. 162). But protein sequences increasingly contradict 'the conventional wisdom' (p. 170).

In spite of the fact that the 'tree' is badly tangled at the present time,[3] and we understand less than we thought we knew in the past few decades, Harold and others maintain their 'faith' in a phylogenetic tree. For them there appears to be no acceptable alternatives. The origin of life is arguably the most significant episode for all biologists, and Harold considers that the second was the 'advent of eukaryotic cells' (p. 162). But as he strolls through the fossil gallery and muses about a sense 'of mounting complexity and sophistication' he candidly affirms that, 'Whether this trend is a real feature of evolution or only apparent, and if the former, what its nature and causes may be, are presently matters for debate' (p. 162).

The ultimate ancestor

'The postulate of a single universal ancestor, its biblical overtones notwithstanding, rests on a solid foundation of fact' (p. 169). The author based that conclusion on similar features including nucleic acids, proteins, lipid membranes, ribosomes, etc. He goes on to say that, 'The most compelling argument comes from the discovery that all extant organisms employ the same genetic code' (p. 169). The argument of course is based on the assumption that similarity indicates descent from common ancestry. This proposition is compelling only if one is committed to philosophical naturalism, and unwilling to recognize a designer/creator.

> '… There are presently no detailed Darwinian accounts of the evolution of any biochemical or cellular system, only a variety of wishful speculations.'

Origin of life

The enormity of the conceptual and technical problems pertaining to the origin of life (biopoiesis) may be glimpsed from Harold's summary of how he conceives that, strictly by chance (naturalistic) processes, life could have begun: presence of diverse localized and abundant organic molecules; compartmentation; stream of energy; mounting levels of complexity; energy flux to organization; transmissible, executable, alterable and repeatedly-tested genetic code (pp. 250–251). Harold summarizes the situation by saying,

> 'No satisfying scheme of this kind is presently on the books, and I have none to offer … The origin of life appears to me as incomprehensible as ever, a matter for wonder but not for explication' (p. 251).

Harold recognizes that these types of study constitute 'historical' science where the tools are 'soft'; 'hard science is stymied … the trail is too cold, the traces too faint' (p. 252). As I read this book I kept wondering, 'why not consider more seriously the options beyond your present parameters?'

Only naturalism

But Harold in a sense answers this question by affirming that his calling compels insistence 'at all times on strictly naturalistic explanations' (p. 250). For Harold this is a religious worldview that he recognizes as *inadequate* for judgments about direction, significance, purpose, good, evil, justice, oppression, the will to act, or even to make ethical choices (see pp. 255–258).

One may wonder just how a ship could sail (or a person live) without chart, compass or any guide. People must have some ethics and values—situational or smuggled. The author appears 'to wonder why, for all its achievements and manifest power, the spirit of science has traveled so badly … But it is not at all self-evident that, absent a belief in powers greater than ourselves, a decent and civilized society can be sustained for long' (pp. 254–255).

Harold criticizes 'Biblical fundamentalists' (p. 236–237), but he does not refer to the literature of those scholars who disagree with an evolutionary position or his anti-supernatural worldview. He says, 'We should reject, as a matter of principle, the substitution of intelligent design for the dialogue of chance and necessity' (p. 205). In the Notes at the back of his book Harold has a reference to Behe's *Darwin's Black Box*, but no discussion of this book, only the citing of one negative review. Then Harold continues,

> '… but we must concede that there are presently no detailed Darwinian accounts of the evolution of any biochemical or cellular system, only a variety of wishful speculations' (p. 205).

Harold also concedes that,

> 'a chance origin [of life] commands much less respect than it did a decade or two ago, for two reasons.' The first is the enormous improbability (not enough time and atoms for all the necessary trials). The second reason is that 'science cannot really deal with unique events, which are effectively miraculous' (p. 239).

Why reject God?

So why is consideration of a supernatural causation for the origin of life rejected by Harold and many 'mainline' scientists today? The general scientific consensus that there was a naturalistic origin of life about four billion years ago is accepted because, first, there is no 'palatable alternative,' and second, 'absent the presumption of a terrestrial and natural genesis there would be no basis for scientific inquiry into the origin of life' (p. 237). Of course all scientists recognize that physical tools are necessary for doing research on various aspects of life, but it is quite another matter to affirm that the physical is all there is.

With all due respect for Dr Harold's knowledge, accomplishments, clarity of thinking and honest expression, I feel that he clearly is wrong on both of the above presumptions. Now it is true that the majority of the scientific community, especially evolutionary leaders today, hold an atheistic worldview. But this certainly is not true for many thousands of other scientists historically and currently.[4]

Franklin Harold celebrates objective knowledge, which of course is important in all scientific research. However, tens of thousands of current scientists accept not only natural revelation (like the stars and the intricacy of life itself) but also biblical revelation (for example Psalm 19:1, Romans 1:19–20), which is another source of knowledge. Harold has rejected these other sources of knowledge saying, 'If life is the creation of some cosmic mind or will, it has taken care to hide all material traces of its intervention' (p. 254). In response to this pronouncement—I want to analogize that a person who looks just at the sand on a beach (attractive as it may be) could miss the glorious beauty of the light from the setting sun over the ocean.

If faith is defined as 'belief based upon limited evidence' and religion as that which is of 'primary importance' in a person's life, then the philosophy expressed in this book reasonably can be recognized as a faith-based religious position.

Conclusion

Just how successful has author Dr Franklin M. Harold been in the light of his stated purpose to present a scientific understanding of the present knowledge of 'life'? I think he has done this quite well! On the back cover of Harold's book is a quotation from *Booklist.* It aptly says,

> 'Harold has cleared a path deep into the perplexities now confronting biological theorists. And with rare candor, he acknowledges when those perplexities push us to the limit of science, leaving us to wonder and guess.'

However, in addition to sharing with readers a wealth of 'objective data' Harold has served a naturalistic philosophical worldview as a necessary stance in science. But many Christians currently active within the scientific community recognize that the complexity of life is a testimony regarding the greatness of Jesus Christ, the Creator God. This perspective is logical and completely satisfying, and rather than being an obscurantist view is an encouragement to understand better *His* creation.

Harold's is an exciting book with a wealth of facts, wonder, amazement, honesty in dealing with problems, plenty to excite and some to disturb. Referring back to speculations of Erwin Schroedinger as early as the 1940's Harold suggests that living matter could involve 'laws of physics hitherto unknown' (p. 6). This could be true.

However, a 'miraculous genesis' (p. 245) currently is not acceptable to Harold and some others in the scientific community. But the factual evidence increasingly is indicating more and more problems for a general theory of evolution as well as for a purely mechanical understanding of the origin of life. So I think the time is right for all scientists to recognize scientific alternatives to large-scale evolutionary speculations, and also the implications of supernatural involvement in their origins conclusions.

References

1. Frair, W., *Biology and Creation: An Introduction Regarding Life and Its Origins*, Creation Research Society Books, St. Joseph, p. 11, 2002.
2. Friar, ref. 1, pp. 42–43.
3. Frair, W., *Challenge of the Tangles*, in process, 2004; Jerlström, P., Is the evolutionary tree turning into a creationist orchard? *TJ* **14**(2):11–13, 2000.
4. For examples see: Morris, H.M., *Men of Science—Men of God: Great Scientists Who Believed the Bible*, 2nd ed., Institute for Creation Research, Santee, 1988; Barrett, E.C. and Fisher, D., *Scientists Who Believe: 21 Tell their Own Stories*, Moody Press, Chicago, 1984; Lamont, A., *21 Great Scientists Who Believed the Bible*, Creation Science Foundation, Queensland, Australia, 1995; Ashton, J.F. (Ed.), *In Six Days: Why Fifty Scientists Choose to Believe in Creation*, 2000; and Ashton, J.F. (Ed.), *On the Seventh Day: Forty Scientists and Academics Explain Why They Believe in God*, Master Books, Green Forest, 2002.