

**Impressions on Reading:**

**Life's Solution,  
Inevitable Humans in a Lonely Universe**

**by Simon Conway Morris**  
**(Cambridge University Press, UK, 2003)**

with a PS regarding  
one of Morris' references:  
D. A. Griffin's  
*Animal minds: Beyond cognition to consciousness*  
(Univ. Of Chicago, 1992)

---

**Wow! This is a book that lives up to its title!**

**I had just finished reading what I wanted from Michael Ruse's *Mystery of Mysteries*, which was respectful to Stephen J. Gould, but critical of his work and especially of his popular works on evolution. So I was immediately hooked when on its very first page (xi) this book also has a critical comment about S.J. Gould's vision of evolution being proof that the universe is mindless and purposeless, in so many words. He later in the book casts this selective attitude toward what are acceptable and unacceptable sources of knowledge as scientism, in so many words, and I agree.**

**Reading more of the book I came to the conclusion that it is the grandest update I could have imagined, and have actually hoped for, on what is new in evolutionary science. It deals forthrightly and uncompromisingly with the old creation-**

**science enthusiasm and its child-bridge ‘intelligent design,’ and asks them semi-politely to ‘get lost’ forever. But at the very same time it presents a most gratifying discussion on the need for tolerance of non-scientific ways of knowing, with biting criticism against know-it-all scientism. I love this book.**

**Did it disappoint me too? Yes, but, so what?**

**So, what is this all about? It starts out by saying that evolution is a fact. Then it also says there is a lot we don’t know. It steps through many experiments I have heard and wondered about and mildly suggests, by citing others who work in this experimental area, that we really haven’t a clue about how life as we know it got started chemically. We may be on the wrong track, experimentally. It may forever lie beyond us.**

**But at the very same time Morris asserts that the almost infinite combinations and configurations of molecules that is possible is heavily constrained in terms of what really works. The biochemistry of life is amazingly suitable, and variants on its building blocks seem almost universally less suitable. So it is likely that life in other parts of the universe will settle in on the same subset of biochemicals and trace elements as our evolutionary path settled on. Here the book takes off into its main argument: just as there would be convergence on the same chemistry, so there would be convergence on the same adaptations. Life elsewhere may turn out to differ in details, but its general makeup will be what is seen here, it is inevitable.**

**I did not know until reading this book that the Earth, and its position in the Solar System, and its moon and larger fellow-planets, were so important to defining the conditions we take for granted as making our biosphere what it is: habitable by**

**and large. I did not know that about a billion years ago Mars was also in the zone of habitability that used to reach a lot farther from the sun than it does now. I had always thought that the Supernova, when the sun expands and swallows Earth, was the end of human life here. Now I find out that in less than a billion years, the ever shrinking zone of habitability (not too hot, not too cold, but just right) of the Solar System will begin to lie behind Earth, increased heat will then evaporate all free water and kill all organic life.**

**I did not know that the search for another habitable planet was going so poorly. Though many non-Solar-System planets have now been discovered, none are likely to be able to support life because of their size, position relative to their sun, and the nature of their sun. Hence the book's title, and its advice to not get one's hopes up about finding extraterrestrial intelligence anytime soon.**

**The book mentions one of my favorite works of science fiction, Mary Doria Russel's *The Sparrow* (I also liked its sequel and sent the author a note noting my appreciation). Morris obviously was struck by the believability of Russel's alien species: having human-like intelligence and sophistication of societal structures, being mammalian, but also being very non-human in thought and behavioral patterns. And that goes to the heart of what the Morris book is trying to say: that anywhere in the Universe that conditions for life are as right as here on this Earth, you will get life, and it will progress through the functional forms seen here, and at some point increases (surplus?) brain capacity, and even sentience, are going to be seen there eventually. It reminds me of the theosophical motto (taken from the ancient mystery religions): "as above, so below." Very different application of the**

**imagery, I know, but in a free-association way this is what came to mind.**

**Will the dominant intelligent species on that world look like us? Maybe not, but the fact that a grasping hand and relative safety from predators, together with a camera-type eye, is what evolution moves toward time and again suggests the differences will be somewhat less than the more outlandish science-fiction writers have dreamt up. Hence Morris' using Mary Doria Russel's science-fiction as an example of a credible scenario. Silicon-based life forms are science-fiction and incredible.**

**I did not know until I read this book what amazing intelligence some of our fellow Earth dwelling species have. Morris mentions speculations about sentience in a non-committal way, but does state that self-recognition (the ability to recognize a mirror image unequivocally as oneself) is a demonstrated fact among several species.**

**This is one of the areas where he got me excited and then let me down. I was thrilled to see the "sentience" word used. First it was used in a non-committal way on page 253, where "the possession of sentience by non-human species" is described to be an opinion held by some. After discussing many remarkable traits shared between humans and a particular type of dolphin (and several other species) Morris makes a point, still in this context, about self-recognition being fact (still on page 258). That was a teaser, to me, since my whole purpose in reading this whole series of books is to learn about consciousness and sentience, its nature, foundation and origins. So my heart-rate went up when on page 303 Morris says in part, in the context of the hardline evolutionists who see no purpose or meaning in evolution and no uniqueness to humanity:**

**Yet, to anticipate the next chapter, there is another view that is more optimistic. In this view of life all share the terrestrial Creation, but we need to acknowledge that not only does our unique knowledge reveal a transcendence in wholly remarkable ways, but it also enables us to understand how the emergence of sentience is imprinted in the evolutionary process. The implications of how we choose to use the natural world, not the least the other sentient species, will be obvious.**

**Morris is very critical of the agenda of the radical Darwinists who see no meaning or purpose and then conclude that all is fair game in terms of the manipulation of nature, and in a very religious sense promise a utopian future if people will just get out of the way and let science perfect humanity. In my reading of his many words on this topic, I sense that he is painting this attitude as an evolution-based secular religion with a very poor basis in fact.**

**So, the cause of my disappointment? After reading the above words I couldn't wait to get to the next chapter. But there, in the midst of some really good and insightful discussions, this specific topic of sentience is only briefly mentioned, with a reference to another book, one by D. A. Griffin called *Animal minds: Beyond cognition to consciousness* (Univ. Of Chicago, 1992 is the date on the copy I read) and then the footnote also refers back to this chapter! So, if I want to learn more about consciousness and sentience in other species I need to look at Griffin's book, I suppose.**

**Maybe I will. Maybe I won't. But as I just said, there is much to like in this book that gets close to, is related to, is important to, but just doesn't mention the 'sentience' word. For example, back in the chapter on "Converging to the Humanoids" Morris**

**informed and amazed me in describing some of the controversy regarding new hominid fossil finds and interpretations. Where the whole chapter and book is going with this plethora of related or relatable information is to suggest (yet once again, it is the refrain of the whole book) that evolution converges again and again on the same types of solutions to create beings who can function and survive in a suitable environment and create a biosphere. In this particular chapter's section on the highest convergence levels, leading to ourselves, Morris makes clear that we are not the same as our ancestors (page 282): "Self-evidently we humans are now utterly different. We have new concerns, new priorities and questions, and, most important of all, new possibilities."**

**Spoken like a New Age savant? I have already taken a peek into the last book I want to read for this series, a New Age book, and it apparently makes exactly this same point: there is an opportunity for us to now to both understand and aid evolution and create new possibilities. But Morris sees this attitude as full of potential danger if it is based only on genetic engineering as a basis for knowledge. One cannot accuse the New Age gurus of being that focused in terms of allowable sources of knowledge, can one? We will see in our next review.**

**In the last couple of chapter Morris goes into a speculative mode and what he writes is relevant to, even if not directly speaking to, my quest for understanding the nature, origin, and meaning of sentience. To my delight and, frankly, amazement, Morris did not at this point take a sharp turn into his own version of scientism (there were hints he didn't like the scientism he found in the works of some of his colleagues, but I thought he was just setting me up for his own brand or flavor of scientism). I expected him to take such a turn, and was**

ready to then regretfully leave him. It didn't happen. I stayed with him to the very end. Very, very unusual.

So, what was so delightful at the very end? His discussion of what is not quite right about the naturalistic, scientific view of a purposeless, meaningless universe "open to unlimited manipulation." (Page 313) On that page he notes that:

Yet. There are nagging doubts. Yes, it may all be due to a few misfiring neurons, perhaps an extra dollop of neuropeptide or whatever, but the fact remains that humans have an overwhelming sense of purpose. As a species we are strangely comfortable to find ourselves embedded in a teleological matrix. So the intention of the chapter is to begin to see whether the idea of a *telos* is redundant, to ask if some of our predecessors who saw their religious faith either ebb or hemorrhage were both misinformed or over-pessimistic, and to enquire whether some common ground can be regained.

You need to read this chapter for yourself, but on the next page 314 Morris invokes words from Arthur Peacocke saying that:

‘Somehow, biology has produced a being of infinite restlessness, and this certainly raises the question of whether human beings have properly conceived of what their true ‘environment’ is.’

Morris follows this quote with his own observation invoking the arts:

More often these pangs of want turn to a dissatisfaction that in turn seems to lead only to the futile and sterile, but songs and stories tell us this need not be so.

**Those words, in their turn, reminded me of what I heard in the funeral of famed Broadway and Utah Shakespearian Festival musical performer, Robert Peterson. According to his son, Robert felt that his calling in life was to help people expand their humanity through his performances. His performances (with the rest of his cast to be sure) took people into heights and depths of emotion that their normal routines sought to avoid. Thus, in a safe setting, their very humanity was being expanded and enlarged in its capacity to feel and to experience!**

**Back to Morris, who discusses fundamentalism as an evil on his next few pages and comes to the idea that this trait is also displayed in the sciences. The title of his subsection on page 323, "Genetic Fundamentalism" makes this very clear. Under this tile he begins by saying:**

**That biology can be co-opted for agendas, if not ideologies, that promise an ever-more-perfect future, albeit across piles of corpses, is evident from the lunacies adopted by totalitarian states. Such madness is, of course, a thing of the past – or is it? Now new distortions beckon, not the least those to be allowed by assigning a protean malleability to life as engendered by genuflection to the primacy of the gene.**

**Morris accuses E.O. Wilson on page 324 of such an attitude toward the primacy of the gene in his sociobiology treatises mentioned in the previous book review as causing a falling out between him and a formerly close friend and co-worker, R.C. Lewontin. He declares this view as ‘hopelessly simplistic’ on this and the previous page, and adds ‘hilariously’ to the adjectives on this page. His point, really, is that there is much more to behavior and life than genetics. In this vein he decries the search for genes that control unwanted behavioral**

**aberrations (schizophrenia and aggression are mentioned on page 323) as potentially dangerous since they may entirely miss the fact there are environmental triggers that can both cause and deter such behavioral problems. Genes may allow such behavioral misfirings, perhaps for good reasons in some cases, but they do not cause them just by their existence.**

**His next section gets to describing his idea for a "Path to Recovery." It entails respect for the fact that (pages 326-327):**

**At its simplest it is a precautionary principle, and more significantly a belated acknowledgment that the architecture of the Universe need not be simply physical. We should also recall, as if we need reminding, that we are mortal and limited, and thus should remember that the old myths of unrestricted curiosity and the corruption of power are not necessarily fables.**

**Second, for all its objectivity science, by definition, is a human construct, and offers no promise of final answers. We should, however, remind ourselves that we live in a Universe that seems strangely well suited for us.**

**Morris then reviews the content of his book and how it supports the latter idea of how strangely well suited this world is for life and ourselves. He recapitulates his argument made throughout the book that:**

**Not only is the Universe strangely fit to purpose, but so, too, as I have argued throughout this book, is life's ability to navigate to its solutions.**

**Morris continues in this vein and ends up with:**

**. . . at the heart of the study of evolution are two things. One, emphasized throughout this book, is the uncanny ability of evolution to navigate to the appropriate solution through immense ‘hyperspaces’ of biological possibility. The other, equally germane and even more mysterious, is the attempt to explain the origin of sentience, such that the product of ultimately inanimate processes can come to understand both itself, its world, and, as I have already noted, its [and thus our] strange sense of purpose. We need to also remember that scientific explanations need not be all-embracing, and indeed it would be surprising if they were.**

**This is almost an overdose of common sense regarding the nature and thus limitations of science. Morris carries this further on the next page (328), citing a philosopher of science, Michael Polanyi on the religious/artistic view of creation being**

**. . . a far more intelligent account of the nature and origin of the universe than the representation of the world as a chance collection of atoms.**

**Of course I think this goes too far because it makes a caricature of what science actually has to say about creation, and completely misses the ‘agenda’ for social control behind the Genesis account referred to prior to this statement. However, being in a good mood I accept the further point made by Polanyi, as cited by Morris, but only in the abstract and only in part:**

**The assumption that the world has some meaning which is linked to our own calling as the only morally responsible beings in the world, is an important example**

**of the supernatural aspect of experience which Christian interpretations of the universe explore and develop.**

**I find it unfortunate that the word ‘Christian’ is used rather than simply ‘religious.’ After all, the creation story referred to with approval a few sentences previous was not a Christian development, and every religion in the world has explored and developed the supernatural thing that the experience of being alive is. But, I am quibbling over the language being too specific, not over the general thought that life is more than can be determined by looking only at the ultra-structure of its mechanistic devices, props and substrates.**

**Of course, where Morris is going with this is to suggest there are, perhaps, ways "to reunify the scientific world-view with the religious instinct." He says that we really need to do so, that . . . "it will be our lifeline." If the scientific world view emerges triumphant (page 329):**

**. . . it will be a pyrrhic victory; the conquered kingdom will lie in ruins, strewn across a plain of infinite melancholy.**

**He then offers six points on which a religion-evolution dialogue can find common ground, and offers some parting thoughts I liked, one of which is that when we see a bug we may never know what it ‘thinks,’ but we can instead enjoy being astounded by the "complexity and beauty of ‘Life’s Solution’"  
.....**

**His last words in this chapter are these, speaking of his appreciation, as a scientist, for this ‘astounding’ ‘Life’s Solution’ insight he has communicated in this book:**

**None of it presupposes, let alone proves, the existence of God, but all is congruent. For some it will remain as the pointless activity of the Blind Watchmaker, but others may prefer to remove their dark glasses. The choice, of course, is yours.**

**These are the last words before an amusing, thought-provoking "Last word" chapter (an epilogue actually). I like Morris's style, I think he is right-on regarding the limits of science in explaining the nature of the astounding phenomenon of finding oneself a living being in this world. I did not quote some of his little caveats about the history of religion and its managers. I realize that he is not a naive where religion is concerned, but I agree that it is in the experience-base of human nature is appreciated within religious thought at deeper levels than can ever be approached by at least the physical sciences.**

**My readings tell me there are bridges between the insights of some key practitioners and savants of the behavioral sciences and the savants of the spiritual life. But my readings in that area also tell me that the former feel they are interpreting, and thus superior to the latter. And some want to improve on the latter (Jung's claim to be able to create the 'perfect religion' comes to mind). More scientism, to be sure.**

**Scientism is a reflection of a very basic human tendency. Morris calling it a scientific fundamentalism is right on the mark. Just as religious fundamentalism is 'religionism.' Another 'free-association' at this point is that in a talk I gave on Fermilab in Illinois to particle physicists I mentioned that there is a fundamentalism in the New Age movement as well. Having settled in their minds that the 'new physics' of the 1970s supported New Age ideas of the way the Universe operates, some among them strongly believed that future work**

**in particle physics was a total waste of time since the researchers would only discover what they expected.**

**It was with some pleasure that I found that one person in particular that one book made fun of as being a technician, not a true scientist, for his dogged insistence in continuing subatomic experimental work, was given a Nobel Prize for that work some years later! I was also please to find that a Nobel Laureate, a former Fermilab director by the name of Leon Lederman, had written a book explaining the quest of particle-physics called *The God Particle* (a scientific name if there ever was one, except that it was rather lightheartedly chosen). Part of that book poked fun at New Age gurus who insist they know the true structure of the Universe.**

**The ‘new physics’ of the 1970's has been replaced in the world of science, many of its then astounding insights have been overtaken by reality. The result? Much new and also astounding insight, many new particles detected and independently verified, and many new frontiers of understanding now lying open. The New Agers, well at least some fundamentalists among them, not me, are stuck in the 1970's and missing it all!**

**My point? Fundamentalism is a thoroughly human trait chosen to close the doors to uncertainty and/or to exercise power over others. It is to be regarded with suspicion, wherever it is found.**

**My other point? Actually, Morris’ book makes this point: to come to a better appreciation of the astounding complexity and beauty of the Universe, of life in it, and of being part of that life, look at all aspects of what is being learned in the scientific human adventure, to be sure. But also look to the other**

**sources of knowledge developed by human beings, in art and religion, and, I would add, in our very own experience.**

**Maybe that brings us back to a super-natural interpretation of our own being. That is not intrinsically bad, is it? It is only bad if we, for the sake of convenience, settle on one interpretation of that super-natural aspect and seek to defend it, mentally, legislatively, or even physically, against all incursions of further knowledge.**

**P.S.: Of course as soon as I finished this book I ran to the library read its main reference on conscious thought in animals made reference to above, by Griffin. (D. A. Griffin, *Animal minds: Beyond cognition to consciousness* (Univ. Of Chicago, 1992)**

**Looking through its main examples I see that Morris actually referred to many of them. Griffin's main points are that there is no justification for thinking that animals are not conscious, not self-aware, or do not think through situations to a primitive extent.**

**Griffin cites past 'scientific' treatises (declarations of 'fact') without real basis) suggesting there is no consciousness, no sense of self, and hence no real experience of pain and abuse in animals. He declares such pronouncements to be without scientific basis, and typically self-serving. He suggests that seeing animals as fellow conscious beings (Morris also made this point) influences, or ought to influence, how we treat them. But also suggests it is not the scientist's role to make such moral and ethical judgements for members of society or societies as a whole.**

**For example, how is a vegetarian (me for instance) supposed to cope with the fact that in spraying his vegetables so they will grow to maturity unblemished, millions of insects were killed? (I am a hypocrite: I will carry an indoor spider outside, but when overwhelmed with ants or roaches I urge my wife to call in the exterminator.)**

**Where is the line between use and abuse of animals? Should they be used for food and medical testing? Griffin gives no answers except to suggest that in light of animals being conscious, more weight needs to be given to their feelings and experiences where their treatment is concerned. Is an animal that lives in good health and comfort ill treated if its life is taken quickly and relatively painlessly? Is it justified to take a rat that has had a good life, anesthetize it well, and practice surgical procedures on it to save human life or reduce suffering? Griffin poses such questions and suggests it is up to individuals and societies to provide answers.**

**Such answers are not the purview of science. What Griffin legitimately did as a scientist, however, was to pull out the rug from under this debate that says ‘don’t worry, animals are not conscious, they are thus not aware of their suffering or pain.’**

**Did it give me any new insights into the nature of consciousness? Well, not really, the book confirmed my prejudices. It even confirmed my wife’s prejudices when I told her what it said. She dices her judgements just a little differently from me and eats meat, sparingly and occasionally. Hence my anemia, recently discovered, and her robust health? Let’s not go there.**

**One of the people cited by Griffin reiterated that it was simply prejudice to say that animals were not conscious. After all,**

**they have brains, just smaller and less elaborately laid out and connected perhaps, but if they obviously have them, why would we not think it equally obvious that they would them? Good question.**