

The gospel of evolution according to Mark Ridley

A review of
The Cooperative Gene: How Mendel's Demon Explains the Evolution of Complex Life
 by Mark Ridley
 The Free Press, New York,
 2001

Kevitt Brown

Reflecting the foundational nature of his work and the sarcastic anti-creationist views of the author, *The Cooperative Gene* might also be called the 'Gospel of Evolution According to Mark Ridley' (p. 111). The Oxford professor of zoology and author of many articles and books on evolution offers his followers a comprehensive examination of the complexities and difficulties with a modern understanding of the theory of evolution from the simplest molecules, to humans and even beyond.

Ridley's style is eminently readable and clear, full of witty analogies and teaching devices that help the reader to follow the complex nature of the subject material. That many of his points are taken at the expense of creationism and orthodox Biblical interpretation will no doubt endear him to the evolutionary faithful and irritate those of us who love science, sound reason and the Creator of it all.

For instance, Ridley mocks the inerrancy of Scriptures by using as his main illustration of DNA copying errors a Biblical scribe who makes mistakes of various kinds while transcribing the Sacred Text (p. 35). Clearly he hasn't the faintest idea of the fidelity of manuscript copying so that not a single doctrine of Christianity rests on one of the rare disputed passages.¹

He also trivializes Christ's work of redemption wondering, since 'God

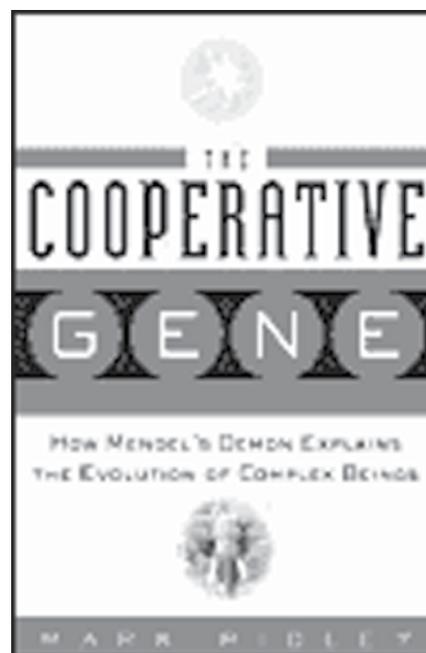
managed to load all human sin into one scapegoat individual, and purge all the moral error of a species in one death' (p. 267), would it also be possible for God to purge mutational errors of angels into only one of their offspring thereby improving upon the mechanism of Mendelian inheritance in humans which distributes mutational errors randomly among their offspring? While Ridley offers few direct criticisms of creationism, his use of sarcasm and innuendo suggests he cannot win the debate by evidence and sound reason.

The Cooperative Gene begins with chapters describing the evolutionary view of the origins of life and its sporadic increase in complexity over the eons. The explanation is state of the art and therefore quite instructive to creationists as well as evolutionists. For instance, Ridley defines life using circular reasoning as 'anything that can evolve by natural selection' (p. 6). He rather naïvely asserts that life must have been easy to evolve because it exists quite early in the geological record (p. 22). And then he rather arrogantly muses,

'We are left only with the puzzle of why laboratory research has failed to recreate it. I suspect it will prove to be one of those problems that continues to look difficult all the time until someone sees how to do it, when it will immediately look easy' (p. 23).

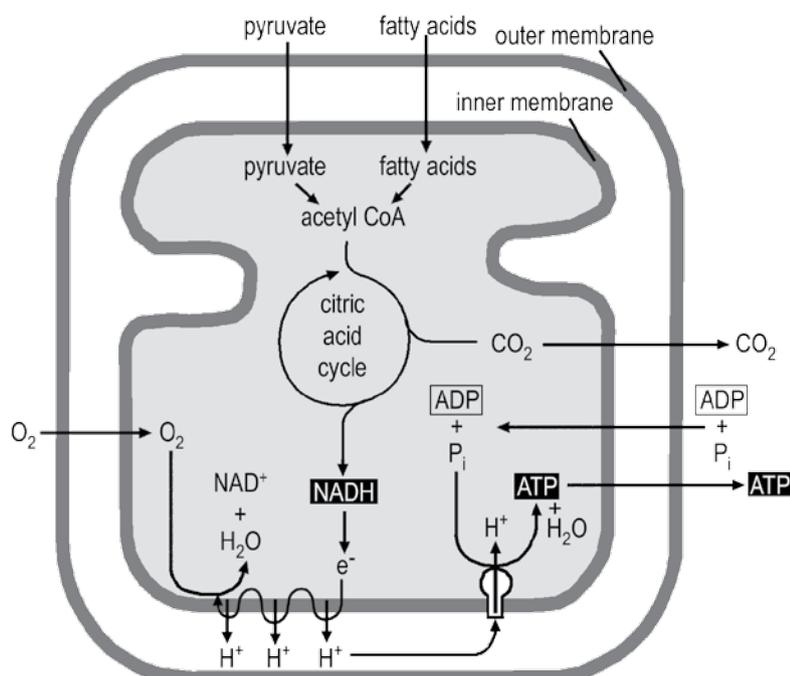
Of course, for God it was simple; He created the Earth and life only two days apart, by the mere breath of His Word.

From origins, Ridley turns to its simplest life forms reputed to have begun 3,500 million years ago and which he admits have not essentially changed in all the intervening years. This is no problem in Ridley's mind because bacteria and other prokaryotes became an evolutionary end in themselves (p. 16).



What is more puzzling to evolutionists and is the main theme of the book is why complex life arose at all and how it could increase in complexity. Ridley subscribes to the idea that the great evolutionary leap resulted from a merger of two prokaryotes to form a single eukaryote, a single celled organism with a nucleus and mitochondria bound by membranes. Perhaps one cell ingested the other, but eventually the genes of the lesser organism were reduced and became mitochondria or other organelles, while the dominant organism formed the nucleus with its command center (p. 134). This is a huge stretch, which Ridley admits, because there is no empirical evidence for such conjecture. So evolutionists again fall into circular reasoning: since the eukaryotic cell arose 2,000 million years ago, it must have evolved, no matter how unlikely the event (p. 163).

Following the reasoning of Michael Behe,² the irreducible complexity of eukaryotic life may be one of the strongest arguments against current evolutionary theory. It is impossible for a eukaryote to exist while waiting several millions of years for its mitochondria to evolve to supply the energy needs of the organism. Nor is it possible for a eukaryote to exist while its nucleus and complete cell command



Energy metabolism in mitochondria (after Alberts et al).¹⁶ Contrary to evolutionary belief, it would have been impossible for an 'early' eukaryote to exist while waiting several millions of years for its mitochondria to evolve to supply the energy needs of the organism.

functions including the blueprint for formation of the mitochondria are in a state of evolution.

Once a eukaryotic cell evolved, the next steps toward evolutionary complexity were to increase the amount of genetic information, according to Ridley. This is said to have occurred primarily by two mechanisms, 'jumping genes' and 'additions'.

Jumping genes are an apparently rare genetic event, much like viral excisions and incisions of DNA material, that may or may not drag along extraneous information with each jump episode. Although their existence is well documented, he failed to cite any proof that they could aid particles-to-people evolution as opposed to variation within a kind.³

A more common mutational event called an 'addition' is thought to be the primary mechanism of increasing genetic information. An addition is a copying error that occurs during cellular reproduction resulting in a series of duplications of DNA nucleotides, genes and/or chromosomes. To be of evolutionary consequence, natural selection must favor cells containing additions over normal cells either for

their greater complexity *per se* or after a series of additions and other mutations over long periods of time.

But this scenario involves a duplicated gene being switched off somehow so it is immune from natural selection, then mutating to another function, and finally being turned on again so natural selection can fine-tune it.

There is no evidence supporting this scenario. The facts all support the opposite, mutational loss of information as normative and when additions do occur, no new information arises, just more of the same information. The few examples given are extremely weak and more easily understood as wise elements of good design (pp. 38, 52).

Now if evolution has little issue with the origin of lower life forms, the development of complex life forms is very problematic. In higher life forms the number of mutations rises rapidly as gene numbers increase and organisms become more complex. This would culminate in a 'mutational meltdown' if the error rates ever reach one per offspring. Studies calculate the number of harmful mutations per child in humans as already in the

range of 2 to 20 (p. 103). Some of the errors in replication can be corrected by the double strand nature of DNA or masked by ploidy, naturally existing duplicate sets of chromosomes in higher forms of life (p. 71), but for creatures more complex than worms, another explanation is needed. This becomes the primary thesis of *The Cooperative Gene*. According to Ridley, complex life could not have evolved without the concurrent evolution of what he calls, 'Mendel's Demon'. It is really no demon at all but meiosis, the mechanism of Mendelian inheritance. Fortunately, the monk, Gregor Mendel, who almost two hundred years ago discovered God's plan for the inheritance of traits among offspring, unwittingly provides Ridley with a putative solution to this most intractable problem.

Meiosis, which occurs during sexual reproduction provides for a shuffling and then a re-pairing of genes at each generation so that mutations that would otherwise be deleterious are either not expressed (recessive alleles) or are concentrated in relatively few offspring that are then removed by natural selection, while the remainder are error free. What evolutionists fail to see is that God created sexual reproduction as early as the third day as part of His perfect plan. He designed the DNA information system of each organism to replicate itself first and foremost as a mechanism to provide diversity to reflect His glory in Creation. Meiosis randomly distributes the variation in the parents to their offspring. It wasn't until the fall of man and the curse of sin that mutations arose to begin the process of decline that proceeds to this day. That God can use the same process of meiosis after the curse to ameliorate the ill effects of the accumulation of genetic errors is to the glory of God and not to that of evolution. However, we may thank Ridley for pointing out the possibilities.

Several observations from the Creation perspective need to be made. First, despite assurances of Ridley concerning the benefits of meiosis, all the evidence still points to the decline, not the evolution of humans

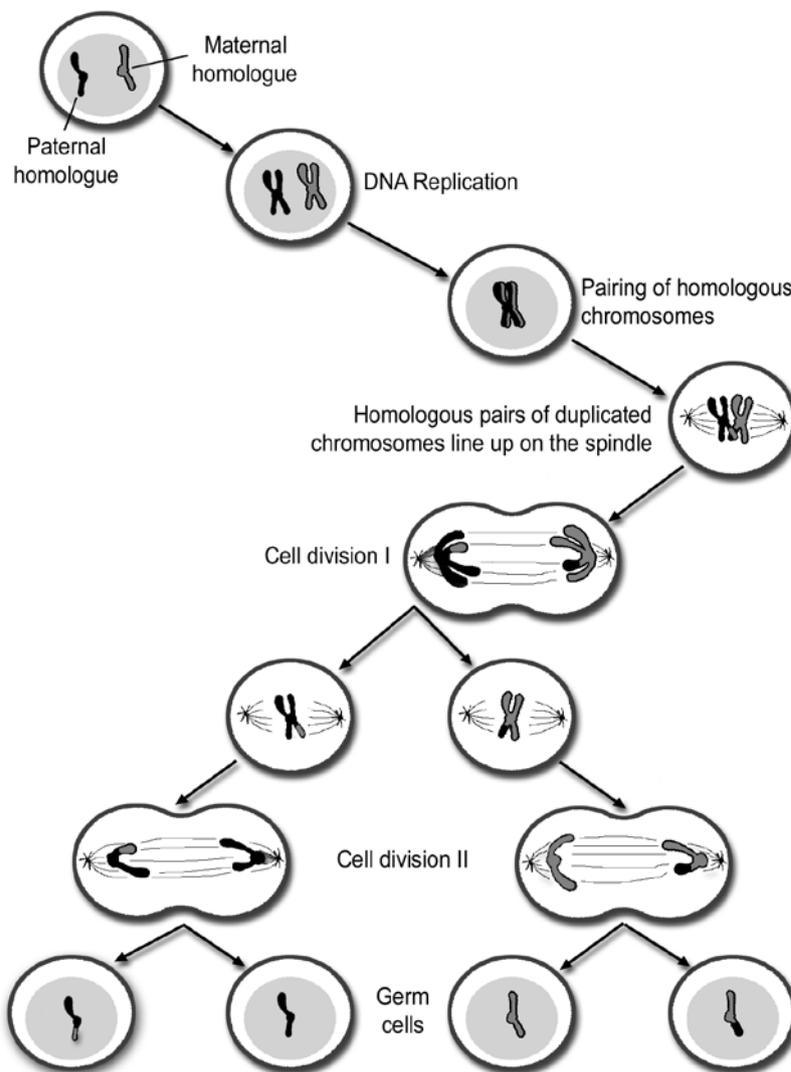
and other complex species. Sarfati summarizes the causes of the decline in genetic information.⁴ Since the Fall of man after sin, the full genetic pool of alleles of each species slowly and at times rapidly diminished as the forces of mutation, natural selection and genetic drift isolated small populations of the species and favored individuals with only certain survival related alleles. The harsh post-Flood world and subsequent Ice Age events are clear examples of genetic decline resulting in large-scale extinctions of whole species and genera. But examples of Darwin's finches⁵ and the now discredited case of the peppered moth,⁶ which Ridley and others often use to promote evolution, are really better examples of the decline of genetic information than its increase.

Second, in the words of creationist Gary Parker,

'it's not that good mutations are theoretically impossible. Rather, the price is too high. To explain evolution by the gradual selection of beneficial mutations, one must put up with the millions of harmful mutations that would have to occur along the way.'⁷

He proceeds to offer three lines of reasoning to dismantle the idea of mutations as a force for evolution: the mathematical impossibility, the wrong direction of mutational change, and the incapability that mutations have to compose new genetic sequences that actually specify something. In fact, even the rare known examples of beneficial mutations turn out to be information losses.⁸

Dealing with the harmful mutations, the mutational load, is a huge impediment to evolutionary attempts to explain increased genetic information. J.B.S. Haldane pointed this out many years ago using the theorems of population genetics, and no one has satisfactorily answered it. Haldane demonstrated that, because all organisms containing deleterious mutations have to die, and all organisms not containing supposed beneficial new mutations also have to die, that there has not been near enough time, because



Meiosis, or sexual cell division, randomly distributes the variation in the parents' genes and is God's plan for the inheritance of traits among offspring. God uses meiosis after the curse to ameliorate the ill effects of the accumulation of genetic errors.

of generation times and rates of reproduction, even with very optimistic assumptions, for higher organisms to evolve.⁹

Finally, there are powerful moral differences between the creationist and evolutionist viewpoints. While extreme evolutionists delight that genetic errors are concentrated and therefore eliminated by natural selection against certain individuals, God and the rest of humanity view these as personal tragedies worthy of love and compassion. For instance, I who have a rare form of cancer, the result of a genetic error of the lymphocytes, gladly testify: God is good; He makes no mistakes. He can draw hearts to Himself through any

tragedy and bring hope, peace, and even joy where there was only fear and despair. Evolutionists like Ridley only see a material world, in reality a delusion built as an altar of gene increases atop a mountain of dead and extinct creatures and dog-eat-dog existence as the way to achieve that dream.

Once Ridley makes his case for sexual reproduction in the evolution of complex life, he turns his attention to gender and courtship. His point is that these are part of the natural selection process and necessary for an individual to assess the genetic fitness of its mate to ensure against the propagation of genetic errors. Courting and territorial behaviors in Ridley's view all work

toward evolution. Males are said to have evolved to display their gene fitness and females to have evolved to detect gene fitness of males.

The author next turns his attention to cooperation versus competition among genes within an individual. Many potential problems are alleviated by the differences in sex gametes. It is supposed that male gametes evolved to be recessive, having very little except genes to contribute to the offspring, while female gametes (eggs) containing almost all of the cytoplasm and half of the nuclear genes are larger and play the more dominant role.

This raises an interesting conundrum: if the female contribution is more important than the males, then wouldn't sexual selection have evolved in the opposite manner to that proposed by Ridley? Would not the females be displaying their fitness to the males who have evolved the ability to detect the fitness of the females?

Ridley then moves to a speculative and imaginative discussion of 'selfish genes', 'assassin genes', and 'sister killer genes'. The possibility of such selfish and sinister genes which advance themselves by out competing other genes in the same individual but which might work around some of the Mendelian inheritance safeguards sounds like a real threat to evolutionary theory. But in the end, Mendel's Demon via meiosis saves the day by randomly distributing them to the offspring so they are just as likely to end up with a hypothetical 'killer' or 'victim' depending on the random event. Of course, he has no evidence for his speculations in this area.

Finally, *The Cooperative Gene* concludes with chapters on evolution of humanity and beyond. In a 'psalm' presented at the outset Ridley writes, 'Oh my soul, aspire not to immortal life, but exhaust the limits of the possible' (p. 229). This verse says it all. Natural man with his religion of evolution has given up his birthright of immortality among God's children for a bowl of human possibilities for which morals make little sense. Evolution offers a strange new world where

some, such as Ridley himself, decry natural selection on humans as an evil and oppose it on 'moral' grounds and would seek to intervene and contradict its effects upon the ones suffering the genetic errors while others trumpet the ravaging effects of natural selection and even advocate euthanasia and abortion of the less fit ones of our species. How little sense Philippians 2:8 must make to an evolutionist: that Christ with His vast superiority of genes, would sacrifice His life upon a cross before He could transfer His genes to the next generation, in an apparent act of symbolism to 'save' an error-prone race, of deaf, dumb and blind people.

Also turning morality upside down, Ridley opposes cloning but not on moral grounds. His problem is that cloning *per se*, only propagates genetic errors and does not deal with them. However, he much favors gene therapy that offers the future possibility of repairing gene mistakes at the DNA level. In Ridley's post-human world of reparative gene therapy, however, cloning would be a good idea as would alternate sexual practices. Ridley considers gender differences a 'fluke' of evolution and envisions a post-human species where gender and reproduction are not linked. A gay, lesbian, transgender or unisex world without reproductive barriers would suit evolutionism just as well because mate choice could occur across the whole population and not just the 50% of the opposite sex as it does today and therefore allow pairing of partners with higher genetic quality (p. 270).

What Ridley fails to see about God's original design for the linkage of sex and reproduction is that it encourages defined gender role differences so that the family unit becomes greater than the sum of its parts. Love and care for weaker individuals is also encouraged because it is at the heart and essence of God. A reproductive system that exists only to advance genetic quality rather than love and godly virtues would seem to be a selfish and sterile one, indeed.

Another concern creationists have

with evolutopia, the evolutionists dream to achieve genetic utopia at the expense of God's created design, is that they become the arbiters of what is defined as genetic improvement. Some of the worst atrocities occurred when political regimes fueled by evolutionist ideologies committed genocidal campaigns against Jews, gypsies, aborigines, etc. because they were deemed 'unfit'.¹⁰ And if test tube babies become available for gene assays, cloning, reparative gene therapy, or whatever new biotechnologies come down the pike, there is no telling what level of evolutopia could result. Again, the almighty gene as lord and master is the evolutionist's morality. And that is the gospel of evolution according to Mark Ridley (p. 111).

References

1. Geisler, N.L. and Nix, Wm. E., *A General Introduction to the Bible*, Moody, Chicago, 1986.
2. Behe, M.J., *Darwin's Black Box, the Biochemical Challenge to Evolution*, Simon & Schuster, New York, 1996.
3. Jerlström, P., Jumping wallaby genes and post-Flood speciation, *CEN Tech. J.* **14**(1):9-10, 2000.
4. Sarfati, J., *Refuting Evolution*, Master Books, Green Forest, 1999.
5. Wieland, C., Critique of *The Beak of the Finch: Evolution in Real Time* by Jonathan Weiner, *CEN Tech. J.* **9**(1):21-24, 1995; <www.answersingenesis.org/beak_finch>.
6. Wieland, C., Goodbye, peppered moths: a classic evolutionary story comes unstuck, *Creation* **21**(3):56, 1999; <www.answersingenesis.org/peppered>.
7. Parker, G., *Creation: the Facts of Life*, Master Books, p. 102, italics in original text, Colorado Springs, 1994.
8. See Wieland, C., Beetle bloopers. Even a defect can be an advantage sometimes, *Creation* **19**(3):30, 1997; <www.answersingenesis.org/beetle>.
9. Batten, D., 'The Biotic Message: Evolution versus Message Theory by Walter James ReMine', *CEN Tech. J.* **11**(3):292-298, 1997.
10. See the articles at Q&A: Communism and Nazism <www.answersingenesis.org/communism>.