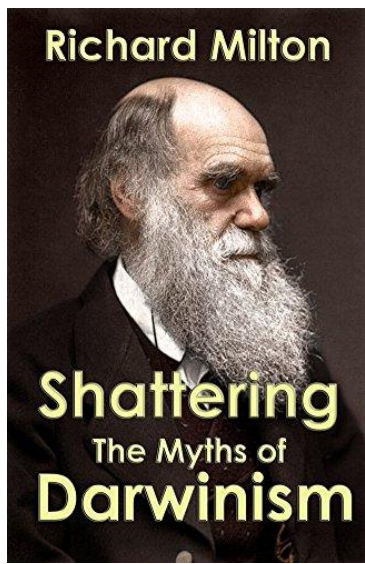




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## Shattering the Myths of Darwinism: A rational criticism of evolution theory

van Milton, Richard

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Richard Dawkins, a reader in zoology at Oxford University, wrote his review for the New Statesman magazine 'lest the paper commission someone else who would treat it as a serious scientific treatise'.<sup>[3]</sup> Dawkins devoted two thirds of his review to attacking my British publishers, Fourth Estate, for their irresponsibility in daring to accept a book criticizing Darwinism and the remainder to assassinating my own character in the sort of terms quoted above. Dawkins is employed at one of Britain's most distinguished universities and is responsible for the education of future generations of students. Yet this is not the language of a responsible scientist and teacher. It is the language of a

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religious fundamentalist whose faith has been profaned. Nature magazine, probably the most highly respected scientific magazine in the world, scented blood and joined in the frenzy. Its editor, John Maddox, ran a leading article that described me as believing science to be a myth (I don't) evolution to be false (I don't) and natural selection a pack of lies (I don't).<sup>[4]</sup> It also magisterially rebuked the Sunday Times for daring to devote most of one of its main news pages to reporting the book's disclosures.<sup>[5]</sup> These intemperate responses

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The simultaneous independent discovery by the three men - all of whom later had distinguished careers in biology - came at a time when Darwin's theory had been all but consigned to the scrapheap of history. The theory had tottered on for a few years following Darwin's death but had fallen out of favor because it lacked a credible mechanism that could cause change to take place in the species that populate the world. Darwin had suggested natural fluctuations in form, gently edging a species in one direction rather than another: like the giraffe's neck getting imperceptibly longer with each generation. But this phenomenon was nowhere observed in nature. Stability is the norm, not change - however slow - and Darwin's idea of 'heritable characters' was simply a nonstarter.

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When Hugo de Vries found his markedly changed evening primroses in the wild, he immediately surmised that he had found such a mechanism: not the trivial 'fluctuations' of Darwin but substantial 'mutations' that accounted for bigger, sudden changes in form. These mutations must be caused by radical changes in the basic program of heredity - what were later called genes. What de Vries and his co-discoverers had observed in pea plants was the tendency of certain genetic characteristics to dominate in a majority of offspring - for most of them to be tall when a short pea was crossed with a tall one. And it was this property, today called the first law of genetics, that Gregor Mendel had discovered with his pioneering efforts in the monastery garden in the 1860s.

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So, of the 4,600 million years of geological time that Darwinists have granted themselves, only a small fraction - less than 600 million - is actually available to accommodate the processes they believe to have taken place. Darwinian evolutionary processes are already running short of time.

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The latest fossil evidence indicates that the gap is much narrower and that Darwinists have run out of time completely. Geologists Hans Pflug and H. Jaeschke-Boyer studying the oldest known sedimentary rocks from Greenland, said to date from 3,800 million years ago, found fossil cell-like structures in 1979 which they named Isosphaera .[15] The fossils are those of a primitive yeast-like organism. In 1980, C. Walters, A. Shimoyama and C. Ponnampereuma examined Isosphaera for evidence of photosynthetic activity and announced ' we have now what we believe is strong evidence for life on Earth 3,800 million years ago.'[16]

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The meaning of these discoveries is unambiguously clear. If the first surface water formed 3,800 million years ago and the first micro-organisms came into existence 3,800 million years ago, then there was zero time available for the spontaneous appearance of life. Life, it seems, did not wait for blind chance to roll the dice, but erupted at the first available instant, leaving Darwinists with no time at all for their probabilistic processes. Strictly

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These findings indicate that the magnitude of the improbability of proteins and self-replicating DNA molecules forming by chance is so great as to be virtually impossible in the time we now know was available. The probability calculated by Yockey and confirmed by Sauer's experiments - 1 chance in  $10^{65}$  - is an event so improbable that it could be compared to winning the state lottery with a single bet on one set of numbers, and then continuing to win the lottery every week for a thousand years with the same set of numbers - possible, in principle, if you have eternity at your disposal: impossible, in practice, if all you have is a negligibly short time.

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Darwinists are not in the slightest dismayed by such improbabilities for they can always fall back on the claim that however improbable the accidents needed for the first protein molecules to come into being, they must have come about, or else we would not be here.

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Estimates of time based on disintegration of radioactive material enable various levels of evolutionary lineages to be dated and the time measured during which certain changes have occurred, thereby providing quantitative evidence of evolution rates and the duration times of genera and species.[24] This claim, which is universally believed and taught in schools and universities throughout the world, is entirely false. And when Darwinists speak of absolute dating of the geological column and the fossils it contains by radioactive methods they are quite mistaken, there is nothing absolute about it. In fact the method ought to be referred to as 'comparative dating', because it dates the sedimentary rocks by inference alone through their relationship to the rare samples of igneous or primary rocks that are being dated.

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Darwinists needed time, and lots of it: uniformitarians had the geological theory that demonstrated great antiquity.

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Geologists needed a firm foundation for the relative dating and correlation of the many sediments piled one on another in the past - the many strata of the geological column: Darwinists were able to supply the key to the stratigraphical succession of the rocks by comparative anatomy of the fossils contained in those strata, interpreted along evolutionist lines. Thus an unusual academic interdependence sprang up between the two sciences that continues to this day. A geologist wishing to date a rock stratum would ask an evolutionist's opinion on the fossils it contained. An evolutionist having difficulty dating a fossil species, would turn to the geologist for help. Fossils were used to date rocks: rocks were used to date fossils. A

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Adherents of the old-earth theory have responded first by seeking to minimise the discrepancy - claiming that it is 'around 10 per cent' when it is really as great as 38 per cent - and second by saying that the proportion of radiocarbon in the terrestrial reservoir may fluctuate over time and that we are currently going through a build-up phase. There is no scientific evidence to support this view but to someone who already believes in an old earth, the conclusion seems self-evidently more reasonable.

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The only conclusion that can be safely drawn from the discordance between the uranium-lead and uranium-helium dates is that this form of radioactive dating is unreliable.

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The truth is that, to those who dated the KBS Tuff, the chosen date of 2.6 million years seemed to be more 'reasonable' than 0.5 million or 17.5 million. And the word reasonable in this context can be interpreted only as meaning consistent with uniformitarian and Darwinist beliefs on dating. The objection to this viewpoint is that 'being reasonable' is not an acceptable substitute for scientific measurement and proof. The fact is that presently it is impossible to say with any confidence how old the Earth is.

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At almost the same time that work began on the excavation of the biblical Ur, a German meteorologist, Alfred Wegener, published a theory that was greeted with universal derision by the world scientific community - continental drift.

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Wegener's idea - that the major land masses were once joined, but have subsequently been forced apart - was regarded by geologists little more than forty years ago as belonging to the lunatic fringe of pseudo-scientific beliefs. Yet since the 1960s, the evidence for continental drift has become overwhelmingly convincing and few today doubt its validity.[55]

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Perhaps to disguise their embarrassment at rejecting the idea so scornfully in the past, uniformitarian geologists have made continental drift respectable by rechristening it as 'plate tectonics' - a subject now included in all geological curricula and text books.

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As far as Darwinist theory is concerned, examples such as the Sumerian flood deposit, and the possible sudden dissolution of the arctic ice cap, have a special significance. Darwinists reject any geological findings that point to catastrophic, rather than gradual formation of rocks for they threaten to reduce dramatically the historical time scale available for evolutionary processes. Yet such rejection is surprising in the light of the geological evidence that contradicts the idea of slow, gradual formation.

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What this means is that nowhere in the world is there known to be a complete sequence of sediments, from the oldest to the most recent, so that stratigraphy is largely a matter of comparison of one outcrop with another followed by inferences as to their relationship to each other and similar outcrops. Sometimes, this process is relatively simple, as in the case of the chalk cliffs which are cut through by the English Channel but which crop out in the same way, with the same fossils, on the coast of France. Sometimes, the comparisons are much more difficult and may depend on complex and sensitive techniques like finding thin strata with a characteristic electrical resistivity or characteristic mineral content which can be traced from one country to another - or even one continent to another.

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Most non-geologists (and perhaps even some geologists) will be surprised to learn that observations of modern geological processes show, however, that nowhere today are there rocks being formed anything like those in the geological column.

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The main types of sedimentary rock, and those most commonly found in the geological column, are sandstones, limestones, dolomites, siltstones, mudstones, shales, conglomerates and evaporites. Sandstones are formed from loose sands, such as those found on many beaches today, being transported and deposited by moving water. This process can be observed today, but the sands only become lithified - form solid stone - under special conditions.

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The chief requirement for the production of sandstone from waterborne sand grains is the presence of a cementing agent (that is, the presence of very fine grains which bind the sand grains together). This process is very familiar to anyone who has ever mixed up a batch of sand, cement and water to tackle some job around the house - and obviously involves lithification of sand in a matter of hours, rather than millions of years. (Incidentally, the process works just as rapidly even under water, as in the case of concrete marine jetties poured between tides.) Much the same observations apply to the lithification of shales, clays, siltstones and mudstones. They, too, require a cementing agent in the form of smaller particles to bind them, and when such a binding agent is present, they 'set' rapidly.

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What conclusions can we draw? According to Berthault, 'These experiments contradict the idea of the slow build up of one layer followed by another. The time scale is reduced from hundreds of millions of years to one or more cataclysms producing almost instantaneous laminae.' These innocent-sounding words are the death knell of the idea that the existence of thousands of meters of sediments is by itself evidence for a great age for the Earth.

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Certainly the custodians of the geological column at London's Museum of Natural History cannot fail to be aware of such discoveries. Each morning, on their way to work, they pass in the museum's grounds a fossilized tree trunk from the Lower Carboniferous, excavated at Craighleith quarry, Edinburgh, which originally measured some twenty feet or more in height. If, as the evidence presented here suggests, coal was formed rapidly, what about the other sedimentary rocks in the geological column? Might they too have been formed in some relatively rapid catastrophic processes rather than slowly over millions of years?

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Geologists and astronomers were so virulently opposed to Velikovsky's book that they threatened to boycott the scientific textbooks of his publisher, Macmillan, forcing the firm to turn Velikovsky's work over to another publisher, Doubleday, who was not involved in textbook publishing and hence not susceptible to academic blackmail. Today, only forty years later, a concept closely similar to Velikovsky's is widely accepted by many geologists - that the major extinction at the end of the Cretaceous (and possibly other extinctions) were caused by collision with a giant meteor or even asteroid.

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These examples can be multiplied almost endlessly, yet few modern geologists are prepared to accept that major features of the Earth's crust could have been caused by singular events, because such an admission seems to open the door to some kind of geological anarchy which threatens the orderly arrangement of exhibits in their glass cases.

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Of course, it is not essential to have a complete skeleton in order to describe an extinct creature anatomically with a reasonable level of confidence. It is, however, more than a little disturbing to learn that the descent of horses is being offered as the decisive evidence in favor of evolution on the strength of so little real physical evidence, and with so many gaps filled only by speculation. It is especially troublesome, for instance, to learn that there are no known fossils of the creature that is said to have preceded Eohippus and that there is also a gap in the proposed sequence immediately after Eohippus and before its proposed descendant Miohippus . We are entitled to ask: what exactly is it that connects them scientifically? The problems that have bedeviled horse paleontology also beset every other branch of the science. Indeed, the gaps in the fossil record are reflected in the living world where many major animal and plant groups are high and dry with no discernible predecessors. The development of the entire order of mammals is missing from the fossil record, from its supposed shrewlike ancestor of the late Cretaceous until modern times.

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Like the horse fossils, all this seems very convincing - until you subject the claims to a detailed examination. The idea that Archaeopteryx had descended from dinosaurs was first floated in the 1870s by Darwin's champion Thomas Huxley because of the persuasive similarities of the legs and hips of birds with those of dinosaurs. However, in offering Archaeopteryx as a descendant of dinosaurs, Huxley was ignoring one important inconvenient fact - Archaeopteryx, like all birds, has a wishbone (analogous to the mammalian clavicle or collarbone) whereas dinosaurs did not possess collarbones.

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In 1926 Darwinist paleontologist Gerhard Heilmann published a very detailed review of all the evidence for bird origins and carefully analyzed all the relevant anatomical questions. Heilmann concluded that the most likely candidates for the ancestor of Archaeopteryx were dinosaurs and that among these, the 'coelosaurus' (small bipedal carnivores) were the best candidates. Unfortunately, Heilmann wrote, dinosaurs did not have collar bones so a coelosaurus ancestry was out of the question. Heilmann proposed therefore that Archaeopteryx must have descended from a hypothetical pre-dinosaur ancestor from the Triassic period, and later developed fused collar-bones by 'convergent' evolution. This conclusion - despite its wholly hypothetical foundations and somewhat circuitous logic - passed into Darwinist lore and has been repeated in text books and museum displays ever since.

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Archaeopteryx has recently been subjected to even more embarrassment since it has lost its title as the earliest bird (if it is a bird). Sankar Chatterjee, professor of paleontology at Texas Tech University described a newly discovered fossil bird in the July 1991 Philosophical Transactions of the Royal Society. The new fossils, called *Protoavis texensis*, are those of a creature the size of a pheasant which was undoubtedly capable of flapping flight. They come from beds in Texas said to be 75 million years older than those in which Archaeopteryx was found. [82]

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In fact, more than 100 years of further intense collecting by well-funded professional expeditions has not yet yielded any of the remains that Darwin envisaged and Africa and the Middle East (the areas 'most likely') have now been thoroughly searched. There are early apelike remains and there are early hominid remains. Indeed the store of primate fossils has been multiplied a thousandfold since Darwin. But the only 'missing link' so far discovered is the bogus Piltdown man, where a practical joker associated the jaw of an orangutan with the skull of a human. Darwin also gloomily confessed in *The Origin of Species* that; The number of intermediate varieties which have formerly existed on Earth must be truly enormous. Why then is not every geological formation and every stratum full of such intermediate links? Geology assuredly does not reveal any such finely graduated organic chain; and this, perhaps, is the most obvious and gravest objection which can be urged against my theory.

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Some evolutionists have explained the absence of transitional remains by suggesting that evolution proceeds in fits and starts. A species like *Eohippus* could remain stable for a long time - perhaps millions of years - thus giving rise to many individuals, some of whose bodies are fossilised. But then there is a spurt of evolutionary activity and *Eohippus* relatively quickly mutates into *Mesohippus* which again remains stable for millions of years and gives rise to many fossil remains. Again, any reasonable person can hold this view quite properly. But as before, he cannot hold it by virtue of the evidence of the geological record, because there is no paleontological evidence for such evolution in bursts - except the lack of transitional fossils which was the very reason for the existence of this point of view.

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The system of taxonomy or zoological classification which provides us with the concepts of 'species', 'genus', 'family' and with the classification of animals into 'orders' such as mammals and reptiles, is something that we take very much for granted today, to the extent that it has become absorbed in our everyday language. The system was devised some two hundred years ago by the Swedish naturalist Carl Linné, and has subsequently been adopted by the international scientific community. The modern Linnaean system of classification is bound by very strict rules governing the admission of each newly discovered animal and plant to the catalog of species. Immense care is given to the smallest detail of nomenclature and its application, so that the system will not fall into disrepute through misuse. Yet despite the enormous utilitarian value of the system in providing a common international language for naturalists, and its great usefulness in cataloging the plant and animal kingdoms, the system cannot legitimately be used - as Darwinists often wish - to decide the question of the kinship, if any, between those plants and animals.

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If taxonomy and its handmaiden, comparative anatomy, are misleading in the living world, they are doubly dangerous when applied to fossils. When the zoologist studies the anatomy of living creatures and compares them, he has available evidence not only of the hard parts such as bones and teeth, but also of the structure of internal organs, the composition of blood, evidence of skin, hair, coloration and of processes and functions such as body temperature and method of reproduction, none of which survive in fossil form (except in a few freak cases). Often these nonsurviving features - whether it is cold-blooded or warm-blooded, whether it bears live young or lays eggs, and the kind of food it lives on - are crucial in describing an animal. As noted above, using taxonomy, evolutionists ascribed reptilian characteristics such as cold-bloodedness to dinosaurs, a belief now doubted by some paleontologists.

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When a paleontologist carries out his detective work on the lithified shell of an ammonite, he is compelled to employ intelligent conjecture from the outset. He is using the circumstances of the burial as direct evidence of the nature of the extinct creature that used to inhabit the shell. For example, the chalk in which cretaceous ammonites are found is believed to have been deposited in a warm, shallow sea. Thus the creatures found in the chalk will be expected to have been of the type who thrive in such shallow conditions. Obviously, the kind of circumstantial evidence and the kind of conjecture employed by the paleontologist will depend on the assumptions he has already made about how the rocks were deposited and what pattern of life he expects to see in those rocks. This kind of detective work is almost the opposite of that employed by the forensic scientist. Instead of providing a firm foundation of scientific fact on which the biologist may conjecture the various surrounding circumstances, the paleontologist, who is a convinced Darwinian, is providing a basis of conjecture on which the biologist may erect further conjectures - the 'fragile towers of hypothesis on hypothesis' referred to above by Thompson.

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If comparative anatomy is unhelpful (or misleading) in seeking to substantiate synthetic evolution, let us turn to one field where Darwinists must feel absolutely secure: the very heart of the theory, its central mechanism, natural selection.

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When he borrowed the phrase 'survival of the fittest' from Herbert Spencer, Darwin made it clear that he intended it to mean precisely the same thing as his own memorable phrase 'natural selection'. 'This preservation of favorable individual differences and variations, and the destruction of those which are injurious, I have called Natural Selection, or the Survival of the Fittest.' He wrote in *The Origin of Species*.

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It is certainly true that many creatures are at risk of losing their lives to hardship and to predators - sometimes even predators of their own species. But this form of conflict does not necessarily lead to the kind of competition that would promote a favored few. The majority of carnivores do not feed on prey that they themselves have just killed but are scavengers or carrion feeders. This includes legendary hunters such as lions or sharks who frequently eat not as a result of their own direct efforts but those of another lion or shark. (This is also true of humans.) Thus the 'successful survivor' is not necessarily the most capable hunter-killer and does not necessarily possess the characteristics of such a killer. It follows that if these characteristics are not present, they will not be preserved by breeding.

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The Darwinian concept contained another important tacit assumption: that it is within the power of individuals to take action to ensure their survival. That, for instance, the toughest, cleverest, most determined and most enterprising lion will ensure its survival by seeking out new territory and new sources of food when the prey runs out in its usual territory. But, of course, in many cases it is likely that prey has run short because of some natural calamity such as drought, fire, or flood. Even if the lion escapes the immediate disaster, there simply may not be alternative sources of food and no action it takes can affect its survival. By the same token, an unenterprising, cowardly, stupid predator in another part of the world may escape the drought or other natural calamity, survive and breed. So it is not the 'fittest' that survives but the luckiest - a quality which is not usually thought of as inheritable.

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The concept that the harsh action of the competitive environment is a valuable process that strengthens the breed and weeds out weaklings was a tacit part of the nineteenth-century view of evolution. Nature was a gigantic health club, forcing each species to shape up or ship out. If, in this harsh process, the weak went to the wall then that was too bad. It is merely nature's way of ensuring that only the fit survive. The source of this view is nature's indifferent cruelty to the millions of individuals of some species who are born but who perish before attaining maturity and mating. There are only a limited number of winning tickets. Those who fail to grasp such a ticket are doomed to die. Only the toughest and cleverest can wrest a passport to life from nature's cruel grip.

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The concept of the struggle for existence, though central to evolution theory in the nineteenth century, has receded in importance; today it is rejected as being either a non-contributory factor in evolution or actually detrimental to it.

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Natural selection is the process by which the most successful breeders populate the world, and the less successful breeders die out - regardless of their respective characteristics. Let us go back to first principles and apply this formula. The giraffe has a long neck because ? Here we get stuck. The only help we get from synthetic evolution is that the giraffe has survived because it has survived. Natural selection is unable to offer any evidence or insight into its evolution because 'the characteristics themselves do not directly matter at all.'

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What this really means is that Darwinists have become reluctant to try to explain any particular characteristic as being responsible for the giraffe's evolution - even regarding its long neck - because they would then have to show how and why that characteristic has favored the giraffe over other animals, some of whom are extinct. Natural selection has proved a completely inadequate tool for such explanation since it does not allow us to refer to individual characteristics at all. All that Darwinists dare say with impunity is that the giraffe has survived because it is 'adapted' to its environment - the modern way of expressing the old tautology. To summarize, the modern position of the synthetic theory is: the struggle for existence plays no part in evolution. The direction of evolution is determined solely by the characteristics of those animals and plants that are successful breeders. We are unable to say anything of why a particular characteristic might favor, or prejudice, the survival of any particular animal or plant. Thus

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As a theory, natural selection makes no unique predictions but instead is used retrospectively to explain every outcome: and a theory that explains everything in this way, explains nothing. Natural selection is not a mechanism: it is a rationalization after the fact.

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Harvard's Ernst Mayr has described one such experiment which set out to increase the number of bristles in one group, and to decrease the number in a separate group, but with both groups starting from the same stock with an average of 36 bristles. By selecting for lower than normal number of bristles over thirty generations, the experimenters were able to reduce the average carried by the offspring to 25 bristles. After thirty generations, however, the line became sterile and died out. The second group was selected for higher than average number of bristles and over twenty generations the average rose from 36 to 56. Again, however, sterility became so common that the experiment was wound up. 'Obviously,' says Mayr, 'any drastic improvement under selection must seriously deplete the store of genetic variability.' And, 'The most frequent correlated response of one-sided selection is a drop in general fitness. This plagues virtually every breeding experiment.' [95] This limit to the amount of genetic variability available in a species, Mayr termed 'genetic homeostasis'. It is the natural barrier encountered not only by geneticists attempting to breed fruit flies, and the French botanists attempting to increase the sugar content of the beetroot, but by all plant and animal breeders throughout the ages. Darwin himself, as a breeder of pigeons and other animals, was aware that the amount of variability available was limited. And although Darwin afterwards thought better of his statement about bears and whales, and removed it from later editions of his book, the substance of his claim nevertheless remains the central tenet of synthetic evolution - bears can become whales, or microbes can become elephants by means of random mutation and natural selection. Today, few Darwinists could be found to put their names to such a bald manifesto. Yet that is what they teach in schools and universities. Darwin's

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The natural limit on the amount of variation that can be induced in a species is merely the expression of the fact that nowhere in the animal or plant kingdom is there a species that is capable of the infinite biological plasticity demanded by evolution theory, capable of unlimited adaptation to different environments and different modes of life. Living organisms are systems with limited potential for change in which variation of one characteristic reacts on other characteristics, usually with unfavorable results. This finding is of central importance because it is one that Darwinists will usually accept, having considered the evidence, but will later on simply forget all about when they are speaking of the Darwinian concept of variation and natural selection. It seems to bring out the Jekyll and Hyde in evolutionists from Darwin down to the present. Darwin withdrew his claim that bears could change into whale-like creatures, yet he continued to believe that microbes had evolved into men. Because this is a central issue, it is worth looking in a little more detail at exactly how variation came to occupy the position it does in the synthetic theory.

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The word species is defined in the biological sense by the Oxford English Dictionary as 'A group or class of animals or plants (usually constituting a subdivision of a genus) having certain common and permanent characteristics which clearly distinguish it from other groups.' This definition seems perfectly straightforward. Yet the dictionary goes on to add a very rare caveat to the definition when it says 'The exact definition of a species and the criteria by which species are to be distinguished (especially in relation to genera or varieties) have been the subject of much discussion.' As we will see, this qualification is a masterpiece of understatement. The

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The most obvious immediate problem - both for biologists concerned with classifying nature, and for lexicographers concerned with classifying words - is this: if members of a species vary, how can you tell when a particular individual either is, or is not any longer, a member of the species?

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By the 1960s it had become clear that there were major problems with the biological definition. The very feature that seemed to be its greatest strength - its practical, empirical nature - turned out to be its greatest weakness. For in practice, the definition was found not to be workable. First, the test is not applicable to plants and animals that do not reproduce sexually such as sea squirts or self-pollinating plants. This is a substantial fraction of the biological world. Second, the test cannot generally be applied to plants and animals that are extinct and that are known only from their fossils. Again, this is the majority of organisms. Third, the test led to some inexplicable anomalies. For example there are some breeding populations (such as of the fruit fly *Drosophila*) that are described as separate species and that do not (or cannot) interbreed, but which are genetically identical.

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And, finally, there are a few known counter examples. For example, any offspring of a horse and an ass (a mule or hinny) should be infertile. Yet a few cases have been reported of hinnies bearing offspring. Similarly, the domestic bull *Bos taurus* can be crossed with a North American buffalo *Bison bison* to produce a hybrid, the cattalo, which is fertile. So the definition is a useful generalization, not a watertight criterion.

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There are a multiplicity of 'species' with a generic similarity: they live apart from each other and are 'confined' to different islands; they have adapted to the differences of habitat on those islands; they represent a graded series and look as if they have all descended from a common ancestor. These facts alone invite us to draw the inevitable conclusion, without any further evidence, that the finches represent an example of evolution by natural selection. And that is precisely the conclusion Darwinists have drawn for 150 years.

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We must also not forget that the words 'natural selection', if they mean anything, must mean 'choosing the one or the few from the many.' To select is to pick from a larger number. Thus whatever else 'natural selection' may be it is inescapably a mechanism that reduces biological diversity. At the same time, it is clear that Darwinian evolution is a process that essentially involves the increase of biological diversity - the origin of species, in fact, not their reduction. In seeking the creative engine of evolution in Darwinian theory, we must abandon 'natural selection' and turn instead to the other part of its twin mechanism, the phenomenon of 'spontaneous genetic mutation'. It is to this mysterious matter that we now turn.

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According to the same theory, 'somatic' or body-cell mutation cannot be inherited, and this is the specific reason that Darwinists are also anti-Lamarckian. They believe that even if an animal's mode of life should result in somehow bringing about mutation in the creature's body cells, there is no mechanism for these changes to be passed on to the next generation; only sexual cells do that job, not body cells. In trying to assess whether Darwinists have made their case, the key issue in molecular biology is the rate of mutation. This has to be frequent enough to provide a realistically probable occurrence of novelties, but not so frequent that no two generations are ever the same and evolution runs haywire. Too little and we are stuck in the primeval ocean unable to set the evolutionary ball rolling; too much and we are living in an unstable nightmare world of monsters. The question of just how much mutation takes place is of considerable importance, and is a much studied subject. What conclusions have Darwinists come to? Julian Huxley estimated that the rate of inheritable mutation was around one in every million births.[104] French biologist Jacques Monod has estimated the rate at one in ten thousand births.[105]

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The reason for this diversity of opinion between the professor of zoology at King's College, London and the director of Paris's Pasteur Institute is simple: it is because the beneficial spontaneous genetic mutation remains no more than a hypothetical necessity to the neo-Darwinist theory. No one has ever observed a spontaneous inheritable genetic mutation that resulted in a changed physical characteristic, aside, that is, from a small group of well-known and usually fatal genetic defects. Because no one has ever observed such an event, no one really knows whether they occur at all and, if so, how often. Because deleterious mutations are known to occur, Darwinists appeal to the statistics of large numbers. If deleterious mutations can occur, then given enough time beneficial mutations can occur. There is no evidence for this claim. But it is irrefutable.

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Dawkins's own way of dealing with the improbability of evolution by mutation, however, a way that is representative of the modern neo-Darwinist view, makes use of a fallacy many times more subtle than anything Paley dreamed of on his horological excursions. One has to observe each step of Dawkins's argument very carefully to spot exactly where the fallacy comes in. To get from a barren primeval Earth to a complex organ like the human eye in a single step, says Dawkins, would require random spontaneous events that are so improbable as to be practically impossible. However, he says, it is not so wildly improbable to get there in a series of small steps, each step requiring admittedly improbable events, but not so improbable as to be practically impossible. And, of course, vast ages are available in the geological past for these smaller steps to be accumulated. Adding up a long series of small, improbable but not impossible steps, can cumulatively give rise to a complex mechanism such as the eye which overall is of incredible improbability.

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More simply, you can get a result whose improbability is so great as to be practically impossible, by adding together a lot of little steps whose improbability is high, but nevertheless practically possible. Moreover, says Dawkins, if you break up the process into steps that are cumulative, it is quite likely that you only have to contend with one or a few steps of extremely low probability - those at the beginning - and once the evolutionary ball is rolling, the events required become less and less improbable.

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Suppose we have a highly improbable event such as a perfect deal in bridge, where each of the four players receives a complete suit of cards. The odds against this happening are billions of billions of billions to one. Let us assume that, since being manufactured, the cards have been used for 99 deals and on the 100th time the pack was shuffled the perfect deal arose. Can we say that each of these previous shuffles, deals and plays of hands (number 1 for instance) was a cumulative event that ultimately contributed to the perfect deal? Can we reduce the ultimate odds against the perfect deal by attempting to spread them around more thinly between the intermediate steps? Not afterwards, when we know the result, but at the time each step is occurring? The answer is no, we cannot. Like the supposedly evolving DNA, the cards have a memory in that the previous deals have contributed to their current order and the ultimate perfect deal. But being part way toward a perfect deal does not alter the odds on the ultimate deal, because some of the key random events determining the ultimate outcome have not yet taken place.

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The same is true of Dawkins's hypothetical evolutionary model. Although the earlier steps in his evolution process are seen retrospectively to contribute to the end result, that does not affect the probability of each intermediate step coming about at the time. It is certainly true that the minimum overall probability we have to deal with, when considering the evolution of a human eye, is a product of all the probabilities of the individual steps necessary to attaining that end. But paradoxically, this does not diminish the probability of each individual step when the need for the correct sequence is also taken into account. What Dawkins is saying with his cumulative evolution argument is that the probability of each single step in a cumulative process must be less than the whole probability of leaping straight to the end result, simply because each step itself is less than the whole. But this is simply wrong. The improbability of step number 1 being correctly followed by step number 2, correctly followed by step number 3 and so on for 100 mutations, is as great as leaping to the 100th step in one go.

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What is more, the greater the number of steps into which we break up the overall leap, the more improbable it becomes that they will all take place in the right order. Mutation number one might be the first step in evolving an eye (or magnetic or infra-red or X-ray detector). But the probability of the next mutation step affecting that organ being the second step needed for an eye is not increased thereby. It does not become any easier for an eye to come into being just because the first of the 100 or 1,000 accidents needed has taken place, even if that first step is a very important general innovation such as light-sensitive tissue.

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Modern Darwinists seem to have a profoundly optimistic belief that the occurrence at an early stage in evolution of such a fundamental innovation - cells which are sensitive to light - makes cumulative selection of vision somehow less improbable. But the existence of light sensitive tissue has no effect whatever on the probability of the mutation of a lens, or an iris mechanism or an eyelid or anything else. Of the vast range of characteristics spelled out by DNA, the next copying error is more likely to be about something else entirely - the beginnings of a wing or lung perhaps - or it may be the wrong step, such as providing eyelids before providing the muscles to move them, thus blinding their possessor.

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all the difficulties facing neo-Darwinism, the improbability of spontaneous genetic mutation leading to beneficial novelties in form ought to be the major source of concern. This is so because, as explained in the previous chapters, it is the one and only source of inheritable variation available above the species level - the ordinary variation caused by genetic recombination not being capable of producing novelties above the species level.

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The most important fallacy in this argument is the idea that somehow a result has occurred which is independent of, or in some way beyond the engineers, who merely started the machine by pressing a button. Of course, the fact is that a human agency has designed and built the computer and programmed it to perform the task in question. As with the previous experiment, this begs the only important question in evolution theory: could complex structures have arisen spontaneously by random natural processes without any precursor ? Like all other computer simulation experiments, this one actually makes a reasonable case for special creation - or some form of vitalist directed design - because it specifically requires a creator to build the computer and devise and implement the program in the first place.

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However, there are other important fallacies too. The only reason that the Boeing engineers are able to take the design produced on paper by their computer and translate that design into an aircraft that flies, is because they are employing an immense body of knowledge - not possessed by the computer - regarding the properties of materials from which the aircraft will be made and the manufacturing processes that will be used to make it. The computer's wing is merely an outline on paper, an idea: it is of no more significance to aviation than a wave outline on the beach or a wind outline in the desert. The real wing has to actually fly in the air with real passengers. The decisive events that make that idea into a reality are a long, complex sequence of human operations and judgments that involve not only the shaping and fastening of metal for wings but also the design and manufacture of airframes and jet engines. These additional complexities are beyond the capacity of the computer, not merely in practice but in principle, because computers cannot even make a cup of coffee, let alone an airliner, without being instructed every step of the way.

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In order for a physical structure like an aircraft wing to evolve by spontaneous random means, it is necessary for natural selection to do far more than select an optimum shape. It must also select the correct materials, the correct manufacturing methods (to avoid failure in service) and the correct method of integrating the new structure into its host creature. These operations involve genetic engineering principles which are presently unknown. And because they are unknown by us, they cannot be programmed into a computer. There

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Indeed, the discoveries of biochemistry and molecular biology have raised some rather awkward questions for Darwinists, which they have yet to address satisfactorily. For example, the existence of genetically very simple biological entities, such as viruses, seems to support Darwinist ideas about the origin of life. One can imagine all sorts of primitive life forms and organisms coming into existence in the primeval ocean and it seems only natural that one should find entities that are part way between the living and the nonliving - stepping stones to life as it were. It is only to be expected, says Richard Dawkins, that the simplest form of self-replicating object would merely be that part of the DNA program which says only 'copy me', which is essentially what a virus is.

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The problem here is that viruses lack the ability to replicate unless they inhabit a host cell - a fully functioning cell with its own genetic replication mechanisms. So the first virus must have come after the first cell, not before in a satisfyingly Darwinian progression.

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In embryological development, for example, organs that appear identical in different animals do not arise from the same site or group of cells of the embryo. Even a fundamental structure such as the alimentary canal, found in all vertebrates, is formed differently in different animals. In sharks it is formed from the roof of the embryonic gut cavity, whereas in the lamprey it is formed from the floor of the gut; from the roof and floor in frogs, and from the lower layer of the embryonic disc, or blastoderm, in birds and reptiles.

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It isn't only embryology that experienced such disappointments. In the 1950s, when molecular biologists began to decipher the genetic code, there was a single glittering prize enticing them. When they found the codes for making proteins out of amino acids, they naturally assumed that they were on the brink of discovering at the molecular level the same homologies that had been observed at the macroscopic level in comparative anatomy. If the bones of the human arm could be traced to the wing of the bat and hoof of the horse, then the miraculous new science of molecular biology would trace the homologies in DNA codes that expressed these physical characteristics. At long last, biologists were on the brink of opening Pandora's box and finding inside the final key to life: the chemical formula for an arm or a leg or an eye.

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Yet when biologists did begin to acquire an understanding of the molecular mechanism of genetics, they found that apparently homologous structures in different species are specified by quite different genes. Pandora's box turned out to be empty.

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There are other puzzles contained within homology both in principle and in practice. For instance, humans - and other four-limbed vertebrates - have hind limbs which are exactly homologous in structure to their forelimbs. Yet this cannot possibly be taken as evidence of common descent. Human hind limbs cannot have descended from human forelimbs. Moreover, if vertebrate limbs have evolved from fish anatomy then they must have evolved from different precursors: the forelimbs from the pectoral fins of the fish, the hind limbs from the pelvic fins. Yet today they are identical, apparently homologous, structures. The

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Perhaps by compiling a table of sequences of all the common proteins for all species we could get a quantified numerical picture of how closely or distantly related each species is? This hope, too, was dashed. According to Michael Denton; However, as more protein sequences began to accumulate during the 1960s, it became increasingly apparent that the molecules were not going to provide any evidence of sequential arrangements in nature, but were rather going to reaffirm the traditional view that the system of nature conforms fundamentally to a highly ordered hierarchic scheme from which all direct evidence for evolution is emphatically absent. What biochemists found when they compiled their table of proteins (such as cytochrome C) is that it is possible to classify species into groups and that these groups do indeed correspond exactly to the groups that have been arrived at by comparative anatomy. However, what is most striking about such a protein 'atlas' is that each of these identifiable groups or subclasses is isolated and distinct from the others. There are no transitional or intermediate classes, just as there are no transitional species in the fossil record or in the living world today. Denton

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Perhaps the most baffling finding of all is that radically different genetic coding can give rise to animals that outwardly look very similar and exhibit similar behavior, while creatures that look and behave completely differently can have far less genetic divergence. There are, for instance, more than 800 species of frogs, all of which look superficially the same. But there is a greater variation of molecular structure between them than there is between the bat and the blue whale. Denton points out that perhaps the greatest irony regarding modern discoveries in molecular biology is that, had this information been available a century ago to opponents of Darwin such as Richard Owen and Louis Agassiz, then Darwin's ideas on evolution might very well never have been accepted at all.

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The position today is that all the fossil remains which were previously assigned some intermediate status between apes and humans have later been definitely reassigned into the categories of either extinct ape or human, and this reassignment has been accepted by all but the most fanatical devotees of this or that fossil.

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First there is the gap between mammals and the rest of the animal kingdom. So far there is no candidate for the ancestor of all the mammals except a hypothetical one. No fossil remains have been found. As A. J. White points out, there are a number of distinctive anatomical differences between reptiles and mammals, chiefly the articulation of the jaw (mammals have a single lower jawbone while reptiles have six) and the mechanism of the ear (mammals have three ear bones, reptiles have one). So recognizing a transitional skeleton ought to be straightforward, if as Darwinists claim, mammals evolved from reptiles. [132] The earliest mammals are small rodentlike animals, but there is no evidence in the fossil record for the evolution of rodents or any other group of mammals. According to A.S. Romer of the University of Chicago, in his text book *Vertebrate Paleontology* ;

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Next there is the gap between the primates and the rest of the mammals. Again, the candidate for this honor is a hypothetical insectivore but no remains of this ant-eating ancestor have ever been found. According to A. J. Kelso in his *Physical Anthropology* , 'The transition from insectivore to primate is not documented by fossils. The basis of knowledge about the transition is by inference from living forms.' [133] Then there is the crucial gap: the gap between the hypothetical apelike primate ancestor and ourselves. Despite scores of candidates, the glass cabinet marked 'missing link' remains tantalizingly empty. No primate paleontologist has gone on record as admitting such a heretical thought but it is hard to resist the conclusion that it is now likely to remain empty. Richard Leakey has quoted fellow paleontologist David Pilbeam as saying; If you brought in a smart scientist from another discipline and showed him the meagre evidence we've got he'd surely say, 'forget it; there isn't enough to go on.' Neither David nor others involved in the search for mankind can take this advice, of course, but we remain fully aware of the dangers of drawing conclusions from evidence that is so incomplete. [134]

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This restoration must have come as something of a surprise to anatomists Jack Stern and Randall Susman of the State University of New York, who, in their 1983 study published in the *American Journal of Physical Anthropology*, described the anatomy of Lucy's species *Australopithecus afarensis*. They described Lucy's hands and feet as being long and curved, typical of a tree-dwelling ape. Indeed, their paper shows that both the finger and toe bones of Lucy's species are highly curved even when compared to those of a modern ape like a chimpanzee. [140] Just why Lucy should have been restored to have humanlike hands and feet, contrary to the known anatomical facts, remains a mystery which only her restorers can explain. Paleontologists have continued to make finds of bones and teeth in Africa, Asia and elsewhere. But despite more than a century of energetic excavation and intense debate the glass case reserved for mankind's hypothetical ancestor remains empty. The missing link is still missing.

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Today Lamarck is scorned as belonging to the prescientific (that is to say, preDarwinian age) and the charge of 'Lamarckism' is the most dreaded heresy in the evolutionists' canon. It is strange that such a distinguished biologist should be treated thus, especially since Darwin himself continually flirted with the inheritance of acquired characters and cited many examples, including the case of a man who was reported to have lost his fingers and later produced sons also without fingers.

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The specific reason that Darwinian geneticists reject any form of Lamarckism is their belief that the genes are unalterably separate from the cells of the body and that there is no route by which changes could be communicated to them from outside. This belief was first enunciated by August Weisman in his 1893 book *The Germ Plasm: A Theory Of Heredity*. It was restated as recently as 1970 by no less an authority than Francis Crick who, with James Watson, deduced the structure of the DNA molecule and the code by which it transmits genetic information. Crick said that genetic information could travel from DNA to protein but not from protein to DNA. [144] Both Weisman and Crick have been shown to be mistaken by the work of Howard Temin at Wisconsin University in 1971. Temin discovered that viruses can transport genetic material into host cells and embed it in the host DNA where it will later replicate itself using the host-cell's factory facilities for synthesizing proteins. In order to perform this biological confidence trick, the viruses manufacture a special enzyme which Temin called reverse transcriptase. For this discovery he received a Nobel prize in 1976. [145]

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Having found a two-way channel of communication between the genes and the outside world, science still lacked a mechanism by which the demands of the environment could directly affect the germ cells: how, say, the wading bird who is constantly stretching could transmit to his genes his desire for longer legs to stay dry. Three years after Temin stepped onto the podium in Stockholm to shake hands with King Gustav, a young Australian biologist, Ted Steele, proposed just such a mechanism. In 1979 Steele proposed that mutations could occur in body cells, be copied to other body cells by viruses and finally be transmitted by viruses to the germ cells of the sperm in men or egg in women, and so become inheritable. [146]

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Reg Gorczynski set out to duplicate Medawar's experiment but to find out if the established tolerance was inheritable. His experiment showed that 50 per cent of the offspring of the tolerant mice were also tolerant in the next generation and the grandchildren were tolerant in between 20 per cent and 40 per cent of individuals. [147]

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On the face of it, this experiment successfully demonstrated the genetic inheritance of acquired immunity. It is fair to add that a team of distinguished scientists including Medawar himself and Professor Leslie Brent of St. Mary's Hospital Medical School attempted to repeat Steele and Gorczynski's results and were unable to do so. The position at the moment is that the jury is still out. But regardless of the outcome of this particular experiment, it is no longer possible for Darwinists to assert that outside agencies cannot communicate genetic changes via the mechanism of DNA replication. They can. Additional,

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The second, a repeat of the Cairns experiments with tighter controls and extended objectives, was carried out by Dr. Barry Hall of Rochester University in 1990. The experiments were conducted on bacteria, principally the species *Escherichia coli*. What they demonstrate is that when the bacteria is deprived of certain essential nutrients such as the amino acids tryptophan and cysteine, they are capable in this extremely hostile environment of giving rise to descendants able to synthesize their own nutrients. What is taking place, believe Cairns and Hall, is that the bacteria are mutating and that the mutation is not random but internally directed by the needs of the organism in the direction of being able to synthesize the necessary nutrients.

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If these latest experiments are confirmed, it will almost certainly mean that we must look again much more closely at some form of Lamarckism. However unlikely it seems and however difficult it proves to obtain experimental confirmation, it looks increasingly probable that in some unknown way, individuals can not only adapt to their environment or way of life but can also sometimes pass on that adaptation to their offspring.

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Stephen Jay Gould and Niles Eldridge of Harvard have proposed a theory of 'punctuated equilibrium', in order to account for the lack of fossil remains of transitional species. They have suggested that evolution is not a constantly occurring phenomenon. Species may have remained stable for long periods of geological history, leaving many fossil remains, and the periods of evolutionary change, when they came, did not last for long. This would account for the lack of transitional fossils.[150] The difficulty with punctuated equilibrium is that it is wholly speculative and has been introduced simply to account for the lack of fossils that ought to exist in the neo-Darwinist theory.

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One professional biologist has gone so far as to question the very foundation of the life sciences, and the belief in a mechanistic, reductionist basis for living things. Rupert Sheldrake has audaciously confronted the kind of biological problems that most scientists prefer to ignore and has predictably been derided by some of his colleagues.

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Sheldrake has sought answers to the unexplained mysteries thrown up by research that are usually ignored by science. When a laboratory rat has learned a new trick in one place, other rats elsewhere seem to be able to learn it more easily. When new chemical compounds, such as antibiotics, are made for the first time they are difficult to crystallize but the more often they are made the easier their crystals form. When some birds first learned to open milk bottles on the doorstep, birds all over the country suddenly learned the same trick. Sheldrake's solution to these puzzles, proposed in his 1983 book *A New Science of Life*, is that organisms and species can learn, develop and adapt through a process he calls morphic resonance. [151] Living things are built on universal templates called morphogenetic fields, says Sheldrake, through which some plants and animals are able to regenerate damaged or missing tissue, as the salamander or starfish can grow a new leg.

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The reaction of orthodox science to Sheldrake's book can perhaps serve as the best modern illustration of the fate that awaits anyone who challenges the orthodoxy of neo-Darwinism. The editor of *Nature* magazine, John Maddox, ran an editorial calling for the book to be burned - a sure sign, many will think, that Sheldrake is onto something important.

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Recently, American biologist Gerald Geison was able to gain access to Pasteur's notebooks and has translated and published them. [152] Geison looked up Pasteur's private observations about the famous experiment and discovered that, in fact, Pasteur did find evidence that life flourished in his sealed sterile jars, but he chose to ignore it. He wrote 'I did not publish these experiments, for the consequences it was necessary to draw from them were too grave for me not to suspect some hidden cause of error in spite of the care I had taken.'

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In other words Pasteur's attachment to his theory was too strong to be overcome by empirical evidence even from his own experiments. More significantly, he chose to keep the contradictory evidence secret.

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Other researchers - most notably Wilhelm Reich - have insisted that there is experimental evidence which shows that elementary life forms such as protozoa assemble themselves spontaneously from decaying organic material. [153] Reich's 1950s experiments were replicated in 1987 by Dr. Robert Dew who published remarkably detailed color photographs of the process apparently taking place. [154] Interestingly, Reich, too, asserted that living things are informed by and develop through the agency of a bioenergy field.

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The ideas of Fred Hoyle and his fellow astronomer Chandra Wickramasinghe on an extraterrestrial origin of life are guaranteed to liven up an otherwise dull winter's evening at your local bar. Surprisingly, their proposal is not new. In 1908 the distinguished Swedish chemist Svante Arrhenius suggested, in his book *Worlds in the Making*, that living spores could be driven through space by the pressure of light from the stars.

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Hoyle and Wickramasinghe's proposal is based on their belief that interstellar space is filled with clouds of dust consisting mainly of cellulose or similar sugarlike organic material. The comet Kohoutek was examined spectroscopically on its near approach to Earth in 1973 and was found to contain at least two organic molecules, methyl cyanide and hydrogen cyanide along with rock dust, polysaccharides and related organic polymers, all of which are possible building blocks of life. The two astronomers' idea also involves the idea of the Earth colliding with a comet at some time in the past.[155] The authors say, 'The Earth could have acquired all of its volatiles - including all the oceans - from such collisions [with comets]. And, of course, the presence of organic prebiotic chemicals such as we have discussed would have led to a vast input of life-forming materials to the Earth.' Hoyle has made a powerful case for these ideas. In recent years several microorganisms have been discovered that can withstand the extremely hostile conditions of space. The bacterium *Micrococcus radiophilus* can survive exposure to x-rays at doses that would kill humans, while *Pseudomonas* has been found living quite happily in the core of an American nuclear reactor. Bacteria of the species *Streptococcus mitis* were inadvertently sent to the Moon in the unmanned Surveyor III in 1967 and were 'rescued' still alive two years later by the crew of Apollo 12 who brought back Surveyor's TV camera. The organism had been subjected to very low pressure and temperatures of minus 100 degrees Celsius.

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Using the mechanistic, reductionist approach of Victorian science, biology has not so much explained life as explained it away. The body is a machine; a matter of chemistry and electricity. Thought is merely a by-product of the computer-like brain which pulls the body's levers. Evolution is no more than a marriage of chance and chemistry. There is no ghost in the machine: man is the machine. It is out of this Frankenstein approach that neo-Darwinism was born and is sustained: by the science of Mendel and Kelvin, rather than that of Heisenberg and Planck.

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Few of his fellow biologists shared Driesch's view of nature. One exception is Alister Hardy, professor of zoology at Oxford from 1946 to 1963. In 1949 Hardy astonished the British Association for the Advancement of Science by suggesting in his presidential address to the zoological section that telepathy was relevant to biology. In the *Journal of the Society for Psychical Research*, Hardy wrote 'assuming the reality of telepathy the discovery that individual organisms are somehow in psychical connection across space is, of course, one of the most revolutionary ever made.'

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Finally, we have the Huxleyan idea that evolution leads to higher levels of organization. Again the real world of natural observations provides plenty of evidence that this idea cannot be correct. A virus is not a more highly organized organism than a self-replicating cell, it is less highly organized. Yet viruses must have evolved after cells not before, because they can reproduce themselves only by taking over the replication mechanism of a host cell. A snake is not more highly organized than a lizard, it is less so because it lacks legs and arms and moves like the primitive worm; yet Darwinists believe that snakes have evolved from lizardlike creatures - and there are many similar examples of regressive development. If such regression is a natural process in the interests of survival, then why doesn't the whole of nature regress to the genetic immortality of a single-celled organism, which is able to survive the most hostile conditions?

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In any other serious scientific discipline, such as physics or chemistry, scientists welcome the opportunity to test a new theory by seeking evidence that would falsify that theory. By contrast, in evolutionary biology, Darwinists avoid evidence that contradicts their theory; while actively seeking and claiming any and all evidence that might tend to support it. For instance, wherever there is any evidence relating to evolution as a principle, Darwinists claim that evidence for their theory of mutation and natural selection. There

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In this respect, Marx saw himself as applying the same reductionist analysis to a material world in which everything from chemistry to economics to human behavior was ultimately purely mechanical and could be reduced to its elements through rational analysis. The final social outcome of Marx's thinking was the planned economies of the former Soviet Union which, unsurprisingly, also turned out to be chaos-related and incapable of rational management. Charles and Karl, alike in their ideological domination of much of twentieth-century reductionist thinking, shared much the same fate as that century came to an end.

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Interestingly, Professor Wolsky in his book *The Mechanism of Evolution* points out that light-sensitive organs in all creatures seem to have evolved in the places where light falls most intensely, suggesting that - just like thick skin on the feet - this appears to be some form of design. [172] The Darwinist's traditional response is that mutations that cause eyes in the 'wrong' place would not be adaptive and hence would not be selected for. But here they are attempting to have their cake and eat it, for they also argue that (in Hardin's words) 'even a very poor eye would have some advantage'. Hence we should expect to find creatures with eyes in less than optimum locations, such as on the flanks or the base of the spine. But no such creatures exist, either today or as fossils.

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My personal favorite among the specimens in the black museum of incredible mutations, is the general matter of the alternation of generations. This is seen for instance in jellyfish who reproduce by releasing eggs and sperm into the sea. The fertilized egg does not develop into another jellyfish straight away but settles down to another form of life as a flowerlike polyp anchored to the sea bottom or a rock. Ultimately the polyp buds (in a different way from its parent jellyfish) and the buds grow into free-swimming jellyfish once more. In some types, the majority of time is spent in the free-swimming form with only relatively short spells as a polyp. The common sea anemone, on the other hand spends most of its time anchored to rocks and little as a free swimmer. The alternation of generations raises all kinds of fascinating questions concerning the adaptive advantage of such a way of life, and how it could have come about by microscopic mutations. It is hard to imagine how the alternation of generations could come about a little at a time - indeed this is one of the examples that made Richard Goldschmidt conceive his hopeful monster theory.

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The aspect that fascinates me most is that there is some kind of counting or timing mechanism at work here: a mechanism that recurs in animal and plant life. A few examples will explain. The artichoke plant, grown by gardeners for its fruit, will crop for three years; the plant then dies, or sometimes lives on but will crop no more. However, if a cutting is taken and planted, it too will crop for three years. The common variety of asparagus crown will crop for seventeen years and then cease. Human children have two sets of teeth: the first set come through in a miniature size appropriate to a child; the second set of teeth come through full grown at adult size even though they usually appear when a child is around only seven years old. There is a species of bamboo tree that flowers every 117 years, and cacti that flower every twelve years. The ptarmigan and the arctic fox assume a whitish coat in winter and a brownish one in summer.

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How does the sea anemone 'know' it is time to become a jellyfish? How does the artichoke 'know' its three years are up? How do the child's teeth 'know' they are second teeth and must be bigger than the first? How do they know what scale to be on at all? How do the ptarmigan and arctic fox 'know' when to change coat? And when to change back again? The answer may be a relatively simple matter of genetic coding. For example, adult-sized teeth may be the product of a genetically coded scale factor that is applied to every protein synthesis regardless of its function in the body. But it is very hard to see how a timing mechanism can operate - especially across the generations - without some global or systematic function being invoked that controls the entire organism in some way. And this is specifically what Darwinists say does not exist.

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Today it would be virtually impossible for any scientific paper that has anti-Darwinian implications to be published in Nature or in any serious peer-reviewed scientific journal, regardless of the scientific merits of its findings. To be an exception to this rule an anti-Darwinian paper would have to be of paradigm shattering importance, like Guy Berthault's papers on sedimentation or Cairns and Hall's experiment on directed mutation. Even then, publication of the results is likely to be hedged around with qualifications, argumenta ad hominem directed at the authors and technical quibbles that would never be directed at any paper supporting Darwinism

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A prime example of this academic censorship is the case of British biologist Warwick Collins. In 1976 Collins was studying biology at Sussex University under the eminent Darwinist Professor John Maynard Smith. Collins wrote a paper on sexual selection as an anomaly in Darwinian theory. Dr. John Thoday, professor of genetics at Cambridge, invited Collins to present an expanded version of his paper to an international conference of population geneticists - an honor for the young undergraduate. Collins says, 'In the paper I tried to extend further my doubts about the assumptions in Darwinian evolutionary theory. Out of courtesy I circulated the expanded paper to my distinguished tutor prior to the conference. Before I was due to take the stand, Professor Maynard Smith stood up in front of the conference and roundly denounced the premises of my paper.' After the conference Maynard Smith told Collins that 'he would use his considerable influence to block publication of any further papers of mine which questioned the fundamental premises of Darwinian theory.' [176] Collins has, indeed, found it impossible to have any further papers published up to as recently as 1994, when a paper he submitted to Nature was rejected without reason. Not surprisingly, Collins has left the field of biology. Darwinists have thus begun not merely to react to criticism by members of their own profession, and by creationists, but have gone on the attack. As in the case above, some of their methods of attack leave a very unpleasant taste in the mouth of anyone educated in the western liberal-intellectual tradition.

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The taboo on debating Darwinism extends to the broadcast media as well. In general, U.S. television networks avoid taking any serious stand on controversial scientific subjects like Darwinism. They know that if they do they can expect to be barraged with concerted complaints, and demands for retraction and suppression of the offending film by a number of voluble academics. Not surprisingly, few producers and directors are willing to run the gauntlet of such treatment. One

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It would be encouraging to think that the forces of academic censorship and the suppression of dissent were a thing of the past in today's open, multi-media communications-linked world. Sadly, the malign influence of those who appoint themselves scientific vigilantes is becoming, if anything, even more widespread. Richard Dawkins, for instance, was appointed professor of the public understanding of science at Oxford University in 1995. Dawkins has already shown the kind of methods he uses to foster the 'public understanding of science' when he covertly campaigned to have my article for the Times Higher Education Supplement suppressed. It is depressing to find that a professor of the public understanding of science interprets his role as meaning he must supervise the information that the public and academic community are allowed to see and hear, and hence prevent them from gaining access to evidence that contradicts the accepted Darwinian doctrines.

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