Icons of evolution revisited—all the old and new icons collapse

Zombie Science: More icons of evolution

Jonathan Wells

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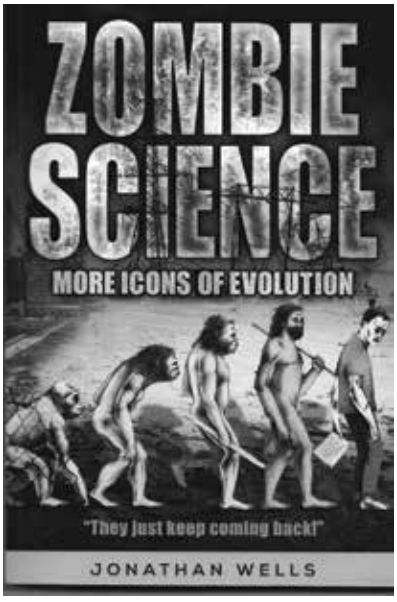

John Woodmorappe

In 2002, Dr Jonathan Wells wrote *Icons of Evolution*,[1] in which he identified common themes in college textbooks that are used to illustrate evolution, even though they are dubious or even discredited. In this forceful sequel, he re-examines and expands on this form of non-accidental mis-education.

Wells refutes criticisms of his original work, and shows that, far from being corrected, these icons not only persist, but have also been joined by newer icons. That is why we are dealing with zombie science—wherefrom the title of this book. Wells also shows that evolution, as currently taught, has a stifling effect not only on religion, but also on science itself.

Because there are so many worthwhile topics raised by Wells, it is a bit frustrating not being able to discuss all of them. My review is largely limited to the better-known icons.

Evolutionistic ideology … not innocent mistakes!

One common evolutionistic exculpation for the icons, voiced by leading evolutionists (e.g. Coyne, Pigliucci, Padian, and Gishlick), is that they are merely the kind of trivial errors that inevitably occur in any publication. They most certainly are not. Wells gives the example of a physical science textbook in which a caption and photo had accidently been mismatched (pp. 49–50). It was promptly corrected in the next edition. Not so with the icons, which, as demonstrated repeatedly by Wells, continue to reappear in textbooks year after year after year.

In fact, Wells could have made his case, for the hollowness of the exculpatory 'innocent errors' arguments, even stronger. The high cost of college science textbooks is often explained (away) by the claim that such textbooks must frequently be replaced in order to ensure that they are scrupulously up-to-date and accurate. If that is so, then that is all the more reason that the icons should have disappeared long ago. Instead, editors are in no hurry to correct errors or discredited information in science

textbooks, as long as they promote evolutionary theory.

Perhaps the icons could be excused as myths—that is, as not-quite-accurate stories that are legitimately retained for their educational clarity. Wells will have none of that. He quips:

> "All of the icons of evolution misrepresent the truth. The evidence does not justify the sweeping claims that they are made in their name. They should be empirically dead to any informed, rational observer, but they keep coming anyway. Textbooks still carry them, but textbooks are not the main problem. The main problem is the scientific establishment's determination to promote evolution in spite of the evidence" (pp. 78–79).

It all boils down to this:

> "The icons of evolution are not textbook mistakes. They are used to promote a grand materialistic story even after scientists have shown that the icons misrepresent the evidence. They are tools of zombie science" (p. 169).

A few of the old icons

The Galápagos Island finches go back to Charles Darwin and his *Origin of Species*. However, they did not show what is claimed for them then and they still do not show it now. Wells comments:

> "The Galápagos finches have provided evidence for differential survival correlated with environmental changes—that is, for natural selection. But the finches do not provide evidence for the origin of new species, organs or body plans—that is, for evolution" (p. 70).

Now consider the peppered moths. They persist as icons even though, a few decades ago, studies had demonstrated that peppered moths do not normally alight on tree trunks as illustrated in biology textbooks. Consequently, differences or similarities between the colouration of the tree trunk and the colouration of the moths are irrelevant to the moths' survival. Moreover, newer studies have failed to convincingly demonstrate that the observed numerical asymmetry of light and dark moths has anything to do with differential vulnerability to predators in the first place.

The giraffe, with its long neck, is an iconic example of evolution in action. According to textbook orthodoxy, wrong-guy Lamarck had suggested that constant neck-stretching by the giraffe had eventually caused the neck to lengthen in successive generations, while our hero, right-guy Darwin, had correctly suggested that natural selection had favoured the survival of the long-necked giraffe, at the expense of short-necked giraffes, owing to the ability of the long-necked variant to reach high forage. Wells discusses the inferred mutations behind the alleged evolution of the long neck. However, he could have pointed out that the textbook account is a gross oversimplification. There are in fact *several* different currently held evolutionary hypotheses, all of them conjectural, for the long neck. For example, instead of reaching high vegetation, the long neck may actually be the outcome of sexual selection. Alternatively, and in addition to the giraffe's long legs, the long neck may be the response to selective pressures for thermoregulation (that is, a heat-dissipating increase in the ratio of body surface area to body volume).

Now consider another hoary icon—the 'human tail'. Wells shows that it is nothing more than a birth defect. However, he could have made his case stronger by considering birth defects that no evolutionist would claim to be 'atavisms'. Thus, for example, the sixth finger is a birth defect, nothing more. However, had evolutionists believed that humans evolved from six-fingered ancestors, then surely a sixth finger today would be proclaimed an evolutionary 'atavism', and elevated into an icon.

No discussion of old evolutionary icons would be complete without the appendix—the vestigial organ par excellence. Wells summarizes numerous evidences that the appendix is functional—as a lymphoid organ and as a reservoir of intestinal bacteria. Faced with this evidence, some evolutionists have now conveniently redefined the term 'vestigial organ' to mean one with a reduced function instead of a non-existent function. This effectively eliminates the original vestigial-organ argument by folding it into the one on homologies. That is, the structure in organism (A) does something different from the corresponding structure in organism (B). Big deal. And, as in all evolutionary arguments based on homology, it does not tell us if this difference arose from common evolutionary ancestry or if it arose from common design by a Designer. In addition to this, the 'reduced function' argument assumes that something qualifies as a 'full' function. It is frankly laughable. For instance, if evolutionists believed that bicycles had all evolved from a common ancestor, would they be saying that the switchable multi-gear bicycle is a manifestation of full function, while the single-gear bicycle exhibits reduced function, and is therefore vestigial?

Other evolutionists (e.g. Jerry Coyne) have 'moved the goalpost' further by re-defining a vestigial organ as one with a changed function instead of non-existent function. What does this imply? Wells points out that, owing to the fact that it appeared earlier, the tetrapod limb serves as a reference for the original function. That would mean that its homologue in the human—the arm—would have to be one that has 'reduced' function, and is therefore vestigial according to the redefinition. Such is the *reductio ad absurdum* of the evolutionistic back-pedalling on vestigial organs.

Some new icons: biological molecules

So-called junk DNA is a well-known icon. Wells recounts the growing body of evidence that it is functional. Moreover, such DNA can have a function even if the sequence is not conserved from organism to organism. It shows only that the function is unrelated to sequence specificity.

Sequences of DNA are called genes, and the latter have assumed unwarranted iconic status. This has even included the identification of claimed genes that cause alcoholism, violence, homosexuality, and even political views. The fatal flaw of this approach is described by Wells. Behavioural geneticists examine a group of people, exhibiting a certain behaviour, in terms of genes that occur more commonly among members than among outsiders. However, if you look at enough genes, some of them are bound to occur more commonly in that group, solely by chance.

Pseudogenes especially had assumed iconic status in evolution as disabled genes—that is, as self-evident relics of dysteleology and evolution. We now know, however, that at least some of them are functional.

On another subject, evolutionists have struggled to deal with the contradictions in phylogenies created from molecular data. They finally have had to resort to special pleading by supposing that not all sequences carry what they call 'strong phylogenetic signals'. This, too, is an exercise in circular reasoning.

Some new icons: genes that govern development

The *Hox* genes have become one of the new icons. They are similar across widely divergent organisms, but manifest themselves very differently. Some evolutionists have claimed that experiments on regulatory genes show that wholesale reorganizations of macro-organisms can occur in only one generation (similar to the old 'hopeful monster' idea, though this phrase is not used by Wells). They do no such thing. The experiments have failed to show any kind of biological novelty. Wells quips:

> "Fruit flies with useless extra wings or missing legs have taught us something about developmental genetics, but nothing about how evolution might build new form and function. All of the evidence points to one conclusion: No matter what we do to the DNA of a fruit fly embryo, there are only three possible outcomes: a normal fruit fly; a defective fruit fly, or a dead fruit fly. Not even a horse fly, much less a horse" (p. 94). (Figure 1.)

Jonathan Wells has a way with words. I love it!

Now consider the *Pax-6* gene, which is responsible for the development of the eye in various dissimilar creatures. The mouse *Pax-6* gene can be transplanted into a fruit fly, and the fruit fly will develop ectopic (out of place) eyes. But these will be fruit fly eyes, not mouse eyes. This fails as evidence for evolution, as explained by Wells:

> "If *Pax-6* were in control, the fruit fly gene would presumably generate a fruit fly eye, the mouse gene a mouse eye, the squid gene a squid eye, and so on. In fact, *Pax-6* is not a master control gene at all; it is just a switch. The ignition switch from a car can be installed into a boat or an airplane and serve the same function. But the car's ignition switch doesn't turn a boat or an airplane into a car. Calling an ignition switch a 'master control device' doesn't tell us anything about the nature or origin of the vehicle in which it is found" (p. 135).

Well said.

Figure 1. A fruit fly with legs where there should be antennae (antennapedia). As pointed out by Wells in such acerbic fashion, this is nothing but a malformed fruit fly, and most certainly does not qualify as evidence for evolution.

Some new icons: human physiology

One of the most commonly repeated new icons is the 'backwards' retina in the vertebrate. This icon is one of many 'bad design' arguments that are supposed to show that no Intelligent Designer made it. Instead, it is supposed to show that evolution lacks foresight, that it can only modify what had existed before in jury-rigged fashion, and that it is a minimum-solution system. However, Wells shows that the octopus eye, despite its 'proper' deployment of retina and blood vessels, is actually inferior in function (visual acuity) to that of the vertebrate eye. In addition, on close examination, it turns out that the 'properly' wired retina is far from optimal even for the bare function of a vertebrate eye. That is, were the high resolution demanded of the vertebrate eye to be expressed in terms of a design utilizing a 'properly' wired retina, the vertebrate eye would have to be impossibly large. Therefore, far from being 'bad design' or something 'jury-rigged', the 'backwards' vertebrate retina is actually an intelligent, space-saving, engineered structure that is necessary for the high resolution of the vertebrate eye at a reasonable size. Despite these facts, the evolutionist icon of the 'backwards' retina continues to be uncritically repeated, no doubt for its intuitively appealing, pro-evolutionary emotional impact.

Cancer itself has now become enlisted as an icon of evolution. At best, all it shows is that, unsurprisingly, natural selection favours those rogue cells that can defeat the body's immune system, thwart oncologists' efforts to eradicate them, and to multiply in a most berserk fashion. But none of this has anything to do with evolution. Wells notes that, "Darwinian evolution needs examples of biological processes that build new forms and functions. Cancer destroys these things" (p. 168).

Some new icons: paleontology and cladograms

The old-fashioned evolutionary trees have largely been replaced by cladograms, and these have become an icon of sorts. Owing to their visual appeal and misleading implications, they constitute a subtle evolutionary propaganda acting on the minds of unsuspecting students. Cladograms do not show ancestor-descendant relationships, and are untrue insofar as they presume, rather than demonstrate, that shared traits are the result of evolution. As a matter of fact, Wells cites a classroom activity that involves the construction of cladograms from common objects[2], such as nails, screws, and paperclips. Yet, ironically, no one suggests that screws and nails are related to each other by evolution. They are independent, special creations, and any polarities or nested hierarchy based on them are in no sense evidence for their evolution.

I have shown this earlier in more detail (figure 2) in my spoof cladogram. All of the machines are independent, special creations, and no one would even imagine that these machines and their cladistic deployment were caused by evolution. Yet that is *exactly* what unsuspecting students are led to believe whenever they see a cladogram of organisms in their textbooks.

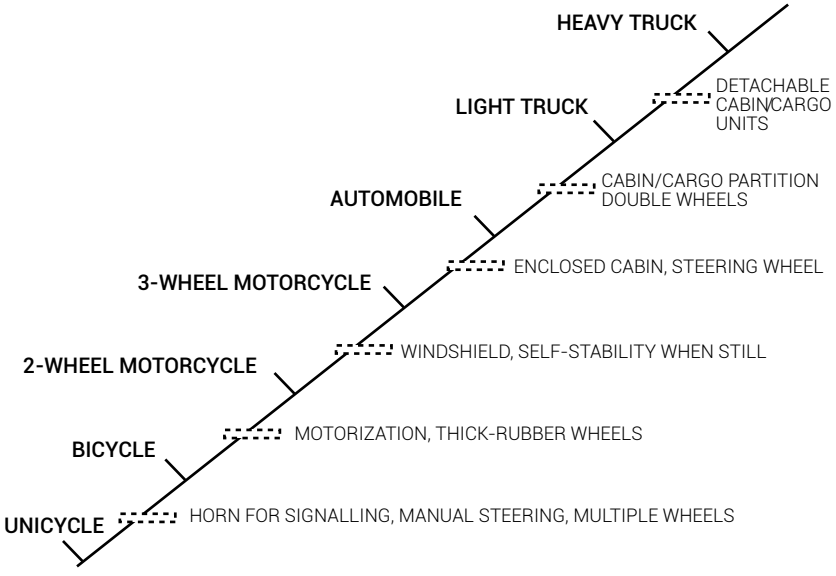

Figure 2. A spoof cladogram: from unicycle to 18-wheeler truck. Shown as figure 3 in my study of whale evolution.[3]

Whale evolution—a shattered new icon

The author criticizes the standard narrative on whale evolution. He discusses the fragmentary nature of the fossils, which makes their inter-comparison difficult, and the imaginative artistic licence of their inferred lifestyles. The actual evidence indicates that the 'intermediates' can best be understood as semiaquatic creatures similar to today's otters and crocodiles—animals that have nothing to do with whales.

Jonathan Wells thus confirms, updates, and expands my 2002 study on whale evolution[3]. He especially focuses on the many unique specializations of the whale for its fully aquatic lifestyle, many of which create

a gulf between whales and amphibious vertebrates, and many of which are not preserved as fossils. For instance, the cetacean mother has a unique way of nursing her calves that occurs underwater yet allows them to come to the surface to breathe.

Interestingly, the involucrum, a peculiar bone in the middle ear that is used to define the cetacean clade (the same way that the pneumatic tire defines my spoof clade; figure 2) now has been found in other fossil creatures that evolutionists don't believe are closely related to whales. This means that, following evolutionistic thinking, the involucrum is convergent in at least two distinct groups, or it is a relatively common feature that is shared by many non-cetaceans and cetaceans. In any case, the involucrum can no longer define the cetacean clade. Either some other trait must be found to do so, or the clade must be broken up.

Finally, Wells points out that some of the 'fossil whales' are contemporaneous. He could have made his case a lot stronger by factoring the statistics of stratigraphic ranges. That is, a single, or few, specimens suffer from a large built-in uncertainty as to the limits of their actual stratigraphic interval (including first appearance). Additional uncertainties about the actual (as opposed to observed) first appearance of a taxon are imposed by such things as the vagaries of the area of outcrop available to be surveyed, the potentially uneven collecting intensity conducted by paleontologists, the random or non-random spacing of fossiliferous horizons, and other factors.[4] Consequently, to speak of stratomorphic intermediates (that is, a less-derived organism necessarily preceding a more-derived organism in the stratigraphic record) is premature at best. Of course, this consideration applies not only to whales, but also to the unmentioned iconic mammal-like reptiles, and other organisms.

Evolutionistic triumphalism challenged on multiple fronts

The author does not mention the many advances made by scientific creationists, but he does touch on those of ID proponents. The reader learns, for example, of the Biological Institute founded by molecular biologist Douglas Axe. This scholar focuses on the practical teleology of enzymes.

The Sociedade Brasileira do Design Inteligente (Brazilian Society for Intelligent Design) is notable for its spectacular growth. In 2014, there had been a conference that had attracted hundreds of people. Back in 1998, all those interested in the subject could, according to Wells, have fitted in a Volkswagen van.

One hindrance to the greater success of ID research is money to support research. Evolutionists have a monopoly on taxpayer funding (to the tune of billions of dollars annually in the USA alone). Hence, ID must rely on private funding.

Pointedly, the challenges to evolutionistic dogma are not coming solely from creationists and IDers. A growing number of evolutionists, while firmly remaining materialistic evolutionists, themselves are recognizing the inadequacy of Darwinian orthodoxy. For instance, the so-called Altenberg 16 published a collection of essays in 2010 in which they challenged the standard notion that organisms could evolve solely through the gradual accumulation of small variations incrementally preserved by natural selection.[5] Two other evolutionists, Jerry Fodor and Massimo Piattelli-Palmarini, advanced the heretical notion that the role of natural selection in evolution has been greatly exaggerated, and that an organism's postulated 'internal factors' are more important drivers of evolution. Evolutionist James Shapiro was even more radical. He dared suggest that cells can reorganize their genomes in purposeful ways. Taking this further, evolutionist Denis Noble came out and said that the neo-Darwinian conception of evolution is wrong. In other words, the central tenets of neo-Darwinism are no longer valid.

Call the rationalist thought police before it's too late!

Jonathan Wells brings out the hysteria of the evolutionists that becomes manifest in the face of scholarly challenges to their materialistic worldview. I mention the inanities of some of these evolutionists and poke fun at them.

We have evolutionary biologist Massimo Pigliucci, who says that creationism is evolution denial, as is ID, and that—horror of horrors—it is bent on literally destroying science as we know it. Wow! I know some ID members, but never realized that IDers could be *that* naughty.

Biologist and journal editor Gerald Weissman shrieked that our heritage of reason, stemming from the Enlightenment, is being eclipsed by what he calls the Endarkenment. Niall Shanks is even better: He frightens us that creationists want to turn the clock back to medieval times (he apparently doesn't realize that medieval times gave us the university and mechanical clocks, among many other things). Now, creationists have achieved many things, but why have we never realized that creationists have mastered the ability to make time flow backwards? That's a new one.

Not to be outdone, physicist Marshall Berman wrote that ID poses a threat not only to science but perhaps to secular democracy itself. So what exactly are creationists? Fascists? Communists? (Oops, no—these two groups were evolutionists.) Malevolent aliens from another planet? Kenneth Miller warned that, were ID to succeed, the modern age would be brought to an end. What unearthly powers those IDers must have!

The pretence of the compatibility of God and evolution (the universal acid)

Evolution is not 'just a theory'. It is not for nothing that it is called the 'universal acid', as it profoundly transforms whatever it touches.

Reality cannot be compartmentalized. Those who accept evolutionist Stephen Jay Gould's rather disingenuous dictum, about evolution and religion belonging to 'non-overlapping magisteria', are out of touch with reality. To begin with, science is supposed to deal with factual matters, while religion is relegated to subjective feelings and imagination. This, right there and then, is prejudicial to religion. Wells quips:

> "In effect, this is just a restatement of materialistic philosophy. It's a bully tactic to convince religious believers that they are not entitled to say anything about objective reality" (p. 172).
>
> No kidding.

The more and more that is claimed for the explanatory power of evolution, the greater the overlap of the two magisteria. Additionally, the magisterium assigned to religion keeps shrinking and shrinking.

Now consider some painful realities. Wells cites studies that show that a significant number of those raised as Christians have turned away, and now are 'nones'. Of these, about half indicated that they had done so because they had stopped believing what they had once believed. Of the latter, a large fraction indicated that this had happened because of the conflict of their previous beliefs with the 'facts of science'. Surely they are not referring to Newton's Laws of Motion (discovered by a creationist!). It is vividly obvious that the dominant and constantly repeated "You can believe in God and evolution at the same time" mantra did not impress them. Yet, as elaborated by Wells, we see all kinds of Christian clergymen (and not only liberals, but also notably compromising evangelicals) triumphantly going around condemning creationism and Intelligent Design, and proclaiming that God and evolution are effectively bosom buddies. Get real!

Conclusions

Clearly, the icons of evolution are no innocent little errors. They are intentional—done to promote evolutionism and its materialism at all costs. They are a form of intellectual dishonesty—but some evolutionists are OK with deception if it furthers belief in evolution.[6] The fact that unsuspecting children and uninformed young adults are the main target of this evolutionary propaganda makes it all the more inexcusable.

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