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Consciousness: the Achilles heel of Darwinism? Thank God, not quite.

by Nicholas Humphrey

“In crossing a heath, suppose I pitched my foot against my conscious self. . . .”

William Paley in his famous statement in 1800 of the Argument from Design, imagined that he found a watch lying on a heath and set to wondering how it came to be there. “The inference is inevitable, that the watch must have had a maker: that there must have existed, at some time, and at some place or other, an artificer or artificers who formed it for the purpose which we find it actually to answer; who comprehended its construction, and designed its use.”¹ But, so Paley argued, “every indication of contrivance, every manifestation of design, which existed in the watch, exists in the works of nature” – notably in plants and animals.² From which it follows that these works of nature must likewise have had a maker.

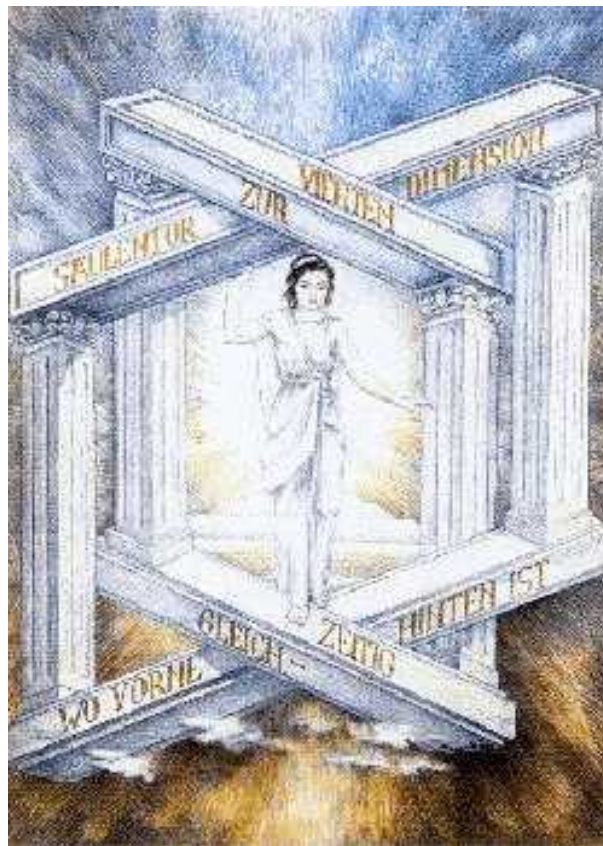
As we now know full well, this argument does not hold up. Charles Darwin’s great achievement was to show that “every indication of contrivance, every manifestation of design” can be introduced into living things by the blind process of natural selection. What’s more, as later Darwinians have discovered, natural selection has the power to create the equivalent of good design not only in living things but in every other realm where variant plans or ideas compete for survival. Engineers are increasingly making use of evolutionary algorithms, based on natural selection, as a replacement for traditional design-work in the development of useful products such as the wings of airplanes. Indeed Paley’s argument may soon have to be turned on its head. For there will likely come a time in the not distant future when a complex artifact, found lying on the heath, will *not* have had a maker but rather have been “grown” via a genetic algorithm.

Yet, while Paley’s standard argument for a Designer has been effectively refuted by Darwin’s theory, there is a related argument that certainly has not been— at least not yet. It is an argument championed by the co-discoverer of natural selection Alfred Russel Wallace, although it goes back to René Descartes.

Lets grant that Paley was right to point out that it requires *some kind* of clever process to produce a watch. Even so, it is clear enough that watches belong to the world of normal

physical phenomena. In principle, once the mechanism is explained to us, we can see how and why it works – how simple non-watch materials can have been put together to function, according to the laws of physics, so as to constitute this very watch. In short, there is nothing obviously *impossible* to the art of watch-making.

But suppose now we were to come across an object on the heath that, so far as we can see, does *not* belong to the world of normal physical phenomena. Something whose nature – lets not say what it is yet – is such that we cannot understand it as a mechanism or see how it could have been put together to function as it does. In short, something seemingly impossible



to make. Suppose, for illustration, we were to stumble on the object in this picture.³ Surely the inference would be inevitable that we were confronted not merely by evidence of an intelligent designer but of a designer with august supernatural powers.

Now, on the whole the works of nature do not present us with a challenge on this level. Living things, remarkable as they are, are nonetheless physical mechanisms made of purely material substance. And even if there are still some puzzles about what's gone into their evolutionary design (and there really are not many such puzzles left), biology has progressed

so far that we can see in just about every case how the living machinery operates. Many scientists would predict it will soon be *every case but one*. And yet this one hard case is so central to our world and of such personal importance that it may be enough to call the whole scientific enterprise into question. The problem case is *human consciousness*.

Consciousness, and in particular *sensory awareness*, is unquestionably a phenomenon apart. As each of us has reason to observe and marvel at, at every moment of our waking lives there is *something it is like* to be us. We are the subject of feelings and sensations. We sense the heat and redness of fire, the sour tang of a lemon, the stab of pain. The space of our sensations is *our* space, the space where our selves are most at home. But this space is strangely closed off, not apprehensible by others and beyond verbal description even to ourselves. To reduce consciousness to a mechanism would seem impossible.

The problem of consciousness has puzzled and continues to puzzle the best minds in philosophy and science, to the point of distraction. In an 1870 essay titled "The Limits of Natural Selection As Applied to Man," Wallace quotes the physicist John Tyndall: "The passage from the physics of the brain to the corresponding facts of consciousness is unthinkable. Granted that a definite thought, and a definite molecular action in the brain occur simultaneously, we do not possess the intellectual organ, nor apparently any rudiment of the organ, which would enable us to pass by a process of reasoning from the one phenomenon to the other. They appear together, but we do not know why. Were our minds and senses so expanded, strengthened, and illuminated as to enable us to see and feel the very molecules of the brain; were we capable of following all their motions, all their groupings, all their electric discharges, if such there be, and were we intimately acquainted with the corresponding states of thought and feeling, we should be as far as ever from the solution of the problem, 'How are these physical processes connected with the facts of consciousness?' The chasm between the two classes of phenomena would still remain intellectually impassable."⁴

The prevailing opinion at the beginning of the 21st century has hardly changed. The philosopher Jerry Fodor: "Nobody has the slightest idea how anything material could be conscious. Nobody even knows what it would be like to have the slightest idea about how anything material could be conscious." The psychologist Stuart Sutherland: "Consciousness is a fascinating but elusive phenomenon; it is impossible to specify what it is, what it does, or why it evolved. Nothing worth reading has been written about it." The philosopher Colin McGinn: "Isn't it perfectly evident to you that . . . [the brain] is just the wrong kind of thing to give birth to consciousness. You might as well assert that numbers emerge from biscuits or

ethics from rhubarb.”

The bottom line for many contemporary philosophers is this. If we did not already know that consciousness exists *it would be completely unnecessary to invent it*. Nothing about the physical world, or about human or animal behaviour, points to the possibility of there being any such thing. Consciousness cannot be deduced as a fact of life in human beings or, for that matter, in men from Mars. While scientists are well prepared to engage in SETI – a search for extra-terrestrial intelligence – because they know what the manifest signs of intelligence are likely to be, they could not even begin to engage in SETC – a search for extra-terrestrial consciousness – because they have nothing to go on.

Still, we do know it exists in human beings, even if we know this only from one singular, lonely case. And one case will do. To return to Paley’s argument, one watch suffices to prove the necessity of a designer. So, what would Paley say to one case of consciousness – his own? Lets frame it as the story of our coming across consciousness unexpectedly out there in our own nature. We have already noted that if we were to come across an impossible-to-create object like that in the picture, we would have to conclude it had been created supernaturally. But the phenomenon of consciousness gives every indication of being impossible-to-create. So, surely, we should not shirk the conclusion – indeed maybe we should welcome it – that our consciousness too must have been created supernaturally – by a supernatural agent, using super-intelligent design..

Descartes set out a similar line of reasoning in his *Meditations* in 1641, although his concern was not so much with consciousness as with the “idea of God”. Descartes was forever walking the heath of his own mind, and rather like Paley he discovered in his *Third Meditation* something that astonished him. He realized he was able to conceive of God as a *perfect being*. But it stands to reason, he said, that you cannot get more out of a creative process – whether it involves things or ideas – than you put into it. (This is the principle of “sufficient causation”: Something cannot arise from nothing). So it should not be possible for a thinker to *create the idea of perfection* unless the building blocks of his thought were already perfect. However, as a mere human, Descartes could surely not have had any perfect thoughts to start with. Hence, his idea of God as a perfect being was not something he could possibly have constructed by himself. Where, then, could this impossible-to-think-up idea have come from? Descartes concluded it had to have been miraculously implanted in him by God from above. “I recognize that it would be impossible for me to exist – having within me the idea of God – were it not the case that God really existed. By ‘God’ I mean the very being the

idea of whom is within me, that is, the possessor of all the perfections which I cannot grasp, but can somehow reach in my thought.”⁵

When stated in this abstract way, as an argument about how anyone could think an impossibly rich thought, such as the thought of God is, it may not strike you (as it has not struck most later philosophers) as terribly impressive. But if the parallel argument is made about how anyone could have evolved to experience an impossibly rich kind of experience, such as the experience of consciousness is, it becomes hard to deny its considerable force.

To make the argument as it applies to consciousness still more explicit: It seems clear, on the basis of our personal experience, that consciousness has strange otherworldly properties. You cannot make something otherworldly out of worldly materials. So, since worldly materials are all that the human body and brain have to work with, then consciousness can't have been constructed in any normal way. Therefore consciousness must have been specially created and planted in us.

Like it or not (I rather hope you don't), this is an argument that evolutionary scientists cannot simply run away from. There are only three reasonable ways to deal with it. One would be to claim that we are actually not conscious in the otherworldly way we think we are (as Daniel Dennett, for example, has sometimes suggested). A second would be to claim that we are actually not purely material beings (as David Chalmers has suggested). But, if neither of these suit you, the third must be to acknowledge that there is something remarkable going on – God only knows what.

I think there *is* something remarkable going on. So remarkable that, as things stand, consciousness could still prove to be the Achilles heel of Darwinism, or (if I may switch metaphors) the smoking gun that gives the champions of Intelligent Design the evidence they seek that human beings did not evolve entirely by natural selection.

Wallace saw this, and within ten years of the publication of the *Origin of Species* announced that the mystery of consciousness was proof (one among several) that natural selection was not enough. “No physiologist or philosopher has yet ventured to propound an intelligible theory, of how sensation may possibly be a product of [material] organization; while many have declared the passage from matter to mind to be inconceivable . . . *You cannot have, in the whole, what does not exist in any of the parts*” [shades of the principle of sufficient causation, my italics]. . . “The inference I would draw from this class of phenomena is, that a superior intelligence has guided the development of man in a definite direction. . . It does not seem an improbable conclusion that . . . the whole universe, is not merely dependent

on, but actually *is*, the WILL of higher intelligences or of one Supreme Intelligence.”⁶ Darwin wrote to Wallace, “I hope you have not murdered too completely your own and my child.” But Darwin must surely have been worried. In one of his early notebooks he had written “The soul by the consent of all is superadded. Animals not got it”.

There is clearly a case to answer here. To say the least it suggests a potential weakness in the Darwinian account of human evolution. Yet despite the lead given by Wallace nearly one hundred and fifty years ago, this is a weakness that the latter day proponents of Intelligent Design have been surprisingly slow to exploit. Perversely, they have continued in the tradition of Paley, concentrating their efforts on targets such as the eye or protein synthesis, which are actually not so difficult for Darwinian theory to deal with, while leaving alone the one work of nature where the theory looks at risk. Is the explanation for their reticence that even they are shy of arguing, as Wallace and Descartes did, for Super-Intelligent Design?

Maybe so. At any rate, before they see the potential that it holds for them, let me try to steal the case back for Darwinism, by showing how consciousness could – against the odds – have evolved by natural selection as a biological adaptation. This requires several steps, all of them quite radical.

First, we have to accept the fact that consciousness, as we experience it, really is just as amazing and deeply enigmatic as it seems to be. The biologist J.B.S. Haldane observed that the universe is not only stranger than we imagine, it is stranger than we can imagine. But in consciousness we find ourselves right at the centre of something which – if we were not already conscious – would be far beyond what we could imagine. Let's not deny this or try to explain it away as an illusion. The paradoxical features of consciousness are precisely the features with which scientific understanding has to begin.

Nonetheless, even though we should not try to explain it away, this doesn't mean we must assume that consciousness is *not* an illusion. Our starting assumption as scientists ought to be that on some level consciousness has to be an illusion. The reason is obvious. If nothing in the physical world can have the features that consciousness seems to have, then consciousness cannot exist as a thing in the physical world. So, while we should concede that as conscious subjects we do indeed have a valid experience of there being something in our minds that the rules of the physical universe don't apply to, this has to be *all it is* – the *experience of something in our minds*.

This challenge to consciousness's ontological status may dismay us, but it should not surprise us. We can, and regularly do, have the experience of being in the presence of things

that don't physically exist: ghosts, for example, or mirages. More to the point, we sometimes experience things that couldn't possibly exist for logical reasons: there is a visual illusion called pure phi, in which we see an object moving without changing its position, and another illusion in which we see a surface as being both red and green at the same time. Such illusions are accidental errors of judgment that occur when our perceptual systems rely on rules for interpreting environmental information under conditions where these rules happen not to hold.

But is it plausible to suppose that our experience of consciousness, likewise, is some kind of *accidental* error? It seems too beautiful, too much of a piece—indeed, too “God-given”—to be so. Precisely so, and here's the thing. Since it is the wonderfully enigmatic features of consciousness that strike us so forcibly when we reflect on it, then perhaps these are the very features that give consciousness *its role in life*. And if that's the case, consciousness could have come to have these features not at all by accident but because it has been *designed to give the impression of having them*—designed by natural selection, that is. So, while our experience is indeed an error, it is one for which we have been “deliberately” set up.

If consciousness has in fact been designed to appear to have unfathomable properties, this would certainly make the task of explaining it in a conventional manner much easier. For it could have been a relatively straightforward matter for natural selection to have designed a mental phenomenon to *give the impression* of being paradoxical, otherworldly or illogical even when there is no way to create such a phenomenon for real. You can draw a picture of the object illustrated earlier in this essay even if you cannot construct the physical object. You can devise a trick proof that $2 + 2 = 5$, even if you cannot actually make two and two equal five. (Here is such a proof. “Both this and the following statement are false. Two plus two equals five.” Think about it: if the first statement were true it would be self-contradictory, so it must be false; but it can only be false if the second statement is true.)

Furthermore, it might have been possible for natural selection to egg the pudding, as it were, by designing people's mental faculties so that they put an even more grandiose interpretation on their own enigmatic experience than they might otherwise have done. Thus our minds could have been specially constructed so as to make us all too ready to interpret a garden-variety paradox as a mark of the divine, or small-time consciousness as big-time consciousness of the kind that leads to belief in an immortal soul. Admittedly, this is just what Descartes and Wallace argued could *not* have happened: unless you are God, you cannot design a mind to come up with ideas bigger than those already contained within it, *because*

you cannot have, in the whole, what does not exist in any of the parts. But, with respect, we should not take these sages' word for it. Just one example can serve to contradict the principle of sufficient causation as they use it. Take the case of the idea of infinity. Could a finite human brain generate the idea of infinity? Yes, it could and does, because the idea of infinity does not have to be an infinite idea.

We can see, then, how it might have been *within the power* of natural selection to design human minds to experience consciousness the way they do. But there remains of course a crucial proviso. The basic premise of Darwinism is that natural selection selects for traits that are biologically adaptive—leading to greater success in reproduction. So natural selection will only have designed human minds to experience consciousness this way if, in the history of our species, individuals who harbored this experience made out especially well in the struggle for survival. And how could that be? Why should our particular take on being conscious bring us biological good fortune? To answer this, the most important question, we must look objectively at what the encounter with the magically rich features of consciousness actually does for us—how, if at all, it changes human lives.

The natural history of consciousness and its effects is not a study to which scientists have yet given enough attention (although artists have been exploring it since art began). But, while there is still much to learn, I believe that if we ask the question in the right way—“How does consciousness matter? What would be missing if we didn't have it?”—a raft of answers readily becomes apparent.

To start with, without the experience of being conscious we would simply not have the sense we have that there is something substantial at the centre of our psychical existence, something *it's like to be us*. But once we do experience it, the *Self* is there for us. A self that has *this* at its centre is a self to be reckoned with, a self worth having. And such a self bursts with the potential to become the principle around which we organize our private mental lives.

This could be true not only for human beings but animals as well. Perhaps whales, dogs, monkeys— maybe all mammals, all birds — have comparable experiences of consciously being there. But for human beings it evidently goes much further. For in our case we now have a self that seems to inhabit *a separate universe of spiritual being*. And this is something else. As the subjects of something so mysterious and strange, we humans gain new confidence and interest in our own survival, a new interest in other people too. We begin to be interested in the future, in immortality, and in all sorts of issues to do with co-consciousness and how far

consciousness extends around us.

This feeds right back to our biological fitness, in both obvious and subtle ways. It makes us more fascinating and more fascinated, more determined to pursue lives wherever they will take us. In short more like the amazing piece of work that humans are. Lord Byron said that “the great object of life is sensation—to feel that we exist, even though in pain.” That's the raw end of it. But, at a more reflective level, what keeps us going, gives us courage, makes us aim high for ourselves and our children is the feeling that as human Selves we have something very special to preserve.

Matters might rest there. But in the context of writing about Intelligent Design, I want to leave you—and tease you—with one further idea about how consciousness can change our view of things, for which we have the evidence right before our noses.

The novelist Thomas Mann, when asked to contribute his thoughts to Ed Murrow's 1950s radio program *This I Believe*, came out with the following: “In my deepest soul I hug the supposition that with God's ‘Let there be,’ which summoned the cosmos out of nothing, and with the generation of life from the inorganic, it was man who was ultimately intended, and that with him a great experiment is initiated, the failure of which because of man's guilt would be the failure of creation itself, amounting to its refutation. Whether that be so or not, it would be as well for man to behave as if it were so.”⁷

Mann had earlier written, in *The Magic Mountain*, “Consciousness, then, was simply a function of matter organized into life; a function that in higher manifestations turned upon its avatar and became an effort to explore and explain the phenomenon it displayed—a hopeful-hopeless project of life to achieve self-knowledge.”⁸ Hopeful-hopeless it may always be. But, as we have seen with Wallace, and I would guess was true of Mann himself, and is surely true of many of the rest of us as well, it is reflection on the mysteries of consciousness—our very failure to see how consciousness “fits in”—that is the chief inspiration for the belief in special creation that Mann hugged to his soul.

Now, as Mann hints, this belief—whether true or not—may be a significant life-force in its own right. For if we can indeed believe that we owe our lives to a beneficent creator who (presumably having some choice in the matter) deliberately arranged that the world He created would come to contain human beings, then this can and arguably ought to encourage us to make it our cause in life to honor the very cause of life, by living up to our creator's plan

So, here's the irony. Belief in special creation will very likely encourage believers to

lead biologically fitter lives. Thus one of the particular ways in which consciousness could have won out in evolution by natural selection could have been precisely by encouraging us to believe that we have *not* evolved by natural selection.

Anyone for “natural creationism”?

1. William Paley 1807, *Natural Theology*, p. 1.
2. *ibid* p. 18.
3. Sandro Del-Prete, “Gateway to the Fourth Dimension”.
4. Alfred Russel Wallace, 1869, “The limits of natural selection as applied to man,” in *Contributions to the Theory of Natural Selection*, pp. 332-771, 1870, p. 361.
5. Rene Descartes, 1641, *Meditations on First Philosophy*, trans. John Cottingham, CUP 1986, p. 35.
6. *ibid.* pp. 362, 365, 368.
7. Thomas Mann, 1952, in *This I Believe: The Living Philosophies of One Hundred Thoughtful Men and Women*, ed Murrow, Edward R, New York: Simon & Schuster, 1952.
8. Thomas Mann, 1924, *The Magic Mountain*, p. 274.