Is science bad for the Soul?

Once upon a time, a boy aged six with his classmates in a small school made a box with a glass window, with leaves and twigs inside, to see the incredible transformation of a dragonfly. After weeks of waiting when we arrived one morning at school, there were the first motions of the wings, as our dragonfly started to enter the world in its new form, its second coming. My friends and I were transfixed by wonder. What happened then? The teacher made us leave the miracle before it was complete, to go to another room—to sing All Things Bright and Beautiful. This damaged my soul.

Several recent books claim that science is bad for the soul. This is nothing new: science–religion conflicts of various kinds have been evident for centuries and have cost lives, though far fewer than interreligious conflicts. The present attacks on science seem to be triggered by cosmologists getting into theological territory on the origin of the Universe with the Big Bang, promising to explain everything with an equation, and more particularly with Stephen Hawking’s, *A Brief History of Time*. Outstanding sales of this book indicate a new interest in theological cosmology, as well as being a just tribute to its author who, in spite of a severe physical disability, holds Newton’s Chair at Cambridge, with very great distinction. Stephen Hawking ends with the now often quoted promise:

“We shall all, philosophers, scientists, and just ordinary people, be able to take part in the discussion of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason—then we should know the mind of God.”

Is this pi in the sky?

Some will see such extrapolations from cosmology as overstepping limits of science, though there is a clear precedent for this in Newton’s writings, as he thought of space as God’s mind, and the laws of nature as ideas in the mind of God. For Newton, his mathematics worked because he intuited God’s thoughts. Newton spent at least as much time on alchemy and theology as on science. Although we can now transmute elements, we are supposed to have grown out of the mystiques of alchemy, and see religion separately from science, yet several recent writers see science as painting a bleak landscape for the soul.

Such claims are made in *Understanding the Present* by Bryan Appleyard. Subtitled *Science and the Soul of Modern Man*, this book suggests that science takes away the securities, the rich poetic myths, the warm comfort of religion seen as central to human happiness. This is also a theme of *The Corrupted Sciences*, by Arnold Arnold, subtitled *Challenging the Myths of Modern Science* which attacks the ‘truths’ of science as being intellectually misleading modern myths.

Arnold (1992) sees religion as necessary for the early stages of science (page 130):

“... true religion is a pre-scientific recognition that fundamental laws of nature rule our existence and perceptions. These laws can be codified and expressed by feelings, beliefs and ecumenical rituals to celebrate what could not be formally demonstrated in scientific or philosophical terms. All genuine religions share common archetypal roots embedded in natural law, truth and ethical behaviour.”

For Arnold science destroys its own origins in poetry, and by explaining mind it destroys us (page 130):

“For as long as subjective processes and their meanings remained inaccessible via the scientific method, they could be approached only via art, poetry, philosophy and religions.
However, now that we can model and demonstrate how subjective processes work in geometric, mathematical terms (including those that apply to human behaviour) we can relegate an uncaused and eternal God to the realm of fiction."

He concludes that, although science has usurped faith and destroyed religion's balm: "True religions can none the less continue to serve a useful purpose in so far as poetic truths always precede the discovery of scientific ones, even when the former are merely elegant metaphors of what eventually turn out to be laws of nature." For Bryan Appleyard the problem is just the opposite: the accounts of science are so unexpected that we have trouble living with them, as they are not related to any previous beliefs (page 227):

"A new and unprecedentedly effective form of knowledge and way of doing things appeared suddenly in Europe about 400 years ago. This is what we now know as science. This science inspired a version of the universe, of the world of man that was utterly opposed to all preceding versions. Most importantly, it denied man the possibility of finding an ultimate meaning and purpose for his life within the facts of the world. If there were such things as meanings and purposes, they must exist outside the universe describable by science."

Appleyard goes on to say that science has created modern liberal-democratic society, and it answers questions as if it were a religion, though: "It confronts none of the spiritual issues of purpose and meaning. And, meanwhile, its growing power enables it to drive the very systems that did confront those issues to the margins of our concern and, ultimately, out of existence." He agrees with Arnold that science and religion are incompatible: "Our science, whatever it may pretend, is incapable of coexistence." This is explored in depth by Mary Midgley (1992).

This brings to mind Richard Dawkins's (1976, 1986) powerful notion that some memes (mental and software equivalents to genes) are pathological viruses of the mind that take over reason. For Dawkins, religious ideas are damaging viral memes, which dull the mind by blocking questioning with facile answers—so absurd that to hold them tests belief. What of the memes of science? For Dawkins they are not damaging viruses, because they have evolved and are tested by the selective challenges of scientific method. So religions are pathological bad memes and sciences are logical good memes. This raises the question: Is the selection of ideas and beliefs by the methods of science too drastic? Does it reject some important, in some sense true though hard to justify, beliefs? It is striking that science does not throw out the arts of music and poetry (or for that matter cooking) though they are hard to justify intellectually. Many 'hard' scientists are active musicians, painters, or cooks; though the public image is that for scientists the arts are relatively inferior. Yet, for scientists just as for other people, the arts are life-enhancing and can be wonderful beyond compare, though we don't begin to understand why! Need we worry about not seeing everything through science's window? Surely the arts, and humour, and some will say religion, are valid ways of seeing things—if not the same things.

Scientists are active players of a game against nature. As for any game, it is very different for the active players and the passive watchers. All games have players, who enjoy the activity (and may make their living from it); passive supporters, who are interested (and willingly provide funds); and the much larger public who neither know nor care (though they may have to contribute funds). Science must look very different to the active players, and to the passive supporters, and the general public for whom it may look too expensive, and also too expansive when it encroaches on their beliefs. This is so because the science game transforms our view of the Universe, of society, and of our selves. But not everyone appreciates the view from science's window. It is very hard to escape ancient dreams and ghosts, and poetic images, of Fathers and Mothers, and retribution and reward from powers above. This may be inertial from
our childhood experiences, when indeed there were powerful Fathers and Mothers and inexplicable punishments and rewards. Whatever the cause, science is incapable of guiding people where they most need help and it fails to remove ‘irrational’ views of everyday experience.

A central issue is meaning. For scientists, the meaning of things increases with greater understanding and there are always plenty of mysteries left to evoke fresh wonder. Thus, a buttercup does not lose its charm when we see its similarity to a radio telescope. As the enormous steel dish accepts information from across the Universe, so the little flower’s petals focus energy from space to warm the aerial-like stamen, to reproduce more efficiently. This insight adds to the wonder of flowers; but not everyone is impelled by such wonder. For many people, such analogies and explanations are irritating distractions from what to them really matters. For them science appals—though its consumer products appeals.

It might be worth trying to classify some of these complicated issues. The most basic distinction is between effects of findings of science, and the image of scientists as a kind of priestcraft claiming special knowledge. Here the public understanding of science (or lack of it) is very important. Sometimes we speak of ‘Public understanding of science’ when we mean public understanding of the Universe. This difference is important. The first may refer to the practice and profession of science as an activity aimed at seeking truth and creating inventions; the second is appreciating what science has discovered and holds to be true. To see this requires some science education, which is generally deplorable, though it might be improving. The aim is to make science like the arts, a central part of our culture.

It is hard to believe that science challenges or in any way diminishes the appeal of the arts. There is, however, an unfortunate asymmetry here, for scientists can enjoy the arts, but knowledge of the arts does not give access to science. There are grounds for accepting that science unlike the arts, challenges religion. Whether this is bad for the soul is not so clear. We may consider science—religion issues such as these:

• There is plenty of scientific evidence that the Universe is not designed for us. The discovery at the start of modern science that the Earth is not in the middle of things demoted us from centre-stage. (Although this was a major issue for the Inquisition, this loss of pride of place seems puerile to us now.)
• The attitudes of science and religion are essentially different and opposed, as science questions everything, rather than accepting traditional beliefs. Although questioning is intellectually exciting to almost everyone, carried to extreme conceivably it might be over-challenging and too time-consuming, and one does have to accept answers for action. So there have to be practical limits to questioning—which presumably is why philosophers are kept in colleges.
• Scientific method cannot be applied in most real-life situations. It is too slow, there is inadequate evidence, and no control groups for comparisons. Although we may look at groups, for example of married and unmarried people, we cannot ourselves be both married and unmarried—so it is hard to learn how to live—which drives us to accept often dubious precepts.
• Science seems incapable of providing value judgements of good or bad, right or wrong, ugly or beautiful. Yet these are very important for everyday behaviour. So science is not adequate. The response is often simple-minded gap-filling.
• Science does not answer questions of personal interest, so it cannot replace theology for providing comfort or advice. Hence the very widespread interest in astrology, despite its obvious absurdity, and—may one add—a large part of psychoanalysis.
• There are some direct conflicts between the findings and theories of science and tenets of theologies. Many are well known: The age of the Universe, being gradually
increased from its start on 23 March 4004 BC (according to Archbishop James Usher, 1581–1656), to the recent estimate of 15 billion BC; Newton’s notion of inertial frictionless perpetual motion of the Solar System, dispensing with machine-minders to keep the Universe running; evolution being incompatible with a priori design. (I hear that some theologians are now adopting chaos theory—suggesting that God is The Great Attractor.)

• Science is too complicated and too difficult. It is counterintuitive; so it cannot be understood by private contemplation, but requires a lot of knowledge and unusual kinds of thought. Theologies are also very hard to believe but at least they are largely based on human experience, and are concerned with human problems. Science can seem cold and indifferent even though it is uniquely exciting intellectually.

• Science is seen as a priestcraft; but disturbingly its theories quite often change, so why should they be believed? Scientists may prefer live uncertainties to dead certainties—the questioning hook ‘?’ to the exclamatory spear ‘!’—but most people are hooked on spears—to protect their beliefs and attack others.

• Sciences, especially the science of perception, make us doubt the evidence of our own senses. Thus we come to depend on instruments, statistics, and all manner of checks from the tools and methods of science. So science is a Procrustean bed, extending us but also cutting us down to size.

There is a widespread fear of science. This is not only fear of some of its technologies but also of what science’s explanations do to our minds or souls. Could it be dangerous to turn science’s window upon ourselves? Can psychology be bad for the soul? It would be of great interest to explain, for example, why music has such power to move us; but is it possible that knowing the cognitive processes involved would blight our appreciation? If it is true that science has exorcised mind from the heavens, could it also exorcise our minds from our brains? It might be said that this was the aim of behaviourism. Behaviourism is dead. But Artificial Intelligence presents similarly challenging issues. Just possibly building robots will change us into robots. It is far more likely, though, that by understanding intelligences we extend our perception without losing anything much that matters—such as poetry and the strange power of music, the delights of questioning and making discoveries.

We may conclude that science education is very important—for science’s powerful insights are available only to those with some knowledge of its methods and findings, and how they can be applied. Increasing public understanding of science is vitally important for decision-making in technological societies where general ignorance of science is dangerous. That so few in political power are science graduates makes the inherent dangers of applying new discoveries even more risky. Just how, and what kinds of science—facts, methods, theories, hands-on experience—should be presented to the public for science to be accepted as the most exciting intellectual adventure, and principal window to the Universe and to ourselves, is another story.

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