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Liberating Science from pervading materialism

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Today's architectural practice is profoundly shaped by dogma that has dominated science since the late 19th Century and yet this influence remains largely unquestioned within the profession.

The 'scientific worldview' is immensely influential because the sciences have been so successful. The prestige of science shaped Modernism, and still dominates most of its postmodern descendants. Yet in the second decade of the 21st century, when science and technology seem to be at the peak of their power, when their influence spreads all over the world and when their triumph appears indisputable, unexpected problems are disrupting the sciences from within.

The 'scientific worldview' is based on the claim that all reality is material or physical. There is no reality but material reality. Consciousness is a by-product of the physical activity of the brain. Matter is unconscious. Evolution is purposeless. God exists only as an idea in human minds, and hence in human heads.

These beliefs are powerful not because most scientists and their followers think about them critically, but because they don't. The *facts* of science are real enough, and so are the techniques that scientists use, and so are the technologies based on them. But the belief system that governs conventional scientific thinking is an act of faith.

Here are the 10 core beliefs that most scientists and their followers still take for granted:

1. Everything is essentially mechanical. Dogs, for example, are complex mechanisms, rather than living organisms with goals of their own. Even people are machines, 'lumbering robots', in Richard Dawkins's vivid phrase, with brains that are like genetically-programmed computers.
2. All matter is unconscious. Even human consciousness is an illusion produced by the material activities of brains.
3. The total amount of matter and energy is always the same (with the exception of the Big Bang, when all the matter and energy of the universe suddenly appeared).
4. The laws of nature are fixed.
5. Nature is purposeless.
6. All biological inheritance is material, carried in the genetic material, DNA, and in other material structures.
7. Minds are inside heads and are nothing but the activities of brains.
8. Memories are stored as material traces in brains and are wiped out at death.
9. Unexplained phenomena like telepathy are illusory.
10. Mechanistic medicine is the only kind that really works.

Together, these beliefs make up the philosophy of scientific materialism, a belief-system that became dominant within science in the late 19th century, and is now taken for granted by most educated Europeans. From the 17th to 19th centuries, science was based on mechanistic dualism: the universe was a machine, and so were animals and human bodies, but human minds and God were immaterial, part of a separate spiritual reality. Materialism took mechanism further by denying anything immaterial: everything is material or physical.

For more than 200 years, materialists have promised that science will eventually prove their assumptions that living organisms are complex machines, minds are nothing but brain activity and nature is purposeless. The philosopher of science Karl Popper called this stance 'promissory materialism' because it depends on issuing undated promissory notes for discoveries not yet made. Despite all the achievements of science and technology, materialism is now facing a credibility crunch that was unimaginable in the 20th century.

In 1963, when I was studying biochemistry at the University of Cambridge, I was invited to a series of private meetings with Francis Crick and Sydney Brenner in Brenner's rooms in King's College, along with a few of my classmates. Crick and Brenner had recently helped to 'crack' the genetic code. Both were ardent materialists. They explained there were two major unsolved problems in biology: development and consciousness. Crick and Brenner were going to find the answers within 10 years, or maybe 20. Brenner would take developmental biology, and Crick consciousness. They invited us to join them.

Both tried their best. Brenner was awarded the Nobel Prize in 2002 for his work on the development of a tiny worm, *Caenorhabditis elegans*. Crick corrected the manuscript of his final paper on the brain the day before he died in 2004. But the problems of development and consciousness remain unsolved. Many details have been discovered, dozens of genomes have been sequenced, and brain scans have become ever more precise. But there is still no proof that life and minds can be explained by physics and chemistry alone.

The fundamental proposition of materialism is that matter is the only reality. Therefore consciousness is nothing but brain activity. It is either like a shadow, an 'epiphenomenon', that does nothing, or it is just another way of *talking* about brain activity. However, among contemporary researchers in neuroscience and consciousness studies there is no consensus about the nature of minds.

Leading journals such as *Behavioural and Brain Sciences* and the *Journal of Consciousness Studies* publish many articles that reveal deep problems with the materialist doctrine. The philosopher David Chalmers has called the very existence of subjective experience the 'hard problem'. It is hard because it defies explanation in terms of mechanisms. Even if we understand how eyes and brains respond to red light, the *experience* of redness is not accounted for.

In biology and psychology the credibility rating of materialism is falling fast. Can physics bail them out?

Physicists face several intractable problems of their own. The most ambitious unified theories of contemporary physics, string and M-theories, with 10 and 11 dimensions respectively, are untestable. Many scientists and philosophers of science regard untestable theories as unscientific. Untestable theories now dominate theoretical physics.

Since the beginning of the 21st century, it has become apparent that the known kinds of matter and energy make up only about four per cent of the universe. The rest consists of 'dark matter' and 'dark energy'. The nature of 96 per cent of physical reality is literally obscure.

If the laws and constants of nature had been slightly different at the moment of the Big Bang, biological life could never have emerged, and we would not be here to think about it. Did a purposeful intelligence fine-tune the laws and constants in the beginning? Most leading cosmologists prefer to keep any hint of God out of the discussion and hypothesise that our universe is one of a vast number of parallel universes, all with different laws and constants. We just happen to exist in the one that has the right conditions for us. The problem is that there is not a shred of evidence that these other universes exist.

Materialism provided a seemingly simple, straightforward worldview in the late 19th century, but 21st century science has left it far behind. Its promises have not been fulfilled, and its promissory notes have been devalued by hyperinflation.

In my new book *The Science Delusion*, I turn the dogmas of materialist science into questions, and show that the sciences open up to all sorts of new possibilities when we stop pretending that we already know the answers. The sciences of the future will be shaped by the recognition that natural, self-organising systems – including atoms, molecules, crystals, cells, organisms and societies of organisms – are processes rather than things. They are organisms, not machines. They are animate, not inanimate, with mental as well as physical aspects. The entire universe is like a developing organism.

Architecture inevitably reflects the worldview of the society in which it takes place, and a change in scientific worldview is bound to have far-ranging consequences. We face unprecedented problems that modern science and technology have themselves helped to create. As the sciences are liberated from the materialist ideology, who knows where they will lead, and where societies, economies and architectures will go?

THE BIG RETHINK TOWARDS A COMPLETE ARCHITECTURE

This article is one of many that contribute to [AR's Campaign The Big Rethink: Towards a Complete Architecture](#). In this in depth essay Peter Buchanan starts to explore the architectural implications the 'credibility crunch' in modern science's materialist view of the world