

Your Marvellous Mind



By Rex Morgan

The human brain is the most complex object in the known universe. A grapefruit-sized spongy lump of wrinkled tissue weighing not much more than a kilogram, this amazing organ contains around 100 billion nerve cells, each highly specialised for sending and receiving electrochemical signals. The brain is the control centre for the body, keeping our heart beating, our lungs respiring, and giving us the ability to carry out all of the multifaceted functions of life.

But greater by far than the wonderful brain is the marvellous human mind. The mind is the seat of our thoughts, perceptions, emotions, will, and imagination. It is like a universe inside our heads. This inner universe is more extensive than the immense universe outside us, when you consider the heights and depths that can be plumbed by your thoughts. In an instant you can be, in your 'mind's eye', at the Eiffel Tower in Paris. The next split second you can be on a sandy Pacific beach, or five miles under the sea, or in a spacecraft orbiting Mars! The human mind can move through time and space in any direction and at any speed it chooses.

Our mind is truly our most valuable possession. It is the site of our identity, our awareness of life, our consciousness. We are not just alive, but we know we are alive, thanks to our mind. It is the essence

of who we are—it has been well said that our body is just a vehicle for carrying around our mind. And it is a very personal realm, a private area to which no one but the owner has access. No one else can know exactly what is going on in our mind.

But what precisely is our mind, and where is it? The brain can be located, photographed, touched, and even dissected. But it isn't possible to see or measure the mind. The mind is intangible, invisible, and therefore very difficult to pin down and describe definitively. It has been a mystery to scientists and philosophers for centuries, as they have striven to get a handle on just exactly what the mind consists of, and how it works. Modern neurologists and cognitive scientists are continuing to probe how the brain and mind give rise to thoughts, actions, emotions, and ultimately, consciousness. This is known as the 'mind-body problem', and has long been one of the key issues of philosophy.

There are two major theories on the makeup of the mind. Materialism, or monism, holds that the mind is totally explained by the brain, and is nothing more than the result of brain activity. Dualism, on the other hand, holds that the mind is a non-physical essence that in some way works in conjunction with the brain.

Let's consider these approaches in more detail.

Materialism: Brain Is Mind

Most modern scientists are materialists, attributing the processes of mind to physical activities in the brain. They believe that consciousness is an emergent property of the brain, similar to the babbling noise of a river, which is a result of, or emerges from, the flow of the

water. Just as the kidneys produce urine, the brain produces mind. Our thoughts and emotions are the result of the complex electrochemical



interactions that occur within and between the nerve cells. This means in effect that the mind and the brain are the



same thing—mind is simply the way the brain works.

Scientists are able to measure brain activity using techniques like MRI (magnetic resonance imaging) or PET (positron emission tomography), and can see different parts of the brain light up

when different areas of the body are used, memories recalled, or thoughts imagined. But they haven't been able to identify how thoughts and feelings are created.

Neurologist Brad Harrub concedes: 'As scientists, we are far from unlocking all the secrets that this incredible organ (the brain) holds. In fact, scientists are not always agreed as to how (or if!) we can unlock the remaining secrets. We now possess the ability to record the activity from a single neuron located deep within the brain, but we can only speculate about the role that particular activity plays in such things as thoughts, memories, or emotions.

'The more we learn about this complex group of cells, the more we realise we do not know much about the "big picture".'¹

How and why do brain processes give rise to consciousness? How can mental activity emerge from a physical entity such as a brain? That's the big unsolved mystery.

Dualism: Physical Brain, Spiritual Mind

A pioneer proponent of dualism was the French philosopher René Descartes (1596-1650), who declared that the mind, while it might live in the brain, is a non-material entity, totally separate from the physical tissues found inside the head. He was the originator of one of history's most memorable sound-bites, 'I think, therefore I am', emphasising the importance of the mind. It is only because we have a mind that we actually exist, or have identity.

Recent advocates of dualism include the eminent neurophysiologist Sir John Eccles (1903-1997) and the famous philosopher Sir Karl Popper (1902-1994), who believed that the mind is essentially non-physical, although it makes use of the brain in its operations. They contended that the brain must be open to non-physical influences if mental activity is to be effective.²

'It is a mistake to think that the brain does everything', said Sir John Eccles, 'and that our conscious experiences are simply a reflection of brain activities'. If brain accounts for everything, then we—our conscious selves—are nothing more than 'passive spectators of the performances' that our brain neurons actually carry out. In that case, every ability we hold dear as humans—creativity, decision-making, will, reasoning—are fakes. 'Our beliefs that we can really make decisions and that we have some control over our actions would be nothing but illusions.'³

Wilder Penfield (1891-1976), a brilliant Canadian neurosurgeon, wrote: 'Throughout my own scientific career, I, like other scientists, have struggled to prove that the brain accounts for the mind'. The longer he studied his patients, the more it seemed that mind was more than brain activity. 'To me, it seems more and more reasonable that the mind may be a distinct and different essence' from the brain.⁴

Penfield demonstrated this duality of mind and brain by testing some of the epilepsy patients on which he performed brain surgery. When he electrically stimulated their brains he was able to make them move their arms or legs, turn their heads or eyes, talk, or swallow. When asked the reason for these movements, the patients responded: 'I didn't do that. You did'.⁵ Penfield concluded, 'the patient thinks of himself as having an existence separate from his body'.⁶

Mind over Matter

A recent book reports instances of therapy for depression and phobias where patients' brain chemistry was directly affected by their minds.⁷ Successful treatment for Obsessive Compulsive Disorder occurs when

patients recognise their problems are caused by their brain misfiring, and try to starve the compulsive, repetitive urges of the brain. After this treatment, brain scans show the brain has started to fix itself. The patient is changing his physical brain with his mind.⁸

The placebo effect is another principle supporting the case of dualism. When a patient is given a sugar pill instead of a real medicine, the patient's belief in the placebo can cause observ-

able and measurable relief from symptoms. Many doctors say that a patient's attitude can often help or hinder real medicines or therapies from working.⁹

'Mind over matter' is a common saying highlighting the fact that our minds can have a very real effect on our physical bodies. Mental states such as anger, fear, and worry can cause changes in the brain and other parts of the body. Anger, for instance, causes the brain to activate a clenching of the fists, racing blood pressure, or reddening of the face. It is well known that mental stress can trigger all manner of physical effects in the body. Conditions of this type are labelled 'psychosomatic', as the mind (*psyche*) produces disturbances in the body (*soma*).

David J Chalmers begins his book *The Conscious Mind: In Search of a Fundamental Theory*: 'Consciousness is the biggest mystery. It may be the largest outstanding obstacle in our quest for a scientific understanding of the universe'.

Prof. Chalmers is a philosopher who has devoted his career to thinking about consciousness. The conclusion reached in his book is that consciousness is beyond possible understanding by modern science.

To a neuroscientist, you are your brain; nothing causes your behaviour other than the operations of your brain.
—Joshua D Greene



These pictures show some of the remarkable achievements engineered by mankind. Compare them with the structures displaying the greatest inventiveness of the other animals and the difference is phenomenal. Yet the human brain closely resembles that of the orangutang and other creatures. Why do humans achieve transcendently more than other animals? The minimal difference in physical brain cannot explain the quantum difference in creativity and accomplishment. The accompanying article considers this paradox.



'We have good reason to believe that consciousness arises from physical systems such as brains, but we have little idea how it arises, or why it exists at all. How could a physical system such as a brain also be an experiencer? Why should there be something it is like to be such a system? Present-day scientific theories hardly touch the really difficult questions about consciousness. We do not just lack a detailed theory; we are entirely in the dark about how consciousness fits into the natural order.'¹⁰

Do We Have Free Will?

Dualists point out that if the mind is simply a by-product of brain activity, there is no such thing as free will, or the ability to make a decision. All of our thoughts and decisions would simply be attributable to neurons firing in our brains. This would mean

none of our thoughts or beliefs can be trusted, because they might be caused by a misfiring neuron. It would mean that 'we' are not consciously thinking the thoughts, since they are generated by the brain.

One interesting consequence of the materialistic viewpoint is now playing a part in the criminal justice system. A recent article in the *New York Times* stated that 'lawyers now routinely order scans of convicted defendants' brains and argue that a neurological impairment prevented them from controlling themselves'.¹¹

The writer mused, 'But since all behaviour is caused by our brains,

wouldn't this mean all behaviour could potentially be excused?' A good question. If our physical brain is the source of all behaviour, can we be held responsible for our actions?

If our physical brain is the source of all behaviour, can we be held responsible for our actions? Can free will really be reduced to the interplay of brain chemicals?

Can free will really be reduced to the interplay of brain chemicals? The article continued: 'To a

neuroscientist, you are your brain; nothing causes your behaviour other than the operations of your brain', says Joshua D Greene, an assistant professor of psychology at Harvard. 'If that's right, it radically changes the way we think about the law. The official line in the law is all that matters is whether you're rational,

but you can have someone who is totally rational but whose strings are being pulled by something beyond his control. In other words, even someone who has the illusion of making a free and rational choice between soup and salad may be deluding himself, since the choice of salad over soup is ultimately predestined by forces hard-wired in his brain.¹²

It is natural to feel that we can will to have our brain and body respond to us. When we decide to lift our arm, we understand that the brain issues the instructions to the arm to carry out the action.

But did the brain initiate the decision? If so, do we really have free will? The fact that we can have thoughts about consciousness itself is interesting. What causes these thoughts?

If it is true that just as the kidneys produce urine, the brain produces mind, this would mean that something non-physical arises from something physical, which would be unprecedented in all of creation. Urine is a physically measurable substance, but mind is not.

Thoughts are immaterial and can't be measured. We can have hundreds of thoughts in our minds at the same time, because they don't take up any space. Willpower, character, imagination, attitudes, appreciation of beauty, and other mental states are similar—they take up no space or time, and have no shape or size. It defies reason to believe that non-physical things like this could arise from something physical. Reactions between physical things are happening constantly, but they always result in other physical things. And then there is the question of the existence of values, conscience and morality—

how can these be explained by the physical brain?

Prominent geneticist and evolutionary biologist JBS Haldane stated: 'It seems to me immensely unlikely that mind is a mere by-product of matter. For if my mental processes are determined wholly by the motions of atoms in my brain I have no reason to suppose that my beliefs are true...and hence I have no reason for supposing my brain to be composed of atoms'.¹³

Another corollary of materialistic thinking is that if the brain, which

is known to work just as a computer does, can give rise to mind, then it must follow that one day the computers made by man will develop consciousness,

start thinking, and become self aware. But that bizarre outcome simply defies logic and reason.

Humans versus Animals

Dualists also point out that when the brains of human beings are compared to those of animals, there isn't a lot of difference, but when the respective mind power is compared, that of humans is overwhelmingly superior. Man's brain is similar to animal brain, merely continuing the gradual increase in complexity evidenced by all mammals from shrew to chimpanzee. But there is an enormous, seemingly infinite, difference in mental power and quality of life between man and animal. Animals lack an understanding of beauty, an awareness of self, the knowledge of right and wrong, the ability to create, think, dream, imagine, develop character, and even to worry. They act largely on instinct, with their brain functioning like a programmed computer. In other words, they have a brain, but not a

mind, at least anywhere remotely comparable to that of a human.

An article in *Nature* magazine stated: 'Time and again, humans' sense of cognitive superiority over other primates has failed to find a solid foundation in structural variations of the brain. The brains of humans and chimpanzees are anatomically not so different, except in scale'.¹⁴

Brain researcher Robert Kuhn concludes: 'The human brain cannot account for the yawning chasm between the utterly unique characteristics of humans and the repetitive instincts of animals. Therefore, a non-physical addition must unite with the human brain, converting it into the human mind'.¹⁵

Science and philosophy continue to be mystified by the mind-body problem. Science is unable to prove that non-physical thoughts, emotions, character and values come from a physical brain and can be explained totally physically.

A recent article in *The NZ Herald* declared: 'The conundrum remains—how the electrical activity of billions of neurons in the brain "translates" into the range and quality of subjective experiences of our lives. We seem as far from understanding the brain as we were a century ago. Nobody understands how decisions are made or how imagination is set free'.¹⁶

Some scientists hoped the human genome project would deliver the keys to solving the mind-body problem, but around a decade since the completion of the project, we are in some ways even further from the answer. It was discovered 'that the human genome is virtually interchangeable with that of our fellow vertebrates, such as the mouse and our primate cousins.

'We cannot see in this why we are so different from chimpanzees', remarked the director of the chimp genome project. 'The obvious

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—John Maddox

differences cannot be explained by genetics alone'.¹⁷

Noted science author Richard Morris commented: 'Scientific knowledge of the brain is woefully incomplete. Scientists do not know how the brain acquires and stores information, how it produces feelings of pleasure and pain, or how it creates consciousness. The functioning of the human brain is a profound mystery'.¹⁸

The Bible goes on to reveal that the reason we are able to have understanding is that 'there is a spirit in man'.

The study of the mind brings us to the outer edges of scientific enquiry, that grey area where science and philosophy intersect. Science has no way to prove or disprove whether non-physical mind essence or energy exists, since anything non-physical is by its very nature unable to be observed or measured scientifically.

David Chalmers states: 'Temperamentally, I am strongly inclined toward materialist reductive explanation, and I have no strong spiritual or religious inclinations. For a number of years I hoped for a materialist theory; when I gave up on this hope, it was quite reluctantly. It eventually seemed plain to me that these conclusions were simply forced on anyone who wants to take consciousness seriously. Materialism is a beautiful and compelling view of the world, but to account for consciousness we have to go beyond the resources it provides'.¹⁹

An Answer Proposed

When we venture beyond the resources of materialism and look at the area of religion, we find it has important insights to offer in this area.

Interestingly, the Holy Bible purports to answer the mind-body question. The Bible claims to be the revelation of the God who created the universe. If indeed there is such a creator, he

certainly would have the answers to questions like this one, since he put together the body and the mind. So it is instructive to consider what the Bible has to say.²⁰

The Bible records that after creating all of the lower animals, God formed mankind as the crowning achievement of the creation, giving us the dominion over all other creatures. It states that God made man 'in his image',²¹

having attributes such as thinking, reasoning, decision-making, appreciation of beauty, and creativity that God himself possessed.

The Bible goes on to reveal that the reason we are able to have understanding is that 'there is a spirit in man'.²²

That simple statement explains the difference between humans and animals, and provides the key to unlocking the mind-body enigma.

Richard Faull, director of the Centre for Brain Research at Auckland University says: 'When you realise the complexity of the human brain and that we are so limited by the fact we have to use our own brain to try to solve the brain—and that's probably impossible. I think we need a super-brain'.²³

Thankfully there is a 'super brain'—God the Creator, the one who devised the complex marvel that is our brain—who can reveal the answers that are beyond humanity's grasp. The handbook he gave mankind, the Bible, reveals that dualism is correct—each of us has a mind, or 'spirit in man', as well as a brain.

Some scientists and authors have come to this conclusion independently.

An article in *Time* magazine concluded: 'As physicist (Roger) Penrose has suggested, the notion that the human mind can ever fully comprehend the human mind could well be folly. It may be that scientists will eventually have to acknowledge the existence of something beyond their ken—something that might be described as the soul'.²⁴

Sir John Eccles stated, 'Since materialist solutions fail to account for our experienced uniqueness, I am constrained to attribute the uniqueness of the Self or Soul to a supernatural spiritual creation'.²⁵

Botanist Edmund Sinnott (1888–1968) wrote, 'These deep-seated inborn urgencies and desires, arising spontaneously in the mind...coming to flower as the highest expressions of what he is and what he might become, one may rightly call, I think, the human spirit'.²⁶

The Bible then takes this a step further, showing that in addition to the spirit in man which gives him the ability to think, there is a spirit of God expressing the thoughts or mind of God.

'For who among men knows the thoughts of a man except the man's spirit within him? In the same way no one knows the thoughts of God except the Spirit of God'.²⁷

'It may be that scientists will eventually have to acknowledge the existence of something beyond their ken—something that might be described as the soul.'

—Time magazine

Amazingly, the Bible goes on to disclose that this spirit of God is available to be imparted to humans, supernaturally joining with our spirit or mind.²⁸

Receiving this spirit enables us to receive and exercise some of the thoughts, attitudes and approaches

of God, as we take on aspects of the very mind of God! The Apostle Paul writes: 'God has poured out his love into our hearts (another word for minds) by the Holy Spirit, whom he has given us'.²⁹

Through having the Holy Spirit in our mind, the love of God and other fruits of the spirit³⁰ become active in our lives, influencing our thoughts, feelings, emotions, desires and understanding.

Another passage describes this process: 'I pray that out of his glorious riches he may strengthen you with power through his Spirit in your inner being'.³¹

Here our mind is referred to as our 'inner being', the deep part of us where our self awareness and personal identity reside, the source of our thoughts, desires and emotions. When the Holy Spirit comes into the mind, the Bible describes it as a 'renewal of the attitude of your mind',³² and as 'taking on the mind that was in Jesus Christ'.³³

The Bible contains much helpful instruction on how we should use our minds and direct our thoughts. One verse for instance states, 'Whatever is true, whatever is noble, whatever is right, whatever is pure, whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—think about such things'.³⁴

The wise biblical King Solomon gave an important admonition about the mind: 'Above all else guard your heart (mind), for it is the wellspring of life'. This means that looking after our mind is the most important thing we can do in life, because it is the source of our self awareness, identity, thoughts and feelings, the most essential, central thing about each of us as individuals.

The mind-body problem, that age-old mystery of the origin of consciousness, was explained centuries ago in the Bible! The incomparable human mind is a spiritual component given to us by our Creator. No wonder it

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defies physical comprehension. Let's be thankful for and take good care of that most valuable possession, our marvellous human mind!

Notes

¹ B Harrub & B Thompson, *The Origin of the Brain and Mind, Reason & Revelation*, 2491, pp. 1-8.

² R L Gregory, *The Oxford Companion to the Mind*, Oxford University Press, 2004, p. 252.

³ J Eccles & K Popper, *The Self and Its Brain*, Springer, Berlin, 1977.

⁴ Wilder Penfield, *The Mystery of the Mind*, Princeton University Press, 1975, p. xiii.

⁵ *ibid.*, pp. 76-77.

⁶ Wilder Penfield, quoted in A Koestler, *Ghost in the Machine*, p. 203.

⁷ M Beauregard & D O'Leary, *The Spiritual Brain*, pp. 133-140.

⁸ *ibid.*, pp. 126-130.

⁹ *ibid.*, pp. 141-142.

¹⁰ D J Chalmers, *The Conscious Mind: In Search of a Fundamental Theory*, Oxford University Press, 1996, Introduction.

¹¹ J Rosen, The brain on the stand, *New York Times*, 11 March 2007.

¹² *ibid.*

¹³ J B S Haldane, *Possible Worlds: And Other Essays*, Chatto and Windus, London, [1927], reprinted 1932, p. 209.

¹⁴ C P Ponting & G Lunter, Human brain gene wins genome race, *Nature*, 14 Sept. 2006.

¹⁵ R L Kuhn, *The Human Mind—More than a Computer*, 1969, p. 53.

¹⁶ J Maddox, Greatest wonder of the world, *The Daily Telegraph*, reprinted in *The New Zealand Herald*, 14 February 2009.

¹⁷ *ibid.*

¹⁸ R Morris, *The Evolutionists: The Struggle for Darwin's Soul*, WH Freeman, New York, 2001, p. 200.

¹⁹ Chalmers, Introduction.

²⁰ For evidence about the veracity of the Bible, please feel free to write to us for a copy of our article on this subject.

²¹ Genesis 1:26 (*New International Version* quoted throughout).

²² Job 32:8.

²³ D Chisholm, R Faull—unravelling the brain's secrets, *North and South*, January 2010.

²⁴ 'Consciousness' may be an evanescent illusion, *Time*, 31 July 1995, p. 54.

²⁵ J Eccles, *Evolution of the Brain, Creation of the Self*, p. 241.

²⁶ E W Sinnott, *Matter, Mind and Man*, p. 124.

²⁷ 1 Corinthians 2:11.

²⁸ 1 Corinthians 2:10,16; Acts 2:38; Romans 8:16; Philippians 2:5.

²⁹ Romans 5:5.

³⁰ Galatians 5:22-23.

³¹ Ephesians 3:16.

³² Ephesians 4:23.

³³ Philippians 2:5.

³⁴ Philippians 4:8.



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