

Does Consciousness Depend on the Brain?

In this materialistic age, dualists are often accused of smuggling outmoded religious beliefs back into science, of introducing superfluous spiritual forces into biology, and of venerating an invisible "ghost in the machine." However, our utter ignorance concerning the real origins of human consciousness marks such criticism more a matter of taste than of logical thinking. At this stage of mind science, dualism is not irrational, merely somewhat unfashionable.

Physicist Nick Herbert
Elemental Mind.

In March 1987 Dawn Gillott was admitted to Northampton General Hospital, seriously ill with pneumonia. After being placed in intensive care, the physicians decided to perform a tracheotomy because she could not breathe.

The next thing I was above myself near the ceiling looking down. One of the nurses was saying in what seemed a frantic voice, 'Breathe, Dawn, breathe.' A doctor was pressing my chest, drips were being disconnected, everyone was rushing round. I couldn't understand the panic, I wasn't in pain. Then they pushed my body out of the room to the theatre. I followed my body out of the ITU and then left on what I can only describe as a journey of a lifetime.

I went down what seemed like a cylindrical tunnel with a bright warm inviting light at the end. I seemed to be traveling at quite a speed, but I was happy, no pain, just peace. At the end was a beautiful open field, a wonderful summery smell of flowers. There was a bench seat on the right where my Grandfather sat (he had been dead seven years). I sat next to him. He asked me how I was and the family. I said I was happy and content and all my family were fine.

He said he was worried about my son; my son needed his mother, he was too young to be left. I told Grampi I didn't want to go back, I wanted to stay with him. But Grampi insisted I go back for my children's sake. I then asked him if he would come for me when my time came. He started to answer, 'Yes, I will be back in four –' then my whole body seemed to jump. I looked round and saw that I was back in the ITU.

I honestly believe in what happened, that there is life after death. After my experience I am not afraid of death as I was before my illness.¹

The near-death experience described above is not rare. Hundreds of similar cases – involving people reporting that while seriously ill or injured they left their bodies, observed the surrounding scene, entered a tunnel, emerged in another world where they meet deceased friends or relatives before returning to their bodies – have been documented in several different countries. The case above is not even a particularly

impressive one. At first glance, such cases seem to indicate that under life-threatening circumstances the conscious part of us is capable of detaching from our physical bodies, and may travel to another world. The over-whelming majority of those who have had such experiences are convinced of the existence of an afterlife.

However, there are those that disagree, and who argue that such experiences simply cannot be what they at first seem to be. The strongest arguments against the existence of an afterlife are those that deny the possibility of consciousness existing apart from the biological brain.

The Greek atomists were the first to define the soul in terms of material atoms. Epicurus (342-270 BC) defined the soul as “a body of fine particles ...most resembling breath with an admixture of heat.” He stressed the complete dependence of soul on body, so that when the body loses breath and heat, the soul is dispersed and extinguished. The Roman poet Lucretius (99-55 BC) took up the arguments of Epicurus, and continued the atomist tradition of describing the mind as composed of extremely fine particles. Lucretius wrote one of the earliest and most cogent treatises advancing the arguments that the relation between mind and body is so close that the mind depends upon the body and therefore cannot exist without it. First, he argued that the mind matures and ages with the growth and decay of the body; second, that wine and disease of the body can affect the mind; third, the mind is disturbed when the body is stunned by a blow; and finally, if the soul is immortal, why does it have no memories of its previous existence? Similar arguments, to the effect that the mind is a function of the brain, were taken up with greater force nineteen centuries later, in the work of men such as Thomas Huxley.

More recently, Corliss Lamont, former president of the American Humanist Association, has written one of the most extensive statements of the materialist positions in his book *The Illusion of Immortality*, the title of which speaks for itself. He tells us in the preface that he started out as a believer in a future life, but does not give us the reasons why he held the belief against which he reacted so strongly.

Lamont rightly contends that the fundamental issue is the relationship of personality to body, and divides the various positions into two broad categories: monism, which asserts that body and personality are bound together and cannot exist apart; and dualism, which asserts that body and personality are separable entities which may exist apart. Lamont is convinced that the facts of modern science weigh heavily in favor of monism, and offers the following as scientific evidence that the mind depends upon the body:

- in the evolutionary process the versatility of living forms increases with the development and complexity of their nervous systems
- the mind matures and ages with the growth and decay of the body
- alcohol, caffeine, and other drugs can affect the mind
- destruction of brain tissue by disease, or by a severe blow to the head, can impair normal mental activity; the functions of seeing, hearing and speech are correlated with specific areas of the brain.

- thinking and memory depend upon the cortex of the brain, and so “it is difficult beyond measure to understand how they could survive after the dissolution, decay or destruction of the living brain in which they had their original locus.”²

These considerations lead Lamont to the conclusion that the connection between mind and body “is so exceedingly intimate that it becomes inconceivable how one could function without the other ... man is a unified whole of mind-body or personality-body so closely and completely integrated that dividing him up into two separate and more or less independent parts becomes impermissible and unintelligible.”³

Lamont briefly considers the findings of psychical research, but contends that they do not alter the picture, because of the possibility of other interpretations, such as fraud and telepathy.^a

a Lamont’s portrayal of psychic research is extremely superficial, and contains several false and misleading statements. For an excellent critique of Lamont’s book, exposing a mass of inconsistencies and *non-sequitur*, see chapter XIII of *A Critical Examination of the Belief in a Life after Death*, by C.J. Ducasse.

In summary, the various arguments against the possibility of survival are: the effects of age, disease, and drugs on the mind; the effect of brain damage on mental activity, and specifically, the fact that lesions of certain regions of the brain eliminates or impairs particular capacities; and the idea that memories are stored in the brain and therefore cannot survive the destruction of the brain. The inference drawn from these observations is that the correlation of mental and physical processes is so close that it is inconceivable how the mind could exist apart from the brain. Except for the appeals of the modern writers to the terminology of neuroscience, the arguments advanced in favor of the dependence of the mental on the physical are essentially the same as those advanced by Lucretius.

The issues at stake

There are really two separate issues here: one is the *logical* possibility of survival, and the other is the *empirical* possibility. The arguments of the epiphenomenalists, the identity theorists, and the behaviorists are logically inconsistent with the idea of survival: *if* consciousness is merely a useless by-product of brain activity, or is identical with brain activity, or does not really exist except as observed behavior, then obviously what we call consciousness cannot survive the destruction of the brain. However, as we have seen earlier, there seems to be compelling reasons for rejecting the first of these theories, and it is questionable if the latter two theories are at all consistent with observation and introspection – or for that matter, are anything more than just silly.

If however, we are willing to admit the existence of consciousness and not only as a useless by-product, then the post-mortem existence of consciousness is at least a logical possibility – that is, there is no self-contradiction in the assertion that consciousness may exist in the absence of a brain. Then the question becomes whether or not survival is an empirical possibility – that is, whether or not the idea of survival is compatible with the facts and laws of nature as currently understood.

Implicit Assumption behind the empirical arguments against the possibility of survival

All the arguments mentioned above that are opposed to the empirical possibility of survival are based upon a certain assumption of the relationship between mind and body that usually goes unstated. For instance, one of the arguments mentioned earlier starts with the observation that a severe blow to the head can cause the cessation of consciousness; from this it is concluded that consciousness is produced by a properly functioning brain, and so cannot exist in its absence.

However, this conclusion is not based on the evidence alone. There is an implicit, unstated assumption behind this argument, and it is often unconsciously employed. The

hidden premise behind this argument can be illustrated with the analogy of listening to music on a radio, smashing the radio's receiver, and thereby concluding that the radio was *producing* the music. The implicit assumption made in all the arguments discussed above was that the relationship between brain activity and consciousness was always one of cause to effect, and never that of *effect to cause*. But this assumption is not known to be true, and it is not the only conceivable one consistent with the observed facts mentioned earlier. Just as consistent with the observed facts is the idea that the brain's function is that of an intermediary between mind and body – or in other words, that the brain's function is that of a two-way receiver-transmitter – sometimes from body to mind, and sometimes from mind to body.

The idea that the brain functions as an intermediary between mind and body is an ancient one. Hippocrates described the brain as “the messenger to consciousness” and as “the interpreter for consciousness.” But, like the materialist theory, this ancient argument also has its modern proponents – most notably Schiller, Bergson, and James.

Ferdinand Schiller was an Oxford philosopher in 1891 when a book titled *Riddles of the Sphinx* appeared which, according to the cover, was written by a “Troglodyte” (cave-dweller). This troglodyte turned out to be Schiller, who in his book attacked the prevailing materialism of the late nineteenth without revealing his name in order to avoid “the barren honours of a useless martyrdom.” Schiller likened himself to the man in Plato's *Republic* who has glimpsed the truth but finds that his fellow cave-dwellers simply do not believe his accounts, and so consider him ridiculous.

In his book Schiller proposes that “matter is admirably calculated machinery for regulating, limiting and restraining the consciousness which it encases.” He argues that the simpler physical structure of “lower beings” depresses their consciousness to a lower point, and that the higher organizational complexity of man allows a higher level of consciousness. In other words,

Matter is not what *produces* consciousness but what *limits* it and confines its intensity within certain limits ... This explanation admits the connection of Matter and Consciousness, but contends that the course of interpretation must proceed in the contrary direction. Thus it will fit the facts which Materialism rejected as ‘supernatural’ and thereby attains to an explanation which is ultimately tenable instead of one which is ultimately absurd. And it is an explanation the possibility of which no evidence in favour of Materialism can possibly affect.⁴

As for the effects of brain injury, Schiller argues that an equally good explanation is to say that the manifestation of consciousness has been prevented by the injury, rather than extinguished by it. With regard to memory, he thinks that it is forgetfulness rather than memory that is in need of a physical explanation: pointing out the total recall experienced under hypnosis and “the extraordinary memories of the drowning and dying generally”, he argues that we never really forget anything, but rather are prevented from recalling it by the limitations of the brain.

The French philosopher Henri Bergson held similar ideas to those of Schiller, although it is unclear if he ever read *Riddles of the Sphinx*. Bergson attempted to reconcile physical determinism with the apparent freedom of human behavior by proposing a theory of evolution whereby matter is crossed by creative consciousness: matter and consciousness interact, with both being elemental components of the universe, neither reducible to the other.

According to Bergson the brain canalizes and limits the mind, restricting its focus of attention and excluding factors irrelevant for the organism's survival and propagation. He assumed that memories have an extra-cerebral location, but that most are normally screened out for practical purposes, and in support of this, refers to near-death experiences in which the subjects' entire life histories flashed before their eyes. The brain is therefore both "the organ of attention to life" and an obstacle to wider awareness. He speculates that if the brain is a limiting obstacle, filtering out forms of consciousness not necessary for the organism's biological needs, then freedom from the body may well result in a more extended form of consciousness, which continues along its path of creative evolution.

In 1898 the American psychologist and philosopher William James delivered the Ingersoll Lecture. At the start of the lecture he first remarks that "Every one knows that arrests of brain development occasion imbecility, that blows on the head abolish memory or consciousness, and that brain-stimulants and poisons change the quality of our ideas." He then makes the point that modern physiologists "have only shown this generally admitted fact of a dependence to be detailed and minute" in that "the various special forms of thinking are functions of special portions of the brain."

James then explores the various possibilities for the exact *type* of functional dependence between the brain and consciousness. It is normally thought of as productive, in the sense that steam is produced as a function of the kettle. But this is not the only form of function that we find in nature: we also have at least two other forms of functional dependence: the permissive function, as found in the trigger of a crossbow; and the transmissive function, as of a lens or a prism. The lens or prism do not produce the light but merely transmit it in a different form. As James writes

Similarly, the keys of an organ have only a transmissive function. They open successively the various pipes and let the wind in the air-chest escape in various ways. The voices of the various pipes are constituted by the columns of air trembling as they emerge. But the air is not engendered in the organ. The organ proper, as distinguished from its air-chest, is only an apparatus for letting portions of it loose upon the world in these peculiarly limited shapes.

My thesis now is this, that, when we think of the law that thought is a function of the brain, we are not required to think of productive function only; we are entitled also to consider permissive or transmissive function. And this, the ordinary psychophysicologist leaves out of his account.

James then raises an objection to the transmissive theory of the body-mind relationship: yes, the transmission hypothesis may be a logical possibility, but isn't it just unbridled speculation? Isn't the production hypothesis simpler? Is it not more rigorously scientific to take the relationship between brain and mind to be one of production, not transmission?

But as James points out, from the standpoint of strictly empirical science, these objections carry no weight whatsoever. Strictly speaking, the most we can ever observe is concomitant variation between states of the brain and states of mind – when brain activity changes in a certain way, then consciousness changes also. The hypothesis of production, or of transmission, is something that we *add* to the observations of concomitant variation in order to account for it. A scientist never observes states of the brain *producing* states of consciousness. Indeed, it is not even clear what we could possibly mean by observing such production.

And as for the objection that the transmission hypothesis is somehow fantastic, exactly the same objection can be raised against the production theory. In the case of the production of steam by a kettle we have an easily understood model – of alterations of molecular motion – because the components that change are physically homogenous with each other. But part of the reason the mind-body relationship has seemed so puzzling for so long is because mental and physical events seem so completely unlike each other. This radical difference in their natures makes it exceedingly difficult to conceptualize the relationship between the two in terms of anything of which we are familiar. It is partly for this reason that even though it has been more than a century since James delivered his lecture, in all that time neither psychology nor physiology has been able to produce any intelligible model of how biochemical processes could possibly be transformed into conscious experience.

It has been pointed out many times that there is no logical requirement that only “like can cause like” – or in other words, that only things of a similar nature can affect each other. But this consideration has not removed the mystery from the mind-body relationship. As James wrote, the production of consciousness by the brain, if it does in fact occur, is “as far as our understanding goes, as great a miracle as if we said, thought is ‘spontaneously generated,’ or ‘created out of nothing.’”

The theory of production is therefore not a jot more simple or credible in itself than any other conceivable theory. It is only a little more popular. All that one need do, therefore, if the ordinary materialist should challenge one to explain how the brain *can* be an organ for limiting and determining to a certain form a consciousness elsewhere produced, is to ask him in turn to explain how it can be an organ for producing consciousness out of whole cloth. For polemic purposes, the two theories are thus exactly on a par.

In short, James elaborated lines of reasoning laid out earlier by Schiller, and argued that the dependence of consciousness on the brain for the manner of its manifestation in the material world does not imply that consciousness depends upon the brain for its

existence. At the end of his book *The Varieties of Religious Experience* he admits to being impressed by the research of Myers and other members of the Society for Psychical Research, and concludes that the issue of survival is a case for the testimony of the facts to settle.

James wrote these works around the turn of the nineteenth century, but since then these arguments have been endorsed and developed by several more recent philosophers, neurologists, and psychologists, such as philosophers Curt Ducasse and David Lund, neurologist Gary Schwartz, and psychologist Cyril Burt. The latter elegantly summarized the position set forth earlier by Schiller, Bergson, and James:

The brain is not an organ that generates consciousness, but rather an instrument evolved to transmit and limit the processes of consciousness and of conscious attention so as to restrict them to those aspects of the material environment which at any moment are crucial for the terrestrial success of the individual. In that case such phenomena as telepathy and clairvoyance would be merely instances in which some of the limitations were removed.⁵

The argument in its essence is that the transmission and production hypotheses are equally compatible with the facts materialism tries to explain – such as the effects of senility, drugs, and brain damage on consciousness – but that the hypothesis of transmission has the advantage of providing a framework for understanding other phenomena – such as the Near Death Experience - that must remain utterly inexplicable by the hypothesis of materialism.

¹ Fenwick & Fenwick, 1997, pp. 25-26.

² Lamont, 1990, page 76.

³ Lamont, 1990, pages 86 - 108.

⁴ Schiller. F., 295.

⁵ Cyril Burt, 1975, p. 60.