

## Chapter 1 : Larry Farwell (Author of How Consciousness Commands Matter)

*For centuries, science has believed that matter is king, and the job of scientist is to measure interactions of matter, not consciousness. Based on revolutionary new developments in physics and neuroscience, including his own groundbreaking research, Dr. Farwell challenges this view.*

Can a theoretical physicist investigate consciousness? For decades the few serious academics who tried were fatted to ridicule and marginalization. However, the times are changing, disciplines once disparate have found common ground. Information Theory and Quantum Mechanics are fighting side by side in the quest to understand the deepest and oldest of questions; what is consciousness, and further, can it be described by a rigorous scientific theory? Max Tegmark thinks so. Tegmark is a theoretical physicist at the Massachusetts Institute of Technology in Cambridge and he has been working using mathematics and physics to analyze systems involved in conscious thought. He goes on to show how the particular properties of consciousness might arise from the physical laws that govern our universe. And he explains how these properties allow physicists to reason about the conditions under which consciousness arises and how we might exploit it to better understand why the world around us appears as it does. In , Tononi proposed that a system demonstrating consciousness must have two specific traits. First, the system must be able to store and process large amounts of information. In other words consciousness is essentially a phenomenon of information. The times explained that according to Tononi our neurons are basically fancy photodiodes, producing electric bursts in response to incoming signals. While a photodiode can be in one of two states, our brains can be in one of trillions of states. The Times noted that not only can we tell the difference between a Chaplin movie and a potato chip, but our brains can go into a different state from one frame of the movie to the next. Consciousness is not simply about quantity of information, he says. Simply combining a lot of photodiodes is not enough to create human consciousness. In our brains, neurons talk to one another, merging information into a unified whole. A grid made up of a million photodiodes in a camera can take a picture, but the information in each diode is independent from all the others. You could cut the grid into two pieces and they would still take the same picture. Tononi says, is nothing more than integrated information. Information theorists measure the amount of information in a computer file or a cellphone call in bits, and Dr. Tononi argues that we could, in theory, measure consciousness in bits as well. This is the great hypothesis of researchers like Tononi and Tegmark, that the state we experience as being conscious, is measurable and quantifiable. They are working to create experiments that will demonstratively prove or disprove this hypothesis , analysis it further and hopefully in the process pull back , just slightly, the curtain on the mystery of life.

Chapter 2 : Is consciousness a state of matter? | Raw Science

*This book will inspire you to question what you've heard from the scientific experts about how the universe works and what role we play in it. For centuries, science has believed that matter is king, and the job of scientist is to measure interactions of matter, not consciousness.*

Awake, Asleep, or Neither? Our understanding of consciousness has been hampered by our historically rudimentary ways of understanding its absence. We can easily determine if someone is awake, because their eyes will probably be open. Awareness is much harder to detect, because the only way we have of knowing whether or not someone is aware is by asking them. Comatose patients, for example, have their eyes closed at all times, and are neither awake nor aware. Patients in the vegetative state, however, often show signs of wakefulness. The problems with diagnosis thus make it extremely difficult to identify those whose conditions might improve. Owen and his colleagues pioneered the use of functional neuroimaging to detect signs of consciousness in patients diagnosed as being in a persistent vegetative state, and to communicate with them. The ability to do so indicates that certain of their mental abilities—especially attention, memory, and language comprehension—are intact, and that they are, in fact, aware of what is going on around them. For many, this is a matter of life or death: Court cases that decide whether hydration and nutrition should be withdrawn from apparently vegetative patients are becoming increasingly common around the world, and such decisions often hinge on the question of whether or not the patient is conscious. Brain scanning is expensive, and moving patients to have these tests can be hugely problematic, so Owen and his colleagues have developed a cheaper, portable EEG-based version of the test. They want to test as many patients as they can, and to that end have built what they call the EEJeep, which they use to visit patients in their homes.

Defining Consciousness Despite these important advances, this research tells us very little about what consciousness actually is, or about how the brain generates it. Consciousness is at once familiar to us all, and deeply mysterious. We are all familiar with the content of our consciousness, and how those contents change as time passes, and we all lose consciousness every night when we go to sleep, only to regain it in the morning. Yet, neuroscientists and philosophers alike are still struggling to find an adequate definition of consciousness. Receive emails about upcoming NOVA programs and related content, as well as featured reporting about current events through a science lens. Email Address Zip Code Subscribe

Neuroscientists are increasingly viewing the brain as a complex network of inter-connected modules, and so there is growing interest in mapping the long-range neural pathways linking them. They have also come to believe that the synchronized activity of large groups of brain cells—which produces brain waves—is important for information processing and that the synchronization or de-coupling of brain wave frequencies between inter-connected brain regions is likely important for the flow of information between them. But many say that we still have no real understanding of consciousness. IIT states that consciousness is graded, and equates the amount of information being integrated with the level of conscious experience, such that conscious awareness increases with the amount of integration taking place. Yet a supercomputer simulation of the human brain, which is only partly integrated, could not. For example, it predicts that general anesthetics make us lose consciousness by reducing information integration in the brain to below a certain critical level and that integration is reduced or otherwise disrupted in consciousness disorders. Both of these predictions turn out to be accurate. Massimini and his colleagues have performed the test on healthy participants while they are awake, asleep, and at different levels of sedation by anesthetic, as well as in comatose, vegetative, and minimally conscious patients. Similarly, researchers in France have devised a way to measure how much information is being shared between pairs of scalp electrodes during EEG sessions. These methods could potentially be developed into cheap bedside tests that allow for more accurate diagnosis of consciousness disorders. Broader access to portable EEG tests promises to revolutionize how these patients are diagnosed and cared for. As new ways of measuring consciousness are developed further, we will become better equipped to deal with its disorders. And although we may still be a long way from understanding consciousness, by studying its various forms, we now seem to have a loose grasp of it.

### Chapter 3 : Consciousness - Wikipedia

*Download how consciousness commands matter or read online books in PDF, EPUB, Tuebl, and Mobi Format. Click Download or Read Online button to get how consciousness commands matter book now. This site is like a library, Use search box in the widget to get ebook that you want.*

For centuries, science has believed that matter is king, and the job of scientist is to measure interactions of matter, not consciousness. Based on revolutionary new developments in physics and neuroscience, including his own groundbreaking research, Dr. Farwell challenges this view. Using impeccable scientific techniques, he has proven in the laboratory that consciousness plays a commanding role in the universe. Larry Farwell Bio Dr. Larry Farwell is a Harvard educated former Harvard faculty member who is currently chief scientist of the Human Brain Research Laboratory. As a neuroscientist, he has conducted and published pioneering research on the interaction of consciousness and matter at the quantum-mechanical level. The well-known physicist Dr. George Farwell his father collaborated in this research. Larry Farwell invented a direct brain-to-computer communication system using electrical brain activity. He discovered the technique of Brain Fingerprinting to identify criminals and clear innocent suspects by measuring brain-wave responses to relevant words or pictures presented on a computer screen. Farwell and his discoveries. He sees his scientific research as a process of discovering the unlimited possibilities available for human life. He believes that the goal of life is the full development and complete integration of mind, heart, body, and spirit. Stapp is a leading quantum physicist who has given particularly careful thought to the implications of the theory that lies at the heart of modern physics. In this book, which contains several of his key papers as well as new material, he focuses on the problem of consciousness and explains how quantum mechanics allows causally effective conscious thought to be combined in a natural way with the physical brain made of neurons and atoms. The book is divided into four sections. The first consists of an extended introduction. Key foundational and somewhat more technical papers are included in the second part, together with a clear exposition of the "orthodox" interpretation of quantum mechanics. The third part addresses, in a non-technical fashion, the implications of the theory for some of the most profound questions that mankind has contemplated: How does the world come to be just what it is and not something else? How should humans view themselves in a quantum universe? What will be the impact on society of the revised scientific image of the nature of man? The final part contains a mathematical appendix for the specialist and a glossary of important terms and ideas for the interested layman. This new edition has been updated and extended to address recent debates about consciousness.

*Consciousness Commands Matter* bruceking (52) in consciousness â€¢ last year This is reported on by Rosenthal and Rubin in in regards to psychology experiments and in parapsychology by Kennedy and Taddonio,

The English word "conscious" originally derived from the Latin *consciens* con- "together" and *scio* "to know" , but the Latin word did not have the same meaning as our wordâ€”it meant "knowing with", in other words "having joint or common knowledge with another". This phrase had the figurative meaning of "knowing that one knows", as the modern English word "conscious" does. In its earliest uses in the s, the English word "conscious" retained the meaning of the Latin *consciens*. For example, Thomas Hobbes in *Leviathan* wrote: For example, Archbishop Ussher wrote in of "being so conscious unto myself of my great weakness". A related word was *conscientia* , which primarily means moral conscience. In the literal sense, "conscientia" means knowledge-with, that is, shared knowledge. The word first appears in Latin juridical texts by writers such as Cicero. These have ranged from formal definitions to definitions attempting to capture the less easily captured and more debated meanings and usage of the word. Philosophy of mind[ edit ] The philosophy of mind has given rise to many stances regarding consciousness. The *Routledge Encyclopedia of Philosophy* in defines consciousness as follows: The clearest examples are: Introspection and phenomenality seem independent, or dissociable, although this is controversial. Consciousnessâ€”The having of perceptions, thoughts, and feelings; awareness. The term is impossible to define except in terms that are unintelligible without a grasp of what consciousness means. Many fall into the trap of equating consciousness with self-consciousnessâ€”to be conscious it is only necessary to be aware of the external world. Consciousness is a fascinating but elusive phenomenon: Nothing worth reading has been written on it. For surveys, the most common approach is to follow a historical path by associating stances with the philosophers who are most strongly associated with them, for example Descartes, Locke, Kant, etc. An alternative is to organize philosophical stances according to basic issues. The coherence of the concept[ edit ] Philosophers and non-philosophers differ in their intuitions about what consciousness is. Gilbert Ryle , for example, argued that traditional understanding of consciousness depends on a Cartesian dualist outlook that improperly distinguishes between mind and body, or between mind and world. He proposed that we speak not of minds, bodies, and the world, but of individuals, or persons, acting in the world. Thus, by speaking of "consciousness" we end up misleading ourselves by thinking that there is any sort of thing as consciousness separated from behavioral and linguistic understandings. These experiences, considered independently of any impact on behavior, are called *qualia*. A-consciousness, on the other hand, is the phenomenon whereby information in our minds is accessible for verbal report, reasoning, and the control of behavior. So, when we perceive , information about what we perceive is access conscious; when we introspect , information about our thoughts is access conscious; when we remember , information about the past is access conscious, and so on. Although some philosophers, such as Daniel Dennett , have disputed the validity of this distinction, [31] others have broadly accepted it. David Chalmers has argued that A-consciousness can in principle be understood in mechanistic terms, but that understanding P-consciousness is much more challenging: Although p-consciousness without a-consciousness is more widely accepted, there have been some hypothetical examples of A without P. Inputs are passed by the sensory organs to the pineal gland and from there to the immaterial spirit. Mental processes such as consciousness and physical processes such as brain events seem to be correlated: The first influential philosopher to discuss this question specifically was Descartes , and the answer he gave is known as Cartesian dualism. Descartes proposed that consciousness resides within an immaterial domain he called *res cogitans* the realm of thought , in contrast to the domain of material things, which he called *res extensa* the realm of extension. Proposed solutions can be divided broadly into two categories: Each of these categories itself contains numerous variants. The two main types of dualism are substance dualism which holds that the mind is formed of a distinct type of substance not governed by the laws of physics and property dualism which holds that the laws of physics are universally valid but cannot be used to explain the mind. The three main types of monism are physicalism which holds that the mind consists of matter organized in a particular way ,

idealism which holds that only thought or experience truly exists, and matter is merely an illusion, and neutral monism which holds that both mind and matter are aspects of a distinct essence that is itself identical to neither of them. There are also, however, a large number of idiosyncratic theories that cannot cleanly be assigned to any of these schools of thought. His arguments, however, were very abstract. Theories proposed by neuroscientists such as Gerald Edelman [40] and Antonio Damasio, [41] and by philosophers such as Daniel Dennett, [42] seek to explain consciousness in terms of neural events occurring within the brain. Many other neuroscientists, such as Christof Koch, [43] have explored the neural basis of consciousness without attempting to frame all-encompassing global theories. At the same time, computer scientists working in the field of artificial intelligence have pursued the goal of creating digital computer programs that can simulate or embody consciousness. Several theorists have therefore proposed quantum mind QM theories of consciousness. Some of these QM theories offer descriptions of phenomenal consciousness, as well as QM interpretations of access consciousness. None of the quantum mechanical theories has been confirmed by experiment. Recent publications by G. Briegel [46] could falsify proposals such as those of Hameroff, which rely on quantum entanglement in protein. At the present time many scientists and philosophers consider the arguments for an important role of quantum phenomena to be unconvincing. The topic of free will is the philosophical and scientific examination of this conundrum. Problem of other minds[ edit ] Main article: Problem of other minds Many philosophers consider experience to be the essence of consciousness, and believe that experience can only fully be known from the inside, subjectively. But if consciousness is subjective and not visible from the outside, why do the vast majority of people believe that other people are conscious, but rocks and trees are not? For one thing, it seems to violate the principle of parsimony, by postulating an invisible entity that is not necessary to explain what we observe. A more straightforward way of saying this is that we attribute experiences to people because of what they can do, including the fact that they can tell us about their experiences. Animal consciousness The topic of animal consciousness is beset by a number of difficulties. It poses the problem of other minds in an especially severe form, because non-human animals, lacking the ability to express human language, cannot tell us about their experiences. Descartes, for example, has sometimes been blamed for mistreatment of animals due to the fact that he believed only humans have a non-physical mind. It is not obvious to the rest of the Western world or the Far East. It is not obvious to the society. Artificial consciousness The idea of an artifact made conscious is an ancient theme of mythology, appearing for example in the Greek myth of Pygmalion, who carved a statue that was magically brought to life, and in medieval Jewish stories of the Golem, a magically animated homunculus built of clay. Lovelace was essentially dismissive of the idea that a machine such as the Analytical Engine could think in a humanlike way. It is desirable to guard against the possibility of exaggerated ideas that might arise as to the powers of the Analytical Engine. The Analytical Engine has no pretensions whatever to originate anything. It can do whatever we know how to order it to perform. It can follow analysis; but it has no power of anticipating any analytical relations or truths. Its province is to assist us in making available what we are already acquainted with. Turing disavowed any interest in terminology, saying that even "Can machines think? In his essay Turing discussed a variety of possible objections, and presented a counterargument to each of them. The Turing test is commonly cited in discussions of artificial intelligence as a proposed criterion for machine consciousness; it has provoked a great deal of philosophical debate. For example, Daniel Dennett and Douglas Hofstadter argue that anything capable of passing the Turing test is necessarily conscious, [67] while David Chalmers argues that a philosophical zombie could pass the test, yet fail to be conscious. In a lively exchange over what has come to be referred to as "the Chinese room argument", John Searle sought to refute the claim of proponents of what he calls "strong artificial intelligence AI" that a computer program can be conscious, though he does agree with advocates of "weak AI" that computer programs can be formatted to "simulate" conscious states. His own view is that consciousness has subjective, first-person causal powers by being essentially intentional due simply to the way human brains function biologically; conscious persons can perform computations, but consciousness is not inherently computational the way computer programs are. To make a Turing machine that speaks Chinese, Searle imagines a room with one monolingual English speaker Searle himself, in fact, a book that designates a combination of Chinese symbols to be output paired with

Chinese symbol input, and boxes filled with Chinese symbols. In this case, the English speaker is acting as a computer and the rulebook as a program. Searle argues that with such a machine, he would be able to process the inputs to outputs perfectly without having any understanding of Chinese, nor having any idea what the questions and answers could possibly mean. If the experiment were done in English, since Searle knows English, he would be able to take questions and give answers without any algorithms for English questions, and he would be effectively aware of what was being said and the purposes it might serve. Searle would pass the Turing test of answering the questions in both languages, but he is only conscious of what he is doing when he speaks English. Another way of putting the argument is to say that computer programs can pass the Turing test for processing the syntax of a language, but that the syntax cannot lead to semantic meaning in the way strong AI advocates hoped. Turing-scale robotics is an empirical branch of research on embodied cognition and situated cognition. However, this test can be used only to detect, but not refute the existence of consciousness. A positive result proves that machine is conscious but a negative result proves nothing.

Scientific study[ edit ] For many decades, consciousness as a research topic was avoided by the majority of mainstream scientists, because of a general feeling that a phenomenon defined in subjective terms could not properly be studied using objective experimental methods. Broadly viewed, scientific approaches are based on two core concepts. The first identifies the content of consciousness with the experiences that are reported by human subjects; the second makes use of the concept of consciousness that has been developed by neurologists and other medical professionals who deal with patients whose behavior is impaired. In either case, the ultimate goals are to develop techniques for assessing consciousness objectively in humans as well as other animals, and to understand the neural and psychological mechanisms that underlie it. In the majority of experiments that are specifically about consciousness, the subjects are human, and the criterion used is verbal report: In several paradigms, such as the technique of response priming , the behavior of subjects is clearly influenced by stimuli for which they report no awareness, and suitable experimental manipulations can lead to increasing priming effects despite decreasing prime identification double dissociation. As a third issue, philosophers who dispute the validity of the Turing test may feel that it is possible, at least in principle, for verbal report to be dissociated from consciousness entirely: The last three of these can be used as indicators of consciousness when verbal behavior is absent. Their reliability as indicators of consciousness is disputed, however, due to numerous studies showing that alert human subjects can be induced to behave purposefully in a variety of ways in spite of reporting a complete lack of awareness. In the s Gordon Gallup developed an operational test for self-awareness, known as the mirror test. The test examines whether animals are able to differentiate between seeing themselves in a mirror versus seeing other animals. The hope is to find that activity in a particular part of the brain, or a particular pattern of global brain activity, which will be strongly predictive of conscious awareness. Several brain imaging techniques, such as EEG and fMRI , have been used for physical measures of brain activity in these studies. This idea arose from proposals in the s, by Christof von der Malsburg and Wolf Singer, that gamma oscillations could solve the so-called binding problem , by linking information represented in different parts of the brain into a unified experience. There is substantial evidence that a "top-down" flow of neural activity i. In contrast to the raw electrical responses that do not correlate with consciousness, the modulation of these responses by other stimuli correlates surprisingly well with an important aspect of consciousness: In , Graziano and Kastner [99] proposed the "attention schema" theory of awareness.

**Chapter 5 : 8 Studies That Show How Consciousness Affects Reality**

*This book will inspire you to question what you've heard from the scientific experts about how the universe works and what role we play in it.*

I regard matter as derivative from consciousness. We cannot get behind consciousness. Everything that we talk about, everything that we regard as existing, postulates consciousness. Atoms are the smallest unit of matter. Every kind of matter – gas, liquid, and solid – is made up of atoms. These atoms are the building block of the universe. These tiny particles are able to maintain their balance because of energy. Albert Einstein and Max Planck devoted much of their work towards this discovery. We are made up of a countless number of atoms. As a result, we are energy-creating beings by default. It is our belief, along with many others, that energy stems from consciousness. And that this consciousness is connected with the material world. Here are 8 scientific studies demonstrating the interconnectedness with consciousness and the material universe.

**The Placebo Effect** In a study at the Baylor School of Medicine, surgical options were sought for patients with debilitating knee pain. Amazingly, the group that received no surgery improved as much as those that had. This is just one example of many on how we can consciously affect the biology of our bodies. The placebo effect is having a significant impact on the medical community while disrupting the industries that rely on product revenue, specifically the multi-billion dollar pharmaceutical industry.

**The heart and electromagnetic experiments** The most prolific electromagnetic forces in the human body occur in and around the heart. Using spectral analysis, researchers discovered encoded emotional information embedded in the electromagnetic field surrounding the heart. When emotions shift, this encoded information changes. As a result, scientists continue to study the ramifications of such a profound discovery – including how this powerful force is felt and interpreted by those around us; specifically, how emotions such as compassion, empathy, love and understanding can be used to make positive changes in us and others. The participants then observed a computer screen which alternately showed one of two images – an astronaut or a leopard. The beginning of the experiment involved the transition of the images on the screen at random and at various time intervals. Then, the researchers inquired to the audience what image was preferable, to which most responded the astronaut. After which, they were instructed to concentrate only on seeing the astronaut. The images continued to be random for a short time after these instructions were given. Then, the image of the astronaut was the only one that appeared until the experiment was concluded. To many, this leads to the belief that random events can be altered with conscious influence. However, when photons or other particles of matter were ejected through the slits, there were multiple outlines created. Scientists call this an interference pattern. In the popular, peer-reviewed journal *Physics Essays*, the experiment has been demonstrated multiple times to explore the role of how consciousness shapes physical reality. One participant was able to visualize the specific rings around Jupiter before pictures of it were taken by NASA and made public. In another experiment, participants were able to see people and objects that were located in different rooms with no point of reference.

**Teleportation** In a study done by the Peoples Republic of China, researchers documented the ability of gifted children to teleport small objects from one place to another. The study was done under blind and double-blind conditions which yielded the same results. The findings were then published in an academic journal. The study was undertaken with the oversight of various academic institutions and the Department of Defense. Given the sensitive nature of the study, it was originally considered classified. However, various other studies and experiments have concluded that the transportation of physical objects without a bodily carrier has been known to take place.

**Psychokinetic experiments** In an unclassified U. Air Force research project titled the *Teleportation Physics Study*, participants were instructed and subsequently applied psychokinetic practices. In the study, several individuals were able to bend or contort metal specimens with no physical force. These experiments occurred in various locations, including the Pentagon and the U. Army Intelligence and Security Command. Attendees and participants included military leaders – Commanders, Generals, and Colonels.

**The evolution of human consciousness** The discovery that human beings can innately influence reality goes back a long, long time and continues to this present moment. Siddhartha Gautama, commonly referred to as

the Buddha , continually taught that our thinking and our consciousness creates reality. Many of his teachings, especially on mindfulness and meditation, have been confirmed again and again by the scientific community. Scientists have repeatedly demonstrated that mindfulness significantly alters the physiology of the brain. Now consider that Buddha lived over 2,500 years ago – approximately 2500 years before Christ. Yet, he had this innate knowledge that put him years ahead of his time. It can be argued that his teachings are ahead of our time. The brilliant Max Planck quote that preceded this article is very to how Buddha describes consciousness and manifestation of thoughts: Our life is the creation of our mind. Share your story below!

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### Chapter 8 : Dr. Larry Farwell - Brain Fingerprinting - Neuroscience, Physics, and Consciousness

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