

Scientific Investigations into the Essence of Matter

H A R U N Y A H Y A



All the information we have about the world we live in is conveyed to us by our five senses. The world we know consists of what our eye sees, our hand feels, our nose smells, our tongue tastes, and our ears hear. We never think that the "external" world can be other than what our senses present to us, since we've been depending on only those senses since the day we were born.

However, modern scientific research in many different fields points to a wholly different understanding, creating serious doubt about our senses and the world we perceive with them. This approach's starting point is the notion that **any "external world" is only a response created in our brain by electrical signals**. The red hue of an apple, the hardness of wood, your mother, father, your family, and everything that you own—your house, your job,—and even the lines of this article, are composed of electrical signals only.



In this picture, we see someone who feels himself skiing on the mountains, whereas there is really neither skis nor snow. This illusion is artificially created.

Thanks to present technological developments, it's possible to have realistic experiences without the need for an "external world" or "matter." The incredible advancement in virtual reality technology has come up with some especially convincing proofs.

To put it simply, virtual reality is the projection of computer-generated three-dimensional images that appear to be real with the aid of some devices. This technology, with its diverse range of applications, is known as "virtual reality," "virtual world," or "virtual environment." Its most important feature is that by the use of some purposely constructed devices, it misleads the person experiencing it into believing the experience to be real. In recent years, the word "immersive" has begun to be used in front of the term "virtual reality," reflecting the way that witnesses are literally immersed in the experience.

The rationale of any virtual reality system is based on our five human senses. For instance, when the user puts on a special glove, devices inside transmit signals to the fingertips. When these signals are relayed to and interpreted by the brain, the user experiences the sensation of touching a silk fabric or ornate vase, complete with all of its surface details—without any such thing actually existing in the environment.

One of virtual reality's foremost applications is in medicine. Michigan University has developed a technology that trains assistant practitioners—in particular, the personnel of emergency wards—to learn their skills in a virtual reality lab, in which environment is created by projecting the details of an operating room onto the floor, walls, and ceiling of a room. The "picture" is completed by projecting an operating table, complete with the patient to be operated on, onto the center of the room. The surgeons-to-be put on their 3-D glasses and begin their "virtual" operation. And anyone viewing the images reflected on the 3-D glasses cannot distinguish a real operating room from this virtual one.





Do We Live in a Holographic Universe?

New Scientist is one of the best-known science magazines. Its March 27, 2002 cover story was written by scientist J.R. Minkel, titled "Hollow Universe." "Why we all live in a hologram" the cover headline reported. To sum up the article, we perceive the world as a single bundle of light. Therefore, it would be a mistake to consider matter as the absolute truth by relying on our perceptions. Admits Minkel:

You're holding a magazine. It feels solid; it seems to have some kind of independent existence in space. Ditto the objects around you—perhaps a cup of coffee, a computer. **They all seem real and out there somewhere. But it's all an illusion.**

Minkel's article states that some scientists call this idea the "theory of everything," and that scientists consider this theory the first step towards explaining the nature of the universe. This magazine article explains scientifically that we perceive the universe as an illusion in our brains and that, therefore, we are not interacting with matter itself.

Perceptions Lost to the Senses, Recovered with Artificial Signals

In its March 11, 2002 issue, *Time magazine* published an article entitled "The Body Electric," revealing an important scientific development. The article reported that scientists melded computer chips with patients' nervous systems to treat permanent damage to their senses.

With their newly developed systems, researchers in the USA, Europe and Japan aimed to give sight to the blind and help paralyzed patients recover. They have already achieved partial success with this new system by planting electrodes into the relevant areas of the body, and silicon chips were used to connect artificial limbs with living tissue.

Following an accident, a Danish patient by the name of Brian Holgersen was paralyzed from the neck down, except for very limited movement in his shoulders, left arm and left hand. As is known, such paralysis is caused by damage to the spinal cord in the neck and back. The nerves are damaged or blocked, disabling neural traffic between brain and muscles, and cutting off communication between the nerves that transmit signals back and forth from the body to the brain. With this patient, the aim was to bridge his spinal cord's damaged area with an implant, letting signals from the brain bring back a little movement to the arms and legs.

They used a system designed to recover basic functions of the left hand, like grasping, holding and releasing objects. In an operation, eight small coin-sized flexible cuff electrodes were implanted into the muscles responsible for those movements in the patient's upper left arm, forearm and shoulder. Later, ultrathin wires connected these electrodes to a stimulator—a kind of pacemaker for the nervous system—implanted in his chest. The stimulator was in turn linked to a position-sensing unit attached to Holgersen's right shoulder—over which he retains some motor control.

Now, when the patient wants to pick up a glass, he moves his right shoulder upward. This movement sends an electrical signal from the position sensor, worn under his clothing, to the stimulator in his chest, which amplifies it and passes it along to appropriate muscles in his arm and hand. They contract in response, and his left hand closes. When he wants to release the glass, he moves his right shoulder downward, and his left hand opens.

The University of Louvain in Brussels used a similar application of technology in relation to eyesight. A patient's rod and cone cells had degenerated, causing the retina to become insensitive to light. Consequently, she became blind. An electrode implanted around her right optic nerve enabled her to regain partial sight.

In this patient's case, the electrode was connected to a stimulator placed inside a cavity in the skull. A video camera, worn on a cap, transmitted the images to the stimulator in the form of radio signals, bypassing the damaged rod and cone cells, and delivered the electric signals directly to the optic nerve. The brain's visual cortex reassembled these signals to form an image. The patient's experience is comparable to watching a miniature stadium billboard, but the quality is nevertheless sufficient to prove that this system is viable.

This system is called a "Microsystem-based Visual Prosthesis," a device permanently implanted into the patient's head. But to make it all work, the patient needs to go to a specially designated room in the University of Louvain and wear what looks like a badly damaged bathing cap. The bathing cap is made of plastic with a standard video camera installed on its front. The more pixels there are to form an image on the screen, the greater the number of electrical stimulations; therefore, the greater the resolution quality of the image.

The same article referred to an interesting show by a performance artist who made use of the same technology:

During one 1998 performance, Stelarc wired himself up directly to the Internet. His body was dotted with electrodes—on his deltoids, biceps, flexors, hamstrings and calf muscles—that delivered gentle electric shocks, just enough to nudge the muscles into involuntary contractions. The electrodes were connected to a computer, which was in turn linked via the Internet to computers in Paris, Helsinki and Amsterdam. By pressing various parts of a rendering of a human body on a touch screen, participants at all three sites could make Stelarc do whatever they wished.

These technologies, provided that they can be sufficiently reduced in size and placed inside the body, will pave the way for radically new developments in medicine. These developments demonstrate another important fact: The external world is a copied image that we watch in our minds...



The *New Scientist's* April 27, 2002 issue with its cover story, "Hollow Universe" and headline, "Why we all live in a hologram."

The *Time* article showed practical examples of how we can create perceptions like sight or touch by artificially created impulses. The most obvious proof is that a blind person was able to see. Despite the patient's eye not being functional, she could see by means of artificially created signals.

Can the Virtual Worlds of Some Films Be Duplicated in the Real World?

In "Life is a sim and then you're deleted," an article published in the July 27, 2002 issue of *New Scientist* magazine, Michael Brooks states that we might well be living in a virtual world not unlike the one in the film *Matrix*: "No need to wait for *Matrix 2* to come out. You could already be living in a giant computer simulation... Of course you thought *The Matrix* was

fiction. But only because you were meant to."

Author Brooks supports his views by quoting philosopher Nick Bostrom of Yale University, who believes that Hollywood movies come much closer to reality than we realize. He calculates, too, that there is some probability that we are living in a simulated or virtual world as some movies depict.

The scientific fact, much better understood in recent years, that we are not interacting with matter itself, causes people to reflect more deeply. This situation, the frequent inspiration for movies, points out that virtual environments recreate reality so realistically that people can be fooled by these illusionary images.



"The Body Electric," an article in *Time* magazine's March 11, 2002 issue, contained evidence proving that the external world is a copied image in our mind.

Materialism, Like Every Other False Philosophy, Has Been Destroyed

The philosophy of materialism has existed throughout history. Its adherents relied on the supposedly absolute existence of matter while denying God, Who has created them from nothing and also created for them the universe they live in. But the clear evidence leaves no room for discussion. Consequently, matter disappears—on which they based their lives and thoughts, pride and denial. By their own research, strangely enough, materialist scientists discovered that everything they see is not matter itself, but in reality a copy or image formed in the brain. And thus, they themselves brought down their materialist beliefs.

The twenty-first century is a turning point in history, in which this reality will spread among all peoples, and materialism will be wiped from the face of the Earth. Some, under the influence of the materialist philosophy, who believed that matter is absolute, now have come to realize that **they themselves are illusions, that the only absolute being is God**, Whose Being encompasses all there is. This reality is revealed in one of the verses:

God bears witness that there is no god but Him, as do the angels and the people of knowledge, upholding justice. There is no god but Him, the Almighty, the All-Wise. (Qur'an, 3: 18)

“To purchase the works of Harun Yahya, please visit www.bookglobal.net.”