The other body

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"I suddenly felt a strong pain in my left leg. I tried to reach it... with my only arm, but finding myself too weak, called the nurse and asked, "Please help me scratch the itch in my left calf." He replied, "The calf? We had to remove them!"

The lower legs of American serviceman George Dodlow were gone, but could still be felt. Sensation emanating from his missing limbs seems logically impossible, yet Dodlow—who lost an arm as well as his legs during the Civil war—is among thousands of cases of phantom limb syndrome that 19th century neurologist Weir Mitchel recorded during his long career. Today, some estimates suggest that as many as 80 percent of amputation patients around the world experience this strange phenomenon. Individuals who lose a limb, an eye, or a tooth continue perceiving sensations of touch, heat, cold, and pain in their physically non-existent anatomy.

Similarly, there exist a certain number of cases in which some paralysis patients subjected to the most rigorous medical examination appear to have no physical problems. Their muscles and blood vessels present the immobility that would be expected in usual paralysis, yet the nerves corresponding to the unresponsive limb appear normal.

So what's behind this strange occurrence? Many neurologists believe that with the loss of a limb, the area of the brain corresponding to that limb becomes dormant, causing the adjacent somatic sensors to provoke responses such as pain or numbness. In 1998, Vanderbilt University psychology professors Neeraj Jain, Sherre L. Florence, and Jon H. Kaas conducted studies showing that phantom limb pain may be a product of the brain attempting to reorganize itself following a trauma.

"Until recently, most neuroscientists believed that the adult brain is hard wired and largely incapable of reorganization. The only areas of the brain where some reorganization might occur would be those involved in learning and skill acquisition. However, over the past two decades, it has been conclusively established that even primary sensory areas of the brain are capable of reorganization in response to injuries or changes in patterns of peripheral stimulation," write the Vanderbilt professors.

Even so, while the brain may experience a partial reorganization after such a trauma, how does this explain children born without a limb presenting the same symptoms as adult amputees?

BEYOND THE PHYSICAL: Some suggest that in addition to our physical form, we also possess an unseen energetic body. This might help explain the phenomenon of phantom limb syndrome. PHOTOS.COM

The intangible body

One of the latest and most controversial hypotheses currently offered to explain how the brain can continue accommodating a complete sensorial spatial representation of the lost limb is described as an intangible or "microcosmic" body. The theory suggests that, composed of subatomic particles ordered in accordance with the physical dimension of the organism, an intangible body could explain why a limb clearly removed in this cellular dimension could remain intact in another dimension. Likewise, it could explain why in different cases, with no observable existing indications of pathology or damage in the physical body, a patient's limb refuses to move or perceive any sensation.

But is the existence of another body composed of extremely microscopic particles scientifically possible? Can it be verified that a determined appendage, while possessing no physical existence, lives on in another dimensional existence? While these questions appeal to our sense of wonder and imagination, perhaps most important is applying the theory for an effective treatment. If there is "another body," how do we access it?

In his book "Phantoms in the Brain," Dr. V. S. Ramachandran writes about a curious case of phantom limb. One of his patients had his arm amputated following a car accident, yet suffered severe pain in the missing arm that lasted years. For much of the time, after the unfortunate removal of his arm, the patient suffered from an acute pain emanating from his missing limb—from where his hand had been until the stump of his elbow. According to this patient, the cause of the persistent pain came the moment his arm was removed. Reacting to the procedure by forcefully driving the nails of his hand into the palm, the patient felt as if his hand was forever frozen in a tight fist.

Looking for a way to quell the mysterious pain of this individual, Dr. Ramachandran designed a device that could help him relate to his phantom limb: a small rectangular box with a pair of armholes and a mirror that divided the device into two compartments. The patient would extend both hands toward the box, introducing the unharmed hand toward it, and with the aid of the mirror he could imagine that his amputated hand was still there on the other side. In this way, with his visible hand opening very slowly, the patient could feel that his nails had finally lifted from the palm of his missing hand.

Between medicine and mysticism

In the "intangible body" theory, when a limb is removed, the procedure does not affect deeper dimensions. The energy and the incorporeal particles of the organism remain attached to the individual and his brain in other dimensions, even though they adapt and transform according to the requirements of the physical state.

While it may sound mystical at first, the theory is really a matter of perspective. For instance, when Western medicine observes inflammation or an ulcer, Traditional Chinese medicine can see that there is a blockage of vital energy (qi). Each system takes a different approach for treatment, but in both cases when the patient is healed, symptoms disappear. While the meridian system in Chinese medicine is not "visible," it has nevertheless been used for thousands of years to address a wide variety of health problems in the physical body.

"In Chinese medicine if a patient loses an organ, limb, or any anatomical part of the body, the energy of that tissue and the corresponding meridians and acupuncture points remain, says Mary Helen Lee, an Oriental Medicine practitioner in Chicago. "An acupuncture treatment can be used on the missing organ's meridian or on the remaining opposite limb to heal phantom pain."

The phenomenon of phantom limb syndrome sparks interest into the true nature of our body, its interaction with the mind, and the environment surrounding it. Do these patients merely suffer from a glitch in the brain, or does it speak of some deeper process? Similarly, do our atomic nuclei die after cellular disintegration, or somehow survive in some optically undetectable state?

GadgetTechWeekly

COURTESY OF PIONEER

Pioneer Elite DV-79AVi

Although it was unveiled in 2005, the Elite DV-79AVi DVD player from Pioneer includes technology that is still top notch, even by 2008 standards. Featuring adjustable video parameters such as progressive motion, the Elite has three factory video settings and a trick play processor for a smooth scan—the PureCinema progressive scan circuit uses 2:3 pull-down inverse telecine technology that results in better picture reproduction and a "flicker-free" viewing experience. The Elite's high-end DAC provides exceptionally clean images with very low noise, while the 6 Channel Burr-Brown Chipsets make for extraordinarily pure audio processing.

Pioneer essentially *pioneered* one of the world's first DVD players to allow direct HDMI connection to the television, and the DV-79AVi continues with what has become an industry standard. To protect its sensitive, extremely high-quality ICs and video processors from damage, the Elite has an ultra-thick triple-layered construction. Plus, with its upgraded graphic user interface, the DV-79AVi allows for easy set-up navigation.

Price: $1,000
Web site: www.pioneerelectronics.com

Samsung Projector SP-A800B

Samsung's Projector SP-A800B gives movie theater experience right in your own home. Using one of Texas Instrument's latest chips, the 1080 DLP, this projector boasts a Full HD 1920 X 1080p resolution—delivering a crisp, clear, HD quality picture. Its 24-frame true film mode brings a movie to life as the filmmaker intended. Users can also select from up to three color-coordination broadcasting formats including SMPTE-C, HDTV, and EBU, allowing for more accurate color projection.

To make the connection process a little easier, the projector features a number of different input terminals, allowing for a broader range of compatibility—and less worries. To top off the package, Samsung has included a handy remote control, making screen adjustments and projector operations trouble-free tasks.

Price: TBA
Web site: www.samsung.com

Gadget lovers seek out 2008'S hottest new products

NEW YORK/SAN FRANCISCO (Reuters)—The world's premier consumer electronics show kicked off in Las Vegas this week, but economic headwinds may mute the glitz and glamour of a conference that defines what gadgets are in store for 2008.

The Consumer Electronics Show (CES) attracted nearly 140,000 attendees to a show covering 1.8 million square feet and featuring everything from 100-inch TVs to sophisticated car navigation systems to quirky "zero-gravity" massage chairs.

The oddly timed event, coming on the heels of the festival of consumption that defines the year-end Christmas holiday season, showcases thousands upon thousands of products and prototypes set for release over the next year.

Martin Reynolds, a vice president at market research firm Gartner Inc., says hit products are coming faster and having shorter shelf lives than consumers' electronics of the past.

The industry's iconic gadgets—Apple Inc's iPod and iPhone franchises, the Nintendo Wii game platform—and Google Inc.'s Web services show how the electronics industry has become a Hollywood-style blockbuster hit parade.

"It is no longer first-to-market that matters. It is first to volume," Reynolds says. "Whoever can get to the price that makes the volume of popular products explode, wins," he said.

Still, as headline speakers such as Microsoft's Bill Gates, General Motors' Rick Wagoner, or Comcast's Brian Roberts hail the convergence of digital electronics across industries, economic factors could spoil the party.

Market watchers are debating how long consumer spending on gadgets can hold up in the face of a global credit crunch, weak U.S. dollar, and ever higher oil prices. But consumers caught short by these forces may focus on improving existing homes with the latest wireless or video gear, some analysts argue.

And most consumers see no need to upgrade at current prices to next-generation Blu-ray or HD-DVD while gadget manufacturers and Hollywood studios will once again defend their stalemated positions at CES over what standard to adopt for digital media storage discs.

Video, Web, and lots of flash

Nonetheless, a wave of innovation is being driven by the increasingly Web-connected nature of devices, ranging from phones to TVs to cars and cameras.

This connectedness allows products to be upgraded by software rather than forcing consumers to buy new devices to get new features. That shifts the industry's focus from technical breakthroughs to the clever new services that can be delivered cheaply and conveniently through such devices.

As an example of services that have been technologically possible for some time but are now hitting the mainstream, Karen Chupka, a Consumer Electronics Association senior vice president, points to satellite-linked mobile phones that can locate nearby restaurants.

"While that is not a new technology, there is a 'wow factor' compared to what was available in the past," Chupka said. "It's adding services that you would never think ... would be available to you," she said.

France warns against excessive mobile phone use

PARIS (Reuters)—The French Health Ministry last week issued a warning against excessive mobile phone use, especially by children, though it recognized science had not proved cellular technology was dangerous.

The appearance on the market of mobile phones designed for children has raised concern since youngsters would be particularly vulnerable to any possible health effects, the Ministry of Health, Youth, and Sports said in a statement.

"As the hypothesis of a risk cannot be entirely excluded, precaution is justified," the ministry said.

It recommended using mobile phones in moderation, especially among children, and gave advice on how users could reduce their exposure to any possible risk.

"One should use a mobile phone with good judgment, avoid calling when reception is poor, or during high-speed travel, and finally, keep the telephone away from sensitive areas of the body by using a hands-free kit," the ministry said.

Health Minister Roselyne Bachelot-Narquin said on France 2 television that mobile phones given to children could be useful safety items, but parents should be cautious about frequent use.

"Today, here and now, it does not appear useful to completely do away with, or ban, mobile phones for children ... but in keeping with the principle of caution, I want to inform parents completely," she said.

A November 2006 report from the World Health Organization (WHO) said available evidence suggests long-term exposure to radio-frequency and microwave radiation from mobile phones had no adverse health effects.

However, the WHO said other studies pointed to an increased risk of tumors in people who have used an analog mobile phone for more than 10 years.

A British study released in September 2007 said mobile phones did not pose short-term health risks, but scientists noted that studies to date included few participants who had used mobile phones for longer than 10 years—the time many cancers take to appear.

PROCEED WITH CAUTION: Sparked in part by an increasing market of cell phones for kids, last week the French Health Ministry issued a warning against excessive mobile phone use, especially by children. PHOTOS.COM

Michele Froment-Vedrine, the head of France's AFSSET, an independent but state-funded health watchdog, said parents should not give small children mobile telephones.

"Since they aren't capable of limiting their use of the telephone, parents should not buy them mobile phones," said Froment-Vedrine.

As of Sept. 30, there were more than 53 million mobile users in France, about 84 percent of the population, according to the French telecoms regulator Arcep.

At Orange, France's largest mobile phone operator, no-one was available for comment.