

THE GLOBAL BRAIN

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Chapter 8

Towards a Global Brain

Remember that you are at an exceptional hour in a unique epoch, that you have this great happiness, this invaluable privilege, of being present at the birth of a new world.

The Mother, Sri Aurobindo Ashram

excerpted from Chapter 8

The Emerging Global Brain

The interlinking of humanity that began with the emergence of language has now progressed to the point where information can be transmitted to anyone, anywhere, at the speed of light. Billions of messages continually shuttling back and forth, in an ever-growing web of communication, linking the billions of minds of humanity together into a single system. Is this Gaia growing herself a nervous system?

The parallels are certainly worthy of consideration. We have already noted that there are, very approximately, the same number of nerve cells in a human brain as there are human minds on the planet. And there are also some interesting similarities between the way the human brain grows and the way in which humanity is evolving.

The embryonic human brain passes through two major phases of development. The first is a massive explosion in the number of nerve cells. Starting eight weeks after conception, the number of neurons explodes, increasing by many millions each hour. After five weeks, however, the process slows down, almost as rapidly as it started. The first stage of brain development, the proliferation of cells, is now complete. At this stage the fetus has most of the nerve cells it will have for the rest of its life.

The brain then proceeds to the second phase of its development, as billions of isolated nerve cells begin making connections with each other, sometimes growing out fibers to connect with cells on the other side of the brain. By the time of birth, a typical nerve cell may communicate directly with several thousand other cells. The growth of the brain after birth consists of the further proliferation of connections. By the time of adulthood many nerve cells are making direct connections with as many as a quarter of a million other cells.

Similar trends can be observed in human society. For the last few centuries the number of "cells" in the embryonic global brain has been proliferating. But today population growth is slowing, and at the same time we are moving into the next phase—the linking of the billions of human minds into a single integrated network. The more complex our global telecommunication capabilities become the more human society is beginning to look like a planetary nervous system. The global brain is beginning to function.

This awakening is not only apparent to us, it can even be detected millions of miles out in space. Before 1900, any being curious enough to take a "planetary EEG" (i.e., to measure the electromagnetic activity of the planet) would have observed only random, naturally occurring activity, such as that produced by lightning. Today, however, the space around the planet is teeming with millions of different signals, some of them broadcasts to large numbers of people, some of them personal communications, and some of them the chatter of computers exchanging information. As the usable radio bands fill up, we find new ways of cramming information into them, and new spectra of energy, such as light, are being utilized, with the potential of further expanding our communication capacities.

With near-instant linkage of humanity through this communications technology, and the rapid and wholesale dissemination of information, Marshall McLuhan's vision of the world as a global village is fast becoming a reality. From an isolated cottage in a forest in England, I can dial a number in Fiji, and it takes the same amount of time for my voice to reach down the telephone line to Fiji as it does for my brain to tell my finger to touch the dial. As far as time to communicate is concerned, the planet has shrunk so much that the other cells of the global brain are no further away from our brains than are the extremities of our own bodies.

There are also parallels between the evolution of the global brain and the evolution of mental functions. The first nervous systems made simple connections between different parts of the organism—between sensors and muscles, for example—that allowed basic reflex reactions. In a similar way, the early Internet allowed data transfer from one machine to another, but little more.

In more complex organisms nerve cells gathered into ganglia and then into rudimentary brains. This integration of nervous pathways led, among other things, to the emergence of memory—which as far as we can tell seems to be distributed throughout the brain. Memory tends to be associative; if I see a dog it may trigger my memory of my own dog, and the need to call the vet, which in turn may trigger memories of a fictitious vet in a television series, which may trigger further associations. The WorldWide Web, which today is rapidly become the repository for all human knowledge, would seem to provide a similar function on a global level. Data is not located in any single place, but is distributed amongst tens of millions of host computers across the planet. A link on any of the billions of pages on the web will call up some or other associated page; moreover, just as human recall may take the form of a thought, a visual image, a sound, or some other modality, a link on the web may call up text, images, sounds, video, virtual reality, or some combination of them.

The web's associative memory has been augmented by "search engines", which index and collate information across the net. These are rapidly becoming more sophisticated, prioritising the links returned according to content, popularity, the user's profile, and other factors. Software agents (small programs that can travel to different nodes of the net, selecting information and sending it back to the user), expert systems, and other emerging technologies will likely lead to a web that does more than just remember. It will be able to form new associations, synthesize information creating new knowledge, and perhaps solve problems presented to it. It will then have become a system that can learn and think for itself.

The changes this will bring will be so great that their full impact may well be beyond our imagination. No longer will we perceive ourselves as isolated individuals; we will know ourselves to be a part of a rapidly integrating global network, the nerve cells of an awakening global brain.

(found at <http://www.peterussell.com/GB/globalbrain.html>)
(see also <http://www.peterussell.com/index2.html>)