Rethinking Science
Category : September/October 2001
Published by Anonymous on Sep. 01, 2001

BIOLOGY

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Biologist Rupert Sheldrake takes an Eastern look at Western assumptions

Mark Hawthore, California

In the scientific community, the name Rupert Sheldrake raises eyebrows. After all, this is the biologist whose controversial theories explore psychic pets, reincarnation, angels and mental telepathy. Not exactly mainstream science. At least that's the view in the West. But many of his concepts, such as the interconnectedness of life forms across time and space, won't seem new to a Hindu. And indeed, it was during the seven years that Sheldrake spent in India that he was deeply inspired by the Hindu culture, religion and people. There he developed some theories based upon his observations, and upon returning to the West, he started to test his theories with all the rigor of the most skeptical modern scientist. He got startling proof of some very unusual phenomena and the enduring opposition of many colleagues.

Even as a biochemistry student at Cambridge, Sheldrake rejected the mechanical view of nature which French philosopher Rene Descartes proposed in the 17th century. Descartes believed the universe is a machine and that all animals and plants are inanimate and don't have souls. He thought only humans had minds. "This went against all previous views in Europe and elsewhere," says Sheldrake. "After all, the very English word animal comes from the Latin word anima meaning 'soul.'" He points out that this attitude leads to factory farming and experimentation on animals in laboratories. Sheldrake is dismayed that science feels it must destroy an organism to understand it. At Cambridge University, "the first thing we did when we decided to study a plant or animal was kill it, then grind it up to extract the DNA and enzymes," he says. "It was the ultimate irony to become a biologistbecause you love animals, then spend a career torturing and killing them."

The England-born Sheldrake received a Ph.D. from Cambridge in 1967 and studied philosophy at Harvard. He spent seven years in India where he wrote his first book, A New Science of Life (1981), while living at an ashram there. That book soon became the target of criticism among Sheldrake's peers, who view many of his theories, at best, as "unconventional."

In 1968, Sheldrake went to India for three months while on his way to Malaysia to study tropical botany. Even after a year in Malaysia, he couldn't forget what he'd seen in India. "That had a huge impact on me," he says. "I suddenly saw this astonishing culture which I found completely fascinating, which had riches and depths beyond anything I had ever been taught about in England." Upon his return to England, the biologist researched the development of plants at Cambridge University. During this period, he experimented with various forms of meditation practice while deciding upon his next move. Not wanting to pursue what he describes as the narrow, reductionist science at Cambridge, he found a job in India in 1974. For four years Sheldrake was the plant physiologist for the International Crops Research Institute for the Semiarid Tropics in Hyderabad, improving legume crop yields for Indian subsistence farmers. He found the work rewarding and the spiritual environment stimulating.

"One of the effects of this exposure to India was to put the scientific perspective on the world that I had learned in Cambridge into a much wider

context," he says. "I saw that this was one rather limited way of looking at things. I was also much influenced by Indian meditation practices, starting with Transcendental Meditation around 1970, and various other forms of meditation and yoga over the years. This gave me a different perspective on the workings of the mind and on realms of experience I had not known about before." For the first time, Sheldrake was exposed to the teachings of Hinduism. "I was impressed by the way that Hindus relate to the land of India and the holy places, and was moved by the great variety of pilgrimages and holy animals and plants and festivals. There are so many aspects of Hinduism that link it to the land and to the natural world in India. It is also closely linked to the culture and languages of India. I realized that as an English person I could never fully enter into those aspects of Hinduism. But I did see that similar cultural and religious treasures existed within the West, although until then I had been rather blind to the Christian tradition. I saw my own religious heritage in a new light as a result of my experiences in India and was seeking for a bridge between the two when I came across Father Bede Griffiths."

Sheldrake took up residence at Father Bede Griffiths' Shantivanam ashram in Tamil Nadu. Griffiths, an English-born Catholic monk, was a student of Indian philosophy who attempted to find a meeting ground between Catholic theology and Hinduism, even creating a Catholic mass in Sanskrit patterned after Hindu temple worship. His teachings had a profound influence on Sheldrake. "He was exactly the right person for me to meet, since he was both an English Benedictine monk and had lived in India for decades with a deep appreciation of Indian spirituality and culture. His ashram provided a bridge between the worlds of East and West, a way of integrating these two traditions which I found very attractive. I also enjoyed the simplicity of lifestyle in the ashram. And, ironically, I found the ashram far more Indian than most of the Hindu ashrams I visited, which were overwhelmed with foreigners. Because many of the foreigners who visit India are not particularly interested in Christianity, Father Bede's ashram was far more Indian."

Sheldrake also befriended the well-known philosopher, J. Krishnamurti, who taught that

"Truth is a pathless land," shunned organized religion and declared that there was wasno need for the guru. Although fond of him, Sheldrake saw problems with Krishnamurti's Socratic approach to teaching. "He was very good at asking questions," he says, "but he wasn't very good at suggesting answers, and I think that a lot of people got quite lost as a result of his teachings. But I had a lot of fun being with him, and I liked him a lot personally."

It was in India, amid the teachings of Hindu and Sufi holy men, that Sheldrake believed that something beyond matter was needed to explain the way that living things grow into their normal forms, some kind of nonmaterial "blueprint," something more than just DNA. That "something" he calls "morphic fields" which are part of his Hypothesis of Formative Causation. Morphic fields are fields that tell a "thing" how to take shape, be it a crystal, a galaxy, plants, animals, cells, society, everything nature shapes. According to Sheldrake, these morphic fields interconnect

similar things across both time and space by transmitting through "morphic resonance." The more similar the thing, the stronger the effect. For example, a lab rat with practice learns how to quickly run through a special maze. Three thousand miles away, a rat of the same breed, who has never run a maze in its life, mysteriously runs through the same maze much more quickly than the other rat did in its first run. This astounding result has been demonstrated experimentally not only in rats but in other species. [See www.uprm.edu/socialsciences/jung/id32.htm for more examples and explanation.]

Both living and nonliving things have a collective memory passed down to each successive generation, according to Sheldrake. For example, crystals of a given kind are influenced by all past crystals of that kind, date palms by past date palms, tigers by past tigers, etc. From this perspective, the DNA of a living system does not carry all the

information needed to shape that system, but it can act as a "tuning seed" that tunes into the morphic fields of currently living organisms, or of previous systems of the same type. Sheldrake offers as examples birds and fish that maintain a tight grouping in the air and sea, yet can change direction as a group without falling out of formation. Sheldrake suggests that there are many types of morphic fields, including behavioral, mental, social and cultural fields. He contends that morphic fields are responsible for both the shape and behavior of all things, from atoms to zebras, organizing them much as a magnetic field lines up iron filings.

Although Sheldrake credits embryologist Hans Driesch and existentialist philosopher Henri Bergson with giving him ideas on morphic fields and the nonmaterial nature of memory while at Cambridge, he says that scientists there could not understand what he was talking about. People in India could,

though, and Sheldrake found inspiration in his new home and sought answers to biological mysteries in philosophy. "I dare say, the climate of Indian thought was a very fertile one for me," he says. "It enabled me to go on thinking about these ideas in a much more favorable environment than if I'd been doing it in Cambridge. But the germs of these ideas, the roots of my own thought, are in Western philosophy and science rather than Oriental philosophy. So, it's a kind of convergence."

Although Sheldrake has received much criticism for his metaphysical approach to science (he posts responses to his detractors' criticism on his comprehensive Web site, www.sheldrake.org), he sees the blending of science and spirituality as completely natural. "I don't think spiritual and metaphysical matters are things of concern simply to professional spiritual teachers or to philosophers in universities," he says. "They

affect all of us, and everyone has a right to concern themselves with them. In any case, science is not separate from metaphysics and, until the 19th century, was not even called science. In England it was called natural philosophy. Any change in the frontiers ofscience involves a change in the frontiers of metaphysics as well. For example, the assumption that most of my scientific colleagues make that the universe is governed by eternal mathematical laws which were all present at the moment of the Big Bang is a metaphysical assumption. No one was there at the beginning of the Big Bang measuring all the physical laws and reporting on the state of the universe in peer-reviewed journals. I am suggesting that the so-called laws of nature may be more like habits and that there may be a memory in nature. This is a scientific hypothesis, but it challenges the metaphysical assumption on which

conventional science is based. Any major change in scientific thinking involves a change in the metaphysical framework of science as well. Spiritual matters are by no means separate from science. Most of the founding fathers of modern science, including Descartes and Newton, believed that science was a way of understanding the mathematical mind of God, revealed in the universe, and many scientists have a spiritual agenda which is mixed up with their science. This is even the case with atheists, who seek to find truth through science and generally believe in the eternal reality of matter, energy and physical law in a way that goes far beyond any empirical evidence."

Sheldrake's current work includes experiments on the sense of being stared at from behind. He has conducted a long

series of rigorous scientific tests conclusively proving the reality of this common experience. Results of this research can be found in his next book, The Sense of Being Stared At, And Other Aspects of the Extended Mind, due to be published in autumn 2002 or spring 2003. He is also doing research on telephone telepathyÃthe person you have been thinking about calls you. He's also written Seven Experiments that Could Change the World (1994), Dogs that Know When Their Owners are Coming Home and Other Unexplained Powers of Animals (1999) and, with Matthew Fox, The Physics of Angels (1996).

Not surprisingly, Sheldrake's work has found more acceptance in the East than in the West. "In the East, the idea of causation through time, such as I suggest

in the idea of morphic resonance, is familiar and part of the traditional philosophy," he explains. "That makes this aspect of my work seem far more natural and acceptable to many people from a Hindu or Buddhist background. Also, the idea that the mind is extended beyond the brain, the basis of much of my recent work, is fairly well taken for granted in Eastern cultures, whereas it has been out of fashion in the West for several centuries."

Sheldrake has observed that Asian scientists hesitate to allow their spiritual natures to influence their work. "I have to say that, in my experience, scientists from Asian cultures are generally not very radical in their science, whatever their private or traditional views may be. If Asian scientists took Asian spiritual

traditions more seriously, we would have seen much more innovative and creative research in various fields of science than we have. When I lived in India, I found that most of my Indian scientific colleagues kept their Hindu or Muslim views very much in their private life and, when at work, were trying to be Western scientists following all the standard Western modes of thought. The results were not very creative. I hope in the future more Asians will take the Asian traditions seriously, even when they conflict with modern science, and find ways of opening up science in the light of insights that come from their own traditions."

The Seven Experiments

Some of sheldrake's more controversial proposals are outlined in Seven Experiments That Could Change the World: A Do-It-Yourself Guide to Revolutionary Science (1994). Here he offers unconventional explanations for some of the mysterious occurrences in biology and invites the public to carry out their own preliminary tests. Many of Sheldrake's theories deal with

animals Sheldrake himself became fascinated by the ability of homing pigeons as a boy.

1. A pet's ability to anticipate its owner's return home. Some pets seem to anticipate when their owners are returning home. One case reported to Sheldrake concerned a dog who sat by the front door half an hour before her owner returned from work, even though the owner kept

extremely irregular hours, and often failed to telephone in advance. Sheldrake believes the pet and owner are connected via a morphic field.

2. The direction-finding instincts of homing pigeons. The ability of pigeons and other animals to find their homes even when transported far away has been explained by dead reckoning, vision, smell or magnetism. But Sheldrake proposes that their

homing is due in part to the morphic field, which can expand like an invisible elastic band.

3. The highly organized structure of termite communities. When making tunnels, two groups of termites begin by building each side of an arch until it meets in the middle even with a steel plate dividing the two sides. How does each team know what the other is doing?

Sheldrake suggests that the animals themselves and the structure they are building create a morphic field, analogous to the magnetic field around an electric coil, within which all individuals perform their allotted tasks.

4. Our own tendency to know when we are being stared at from behind. About 90% of the population have experienced the phenomena of being looked at from

behind and of looking at someone from behind and finding that they turn round. "If people really can tell when they are being looked at from behind, this suggests that an influence somehow reaches out from the looker," Sheldrake says. "Since my book was published, staring experiments have been conducted at more than 60 schools in Britain, America and Germany, and also by more than 20 other groups. The results of these

experiments have been positive in practically all cases."

5. Sensations felt in phantom limbs after amputation. When people lose a limb, they do not usually lose the sense of its presence. It feels as if it is really there, even though it is no longer materially real. In addition to a sense of its shape, position and movement, amputees generally experience various

feelings within the missing limb, such as itching, warmth and twisting.

6. The validity of the scientific constants as true constants. The "physical constants" are numbers used by scientists in their calculations. They are supposed to be changeless and are believed to reflect an underlying constancy of nature. Sheldrake posits that the values of the fundamental physical constants have in

fact changed over the last few decades and suggests how the nature of these changes can be investigated further.

7. The effect scientists' biases may have on experimentation. Positive and negative expectations often influence what actually happens. According to Sheldrake, many scientists carry out experiments with strong expectations about the outcome, and with

deep-rooted assumptions about what is and what is not possible. He believes their expectations influence their results. He cites numerous experiments with placebos and the need for "double blind" tests so as to not affect the experiment by the experimenters' thoughts or views.

On the Web

Whether you have an advanced degree in biochemistry or you're just an armchair scientist with an open mind, you'll find Dr. Sheldrake's website (www.sheldrake.org) a surprisingly approachable resource for discovering more about his experiments, books and theories. The site is easy to navigate and avoids the Ph.D. language that could make it more of a puzzle than a pleasure. For those who want to get more involved,

check out the Experiments link, where you can find all the details you'll need to test a few of Sheldrake's experiments at home. Then you can link to the Web discussion page, "Morphic Talk," which allows viewers to participate in some heady online discussion.

This is also the place to go to find out what Sheldrake is working on now, where to buy his books and even send him

an email. One viewer told Sheldrake about her telepathic parrot, a Congo African Gray parrot named N'kisi, who speaks in original sentences and evidently possesses a rudimentary grasp of grammar. The parrot is now the subject of ongoing research by Sheldrake and the parrot's owner. "We also hope this work will assist people to realize the amazing abilities, intelligence and awareness of animals, and encourage greater care of these precious

beings and the planetary environment we share," Sheldrake writes. Also of interest are his biography, Papers & Abstracts, FAQs and a glossary, in case you need to know the difference between morphic and morphogenesis. Finally, there's a nice selection of interviews and discussions of some of the more heated controversies surrounding Sheldrake's work.