Paradigms: What are they and why should we care?

by Pamela Heath

There are important precepts to science that are such an integral part of our lives and culture that we are completely unaware of them. But the fact that we are not conscious of their influence, doesn't make them unimportant. In fact, the opposite is true. It is critical to recognize and understand what these precepts are, and how they affect us.

So, what is a paradigm? And why does it matter to parapsychology?

I often get the comment that psychic phenomena don't exist and anyone who believes in them is delusional. When I ask whether the people making that comment have bothered to read any journals or see what science says, they invariably respond that they don't need to, because no scientific journal of repute would waste its time on something so bogus. At this point, I could start listing journals in fields that include parapsychology, physics, electrical engineering, and medicine, but I realize there's no point. The real problem comes from a difference in opinion about what science is.

How can that be, you ask? Surely science is the same for everyone? It's facts, right? Wrong.

The problem is one that Thomas Kuhn elegantly described in his book, The Structure of Scientific Revolutions. What he demonstrated, using examples from chemistry and other fields, is that science is as fallible as people are. In fact, it can be extremely limited because it is based on beliefs. These beliefs are such an intrinsic part of our normal, everyday worldview that we typically never even realize that we've made any assumptions. But we have. They are part of the underlying beliefs that make up a "paradigm."

A paradigm can be thought of as the way we make sense of the world. An old paradigm -- such as the belief that the sun and stars circled around the earth -- sometimes has to give way to a new paradigm -- such as the belief that the earth rotates around the sun. However, anyone who's read about Galileo understands that the period when two paradigms are fighting for dominance can be rough on the scientists who get caught in the fray.

Thus, a paradigm is infrastructure of beliefs that underlie science and determine how we see the world around us. It acts as a model to help us make sense of things. Moreover, it not only determines what is true, but how truth can be determined. Indeed, it is so fundamental that most people aren't even aware that it exists or could be questioned. It simply is how the world "is."

It is important to recognize that a paradigm is both a help and a hindrance. It helps us make sense what is going on around us, but it also limits our perception of the world and what knowledge we can arrive at. Anthropologists give us an example of this. When the Spanish galleons originally arrived at some of the South Pacific Islands, the natives did not see them. In fact, it was only when the

Spanish got into their rowboats to come ashore that the islanders were suddenly able to see them, as if appearing from nowhere. Why? Because their worldview did not include the concept of a ship that big, they were literally unable to see it.

There comes a time when scientists start to realize that their paradigm doesn't do a good job of answering enough questions. Granted, it may answer many questions correctly, but not all of them. Like a puzzle, where more and more pieces don't fit, scientist suddenly realize that they may have gotten the frame or border wrong. Then it's time to experiment and try the pieces in different combinations to see what fits best. During these periods, there can be a battle between paradigms, trying to figure out which one does the best job of making sense of the puzzle pieces we have of knowledge. A "paradigm shift" occurs when there is a major change in how we look at the world and is in active conflict with "normal science." Eventually, the new paradigm is accepted or rejected. However, if accepted, it can lead to new insights and understandings that allows science to more farther forward. It then becomes the new "normal science."

What makes these paradigm shifts so bloody is that the paradigm itself determines what is "proof." Scientists from competing paradigms have trouble agreeing on almost anything. It is as if they speak two completely different languages and have no one to translate between them. What is "proof" in one paradigm is "worthless" in another. There can be no agreement. Typically, as Max Planck said, "an important scientific innovation rarely makes its way by gradually winning over and converting its opponents ... what does happen is that its opponents gradually die out." Thus, the new paradigm generally "wins" when the scientists who believed in the old one die off and younger scientists see the advantages of the new paradigm in explaining things.

We are now in the middle of a paradigm shift. The classical paradigm, which has been held since Descartes, is based in the underlying assumption that the observer is separate from the observed. In essence, duality. It says that there is a fundamental subject-object (or mind-body) split. This presupposes that there are objective ways to define and measure the fixed external world -- which the proponents of this paradigm would say is the only world that matters. The classical paradigm favors experimental research design, which presumes to measure the world in an objective way.

Anyone who has grown up in today's school systems might be justified in being a little confused at this point. We are taught that the double blind controlled experiment is the gold standard research methodology. What happened?

Physics.

The emergence of quantum theory started a fundamental shift in how we understand the world. Physicists suddenly realized that there is always some indeterminacy in our measurements. This is because the act of measurement itself can define and change that which is being measured. This means that the experimenter is always part of the experiment, and all our "objective" facts are, in

fact, potentially flawed. This insight led to the idea of a paradigm based on non-locality.

People who are unaware of this revolution in physics often become confused at this point, and accuse scientists of going off the deep end, falling for the trap of religion. Not true, although the ancient Hindu and Buddhist literature is in agreement about the oneness of the universe. This is science. Physics, to be specific. And while not all physicists agree, the new paradigm that is emerging is one in which the universe is a single whole, within which every part is intimately connected to every other part. Thus, the so-called objectivity of the classical paradigm is the true illusion, as an "observer effect" is inevitable in any observation. The experimenter is always a part of his or her experiment. Blind situations have the advantage of cutting down on the overt analytical overlay, but they do NOT prevent the experimenter from influencing his or her experiment and biasing the results.

This new paradigm of non-locality does not, in itself, "prove" psi exists (which I believe has already been done using meta-analysis of Ganzfeld studies). However, it is compatible with the possible existence of psi, and may lead to our better understanding the phenomena.

The conflict between these two paradigms is ongoing. Because these belief systems are far more deeply ingrained and widespread than religion, topics that touch on these fundamentally different worldviews cause bitter and violent debate, with no room for compromise. The absolute lack of common ground between paradigms means that the question cannot be solved by discussion. Understanding the role that paradigms play makes it easier for advocates of competing worldviews to agree to disagree with mutual respect, which the best that one can hope for in these situations.

It is always wise to remember that the new paradigm, if it wins, will eventually be supplanted by another. That's how science evolves. My advice to skeptics -- get used to it.