The Practical Pitfalls of Research

Werner Heisenberg, best known as a founder of quantum mechanics, gave us the Uncertainty Principle, which took our comprehension of quantum physics to a giant leap forward. We began to understand that we may often get what we're looking for. If an experiment is designed to measure particle mass and activity, that's what we get. If the experiment is designed to measure wave activity, that's what we get. If a scientist sees evidence that energy is particles, and a second scientist sees evidence that energy is waves, they might argue. Both would be correct, but the argument might continue ad nauseam.

Heisenberg also allowed to the idea that there is no such thing as a pure objective experiment. As soon as you begin to measure something, the energy of the observer may change the thing you'll observe. We mounted 10 receiver electrodes in the thorax to serve as antennae. The sig- nal was received from the one electrode that gave us a digital picture of each child's electrical field at any given moment.

In the late 1970s, I was conducting research at a center for children in Michigan. At one point, I got the bright idea that autistic children have different energy fields from non-autistic children. I worked with my co-investigator, biophysicist Jon Vredenburgh, to bring in a 12-channel wave spectroscopy in a child with autism. We mounted 10 receiver electrodes in the thorax to serve as antennae. The signal was received from the one electrode that gave us a digital picture of each child's electrical field at any given moment.

Using the same equipment, the electrode consistently measured higher electrical fields in autistic children than non-autistic children. After we had collected all that appeared to be groundbreaking data, Jon took our apparatus to his basement laboratory. He was going to measure the influence of natural versus synthetic fabrics on the electrical fields of those wearing them. His experiment worked according to his expectations: Synthetic clothing produced a higher electrical field than natural fabrics.

One night at about 10 p.m., Jon called me at home. He said he had news that invalidated our results. This upset me. I was sure we were on to something important. Jon had gone on to tell me that he could sit across the room from the electrometer and its electrodes, and control the printout of the electrical fields using only his mental memories. With practice, he was able to get the exact numerical printout he intended.

Being skeptical, I immediately went to his house. I was unable to change the electrometer printout with my intention — but Jon could. I didn't want to be able to change the numbers, so I couldn't. I was convinced that autistic children had higher electrical field energy than non-autistic children, so they did. Jon didn't have as clear a feeling about his fabric; he got the results he sort of wanted, then was shown the truth. This was an educational experience for both of us.

Another series of lessons came from my experiments using Kirlian photography in the 1970s. At the time, there was an upsurge of interest in this type of photography, which captures energy emissions on a photographic film or plate. Kirlian enthusiasts would use these images to diagnose everything from cancer to schizophrenia. The assumption was that the corona — the energy emissions recorded on the photograph — was relatively consistent for each individual and could even be used to distinguish between human subjects, and coronal defects or abnormal patterns reflected disease state or condition.

Skeptical that I am, I began to investigate, first by photographing the corona of my patient's fingers with the same film as my own. The process involved creating a time-controlled, electrical potential field. I took the photos before and after each treatment session, or between each treatment, per report of the patient.

The corona depicted an apparent intercharge of energy between myself and the patient. Frequently, on a first visit, the patient's corona was less dense and expansive than mine; posttreatment, my corona usually diminished, while the patient's corona was enhanced, suggesting some of my energy had transferred to the patient.

As the treatments progressed, the patient's corona sometimes appeared stronger than mine in the pretreatment photographs, while I showed a stronger corona posttreatment. This suggested that the patient energized me. Usually, about the time the treatment series was to be completed and the symptoms were resolved, both of our coronas strengthened. I began to accept these positive changes as indicators that the use was solved. In this manner, I was using Kirlian photography as an indicator of progress.

I decided to photograph my students' fingertips before and after patient examinations, while I observed and graded the results. I found that if I reflected on my mood, the student's corona was strong. If I warned the student that this would be a tough exam, the corona weakened. After being photographed, the corona was strong again. Some investigations would have said to indicate a "cure" for a previously diagnosed disease; to me it suggested that anxiety or fear, no matter how transient, could be misinterpreted as a disease process in a Kirlian photograph.

I went on to test a wide range of variables for their ability to influence a Kirlian photograph. Among our observations, exercise caused no significant change in corona. One person's feelings of happiness toward another caused his or her corona to bleed, while feelings of anger left an empty space between corona. Temperatures differences caused variable corona changes. Acupuncture was used to relieve a toothache in one student, and menstrual cramps in another, and their coronas improved with pain relief.

It seemed to us that the only studies that can be done to validate the efficacy of such modalities are clinical outcome studies that do not dictate the protocol. The results obtained for given disease diagnoses should be compared to those obtained by the thousands of conventionally treated patients with similar diagnostics. To go beyond this in terms of control is to study something that is not Clinical Therapy.

I am biased, but I believe I have a right to be. I have worn the noose of the rigorous experimentalist. I spent three years as a research fellow in biochemistry; eight-and-a-half years as a clinical researcher in biometrics at Michigan State University; five years as the principal of the American Association of Bioethics; and two years on the Alternative Medicine Program Advisory Council for the National Institutes of Health.

I have seen both sides, and I have come to the conclusion that in health care the outcome that counts, whether you understand the process or not. I have had to tell people I should not treat a maximized patient on our first visit until I know how it works. My answer to them is to step using gravity and electricity, until you understand how these work.

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