

# THE INTENTION EXPERIMENT

## The Roy Water Experiment: April 26, 2008

With this study we wished to delve further into water, by testing whether intention can change the molecular structure of water.

This time, we decided to work with Rustum Roy, professor of materials science at Pennsylvania State University, who is arguably one of the world's experts on water. We wished ascertain whether there were any changes in the structural organization of our water sample by looking for any changes in the scattering of light waves through our water sample.

### **Structured water**

The way in which water molecules cluster together can vary enormously. For instance, water can contain molecular clusters of up to several hundred H<sub>2</sub>O units apiece.

The 'structure' of water, from a scientific point of view, refers to the molecular arrangements of individual water molecules (which are, you know two atoms of hydrogen and one of oxygen). The molecules form units, or 'clusters', which remain stable anywhere from a part of a second to several weeks.

As Dr. Roy explains it, think of water molecules as analogous to individual bricks. When you assemble them into a house, the various rooms you've created with bricks put together in a particular fashion are its structure.

"Structured water is found in the cytoplasm of healthy tissues and it is characterized by having a high solubility for body minerals. It is also found in healing waters. This appears to be the structure shared by very different healing waters from some healing spas to silver aquasols used worldwide," says Roy.

### **Weak bonds**

Structured waters have been produced in laboratory experiments using various forms of energy, such as light, sound, heat, pressure and radiation.

As Roy has written, water molecules adhere not only through hydrogen bonds but also a wide range of very weak bonds (known as van der Waals bonds').

"It is this range of very weak bonds that could account for the remarkable ease of changing the structure of water, which in turn could help explain the half dozen well-known anomalies in its properties," writes Roy.

"In its subtler form, such weak bonds would also allow for the changes of structure caused by electric and magnetic fields and by radiation of all kinds, including possibly so-called 'subtle energies', which are the basis of an enormous range of claims about specially 'structured' water," he says.

This is important, in terms of determining the power of intention, because it is 'structure (not composition) that largely controls properties and structures can easily be changed-without any change of composition,'" says Roy.

A perfect example of this is diamond and graphite. Both share identical composition, yet diamond is one of the hardest substances on earth and graphite one of the softest.

### **Healing intentions**

"Besides being physically necessary to life, since ancient times, water has been closely associated with the psyche, intuition and healing, and many ancient cultures acknowledge that the great flow of life is absolutely and inextricably linked to water," he says.

"Although this link has been ignored by modern medical research, most religious traditions give water a key place in their rituals — from baptisms and anointing to special blessings.

"It may well be that these blessings, given with true loving intentions, actually change the structure — hence the properties — of water. That is the basis of our experiment.

### **Measuring subtle changes**

In this experiment, we used Raman spectroscopy to measure any change. In 1928, an Indian physicist named Chandrasekhara Venkata Raman discovered that when light is transmitted through matter, part of the light scatters randomly. A small portion of this light has different (usually lower) frequencies to that of the light source.

This discovery earned Raman a Nobel Prize in 1930. Then, in 1998, the Raman Effect, as it grew to be called, was named as an ACS National Historical Chemical Landmark in recognition of its usefulness as a tool for analyzing the composition of liquids, gases and solids.

The Raman Effect is usually caused by a subtle change in the vibration of a molecule, caused by a number of factors. Scientists like Dr. Rustum Roy have recorded changes in the structure of water molecules with electromagnetic radiation. So with this experiment, we decided to examine whether the energy of our collective thoughts can cause these changes.

Any changes in the scattering of light rays would suggest changes in the structure of the water molecules themselves.

The scientists chose to use Raman spectroscopy because they discovered one published study showing that Qigong Grandmaster called Dr. Yan Xin significantly altered the structure of a water sample, as measured by a Raman spectrometer, when he sent his Qi from a place seven kilometers away from the water sample.

The importance of the Raman effect and the Raman spectroscopy, in terms of Intention Experiment, is that we employed a system of measurement that is universally recognized by the scientific community to record any sort of subtle change.

### **How the experiment worked**

In the experiment, a probe was inserted into a beaker of water sample and measurements were taken periodically with the Raman spectrograph (shown below) for several hours before the experiment began.

A long cable connected the probe to a highly sensitive CCD camera on the instrument sensed any the weak Raman scattering from the water molecules as they vibrated in response to a red laser light on the water sample.

According to our protocol, the team continued to take measurements of the water at regular intervals since the scientists did not know exactly when we were going to send intention.

Dr. Roy and his team measured the “before” state of the water, which was essentially identical to the blue curve shown in the graph below.

All of the participants focused on changing the waters in the same direction as other healing waters — to look more like the green curve in the figure.

### **Unusual calibrations**

Professor Roy and his colleagues, Dr. Manju Rao and Dr. Tania Slawecki, found had a great deal of variation in the water one hour *before* we sent intention.

Our sample water had enormous variation in light scattering to begin with – a situation that became apparent when the data was graphed in a different program. So it is possible that the water itself went through changes before the official time we were supposed to send intention.

Ultimately, they determined that our results were inconclusive.

## Possible hypotheses

There are a number of possible reasons for our results thus far.

- ***Intention works out of time.***
- ***The anticipation of the participants, who may have begun thinking about the experiment beforehand, produced changes in the water.*** A similar situation occurred with the second Water Intention Experiment we ran with Dr. Konstantin Korotkov in January. He discovered changes in light emissions one hour before we sent intention.
- ***The water was somehow already structured.*** Although the team bought purified water, it may have been 'contaminated' in some way. It may mean that if we attempt this experiment in future, we should use water reverse osmosis, a process that removes all other possible substances so that there will be nothing present in the sample but hydrogen-oxygen molecules.
- ***We're using the wrong protocol in studying changes in light refraction.*** The Penn State team ran several experiments examining the effect of healers on water. In a number of instances, the healers did not have an effect on the water, but on the instrument's infrared detector. In other words," said Dr. Slawecki, "the healers emitted energy in the infrared spectrum that is not emitted from normal human hands with or without intention."
- ***The time when intention was sent was not completely controlled for.*** A number of intenders sent intention an hour before and after we'd completed the experiment. It would have been impossible to compare the results during the time when intention was sent with the effects one hour after intention, because, in some cases, the intention was still being sent then.
- ***Environmental factors played a part.*** At 5pm, an intense thunderstorm hit the area. Says Dr. Slawecki: "Perhaps as a result of the falling barometric pressure and excess free ions, our de-ionized water samples were not as stable as they should have been, so our error bars on the data are sufficiently large as to obscure any underlying changes to the water structure."
- ***Anything else could have affected this exquisitely sensitive equipment.*** "It is important for your readers to understand that these are very sensitive measurements we are making, and sometimes it is difficult to anticipate what factors may come into play," she added.

- ***Intention doesn't affect water.*** Although all of our other studies have produced a measurable effect, this hypothesis must always be considered.

### **Healing effect**

One interesting possibility comes from some work the Penn State team did with three healers. In the studies, they discovered healers weren't affecting the structure of water itself, but were emanating radiation that was being directly picked up by the instrument sensors — in some cases even *before* they began the study.

The upshot is that Professor Roy and his team believe that they need to refine the protocol and use other, more sensitive equipment.

Pennsylvania State is purchasing a new piece of equipment, developed by Finnish materials physicist, Kiva Rainen, which consists of three separate devices that examine, respectively, the light scattering, the thermal expansion and any infrared changes in a sample of water. Once these measurements are taken, they are sent into a computer, and from this handful of data points, the computer can determine some 1000 parameters of the sample.

"This equipment represents a revolution in characterizing water," says Roy.

Rainen's tool may offer us a way to 'triangulate' our perception of these subtle bonds in water so that we are able to see what exactly about it has changed through intention.

We will repeat this experiment at a future date.