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Clustered Water

A Brief Investigation of "The Scientific Breakthrough of the Century"

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"The inherent psychology of a Quack's approach to his patient has altered very little since the dim and distant past. All that has changed is his patter." – Eric Jameson, The Natural History of Quackery

In this day and age, it's good to know that there are some news outlets in America that don't spew out the same mindless garbage that Big Media hurls at you. Imagine, if you will, news delivered to you with common sense, courage, and integrity. No hidden agendas, no media censorship, no pandering to the New World Order – *and no Katie Couric*.

Well, folks, I'm holding one of those sturdy anchors of responsible journalism in my hand right now – the March 2000 issue of *Media Bypass* magazine. Like similar publications such as *The Spotlight* and *The Jubilee*, this periodical has built a following among tax protesters, white supremacists, conspiracy theorists, and other assorted "patriots" by reporting on the dangers that threaten America from without and within.

I glanced over a report on the persecution of quack cancer therapist Hulda Clark, a full-page ad for an Arkansas-based Christian Identity congregation, and an article detailing a trial of some sort in Connecticut in which militia spokesman Bo Gritz is one of the defendants. Finally, my eyes came to rest on an advertisement claiming that a certain product "Reverses Aging Processes" and "Revitalizes and Hydrates Cells and Organs," among other things. This miracle substance, which the ad further stated "could be the key to Optimal Health and Longevity," is known as Clustered Water.

My first exposure to Clustered Water was actually at Preparedness Expo '99 during its visit to Dallas; you might have seen a brief mention of the product in my field report on the Expo (printed in the May 1999 issue of *The North Texas Skeptic*). Promoters of Clustered Water had set up a table with a large chart showing beautiful color images of what were supposed to be single water molecules, including Clustered Water molecules.

Unfortunately, I didn't have enough time to check these vendors out more thoroughly at the Expo, but I've learned a good deal about Clustered Water since then. Basically, I learned that I've been drinking the wrong water all my life.

A Brief Introduction to Clustered Water

It turns out that Clustered Water is the invention of one Lee H. Lorenzen, PhD, a licensed clinical nutritionist and chairman of Cellcore International, Inc., a company that sells Clustered Water in selected periodicals, over the Internet, and at a few health/survivalism expos. A Web site operated by Cellcore-Utah explained how Dr. Lorenzen discovered Clustered Water in the first place:

Many years ago, Dr. Lorenzen's wife, Penny, became quite ill. When no known treatment or therapy could help her, Dr. Lorenzen began adapting and applying various resonant techniques to water, in an effort to find something, anything that would help her. Over time and much prayer, research and experimentation, Dr. Lorenzen was able to replicate and stabilize that special water absolutely vital to life and health, which is present in high concentrations when we are born.

Part of Penny's search for treatment occurred at Lourdes, France where she visited a clinic for an extended stay to try the benefits of the "healing water" of the Catholic Holy Site from the Springs of St. Bernadette. Dr. Lorenzen, using liquid nitrogen, froze some of the water from the Spring and after examination back in his laboratory discovered that the water from the Spring was indeed "clustered water". Unfortunately the water lost

the cluster memory within a short time after being removed from it's [sic] source.¹

What did Penny Lorenzen think about her husband's discovery? She provided the following testimonial on the Cellcore-Utah site:

I knew that I was extremely ill when my 3-year-old son, Doug, crawled into bed asking for a hug, and my arm was too weak to lift over his small body. That New Year's Eve 1984, with pneumonia, dehydration, and chronic fatigue, Lee and I prayed for an answer. Little did we realize how wondrous and exciting that answer would be as we reached the hospital emergency room.

For 15 years now, I have been taking Lee's solutions faithfully and have never felt better. Because of my husband's dedication to the latest available research as well as his own quest to develop optimum health, **I no longer am bedridden and can pursue my favorite activities** such as riding our horse, playing tennis, and attending aerobics classes. Never in my wildest dreams did I ever imagine feeling this energetic after what I have been through. I am so grateful not only for my own improved health, but for the opportunity to see thousands of people benefiting from this unique technology. My husband and his products are truly a gift from God.²

So, what exactly is this Clustered Water supposed to *do*, anyway? The Cellcore-Utah site featured a list of benefits imparted by drinking the stuff, including claims that Clustered Water "hydrates the cells," "enhances the body's immune system," "improves cell to cell communication," and "energizes the body through resonance."

The *Media Bypass* advertisement is a bit more concise; in addition to transporting nutrients, enzymes, and proteins in cells, "Clustered Water™ also removes waste products and helps maintain proper communication between cells. This amazing breakthrough technology allows us to sustain the high clustered water levels that are so necessary in our body."

A Picture is Worth a Thousand Words

Those who were interested in receiving a free information package that proclaimed the benefits of Clustered Water were invited to call a toll-free number printed in the March 2000 issue of *Media Bypass*. I dialed the number and instead listened to a nebulous, pre-recorded testimonial for some sort of weight loss program. Oops.

The June 2000 issue of *Media Bypass* provided an updated number for Clustered Water (which, by the way, isn't toll-free), so I finally called the folks who placed the ad and left them a message asking them to send me the freebies they mentioned. Unfortunately, the marketers never responded, but their *Media Bypass* advertisement gave me plenty of information to start with while I waited for the information package to arrive. The ad presented four images of water molecules that (according to Cellcore-Utah) were taken using "cryogenic electron microscopy."

Figure 1 displays an image of what is apparently tap water as seen under a cryogenic electron microscope. The ad in *Media Bypass* proclaims:

Dr. Morris and his colleagues at the Medical College of Wisconsin have concluded after examination of ten previous studies of the cancer-causing problems of chlorinated water, "There is a clear pattern between consumption of chlorinated water and rectal and pancreatic cancer."



Figure 1. Tap water (Cellcore)

This statement is apparently in reference to a meta-analysis authored by Dr. Robert D. Morris et al that was published in the July 1992 issue of the *American Journal of Public Health*. A later review authored by Morris (published in the November 1995 supplement to *Environmental Health Perspectives*) indicated that chlorination by-products might account for a substantial number of bladder and rectal cancers in the United States. While certainly a cause for concern, Morris also listed arsenic and other pollutants as accounting for their fair share of cancers as well.

Figure 2 is an image of a distilled water molecule. According to the ad, "Water has been shown to have memory. This molecule is a perfect example of what happens when this memory is stripped or erased." Now, I've squeaked through high school chemistry like a lot of other folks have, but I don't remember my instructor mentioning that water has memory, let alone demonstrating it in class. (I suspect that Jacques Benveniste's spurious claims concerning homeopathy and "the memory of water" might come into play here.) You can drink distilled water if you really need to – but Dr. Lorenzen has something better in mind.

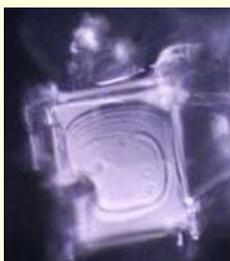


Figure 2. Distilled water molecule (Cellcore)

This brings us to Figure 3, which features a molecule of polar ice water. The ad proclaims that "This beautiful hexagonally shaped water molecule is a perfect

example of pure Clustered Water™. This water, found two miles deep in polar ice as [*sic*] once found abundantly on the earth." According to Cellcore's on-line literature, however, the waters have become so polluted that now there are only 11 springs around the world where this water can still be acquired, including the spring at Lourdes.



Figure 3. Polar water molecule (Cellcore)

If you can't make it to any of these springs, that's where Dr. Lorenzen's own Clustered Water molecule, presented in Figure 4, comes in. Since the ad was printed, however, Cellcore has decided not to rest on their laurels; they've produced a newer form of Clustered Water molecule they call the Atma molecule. An image of the molecule, viewed "under 20,000 magnification" (Figure 5), demonstrates what one distributor calls the perfect geometric form needed "for the reception and transmission of energy."³ This molecule is the foundation for Harmony H2O, Cellcore's latest Clustered Water product.



Figure 4. Clustered water molecule (Cellcore)



Figure 5. Atma molecule (Cellcore)

This stuff isn't cheap, though. One 4-ounce bottle of Cellcore's SBX-4000 Clustered Water sold for \$65. The newer Harmony H2O preparation currently sells for \$30 per 4-ounce bottle; this preparation is supposed to be mixed with steam distilled water in order to provide four gallons of drinkable Clustered Water. 16-ounce bottles containing ready-to-drink Clustered Water are also available from Cellcore for \$2 per bottle.

Ice Ice Baby

In the course of researching Clustered Water, I stumbled across some negative remarks from a disgruntled supporter of Dr. Lorenzen; these remarks were addressed to Keith A. McCall, a biochemist who works at Duke University Medical Center. McCall had authored a short article published in the *Journal of Chemistry and Engineering*; the article examined a product called Aqua Resonance AM which was apparently very similar to Clustered Water and found it to be lacking in scientific merit.

I sent McCall copies of the Cellcore images of distilled water, polar water, and Clustered Water molecules and invited him to comment on the images. Although McCall was careful to state that he is not an expert on electron microscopy, his knowledge of biochemistry enabled him to provide the following opinion after examining the Cellcore images:

How on earth can they show a snowflake and claim it is a single molecule? A molecule of water is, as you know, merely H₂O. Just 2 of the smallest atoms in existence bonded to one of the smaller atoms. Each of those pictures showed *many thousand* water molecules packed together, forming the solid well known as ice. All three pictures showed water that was clustered into a crystalline matrix by the familiar process known as freezing...

Regarding the pictures of different water crystals, only slight differences in the crystal growth conditions are necessary to have very different appearing crystals. One can cool the water faster or slower, start with water vapor of differing water density, use slightly more or less pure water, etc.⁴

Notice that McCall stated that each Cellcore image showed "many thousand water molecules." Let that sink in for a moment. The advertisement for Clustered Water that I mentioned earlier proclaimed that those images represented *single* molecules rather than *thousands* of them. The images may be beautiful, but they appear to represent ice crystals as opposed to solid water molecules. Ice can be found all over the globe, rather than a handful of streams. You can even make

ice in your own home if you have a freezer handy.

Even though a recent advertisement from Cellcore's Utah division has stated that "Clustered Water is a ring of six water molecules found in nature"⁵, there's still a large discrepancy between claiming to show an electron micrograph of six water molecules as opposed to thousands.

I asked McCall if there was any chance of finding an electron micrograph of a single water molecule, but McCall sounded pessimistic:

You will not find an electron microscope image of a REAL water molecule. Water molecules are much too small. An atomic force microscope might be able to image one, but I'm not sure if that is really possible (in the process, the molecule might break apart) and if it is possible, I'm not sure it has been done.⁶

Since McCall is a biochemist rather than an imaging scientist, I contacted H. Kumar Wickramasinghe, PhD, who manages the Imaging Science and Measurement Technology department at the IBM Thomas J. Watson Imaging Center in Yorktown Heights, New York. I asked Dr. Wickramasinghe to give me his take on the feasibility of imaging a water molecule. He responded:

I am not aware of anyone who has imaged a single water molecule with any scanning probe technique...imaging single water molecules would be a great challenge due to its small size.⁷

I do my best to avoid arguments based on bare assertions, so I encourage the reader to study the work performed at the Thomas J. Watson Imaging Center and see what they've been able to accomplish. If you're looking for a good place to start, Dr. Wickramasinghe has authored an article titled "Scanned-Probe Microscopes" that was published in the October 1989 issue of *Scientific American*. Suffice it to say that the chances are excellent that if imaging experts such as Dr. Wickramasinghe cannot obtain an image of a single water molecule, neither can anyone else. Not even Dr. Lee Lorenzen.

That Sinking Feeling

Regular readers of *The North Texas Skeptic* may remember that John Blanton authored an excellent piece dealing with "Energized Water" in our [January 2000](#) issue. I've also seen advertisements and testimonials for other "aquaceuticals" such as Hydroxygen Plus, Stabilized Water, and even Homeopathic Water that were supposed to be good for enhancing one's overall wellness. Clustered Water now joins the growing list of aquaceutical concoctions.

Had I the time and resources to do so, I'd be interested in researching some of the other claims that have been made concerning Dr. Lorenzen and Clustered Water, but the questions that I've raised concerning the images used to promote the product are enough for the time being.

If Dr. Lorenzen can demonstrate a reliable, reproducible technique for imaging single water molecules (or clusters of six water molecules), his contributions would greatly benefit the scientific community. Otherwise, he runs the risk of being branded a charlatan whose marketing strategy is reminiscent of the pitches used by patent medicine quacks such as Lydia E. Pinkham, Clark Stanley, and "Texas Charley" Bigelow a century ago.

There's still a possibility that Clustered Water is exactly what Dr. Lorenzen says it is. Then again, \$30 is a high price to pay for a 4-ounce bottle of what could be common, everyday, life-sustaining water.

Keith McCall's *Water Stupidity* page at Duke University:

<http://www.duke.edu/~km13/water.html>

***Electron Microscopy Unit Snow Page* (Operated by the Beltsville Agricultural Research Center in Beltsville, MD):**

<http://www.lpsi.barc.usda.gov/emusnow/>

Web site for the *IBM Thomas J. Watson Research Center*:

<http://www.watson.ibm.com/>

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1 "Inventor: Dr. Lee Lorenzen." Cellcore-Utah Web site. <http://www.cellcoreutah.com/clustered-water-invpatent.htm>.

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2 "Testimonials." Cellcore-Utah Web site. <http://www.cellcoreutah.com/testimonials.htm>.

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3 "Harmony H2O 4oz." <http://www.clusteredwater.net/harmony4oz.html>.

Accessed December 29, 2000.

4 Personal correspondence with Keith A. McCall. June 24, 2000.

5 "Wonders of 'Clustered Water.'" Cellcore-Utah Web site. <http://www.cellcoreutah.com/clustered-water-prod01.htm>.

Accessed November 17, 2000.

6 Personal correspondence with Keith A. McCall. June 16, 2000.

7 Personal correspondence with H. Kumar Wickramasinghe. November 20, 2000.

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What's new

[Robert Park publishes the What's New column at <http://www.aps.org/WN/>. Following are some clippings of interest.]

Qi: Can Kirlian photography reveal mental impairment? Two weeks ago, WN promised to say more about a Dec 12 story on ABC Good Morning America about the body's "Qi" or "energy field" (WN 15 Dec 00). Qi plays a major role in ancient Chinese medicine. Touch therapists claim they sense Qi with their hands, but failed a simple double-blind test administered by a nine-year old (WN 3 Apr 98). Imagine how excited they were, therefore, to learn from ABC that modern science gives the aura "respectability." In the Kirlian method, an object is placed between the plates of a high-voltage capacitor, with one plate covered by photographic film. An "aura" appears to surround the developed image. For at least 25 years it's been known that the Kirlian "aura" is just corona discharge. However, New-Age physicist Beverly Rubik of the Institute for Frontier Science used a Kirlian image to diagnose deficiencies in ABC's Science Correspondent, a PhD physicist, who gushed that "some of the things she said hit close to home."

Predictions for 2001: Gasp! did What's New miss one in 2000? WN predicted that BlackLight Power would offer an IPO. However, the Patent Office balked at issuing patents for hydrinos, and BLP was forced to postpone the dream of a \$1B stock offering. WN courageously acknowledges its first miss, and boldly moves on.

- The ABC science correspondent will report that dowsing rods really work. He'll praise his own objectivity.
- MIR will splatter all across France, outraging the French. Everyone else will be relieved.
- Those who claim that power lines and cell phones are linked to cancer will now find that Play Station-2 is even worse.
- An investigation will be launched into the sinister forces that control the falling of dead oak trees.¹

Cell phones and cancer: does this story sound familiar? It should, it features many of the same players who brought you the power line controversy. It began on Jan 23, 1993; a guest on Larry King Live, whose wife had died of brain cancer, was suing the cell-phone industry, claiming her cancer was caused by a cell phone: "She held it against her head, and she talked on it all the time," he said (WN 29 Jan 93). With such "evidence," story after story in the media focused on the cancer question. At that time, people still thought power lines caused cancer. The power line controversy was not put to rest until the National Cancer Institute released a definitive epidemiological study of the connection between childhood cancer and residential EMF exposure. Any link, the study concluded, is too weak to detect or to be concerned about. This week, two major studies of cell phone use and cancer were published, one by an industry group and one by the National Cancer Institute. Both concluded that cell phone users are no more likely than anyone else to have brain cancer.

Still not reassured? you may need "the Biochip." Back when people still thought they could get cancer from sitting in front of their computer, Ted Litovitz, a Catholic University physicist, thought the problem must be the coherent EMF from the computer. So he began marketing a keyboard that added noise to the emitted EMF (WN 27 May 94). If cell phones are now causing cancer, it must be those pesky sine waves again. Solution? The BioChip, a tiny device inserted in the batteries. It emits noise to prevent your body from picking up the regular rhythm of the phone signal.

Need more reassurance? how about the "Bioelectric Shield"? It's an attractive pendant made of crystals designed to balance and strengthen your natural energy field (WN 24 Jul 98). It not only shields you from the EMF emanating from electrical devices, it protects you from the energy fields of the people around you.

A little late: secrets, lies and the United States Congress. Now that Congress has directed that an additional 5,000 DOE Lab employees submit to regular polygraph exams, Sen. Jeff Bingaman (D-NM) has asked the National Academy of Sciences to undertake an 18 month study of whether the polygraph has any validity. Most NAS panels just review existing research reports, but a more efficient procedure in this case might be to convene the panel at Allenwood Federal Penitentiary and ask CIA spy Aldrich Ames, whose own polygraph tests gave no hint of his massive espionage. In a recent letter, Ames labeled the polygraph "pseudoscience."

Alternative physics: has AAAS gone new-age on us? On Tuesday, AAAS hosted a seminar by "Friends of Health," a fringe group put together by Rustum Roy of Penn State, whom you may remember for his virulently anti-establishment views. Roy insisted that Qigong, (Chinese psychic-energy medicine) can increase the pH of water and shift its Raman spectrum. It can also switch the plane of polarization of lithium niobate. The next morning, things got worse; some of the Friends of Health, boasting that they were all physicists, held a press conference at which Hans-Peter Duerr of the Max Planck Institute said Qigong must be explained by quantum mechanics. Joie Jones of UC Irvine, William Tiller of Stanford and George Sudarshan of UT Austin chimed in, claiming that all biology and medicine should be based on non-deterministic quantum interconnectedness. Can it get worse than that? Yes. Gary Swarz, U. Of Arizona, went on ABC Good Morning America with a PhD physicist-science correspondent to talk about detecting Qi, the body's energy field or aura. More about ABC and the strange history of Kirlian photography of human auras next week.

Cold fusion: the "palladium bomb" and other fantasies. There are highly-classified intelligence warnings circulating among federal agencies that certain rogue nations are planning to use "cold fusion" to make a terrorist bomb. This comes from an old speculation by Martin Fleischmann, based on what he thought was going on in Pons' lab. But why now, years later? The answer lies in the intense PR campaign waged by believers to convey the impression that cold fusion has become respectable. Even "Science and Government Report," a Washington newsletter, writes: "Cold fusion may be wearing down opponents in the science mainstream." Well, not exactly. The newsletter cites the fact that the APS allows CF sessions at its meetings, but the APS has always accepted all contributed papers. This leads to some nutty sessions, but it's preferable to censorship.

(Christina Hood contributed to this edition of WN.)

References

1. For an explanation of this cryptic entry readers need to review Robert Park's near tragic encounter with a falling oak tree a few months back.

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The Committee for the Scientific Investigation of Claims of the Paranormal

encourages the critical investigation of paranormal and fringe-science claims from a responsible, scientific point of view and disseminates factual information about the results of such inquiries to the scientific community, the media, and the public. It also promotes science and scientific inquiry, critical thinking, science education, and the use of reason in examining important issues.

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You may also visit the CSICOP Web site at <http://www.csicop.org> for more information.

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NTS Program Schedule for the Year 2001

- January 13 — NTS Elections
- February 10 — Michael Scott Allen, MD
- March 10
- April 21
- May 12
- June 9
- July 14
- August 11
- September 8
- October 13
- November 10
- December 8

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<http://www.ntskeptics.org/library.htm>

These books have been donated by members and friends of the NTS. Members can borrow them for research or pleasure. Let us know what book you would like to borrow and pick it up at the next NTS meeting.

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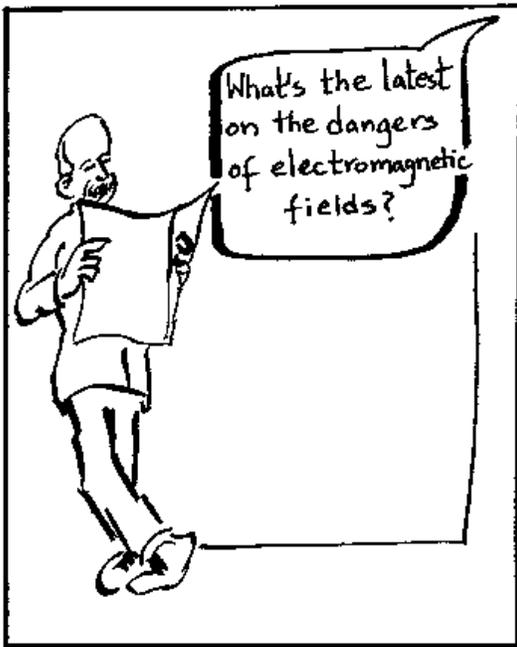
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