Over-Unity: The Cold Fusion Canary Sings—and Flies!

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It is June 2003 as this, the 50th issue of *Infinite Energy*, begins to go to press—a hard-won milestone. May there be an *IE* #100 and may most of you be with us in 2011. We are all too aware that our over eight years of publication comprise more than half the span of the "Cold Fusion War," which began March 23, 1989. The 10th International Conference on Cold Fusion approaches this August, in Cambridge, Massachusetts—not far from where some of the first shots of that interminable conflict were fired. Welcome all ICCF10 attendees from North America and most of the other continents! You are attending a most stimulating conference, we trust, and you will be receiving *Infinite Energy* No. 50 at ICCF10 *gratis*, as has been our custom beginning with Issue #1 at ICCF5 in Monte Carlo, Monaco in 1995.

Our cover heralds a new direction in the struggle to understand cold fusion phenomena. Dennis Letts and Dennis Cravens of Texas and New Mexico (the nuclear-named duo, "D + D") are pioneering a method of triggering or enhancing the traditional Fleischmann-Pons excess heat reaction in a palladium/heavy water cell by focussing laser light on its palladium cathode. The incident 30 milliwatts of red laser light is amplified many-fold and an excess heat appears from within the cell. This experiment really does *look like* "Fire from Water," but the proof is in the carefully gathered data of many experiments. What physical understandings will emerge from this enticing methodology, which appears to be a highly reproducible process? Perhaps we shall hear ICCF10 Conference Chairman MIT Professor Peter Hagelstein's proposal about what may be going on with the lattice vibrations in the palladium-deuteron complex as the coherent light strikes its surface.

As we go to press, we have learned that others have reproduced the laser-triggered excess heat phenomenon. One example: At my recent visit to the laboratory of Dr. Mitchell Swartz in Wellesley, Massachusetts, I was able to view one such successful experiment—developed independently of the Cravens/Letts approach and carried out in a very different manner. Thus, the generic light-stimulated process seems already portable from lab-to-lab and is cross-checked with several kinds of calorimetry. At ICCF10 we expect to hear from two other groups reporting positive results with this generic method. Perhaps the high-tech cache of "accepted laser physics" in this new coherent light application will encourage laser physicists around the world to try their hands at this.

Underground miners of old, it is said, brought chirping canaries with them on deep descents into mines. If a canary struggled to breath or if it died, it warned the miners of toxic or smothering gases. One might say similarly that the "cold fusion canary" has warned us too: There is a deep toxicity within the house of science, an aversion to the very, very unexpected and the radically new. If one ventures too deeply in science today to examine its foundations, one is in grave danger. "Don't ever question the foundations!" is the unacknowledged rule. Yet the cold fusion canary did not die on our descent into *terra incognita* of new physics and new chemistry in "cold fusion," though it did for a time become deathly ill. In fact, our well-born cold fusion canary showed unusual strength. It not only continued to sing and warn us as its wings flapped furiously to escape the toxic environment, but it flew high above the dark entrance to the cold fusion "mine." It saw new lands bearing other mines, some already dug deeply by others outside the cold fusion community into the heart of Nature.

Many of us entered the world of investigating "over-unity" phenomena with the Fleischmann-Pons announcement. For all its difficulties, the multiply-cross checked excess heat phenomena and the associated nuclear evidence impressed us and we are still with it. Yes, a *new energy* was there—an energy that had no right to exist, or so the textbooks said. We learned to call the excess heat condition *over-unity*, when *no conventional explanation* would explain the phenomenon. Yes, we heard the canary sing and then we saw it fly. Indeed, there appear to be many other over-unity processes, both in the laboratory and in Nature—new forms of energy that are not accepted and remain unexplained within the limited realm of textbook knowledge. When these processes are eventually explained and fully accepted, the label "over-unity" will disappear.

For those who fight the term "over-unity," an illustration may be in order: In describing the mystery of cold fusion to the uninitiated, I occasionally remark about Benjamin Franklin of the late 1700s—that if he were miraculously transported to our time and were to behold a fission nuclear power plant in operation, he would be astonished to find no evidence of wood or coal or combustion of any kind powering the plant's "steam engine." Ben would have known about steam engines, for in his day they were new and were used initially to pump water from deep mines. He would have grasped the mechanism of the steam turbine fairly easily, and he could certainly imagine that a device attached to the turbine could generate electricity ("electric fluid"), though Faraday's discoveries and Tesla's robust alternating current generators were still many decades ahead of Franklin's time.

Told about the self-heated metal within the fission reactor core, Franklin would have every right to term this an "over-

unity" process, by our definition above. In Franklin's time, however, the law of energy conservation was still to be codified; it was only dimly perceived. So, Franklin may legitimately have wondered whether some kind of animating spirit or "aether" might be entering the hot uranium metal from the environment. Fission nuclear reactions would have been incomprehensible to Franklin, even if presented to his agile mind. Recall that his was the era in which *heat* was considered to be a perhaps inexhaustible aetheric fluid, "caloric."

In the 1820s, William Thompson in England (the future Lord Kelvin) would perform the first calculation that bracketed the Earth's age, if our planet were imagined to be a body that had cooled down from a state resembling the Sun's present incandescence. The relatively short lifetime of Earth, thus determined, did not seem to be compatible even with the very long estimated time needed to explain geologic strata. Later in the nineteenth century, following Darwin and Wallace, there was need for an even older Earth to "explain" evolution by random natural selection. Moreover, the very process by which the much more massive Sun generated its light and heat over extremely long periods remained unknown. So, at least for the natural process that made the Sun shine, it could then truly be termed a natural "over-unity" process. It remained so well into the twentieth century, when astrophysicists began to think that they had explained all of the Sun's life-processes with particular fusion reactions. Then came further evidence in the alleged "neutrino" deficit in the Sun's nuclear-originated emanations, showing again that physical theory was not as tidy as had been thought. . .The Sun was "over-unity" well into the twentieth century, and because of unresolved questions about the temperature of its upper atmosphere (its corona) and many other dangling issues, it remains part of an over-unity puzzle.

The "cold" rocky planets of the Solar System—even Earth itself—are enduring over-unity mysteries. Radioactivity within the smaller planetary bodies is said to be the most likely source of a rocky planet's internal heat, but this is by no means certain. There are theories of "pushing gravity" that rely on cosmic fluxes of graviton particles that may more elegantly (than General Relativity) explain not only gravity but the internal heat of all the planets as well. Such gravitons may collide inelastically and "stick" to other matter within a planet and thus heat it. The gas giant outer Solar System planets, in particular, are significantly over-unity in their energy budgets—emitting vastly more power into space than they receive from the light of the Sun.

It is my studied conclusion that over-unity is a much more widespread condition within Nature than has heretofore been recognized. This widespread over-unity has been papered over by the self-satisfied certainties of the physics establishment—the very group that was most responsible for trashing the work of Fleischmann and Pons and its legacy. There are the over-unity water arc and air arc electric discharges of Drs. Peter and Neal Graneau. There is significant evidence of over-unity in certain plasma arc discharges within water, put forth by a host of experimenters around the world—not only with metal electrodes, but from carbon electrodes as well that seem to give rise to unusually energetic gases. There are cavitation/acoustic devices, such as the HydroSonic™ Pump, which generate over-unity conditions from ordinary water and metal rotating parts, seemingly with ease. It is difficult to imagine that such robust devices are part of the nuclear-type reactions considered by many of the cold fusion theorists. Then there is the "hydrino"—shrunken hydrogen—heresy of Dr. Randell Mills and his successful band of Ph.D. experimenters at BlackLight Power Corporation and elsewhere. They are now jostling gas mixtures with microwave input power and getting out copious excess heat. In some experiments, all that exists in the reaction chamber is a mixture of hydrogen and helium gas. As predicted by Mills, it apparently doesn't work when krypton is substituted for helium—very curious.

More stark embodiments of over-unity conditions are to be found in the Pulsed Abnormal Glow Discharge (PAGD™) experiments and patented vacuum discharge tubes of the Correas in Canada. Not only the Correas, but Dr. Harold Aspden of the U.K., believes that such autogenous pulsations in gas discharge tubes—which are quite visually distinct from any normal discharges—are obtaining their highly over-unity energy extraction from an aether plenum that does not require the conversion of mass to energy. The energy exists in massfree form in an omnipresent aether that was inappropriately pushed aside by twentieth century physics. This is not the supposed electromagnetic "zero-point energy," but something else entirely. A new foundation of physics will have to be prepared for the one that is quite clearly crumbling.

Finally, what may be the most important collection of over-unity processes is likely to be *life* itself. Oh, I can hear the laughter already from the *Ring-of-Truth* Philip Morrisons of this world, who believe that the caloric intake of a certain number of food morsels, such as jelly donuts, will explain *completely* the energetics of human beings—or rodents or microbes for that matter. To Morrison *et al.*, life's energies are all explained by the metabolisms registered in biochemistry texts. Bear in mind that such luminaries as MIT Professor Morrison, inappropriately rejected *all* of the evidence from the cold fusion community—excess heat, helium, tritium, *everything*. So of what value are opinions from such scientists about the full range of energies that life can muster?

Know well that the tragic history of the past fourteen years was significantly set in its course by those who excused the inappropriate shifting of positive excess heat curves in calorimetry experiments at MIT that were supposedly aimed at fairly assessing the worth of the excess heat claims of Fleischmann and Pons. Such people believe that they understand the history of science. They think that everything gets ironed out rather quickly as science "self-corrects" in its inexorable quest for the *Ring-of-Truth*. Sad to say, that is *not* how science works. The so far fourteen year-old Cold Fusion War is the merest blip in *much larger* issues that have been shoved under the rug, but cold fusion may be just the right canary that delivers the necessary and long overdue wake-up call: "All is not well, all is not well, all is not well!"

Let us take, as but one example, the controversy that arose in the late seventeenth century between Luigi Galvani and Alessandro Volta and their followers. This battle was fought—and, strangely, *continues* to be fought!—over the existence of "animal electricity." That is what Galvani termed it after excised ("dead") frog's legs were observed to twitch upon being touched by Galvani's hand-held scalpel—for some reason precisely at those moments when an electrostatic machine nearby (but *not in direct contact* with Galvani) discharged into some "electric fluid"-accumulating bottles (so-called Leyden jars). There seemed to Galvani to be a transmission through the air of some essence that was re-animating the frog legs. The preponderance of the evidence was in Galvani's favor. But Volta contested Galvani's "animal electricity" paradigm, and put forth his dissimilar

metal "battery" paradigm as the explanation of why the frogs legs (which were hung by brass hooks on an iron frame) responded. Indeed, we can thank Volta for giving us the electrochemical battery—which in its early days ironically was thought to be a possible perpetual source of energy, a massively over-unity device! But a terrible price was paid by Volta's apparent victory over Galvani in the "animal electricity" controversy. It is a complex story, retold and recast in many accounts since then.[1,2] There is even a recent sequel in the matter: irrefutable proof that acupuncture has provable, observable physiological functionality.[3] All anatomy texts, and biology texts, are instantly made grotesquely incomplete. But when this exemplary work was presented to *Science* and then *Nature*, it was rejected *without review*. Even five life-sciences Nobel laureates petitioning *Nature* for its publication had no effect. It is not easy to determine the truth of the events of the original Galvani-Volta dispute from which this modern acupuncture sequel emerges: It is almost as though the cold fusion controversy were eventually to become widely forgotten for two centuries (as it already has been among the general populace), and is then re-discovered in the twenty-third century!

The bottom line is this: Even though it cannot be doubted that Volta's battery paradigm, as translated by electrophysiologists to explain electrical discharge (depolarization) in ion-pumping neurons, plays a significant role, it appears *not* to explain everything about apparent signaling within organisms. Horror of horrors to the theory-of-everything know-it-alls, there is another form of electricity, not massbound, but massfree, and that is precisely how the mystery of such devices as discharging electrical machines, Tesla coils, etc. can have their effect on tissues (and on inorganic systems) at a distance—and at speeds within the human body that are *at least* 1,000 times faster than nerve conduction speeds. It is the likely basis by which such "impossible" signaling through the human body via acupuncture and acupressure stimulation occurs.[3] We have a lot more to learn about life and its energies, that's for sure. Are we, in part, "over-unity" beings swimming within a sea of energetic—but not electromagnetic and "zero point energy"—aether? Very, very likely. Could there be a connection between what happens at cathode surfaces in liquid solution and from the electrical eruptions *in vacuo* in other over-unity devices? Are many of the validated over-unity processes trying to send us a message like that from the cold fusion canary? For sure. Perhaps this perspective will *spark*—you should pardon the expression—the opening of a larger perspective by some at ICCF10 and in many "cold fusion" conferences to come.

References

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