

## Science, Scientism, and Meaning



by Eugene F. Mallove, Sc.D.

Some late-breaking news to introduce this reflection about some larger, related questions: On February 15, 2000, the United States Patent and Trademark Office (USPTO) granted U.S. Patent 6,024,935, "Lower-Energy Hydrogen Methods and Structures," to Dr. Randall L. Mills *et al.* of BlackLight Power, Inc. Some sixty-pages long with 499 claims, the patent appears comprehensive in its discussion of "Methods and apparatus for releasing energy from hydrogen atoms (molecules) by stimulating their electrons to relax to quantized lower energy levels and smaller radii. . . than the 'ground state' by providing energy sinks or means to remove energy resonant with the hydrogen energy released to stimulate these transitions." See previous *Infinite Energy* story about BlackLight Power, *IE* No. 29, pp. 40-41.

Thus is another battle won in the quest for new energy technology. Historians of science will eventually note that it was from corporate activity and in patent literature, not in the obstructionist mainstream science journals and government agencies, that this revolution came into increasingly high profile. It is tragic, however, that the Pons and Fleischmann cold fusion patent application, of equivalent merit and import to the landmark Mills patent, was long ago killed inappropriately by the USPTO.

Another bit of breaking news: Thanks to the good offices of Sir Arthur C. Clarke, who was asked to prepare an essay for President Clinton on future prospects for humankind, to be delivered to the President in early March, this Editor was asked by

the White House Office of Communications to submit a separate essay on the status of cold fusion and new energy. This was done. We were informed that our seventy-minute video, "Cold Fusion: Fire from Water," would also be given to the President. We hope that he watches it.

The 8,000 word manuscript plus Executive Summary, "The Strange Birth of the Water Fuel Age: The Cold Fusion 'Miracle' Was No Mistake," is to be included in the President's book—along with some forty other essays about the future, submitted by notables and the not-so-well-known, such as yours truly. Among the recommendations set forth in my essay is the key one at the end of the Summary: "Mr. President, you need do only one thing now: Publicly state that you are going to investigate this matter and then do it." I do not expect that this essay will either have the intended effect or the historical significance of Albert Einstein's letter to President Roosevelt on the prospects for military use of nuclear energy. But if the account were given serious consideration, it could be a landmark on the tortured path to the Water Fuel Age.

Albert Einstein wrote in another letter, to Queen Elizabeth of Belgium in 1932: "One has been endowed with just enough intelligence to be able to see clearly how utterly insignificant that intelligence is when confronted with what exists. If such humility could be conveyed to everybody, the world of human activities would be more appealing." I was so fond of this sentiment, and still am, that it became the opening to *The Quickening Universe: Cosmic Evolution and Human Destiny* (St. Martin's Press, 1987), the first book I was privileged to have gotten published.

In 1953, Einstein also wrote, "Whoever undertakes to set himself up as judge in the field of Truth and Knowledge is shipwrecked by the laughter of the Gods." This is a wonderful observation about the nature of human life,

a precept not always easy for any of us to fix firmly in mind—especially when we come to believe that our world view is correct in many or in most ways.

Though some people may conclude from experimental evidence that Einstein's relativity theories are flawed at a fundamental level, despite their fortuitous efficacy within some experimental and observational regimes, we can certainly be big enough people to separate Einstein, the philosopher, from the caricature of virtually infallible physics genius that others have created. It is my impression that Einstein, were he alive today, would be appalled at the "deification" of his life and person, such as the designation of him as "Man of the Century" by *Time* magazine.

People who evidently do not share Einstein's humility before "what exists" have been very strident in their attacks on the scientific investigation of cold fusion and new energy. One of them, Dr. Robert Park of the American Physical Society, has a book that is about to be published, *Voodoo Science: The Road from Foolishness to Fraud*, which we review in this issue (p. 44). (Oxford University Press informed us in early March that publication has been "indefinitely delayed.") He calls cold fusion a scientific fraud. Park writes that the role scientists are supposed to play is to "take the strangeness out of the universe." At another point, almost contradicting himself, he suggests that cosmic evolution is "perhaps the strangest thing about the universe. Strange and very wonderful."

Contrast this confusion and arrogance with Einstein's sentiment: "Possibly we shall know a little more than we do now. But the real nature of things, that we shall never know, never." Though Einstein was not a religious man in the sense of adhering to the precepts of an organized religion, in my view he was profoundly religious in that he was imbued with deep spirituality—a sense of wonder coupled with a sense of humility that we would never understand all of existence. He wrote in 1955, "I want to know how God created this world. I am not interested in this or that phenomenon, in the spectrum of this or that element; I want to know his

thoughts; the rest are details."

Einstein also wrote in one of his most famous passages, "Science can only be created by those who are thoroughly imbued with the aspiration toward truth and understanding. The source of this feeling, however, springs from the sphere of religion. To this there belongs the faith in the possibility that the regulations valid for the world of existence are rational, that is, comprehensible to reason. I cannot conceive of a genuine scientist without that profound faith. The situation may be expressed by an image: Science without religion is lame, religion without science is blind."

A contrary view comes from Prof. Steven Weinberg, Physics Nobel laureate, who wrote in *The First Three Minutes* (1977), "It is very hard to realize that this is all just a tiny part of an overwhelmingly hostile universe. It is even harder to realize that this present universe has evolved from an unspeakably unfamiliar early condition, and faces a future extinction of endless cold or intolerable heat. The more the universe seems comprehensible, the more it also seems pointless." This arrogant certainty about existence one might expect from one who authored a popular book titled, *Dreams of a Final Theory* (1992). In a recent *New York Times* article Weinberg wrote, "Spirituality—I don't even know what it means." ("Physicist Ponders God, Truth and 'a Final Theory,'" January 25, 2000.) *Times* writer James Glanz commented, "He (Weinberg) sees no redeeming value in religion and considers it nonsense."

Emphasizing the supposed superiority of his world view, Weinberg wrote in another venue: "One of the great achievements of science has been, if not to make it impossible for intelligent people to be religious, then at least to make it possible for them not to be religious. We should not retreat from this accomplishment." (October 21, 1999, *New York Review of Books*.)

But Weinberg hasn't lived up to the most elementary precepts of science, which is to say, he has not evaluated experiments before making a faith-based assertion about a class of phenomena of overarching importance to physics and society. He mixes attacks against religious beliefs—such as the belief in "miracles"—with his lack of "belief" in cold fusion: "There do not seem to be any exceptions to this natural order, any miracles. I have the impression that these days most theologians are embarrassed by talk of miracles, but the great monotheistic faiths are founded on miracle stories—the burning bush, the empty tomb, an angel dictating the Koran to

Mohammed—and some of these faiths teach that miracles continue to the present day. The evidence for all these miracles seems to be considerably weaker than the evidence for cold fusion, and I don't believe in cold fusion. Above all, today we understand that even human beings are the result of natural selection acting over millions of years of breeding and eating." (October 21, 1999, *New York Review of Books*.)

The like-minded Sir John Maddox, former editor of *Nature*, made a similar inappropriate attack in an editorial, "Defending science against anti-science" (*Nature*, Vol. 368, p. 185, March 17, 1994): ". . . it may not be long before the practice of religion must be regarded as anti-science." It is worth noting that Maddox played a critical role in the anti-cold fusion bigotry of 1989-90. He is famous for his ill-considered remark in 1990 about cold fusion, "Broadly speaking, it's dead, and it will remain dead for a long, long time."

It seems to me that Einstein spoke directly to the mental confusion of such "believers" in scientific materialism as Weinberg and Maddox with their concomitant disregard for fundamental scientific principles, such as unbiased investigation of frontier science: "And here lies the weak point for the positivists and professional atheists, who are feeling happy through the consciousness of having made the world not only god-free but even 'wonder free.' The nice thing is that we must be content with the acknowledgement of 'wonder' without there being a legitimate way beyond it." Einstein wrote this in a letter to a friend in 1952.

Weinberg and Maddox are part of what seems to be a little-discussed, quasi-covert twentieth century "religion" known as "Scientism." Adherents of scientism are convinced that within the *established* scientific community resides by far the best, most reliable description of existence. Believers in Scientism consider that religion, spirituality, and "pseudoscience" (which includes everything from cold fusion to ESP research to UFO investigations) are the prime dangers to humankind (never of course *their* science and philosophy). They are further convinced that the world is composed of *only* matter (whatever *that* is!) and electromagnetic radiation in a space-time plenum, and that all of existence and consciousness can be reduced to *existing* physical laws governing these. Even if they were correct about the latter, their religious zeal in excoriating any other possible cosmologies is offensive and, in fact, unscientific.

Science, not Scientism, should govern our actions in investigating all of exist-

tence. Science, with a capital letter, gives meaning to life. Scientism, when decomposed to its basic elements, is fundamentally a covert "religion"—one, ironically, that denies the efficacy of reason.

Steven Weinberg's remarks on a 1994 BBC "Heretic" series television program about the continuing laboratory parapsychology work of Princeton University Professor Robert Jahn (former Dean of Engineering) and others there, including a physicist, is a noteworthy flight from reason. Weinberg tells the interviewer: "It would overturn all the centuries of work since the birth of the modern era at the end of sixteenth century. Those centuries of scientific work have given us a picture of nature—we understand why things are the way they are. We understand them in a way that doesn't put human consciousness in any special position. Parapsychology, if there was anything to it, would undo those centuries of effort and we would be back at the beginning without any real idea of what kind of world this is that we live in." Weinberg, like Maddox, is incapable of admitting *any* fundamental extension of scientific understanding. He suggests illogically that all past knowledge would have to be overturned if psychokinetic phenomena were discovered to be true.

It seems that defining what Science is as a process may be harder to define than defining what it *is not*. It is certainly *not* just the limited body of facts and relationships (commonly known as physical "laws") in a contemporary textbook or set of textbooks. It is *not* pronouncements about the "impossibility" of this or that phenomenon or observation based on previously understood principles, measurements, or observations. Science does *not* properly allow statements of "belief" that any particular phenomenon, fact, or relationship is irrefutably established as being beyond the bounds of human scientific investigation. (Adherence to this characteristic of Science proscribes both dogmatic *religious* belief as well as dogmatic *scientific* belief, *i.e.* Scientism.)

Let me hazard a preliminary definition of Science, one I hope, is devoid of the taint of Scientism:

Science is the totality of human activity in measuring and observing the phenomena of existence and all that comes to human awareness, in a systematic effort—without known limits—to understand the quantifiable and non-quantifiable relationship of all phenomena to all other phenomena. The progress of Sci-

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ence mandates that it is *especially important* to measure and observe phenomena that appear initially to contradict previous systematic relationships or "laws," or which appear not to be within the realm of present understanding of Science.

Walter Stacy, Chief Justice of the North Carolina Supreme Court, wrote in 1930: "There are those who feel more deeply over religious matters than they do about secular things. It would be most unbelievable if history did not record the tragic fact that men have gone to war to cut each other's throats because they could not agree as to what was to become of them after their throats were cut." True enough, and a warning to religious zealots. But today the high priests of Scientism, such as physicist Weinberg and APS flak Robert Park, are trying to "cut the throats" of all who disagree with their pseudo-religion. The good news is that Park and Weinberg will soon enter an age in which their arrogant disregard for basic principles of Science will be apparent to all. Perhaps in preparation they should reflect on Einstein's statement: "Science can only ascertain what is, not what *should* be."



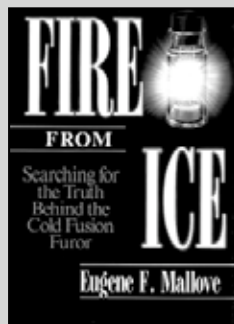
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helping with the figures and manuscript preparations.

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