## **BREAKING THROUGH**



## The "New" Solar Power

by Eugene F. Mallove, Sc.D.

n the fast-moving, technologically gimmicky world of the early twenty-first century there are many things that are new "under the Sun." But there is also something very old coming from the Sun, which can now be seen in a new light—pardon the pun. For the very first time perhaps, we may be beginning to see the Sun's radiation in its true light, and very tangibly so. This is the evidence: experiments which demonstrate the capture of solar power around-theclock, solar power by day and solar power by night. No, the world hasn't stopped turning on its axis, so how can that be? Solar power captured at nighttime too? Yes-evidently extracted from unsuspected stores of energy, which are charged up by solar radiation, but certainly not in ways that modern physics has understood. This is a kind of widely available latent heat which is probably being observed, in part or in whole, in other types of excess energy new energy experiments as well. One thinks in particular of those carried out with atmospheric-arc or water-arc discharges, by Peter and Neal Graneau and their colleagues. But the energy release mechanism may well play a role in electrochemical "cold fusion" experiments as well, giving rise not only to some of the excess heat but to nuclear changes as well.

This "new" solar power should be of much more than passing interest to the conventional solar power industry with its focus on photovoltaic cells and thermal conversion solar power collection. There is simply no conventional way in which solar energy can be captured around-the-clock (with the exception perhaps of chancy wind power, in particular locations). As an example, the now defunct Federallysupported "Solar Two" experimental installation, a beautiful image of which appears on the cover of this issue of Infinite Energy, employs some 2,000 planar mirrors to actively track the Sun and focus sunlight on the central power tower. Within the glowing cylinder atop the tower, molten salts are heated and begin the first stage of heat transfer toward steam production and then electric power generation. Yet this array is as good as derelict junk during the nighttime. Ditto for every photovoltaic array and every other solar thermal installation worldwide; there is no energy capture at night.

In this issue, an article appears to which this editor has contributed, with Dr. Paulo and Alexandra Correa as lead authors and investigators, "Power Performance of Stirling Motors Driven from Modified Orgone Accumulators" (p. 9). It discusses the mechanical calibration of the power output of precision Stirling engines, whose working fluid is air—external heat source engines which have been known since 1816. The paper aims at determining the internal thermal power evolution characteristics of certain contiguous metal Faraday cages that

are covered with several alternating dielectric and steel-wool layers—the so-called "orgone accumulators" (ORACs) first investigated by Wilhelm Reich in the 1940s.

Of course, conventional physics considers it a priori preposterous that such an enclosed plenum could manifest any sort of *new* energy, from within. Yet for over sixty years there has been significant evidence of thermal anomalies associated with Faraday cages, a phenomenon that Reich brought to Albert Einstein's attention in early 1941, but with long-term consequences unfortunately resembling roughly those attending the "cold fusion" announcement of 1989.<sup>1,2</sup> The metal Faraday cage at the core, with or without its exterior coatings, could never be expected by conventional understanding to evidence any unusual energy draw from without or energy generation from within. The only energy that would be available to such an enclosure, modern physics claims, would have to be derived from electromagnetic radiation from the environment—sourced directly or indirectly from the Sun. (RF radiation from artificial terrestrial sources having been definitively ruled out as explanations of the thermal effects discussed—by orders of magnitude and by direct measurement with RF meters).

Now the particular experiment in the paper in this issue of IE gives some indication already of the potential for aroundthe-clock operation of the MM6 Stirling engine (from American Stirling Corp.) sitting atop a modified orgone accumulator (see construction and other details in References 3 and 4). The "hybrid ORAC" (HYBORAC), with its Stirling motor, started running during daylight hours in Toronto, Canada on May 19, 2003 and ran some 20.5 hours (until 4:00 a.m.). It output (against friction) a daytime mean power of 125 mW and a nighttime mean power of 25 mW. Given the tiny calculated average Carnot efficiency (near 4.3%) of such a Stirling motor under the experimental temperature conditions, there had to be provided at the Stirling engine hot plate a mean of at least 1.75 watts of continuous sensible thermal flux (probably much more thermal flux, since the engine was probably far from Carnot efficient in its operation). The real shocker is that this kind of average minimum power evolved from within the HYBORAC's Faraday cage—1.75 watts—is on the order of or greater than 100 times the sensible thermal flux that the kinetic theory of heat specifies could have transited through that 8inch metal cube under these conditions!

With a design improvement made by the Correas to the HYBORAC/Stirling (proprietary to them, but *not* increasing the frontal area exposed to the Sun), they were able to run the Stirling from solar environmental energy—uninterrupted for 48 hours, *i.e.* over two night cycles (June 15-16, 2003).

They have reported this in Reference 5, which is already available on their website. Nothing would have precluded continuous operation for many more days. This really is around-the-clock free power. In the Reference 5 work, the Correas went beyond mechanical calibrations in their assessment of the Stirling performance: they employed electrical resistance heater activation of the the MM6 engine to prove that two watts of average power had to be applied to the hot plate of the engine for the mean around-the-clock engine speed of 123 rpm to be achieved! The corresponding kinetic theory of heat prediction would be a mere 8 to 10 milliwatts of thermal influx into the Faraday cage.

Now let us consider the implications of these results, first in terms of technological directions that might be taken in the field of solar power, and second, in terms of the new physics that is evidently required to explain such anomalous results. Our paper in this issue of *Infinite Energy* suggests that in the May 19, 2003 experiment, the Stirling engine puts out at least 200% more work-equivalent energy than typical photovoltaics (with equivalent area) output in the form of electric energy during an equivalent day. The implication is not that this particular Stirling-HYBORAC combination is better already today, in a utilitarian sense, than the electricity-producing photovoltaic array, but that there is the *potential* for using ORAC/Stirling designs (or perhaps modified ORACS with advanced types of solid-state converters) to capture much more solar-sourced energy than PV arrays.

The testing of June 15-16, 2003 with the incrementally improved-design HYBORAC/Stirling<sup>5</sup> already shows substantial gains in performance. The Correas conclude that the assembly put out between 2.75x and 3.15x more power during the 48-hour test than a photovoltaic array of equivalent area. During peak diurnal solar activity when the MM6 Stirling hit angular speeds greater than 160 rpm, the performance reached 5.5x photovoltaic performance. They state that they have also demonstrated efficiencies 150% greater than passive solar energy capture techniques.

Driving Stirling heat engines with solar power is nothing new; this was done as far back as the 1930s, but not of course around-the-clock and not employing ORAC technology. From my perspective, however, the most important implication of this new work is its proof that even such a supposedly secure area of physics as blackbody radiation theory and electromagnetism is almost certainly deeply flawed at its roots. How else can it be explained that a metallic enclosure can develop within it far more power than the ambient supposed electromagnetic radiation field would allow? The very nature of light is at issue, as it has been for hundreds of years. We recall the crisis about the spectrum of blackbody radiation as the twentieth century dawned, when Max Planck's energy quantization "fix" was put in to make the high frequency light "ultraviolet catastrophe" disappear. Well, the twentieth century's proclaimed success with the wave-particle duality concept within quantum mechanics, which followed from the Planckian fix, turns out to be superficial at best. The amalgamated concept of waves and photon energy packets crossing space will not pass muster and the final theory of light is almost certainly not as given in late-twentieth century texts.<sup>6</sup>

Conventional theory takes the Sun as the equivalent of a nearly ideal blackbody radiator with an absolute temperature at its luminous emission surface of about 5,750 K—though the

higher reaches of its coronal atmosphere are on the order of 1,000,000 K (another unresolved mystery about the Sun, by the way). 7 It is from this orb of high temperature plasma material (at roughly 5,750 K) that supposed spectrum of electromagnetic radiation crosses a local patch of space-time—disembodied electric and magnetic field vectors of such EM radiation oscillating furiously as transverse waves. Upon reaching our planet, the EM radiation is partially reflected and partially absorbed by the constituents of the atmosphere. Such a tidy picture has been explored and explained with much confidence by so many texts. How can there be anything fundamentally wrong with it? Easy! That is like asking, "How there can be anything fundamentally wrong with twentieth century models of atomic structure?" Yet a look at the large body of work in new hydrogen physics energy (www.lenr-canr.org and www.blacklightpower.com) is testament that these very fundamental accepted structures are nearly certain to be very flawed approximations.

My colleagues, the Correas, believe that for their part they have developed firm experimental evidence, which they have linked with their quantitative AToS theory (Aetherometric Theory of Synchronicity), that the Sun in fact radiates longitudinal Tesla-waves, another term for which is "ambipolar massfree radiation," which are not limited to speed c. Their work with Tesla induction coils and Faraday cages, among other devices, suggests that what emanates from Tesla coils is not electromagnetic radiation at all. Moreover, what does come from such coils has been shown by them in various published monographs to produce within Faraday cages heating effects and lumination phenomena inside cage-enclosed vacuum tubes. These effects are indicative, they say, of how the Sun's basic emanation—energetic Tesla waves—interact with the stratified terrestrial atmosphere, and in turn with the Faraday cages that are the subject of the present HYBORAC/Stirling work. These atmosphere-attenuated waves from the Sun actually appear to penetrate the metal cages. Furthermore, there is strong reason to believe that molecular "atmospheres" of mass-free energy are transduced from a latent heat form within Faraday cages and the resultant sensible heat produced drives the affixed Stirling engine in the experiments. Without recasting electrons and other supposed "point-like" particles as extended aether energy structures, such as twisting and spinning toroids, it would be difficult to understand where these new energy storage modes might reside, so the Correa theory encompasses such changes too.

That is but a rough picture of what they have theorized, but the theory makes predictions with highly quantitative results that have many important implications not only for atmospheric physics but for cosmology as well. They have re-cast blackbody radiation theory with an underlying frequency spectrum of aether energy waves that gives rise to what blackbody theory only incompletely suggests.<sup>8</sup> This restructuring, in turn, bears on atmospheric cycles of water, ozone, and oxygen,<sup>9</sup> as well as on the cosmic microwave energy spectrum,<sup>10</sup> which the Physics Establishment insists is "proof" of an instantaneous "Big Bang" cosmic origin 13.7 billion years ago. For this reason and with much other evidence in hand, the cosmic microwave spectrum is seen to be no such proof at all of the "Big Bang." <sup>11</sup>

There is little doubt that the Sun has been shining for a very, very long time and providing the life-giving energy that drives the metabolic food chain of all life on Earth (deep subterranean microbial life perhaps excepted.) Modern physics

thinks that it knows just about everything it needs to know about this glowing source of life, just as it imagines that it knows everything about fusion reactions from studying and postulating about the presumed reactions within Sol and other stars. Yet in truth, our knowledge about the innermost reactions within matter—and even about light itself—is just beginning. Much "firm" knowledge is at great risk, as discoveries before and after 1989 have shown. Let us follow the path of the light of this new knowledge as a broadly-based New Energy Age dawns. Perhaps solar power enthusiasts, who heretofore have been reluctant to join the rag-tag New Energy revolution, may now find good reason to look into it and then join forces with us.

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