

# The State of the Art

**Wayne Green, Publisher**

What have researchers learned in the nine years since Pons & Fleischmann announced their discovery of the so-called cold fusion anomaly? Well, despite the usual hooting and catcalls from scientists who are unable for religious reasons (physics can easily be classified as a religion) to investigate the phenomenon before putting their reputations at stake condemning it, plus the interference from vested interests such as hot fusion researching universities, plus the oil, coal, natural gas, and power companies, substantial progress has been made, both empirically and theoretically.

When a lattice-structured metal such as nickel, palladium, titanium, rhodium, and rubidium is immersed in an electrolyte and an electric current is passed through the system, hydrogen is absorbed from the electrolyte into the metallic lattice and once enough hydrogen has been absorbed a transmutation of elements begins to take place. In many of these transmutations there is a slight loss of matter. And since a small amount of matter results in a large release of energy in the form of heat, we end up with more energy being produced than it takes to initiate the reaction.

For simplicity's sake, if we take palladium (atomic weight 106.4) and add two hydrogens (weight 1.0079 each) we get a total weight of 108.4158. If we end up with silver (weight 107.868), we have 0.5478 unaccounted for. Using Einstein's equation for the equivalence of matter and energy ( $E = mc^2$ ), with  $c$  being the speed of light (a huge number), so even the smallest amount of elemental transmutation will generate an enormous amount of heat.

The elemental transmutation aspect of "cold fusion" has an additional benefit. By transmuting radioactive elements and isotopes into non-radioactive elements and isotopes there is, for the first time, a practical solution to the thousands of tons of radioactive materials that have been building up as a result of nuclear power plant waste and nuclear bomb manufacture (and possible destruction). One can envision electric company power plants decontaminating radioactive waste while making steam to generate electricity. This will be the first use of a fuel which the government will pay companies to use.

## Practical Devices

In these early days of elemental energy development the first products envisioned are small home or building heaters and water heaters. But before these will be practical the process has to be made dependable and easily controllable. The present state of the art has researchers developing high output devices which are not dependable and low output units which are. This may be a blessing in disguise.

The goal will be to develop transmutation-powered (Elemental Energy - EE) systems which will generate as much heat as possible with a minimum of initiating energy. But,

considering the magnitude of the threatened industries and their potential for slowing or even stopping progress through whatever means it takes, it may be strategically smart to get started with systems showing only modest efficiencies. Then, more and more efficient EE systems can be marketed, gradually phasing out the need for fossil fueled systems.

This seems to be the strategy which the magnetic motor pioneers are pursuing.

As I've mentioned, I've personally driven the Takahashi scooter, so I know it's real. Sciex, which will be marketing the scooter, is claiming that it'll run for 500 miles at 50 mph. I suspect it'll go 5,000 miles. Or more. But they have to merely strain credulity, not break it, with their claims.

They claim the engine develops 15 HP. Remembering that the French Deux Cheveaux Citroen, the car that got the French off their bicycles, had only 2 HP, it wouldn't take much more to power a new economy car.

## **Energy Conversion**

Since our power companies are still converting coal, oil, wood, and natural gas to heat, which generates steam, and then steam turbines are used for the generation of electricity, the EE reaction will probably have to go the same inefficient route: heat → steam → turbine → generator.

Once we have some efficient EE cells designed, how long will it be before it becomes cost effective for homeowners and businesses to cut their connection to the local power company? Or will they go the route of selling their excess home-generated power to the power companies until they give up and bribe our legislators to stop this legislated bonanza?

Will we be seeing electric cars being powered by EE cells generating steam to drive the generator? It doesn't take much average HP to power a car, as you can see from the recently unveiled Toyota Prius. Or might we find a simpler way to convert the heat energy generated by our EE cells to wheel rotation or electricity?

## **Meanwhile**

The critics harp, while researchers, hobbled by a lack of financial support, are doing their best to improve the reliability and efficiency of EE cells. How come the lack of financial support? That's simple. There's no constituency for cheaper energy. That would upset the *status quo*, so why upset the apple cart? What currently powerful industries or groups would benefit if the cost of running a car dropped from 10¢ a mile to 1¢ a mile? Nobody but the public would benefit.

On the brighter side, whenever there is a ten times improvement in a product it's development seems to be unstoppable. We saw that when minicomputers just about killed the main frame industry, where those million dollar computer systems were brought down to \$100,000. And then again, when microcomputers brought the cost down to \$10,000 for

equivalent systems, we've seen the minicomputer companies disappearing.

## **The Next Step**

I'm trying to encourage as many entrepreneurs as possible to start manufacturing small, efficient, home and water heaters. A hundred or two small companies will be impossible to stop, just as a couple hundred early microcomputer companies proved unstoppable. The market will shake out as the products are improved, paring the field down to two or three megacompanies and generating a bunch more billionaires like Bill Gates, Paul Allen, Steve Jobs, William Ziff, and Pat McGovern. Plus hordes of mere millionaires.

## **When Is The Next Issue?**

I'd like to say that the cold fusion field has come a long way since I got involved back in 1993, but in reality it hasn't. Lordy, it was four years ago that Sherry and I flew out to Maui for ICCF4. That was a great trip for us. We started early so we could visit all six of the major Hawaiian Islands, and so I could scuba dive all of them. Some of my best videos were right off the beach of our hotel, where I took pictures of dozens of large sea turtles.

At the conference I met Pons and Fleischmann, who were setting up their dream laboratory on the Riviera. I also met some of the chaps who, through my misplaced trust, would cost me tens of thousands of dollars.

A little over a year later, at the 1995 Monaco conference, the attendance was way down, the papers given were of little real significance, Fleischmann was almost invisible and Pons wasn't even there, though the conference was right there in his new home area. Was their invisibility a cover for some remarkable progress or almost none? Now, three years later, the answer seems to be that the cold fusion discoverers had crapped out and were about to split.

When I started *Cold Fusion* I was depending on the assurances from the Eneco group that the field would grow quickly, as the personal computer field did, so we started out with a monthly publication. The first issue was a corker, but by the second issue the material had almost dried up and the promised advertisers had never materialized. The second issue was a turkey.

But it wasn't as bad as the third issue, which was mostly written by the editor and his personal buddies. What's worse than a turkey? Maybe a turnip. The third issue was a turnip. The fourth issue was even worse, so I was only partially upset when the editor split, taking it with him.

Since then I've been publishing issues of the journal when I felt I had enough good, solid information, not when the calendar demanded.

Nobody has complained about the infrequency of this journal. Thanks. Alas, the fact is that progress in this field has been slow. Molasses in January, Step'n Fetchit, turtle, glacially, slow, or I'd have published more often.

## **What's Wrong?**

There's a good reason for this lack of progress.. .like a lack of research funding. And there's a darned good reason for that, too.. .like a shortage of vested interests in lower energy costs. Sure, we'd all like to pay less for energy, but since we vote for emotional rather than practical reasons, we have almost no clout with Congress in the energy department.

Then start counting up the vested interests in the energy status quo. The oil companies, their ships, OPEC, pipe lines, distributors and a zillion gas stations. Then there's the coal companies, natural gas & propane, hydropower, wind power, solar, and so on. Don't forget the power companies and distributors. Remember how many of these giants have well-heeled lobbies in Washington and some are even in every state capitol.

They've shown rather clearly that they have the Department of Energy and the Patent Office in their pocket.

Sure, for a deep pockets gambler there are somewhere between billions and trillions to be made by getting control of the elemental energy (cold fusion) technology.

Fortunately, or unfortunately, the companies which have the most to lose (and gain) are run by boards with their eyes firmly glued to their next quarter profits, not some pie in the sky payoff in maybe 20 years.

The computer growth scenario was repeated again when large-scale integrated circuits made microcomputers possible. So now we have the spectacle of Microsoft being larger than IBM, which belatedly got into minicomputers, and then having learned its lesson, gotten belatedly into microcomputers. Where are Honeywell, GE, RCA and the other mainframe companies? Blown away. Where are Data General, Prime, Wang, and DEC? Blown, or mostly blown away.

The media? Why aren't magazines, TV and newspapers making a big deal out of cold fusion? The media knows where the butter is for their sandwiches. It lies in not upsetting advertisers and making the most of bad news for the readers. Neither meets the needs of cold fusion researchers or the eventual beneficiaries of loser energy costs.

## **Apocalypse**

One result of my being interviewed on the Art Bell show was my interest in listening to his nightly show. Well, since it's on from 1-6 am Eastern time, I tape it with my VCR and listen at *my* convenience. He's on from coast-to-coast AM, on over 400 stations, and has a listening audience of around 12-15 million.

If you're interested in off-beat stuff, set up a VCR and tape the show and listen for a few days and see for yourself. Recording the show allows you to skip past the news and commercials, cutting the show down to about a 30 minutes an hour. Off-beat? Like experts on crop circles, the Roswell UFO crash, cattle mutilations, remote viewing, and even really

far-out stuff such as cold fusion.

Recently Art has been interviewing a number of experts who have been warning us that something really major lies ahead in the next year. I'd shrug it all off as the usual millennium mania if some of them weren't making such a good case for their concerns. I've read Richard Noone's book, *5/5/2000 — Ice, the Ultimate Disaster*. He's predicting May 5, 2000 as the big day. Then there's Gordon-Michael Scallion's *Notes From The Cosmos*, which says the big one will be in 1998! Robert Felix sent me a copy of his *Not By Fire, but By Ice*, which says that ice ages happen very quickly, and that the next one has already started. He makes a very good case, too. So much for all this global warming fooferah. Ed Dames, whose field is remote viewing, has already moved from California to the South Seas. He's targeting June 1999 for el biggo. John Zajac, who I also heard on the Art Bell show, sent me a copy of his book, *The Delicate Balance — Coming Catastrophic Changes On Planet Earth*. And so it goes. These are all well written and researched books - I recommend reading 'em.

Now, if any of these doomsters are right, we're going to have a huge need for some cold fusion power units in about a year. If anything humongous comes along, it'll wipe out our energy distribution system.

Any number of scientists have concluded that mass extinctions have happened several times in the past, and that's what is being prophesied for the near future. Mass extinctions? You bet, several past events have wiped out over 90% of the life on earth at the time.

This all adds up to a note of urgency when it comes to developing some practical cold fusion power units. If we lose our electric grid and oil supplies are cut off, we're going to have a problem keeping warm. I've got a windup radio for when the batteries are all gone — not that there are likely to be any radio or TV stations left on the air after all hell breaks loose.

If many of those 236 mile an hour winds such as hit Guam recently start coming our way we're not going to have any more oil deliveries or power lines. Out in the country, where I live, we'll have a lot of downed trees to cut up for fire wood. I remember seeing whole mountain sides with every single tree flattened by the hurricane of 1938. But the old wood range went with my old family farm, which I sold ten years ago. I wonder where you get one of those these days?

When I was younger I was the one who got up early in the morning and started the fire in the kitchen stove. I had to shake down the ashes from the previous day and put them around the apple trees in the orchard. Then I'd wad up some newspaper, add some kindling, put on a couple of sticks of wood, douse it with kerosene and get the fire started. There was a reservoir at the end of the stove that warmed up water for a shower. The shower consisted of a five gallon can with a sprinkler on it which we hoisted to the ceiling of the summer kitchen with a crank and pulley. The water just ran out between the cracks in the floor.

Our water came through a quarter mile long lead pipe from a spring up the hill from the farm. It went into a big jar in the cellar and was hand pumped from there to the kitchen sink. One of these days I should get chellated to remove any of that lead that's still in my body.

No, no inside toilet, just an outhouse behind the barn. No electricity. We used kerosene lamps. Hmm, I should dig those out of the barn where they're stored, just in case.

But I sure would like to have a cold fusion powered water heater and turbine driven generator so I could at least use my ham radio station and a few other electrical gadgets.

When I was a kid the country was just getting going with Model T Fords and movies were silent. My father, who had pilot's license #73, was with a flying circus, and my mother painted magazine cover pictures. Now I'm sitting here at my Macintosh, scanning in pages and editing them on a 19" screen, and then outputting them in page form, ready to print. I can watch 340 channels of digital video via PrimeStar on a 60" home theater screen, listen to my huge CD collection on a hi-fi system, take ski lifts to the top of nearby mountains, or fly in a few hours to Aspen in one direction or Switzerland in the other for even better siding. And all that just in my lifetime.

At any rate, if the doomsters are right, life will return to what it was like when I was a youngster — if I can find an old wood stove.

## **Other Energy Technologies**

My intent is to keep this the journal of record for cold fusion (elemental energy), so I've avoided getting very seriously involved with magnetic motors, zero point energy, and other such possible sources of energy which may be cheaper and less polluting to use than fossil fuels.

Between the Takahashi scooter and Joe Newman's magnetic motors, this technology seems to have promise, but I still want to have a clue as to where the energy is coming from.

I appreciate the concept of zero point energy, but until I see an apparatus that's reliably tapping this source, I'll remain an agnostic.

## **It's Renewal Time**

I don't think there's any other information resource like this one when it comes to cold fusion.

I've been able to bring you the latest reports from the leading researchers and the latest theoretical papers from the top theorists of the world.

If you are interested in R&D, or in investing in this new field, each issue of the journal should be worth a year's subscription.

By cutting my costs and doing most of the work myself, I've reduced the subscription for 6 issues to \$30 for US subscriptions. Foreign subscriptions are now only \$40.

The chances are that your subscription ends with this issue, so I'll appreciate your vote of confidence with a check or credit card payment for the next six issues.

## **ICCF-7?**

My decision to skip ICCF-6 turned out to be a good one. In retrospect there were few papers presented there of any serious importance that weren't published in this journal. And the attendance continued its downward spiral.

Even though ICCF-7 will be held a little closer to home, the time it would take to attend can, I expect, be put to better use.

I didn't think much of the way the sponsoring organizations put on the two conferences I attended, and I have even less confidence in this coming one. I view Eneco's role in this field with serious concern. I'm not aware of any way they've benefitted researchers or the field so far.

The ICCF conference organizers seem to have gone out of their way to discourage media coverage, yet without it getting research funding is next to impossible. ....Wayne  
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