being other things besides the transmutation of metals."

Newton's chief concern may have been his disappointment at a rapid increase in the number of advocates of Hermetism, or spiritual alchemy, or it could have had a more substantial base.

The potential worth of a successful transmutation process was immense. Alchemists had often enjoyed the patronage of kings and, in Prague (Alchemy Central), Roman Emperors, Maximillian and Rudolf, had been major sponsors of the pursuit.

However, the threat to the gold market and, therefore, social stability (possibly even world order), was an ever-present source of worry to seekers of the "elixir".

Scots chemist, Alexander Seton was actually imprisoned in 1603 for his blatant, public demonstrations of transmutation.

So, as with all processes which threaten an established and coveted economy, alchemy was gradually dispatched to the scientific trash can.

It rapidly lost respectability and its remaining exponents were treated with derision and contempt. This, despite the immense storehouse of knowledge gained by "orthodox" science directly as a result of the dabblings of early alchemical practitioners.

The discovery of mineral acids; the isolation of gases and a vast addition to the repertoire of known chemical substances cannot be ignored. Alchemy, if not the entire foundation of modern chemistry, was certainly one of the cornerstones.

A. Rupert Hall sums it up nicely in *Isaac Newton —Adventurer in Thought*, when he says: "To be known as an alchemist in the late 17th century was less bizarre than it would be in our own time in which, however, astrology seems to flourish."

Bauxite—Continued from page 92.....

also been announced that Jamalco will merge with Aluminum Partners, owned by Kaiser Aluminum of Houston and Hydro Aluminum of Norway, Jamaica's largest refiner. June 13, 1997 *Miami Herald.*

7. Refining the bauxite at the mining site allows Jamaica to export almost twice the amount of alumina as bauxite.

8. Dr. Edmund Storms reviewed over 190 studies of the "cold fusion" effect in his paper titled "Critical Review of the 'Cold Fusion' Effect," which was published in the *Journal of Scientific Exploration,* 1996.

9. In September 1988, hurricane Gilbert destroyed power delivery systems, which affected many industries including the bauxite-alumina industry. In addition to the agricultural loss and the personal loss, the hurricane's attack on the island's infrastructure led to economic losses which were felt well into the following year. *World Atlas for Windows* by The Software Toolworks 1990.

"Cold Fusion" and Modern Alchemy

by Eugene Mallove

Since the 1989 advent of cold fusion, the smell of alchemy has lurked in the background. In fact, some of the most strident critics of cold fusion have mocked the field by comparing its alleged fantasies with "dreams of the ancient alchemists." Ironically, it appears now that transmutation of heavy elements at low energy is an inherent part of cold fusion phenomena.

First it was helium-4 that was "fused" from heavy hydrogen nuclei, so it was thought (and this may yet be proved true). Tritium formation in cold fusion was the earliest *unambiguous* nuclear miracle—not quite an alchemical identity change, but still a shocking wonder. Tritium is now very well documented in the cold fusion literature. Of course, it has been decried by cold fusion's critics as fraud or incompetent measurement. Then came evidence of transmutations in liquid and gas phase systems—low level stuff, but high enough above noise level for alarm bells to go off. We were no longer in Kansas!

Wonder of wonders—one of cold fusion's critics, physicist Dr. Kevin Wolf at Texas A&M University, obtained unambiguous evidence of transmutations in palladium from his Pons-Fleischmann cells (see "Alchemy Nightmare"—*IE* issue #1) in 1992. This was about the time of the first "Gold Crisis," the pyrotechnic-initiated thermal alchemy experiments at Texas A&M in the laboratory of Prof. John O'M. Bockris. The evidence for precious metal formation from lead or mercury was not then unambiguous, but it was certainly intriguing.

Fast forward a few years: gold-making reports are now on the internet as transmutation expert (guru?) Joe Champion dispenses advice on various alchemical techniques for precious metals making from lead or mercury.

This is either complete madness or something very big indeed! I strongly suspect it is the latter. As I editorialized in this month's column, "Electro-Alchemy," the gold-making scene now includes a stalwart of *hot* fusion and occasional cold fusion critic, mathematics professor Dr. Barry Merriman of UCLA. Dr. Merriman has been traveling the country with Joe Champion, visiting alleged commercial precious metal transmutation sites in Nevada, Texas, and God knows where else. It is inconceivable that at least *some* of the upper echelons of the precious metals industry are not aware of these happenings.

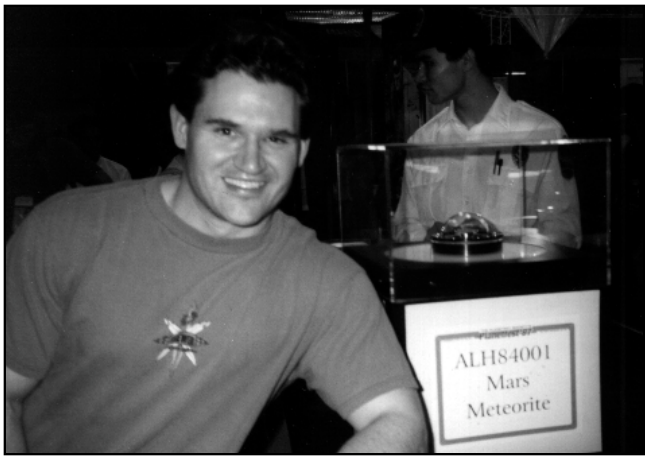
Barry Merriman has been spending thousands of dollars of his own resources on metallurigcal equipment, not to mention travel, in pursuit of the gold-from-lead Genie. We think this is very admirable. He is not out to make a lot of money on backyard gold production. Instead, he has a very scientific approach to his investigations: examine the processes suggested (or displayed at alleged commercial levels) by Joe Champion and learn whether they can be made repeatable. These rather simple processes are said to be finicky, but they are apparently very clear when positive results emerge.

The problem has become a serious conundrum:

(A) Sufficient positive results have been obtained to have obviously whet the appetites of serious researchers like Professor Bockris and Dr. Barry Merriman. So,

(B) Are we dealing "merely" with "enhanced precious metals extraction" from base metals, or are these people witnessing actual low-energy transmutations—at levels (a reported 0.1% to 10% lead conversion rate) that could lead to a new kind of precious metals manufacturing industry?

(C) Whatever the answer to (B), there are profound implications for the precious metals industry. However, if bulk transmutation is occurring at anywhere near the reported levels, the world of physics is turned



Dr. Barry Merriman at Planetfest-97 in Pasadena at the time of the Mars Pathfinder landing. Antarctic Mars meteorite fragment—still controversial regaring alleged life-forms—is on display. At Planetfest, the author had a chance to speak with Dr. Merriman about his adventures with Joe Champion and precious metals-making experiments. His is a genuine intellectual quest for truth. We wish him well and we hope to catch up! —*Photo: E. Mallove*

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which would violate the law of conservation of energy.

Natural radioactive decay occurs on the rare occasions when a nucleon catches a high energy neutrino. Normally, such a capture of a neutrino is very rare because natural neutrinos are high-energy. But in a cold fusion experiment, there are lots of low energy neutrinos available. They readily combine with nucleons in overcrowded ("Toquered") nuclei and cause particle transformations.

Obviously, large nuclei such as thorium will decay into smaller nuclei. At the lower end of the scale, I suspect that potassium turns into calcium by first absorbing a neutron and becoming "Toquered," and then having one of its neutrons turn back into a proton when it meets up with a neutrino. This would require less energy than fusion with a proton.

One of the results from The Cincinnati Group's experiment was that the titanium created had an isotope ratio out of proportion to that which occurs in nature. This might suggest that free neutrons are indeed being created out of protium atoms. Isotopes which are low in neutrons would absorb them. This would continue until isotopes which were overloaded with them would break down. Any radioactive fission products would also be transformed or fissioned in turn. The end result would tend toward those isotopes with the greatest packing fractions.

There are a couple of easy ways to check this hypothesis. One is to check for gamma ray bursts in a transmutation experiment. The other is to bring a sample of any radioactive material next to any working cold fusion experiment. If my hypothesis is correct, the abundance of low energy neutrinos should accelerate the rate of radioactive decay and cause a noticeable increase in radiation output.

Transmutation may not be quite the bonanza you were all dreaming about. The potential for getting rid of atomic waste is still there. Unfortunately, it's not so promising for transmuting lead into gold, or anything like that. [**Editor's Note: Don't be so sure! Stay tuned for more "golden developments"!—EFM**] At the upper end of the periodic table, this process moves downward in atomic number. If you want gold, you need to start with something like Uranium. Transmuting heavy elements upward in atomic number would be far more complicated, and is probably years away.

And when it comes to building production-model neutrino energy taps, transmutation will actually be a serious engineering problem that must be overcome. We will have to rely heavily on those elements least likely to transmute, perhaps even using selected isotopes. We'll obtain them by the same diffusion processes used to prepare isotopes for atom bombs. (What delicious irony!)

This effect may even pose a serious pollution problem. If low energy neutrinos are not used up inside a neutrino tap, conceivably they could interact with unstable isotopes in the surrounding environment and increase the level of background radiation. If neutrino power pushes out all other sources of energy, this could be a real problem.

But then again, if we could generate enough low energy neutrinos, we might be able to speed up the decay of the fallout from Chernobyl and make the region habitable and fertile again. We might be able to return Bikini Atoll to its former residents, and decontaminate old fission reactors so that they can be safely scrapped.

The most immediate concern is that this phenomenon lends considerable support to my theory, and I hope that the cold fusion researchers reading this article will sit up and take notice. As always, I hereby cede all of the foregoing to the public domain.

Do it—please!

Write a letter about cold fusion and new energy to your Congressman, Senator, President, favorite Candidate, or Prime Minister.
THEN—Send it to *IE*—

CF and Modern Alchemy

upside down—even more so than already.

When one tries to examine the situation objectively, is it really any more astonishing that gold can be produced from lead than that uranium or thorium can be drastically reduced to lighter elements in minutes or hours by the CETI or Cincinnati Group processes? Both achievements are unqualified "miracles"—in the context of established physics and chemistry. The gold making just happens to coincide with an ancient and oft-repeated claim of "adepts" throughout history. This is a subject that we will revisit in future issues of *Infinite Energy*—we have been wondering about this for a long time. Perhaps it was (*and may still be!*) that many of these adepts actually accomplished what they said they had done—and were held closely by protective monarchs or secretive governments. Today we have even high-school students entering the fray! Here is a description of an apparently successful precious metals "enhancement" experiment done this year (from Joe Champion's www site):

Wednesday, February 5, 1997

16 Year Old Replicates TAMU Experiment
by Joe Champion
Update by Dan York

The science fair experiment is a replication of one of the transmutation experiments performed at Texas A&M University in 1992. Joe Champion gave Dr. Bockris at TAMU the protocols to perform the transmutation experiments. Dr. Bockris then brought in Dr. Roberto Monti to do the hands-on work.

The series of experiments conducted at TAMU were designated as "Thermal 0" thru "Thermal XVI". The experiment replicated was designated as "Thermal II". The ingredients used in this experiment were: 300 g Carbon (C); 900 g Potassium Nitrate (KNO_3); 80 g Sulfur (S); 100 g Iron Sulphate ($FeSO_4$); 30 g Cadmium (Cd); 100 g Mercury Chloride, ($HgCl_2$); 50 g Litharge (PbO); 5 g Silver (Ag); 30 g; Calcium Oxide (CaO). **[WARNING: This experiment is very dangerous— do NOT do this without expert supervision.—EFM]**

The ingredients were thoroughly mixed and placed in a 3lb. coffee can and ignited with a torch.

Dr. Barry Merriman was present through the entire experiment and has validated the results. Barry has provided the student a signed statement attesting to the fact that the amount of silver increased from 5 grams to 8.7 grams and that there was a small amount of gold produced.

Dr. Roberto Monti has also provided a signed statement verifying two additional fire assays that were done on the residue material a few weeks following the initial experimental burn. The results of these fire assays were essentially the same as those done by Barry, but showing slightly more silver.

An XRF on the burned material was done by Mr. Bill Stehl, which also verified the presence of gold as well as some iridium. A mass spectrometry analysis has also been done on the before and after material. This was just completed yesterday so there has not been time to complete an analysis of the result.

One major problem the student faces is the fact that her science teacher was a student at TAMU. She is aware of the 1992 experiments but not the true results. Because of the political situation at the TAMU campus instead of the actual results being reported, the students and faculty were informed that there were no positive results at all.

Joe Champion has posted a transcription of the lab notes for the entire series of thermal burns conducted at TAMU in 1992. You can get to them from his WEB page at www.transmutation.com/tamu.htm. Partial results of the original experiments were also presented at the first and second Low Energy Nuclear Reactions Conference at College Station.

In an attempt to satisfy the requirements of a Science Fair, a 16 year old female High School student from Dallas, Texas undertook the replication of an experiment conducted at Texas A&M University in 1992 by Dr. John O'M Bockris under the direction of Joe Champion. The outcome of the experiment was validated by four observers, inclusive of a research scientist from a prestigious university in California. The observing scientist (nameless until publication) has attested to the authenticity of the following: an unusual phenomena occurred, for only 5.0 grams of Ag was placed into the original matrix of the thermal burn and the total combined precious metals observed at the end of the experiment was greater than 8.7 gram, and the ending material has a significant presence of gold, whereas the starting material was confirmed by myself to be void. The results were determined by the physical collection of the ending precious metals using standard metallurgical techniques.