cesco Celani (Instituto National Fiscia Nucleare, Frascati) continue to report interesting results using a long, thin wire, to which high voltages are applied longitudinally in an electrolysis experiment. The aim is to demonstrate the efficacy of inducing electromigration down the wire in increasing the cold-fusion effect.

An interesting series of experiments has been run at the Russian Academy of Sciences in Moscow, and were reported on by Aleksei Roussetski and Andrey Lipson. Using a thin palladium film, coated with palladium oxide on both sides, and subjecting it to electrolysis, Lipson found that after the electrolysis ended, there was a strong heat flash, which lasted from two to seven seconds. Lipson believes that the mechanism involves storage of energy from cold fusion which is first converted to elastic energy in the palladium while electrolysis is taking place, and then released in the form of excess heat.

The new alchemy

Fleischmann and Pons have supposed that the proclivity of palladium to sponge up hydrogen could be enhanced through electrolysis, so that a sufficient density (or loading) of deuterium into the palladium (around a ratio of one deuteron to one palladium atom) might allow the fusing of the stuffed-in deuterons to take place. Deuterium is a heavy isotope of hydrogen (containing one additional neutron in its nucleus).

One of the stranger features of the cold fusion story, is a dichotomy that has developed between proponents of the classic cold fusion experiment by Fleischmann and Pons, and a grouping which believes now in a much broader range of possibilities. According to the prevailing notions of how a fusion reaction might occur on earth, it is not possible to fuse two ordinary hydrogen nuclei (protons), but it is necessary that at least one of the partners in the reaction contain one or two extra neutrons (to form a deutron or triton).

But the "new alchemists" have put forth experimental evidence to show that it is possible to get excess heat, and in some cases nuclear products—even the transmutation of light elements to heavier elements—by using ordinary purified tap water and substituting nickel for palladium as the target for the deposit of protons.

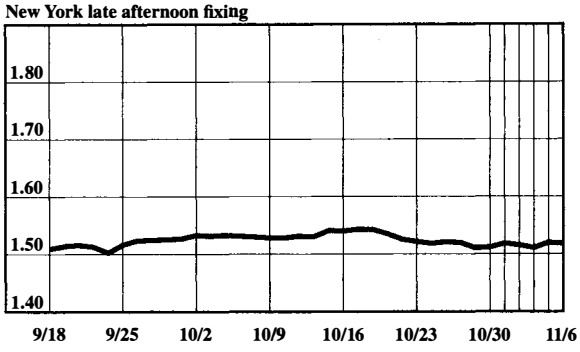
There was a strong showing at Hokkaido on the alchemical side, with George Miley (University of Illinois) reporting on astonishing results, using thin-film microspheres, whose metallic coatings underwent transmutation, so that the heavy element reaction products such as copper, aluminum, and silver, exceeded 50% of the original weight of the metal, in some cases. Some transmutations occurred with lighter elements as well.

Certainly these were the most dramatic results reported at the conference, but, as Miley himself said, he has yet to rule out the possibility of contamination. While his samples and his electrolyte were tested for purity, it is possible that even minute trace elements can deceptively be accumulated on a cathode surface.

Currency Rates

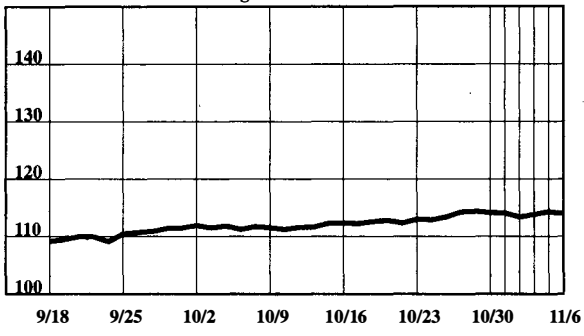
The dollar in deutschemarks

New York late afternoon fixing



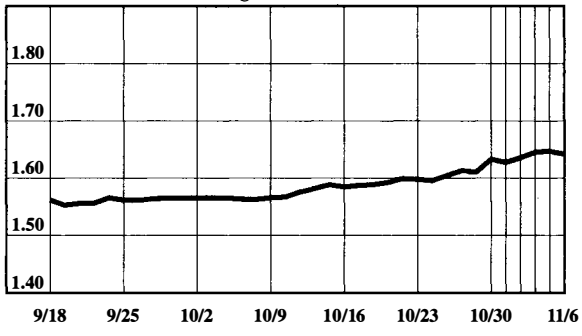
The dollar in yen

New York late afternoon fixing



The British pound in dollars

New York late afternoon fixing



The dollar in Swiss francs

New York late afternoon fixing