and 6 could be interpreted as due to the existence of DT and T_2 species, respectively, the presenter suggested that the more likely interpretation was that they were caused by triatomic species DDH and DDD. Equipment limitations prevented a more detailed analysis. Neutron and fusion product analysis was reported by J. Jorne, of the University of Rochester, New York. The neutron count of 0.6/s and gamma-ray count of 16/s were not significantly higher than baseline. Mass spectrometry revealed atomic masses 3 and 4, but again it was impossible to establish with their equipment whether tritium formation was responsible for these.

The Role of Palladium

An explanation of the current irreproducibility of results from one group to the next, both from the point of view of observing the effect in the first place, and then establishing the magnitude of the effect, was put forward by Bockris. His results indicated that the effect was dependent on the nature of the electrode. He suggested that increases in stress near to edge dislocations caused increases in solubility of deuterium species. Annealing to remove hydrogen from the lattice, to enable deuterium absorption, was also an important factor. Huggins also commented that the microstructure of the palladium was a major issue, and that cast or wrought materials could behave differently. The influence of carbon impurities was alluded to, in that the impurity could cause methane formation, thereby leading to reduced charging of the palladium by hydrogen.

During the subsequent discussion session, D. T. Thompson, of Johnson Matthey, corrected statements that had appeared in the media concerning the requirements of palladium for successful fusion results. The most usual Johnson Matthey manufacturing process for rods was stated to involve three principal, successive operations, namely casting, forging and drawing down to size. It was also mentioned that palladium may be the optimum metal for this process, due to its large "appetite" for absorbing hydrogen/deuterium and that application of an electrical potential to the palladium enhances this ability to absorb hydrogen.

Conclusions

While it was clear that phenomena apparently similar to that first reported by Fleischmann and Pons have now been observed in several other laboratories, it was equally clear that much work remains to be done, both to identify the crucial factors leading to the effects noted and to establish an explanation for them. At this meeting no conclusive proof was available that these early experimental observations were indeed due to fusion. However, it is certain that the ultimate possibility of a cheap, inexhaustible and environmentally acceptable energy source will continue to stimulate much research in the coming months. Along with others working in this exciting area, Martin Fleischmann strongly encouraged the publication in the scientific literature of all results, whether positive or negative, in order that a proper evaluation of the phenomenon can be made.

G.A.H.

The Chemistry of the Platinum Group Metals

Continuing the successful series of triennial conferences on the above named topic, the Fourth International Conference is to be held at Cambridge from 9th to 13th July, 1990.

Organised by the Dalton Division of the Royal Society of Chemistry, the topics to be covered include: activation of small molecules; bio-inorganic and medical chemistry; compounds with metal-metal bonds and clusters; co-ordination chemistry; heterogeneous catalysis and surface studies; homogeneous catalysis; new electronics materials, sensors and electrode systems; organic synthesis; organometallic chemistry; photochemistry and related methods of molecular activation; and regio- and stereo-selective reactions.

People wishing to contribute or to receive further information about this important international meeting, should contact Dr. John F. Gibson, Secretary (Scientific), Royal Society of Chemistry, Burlington House, Piccadilly, London W1V 0BN, England.