

COLD FUSION AS SEEN WITH X-RAY VISION

In the fall of 1895 Wilhelm Roentgen began to study the influence of an induction coil on the behavior of cathode rays. On the night of 8 November in his darkened laboratory he noted a glowing pattern on a fluorescent paper he had carelessly left lying on his lab bench well away from his completely shielded Crookes tube. The next day Roentgen mentioned to a friend that he had discovered something "interesting" but was unsure that his observations were correct. Only after his manuscript detailing his findings had been transmitted to the local physical society did even his own two assistants learn what Roentgen had done: He had, for the first time, made invisible light visible.

His paper, "On a New Kind of Ray," is a model of clarity and completeness. Roentgen provides a detailed recipe of how he made his measurements, follows it with a complete catalog of his results and finishes with an encouragement to others to confirm his results. The report was translated and appeared in English, French and American journals within six weeks, so that investigators who had the same fairly common instruments as Roentgen were soon reproducing his results and amazing their friends with pictures of their hand bones. Only then did Roentgen grant a few interviews to reporters, usually one-on-one and in depth.

Thus did Roentgen's work provide the base from which the exploration of all things atomic was launched. Also proceeding apace has been a burgeoning technology with a myriad of applications. However, when asked what the future held, Roentgen replied: "I am not a prophet, and I am opposed to prophesying. I am pursuing my investigations, and as fast as my results are verified I shall make them public."

On 23 March 1989 at a University of Utah-orchestrated press conference, Stanley Pons and Martin Fleischmann, two apparently respectable electrochemists, related for the assembled media fantastic feats of deriding-do. They told of their work over

the past five years, performed late at night in Pons's garage using equipment purchased from their professorial pinnacles. The strange modality, venue and timing of their presentation were motivated by imperatives that lie well outside the scientific tradition. That day all the world learned of Pons and Fleischmann's assertion that they had achieved what previously only the Sun had been capable of: They had, for the first time, continuously converted hydrogen into helium with an enormous attendant net release of energy.

Their sole paper was a slick press release that omitted the same essential details they had avoided mentioning in their oral presentation. Requests for preprints of the papers that they alleged had been accepted in professional journals were directed to a public relations person who said no preprints were available, logged the request and assured the caller that the university would soon make clear the reasons for the unusual procedure. One of their preprints surfaced a week later on the scientific grapevine, but as yet I have received nothing from Utah. The pirated report had neither the clarity nor completeness, let alone the explicit encouragement, needed by those of us who wish to confirm the results.

Thus Pons and Fleischmann have chosen to provide little ground from which to launch the exploration of this potentially interesting phenomenon. Proceeding with any speculation about resulting technologies is at this point an exercise in pure fantasy. Pons and Fleischmann have, however, succeeded in substituting public proclamation for the considered scrutiny of their scientific peers, thereby bringing the practice of science more in line with that of advertising: Sell the sizzle, not the steak.

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4/89

Editor's note: We received Peter Trower's letter on 18 April. On 27 April, after sending Stanley Pons a

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