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[“Cold fusion” redux?](#)

20 years ago, in the wake of the cold fusion excitement-turned-debacle, I noticed an interesting fact. The people doing the experiments were divided into two classes: The electrochemists who believed that fusion was happening were doing their experiments in plastic glassware, whereas the physicists who believed that no fusion was really happening were doing theirs behind walls of lead brick. I mentioned this to several people at the [first Foresight Conference on Nanotechnology](#) late in 1989 and was bemused to find the same people repeat it to me in later years, having clearly forgotten where they'd heard it. Such is the nature of memetic spread.

Cold fusion is [all over the science blogosphere and news](#) today due in large part to [this experiment](#) from SPAWAR which has some believable (at least to Naturwissenschaften reviewers) evidence of energetic particle production.

What I know about nuclear physics could be written on a palladium nucleus with a blunt crayon, but the mechanism for the (cold) fusion of deuterium just never made sense. Perhaps a tiny bit more sense is that there might be some form of [electron capture](#) (the capture of a ^7Be) going on, but in hydrogen, as proposed in [this paper](#). That would leave free [thermal neutrons](#) to wander around and cause all kinds of trouble (generating secondary decay reactions with energetic ionizing particles). Who knows? At least Widom/Larsen's theory doesn't have electrochemistry overcoming nuclear Coulomb barriers. And inter-lattice effects are known to put electrons into some interesting quantum states, e.g. [Cooper pairs](#).

There may be some interesting physics ahead — but I wouldn't sell my oil stocks just yet!

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2 Responses to ““Cold fusion” redux?”

1. *Anonymous* Says:

[March 24th, 2009 at 6:38 am](#) [e](#)

Cold fusion has been replicated thousands of times, and several hundred peer-reviewed papers about these replications have been published in mainstream journals. You can read hundreds of cold fusion papers here:

<http://lenr-canr.org/>

2. *J. Storrs Hall* Says:

[March 24th, 2009 at 7:21 am](#) [e](#)

BTW, the paper Ultra Low Momentum Neutron Catalyzed Nuclear Reactions on Metallic Hydride Surfaces by Widom & Larsen can be read in its entirety at <http://arxiv.org/abs/cond-mat/0505026>

It's way beyond my level of expertise, but a physicist friend says it's at least plausible.

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