
The Cold Fusion Phoenix

"Warming Up to Cold Fusion" by Edmund Storms, in *Technology Review* (May-June 1994), P.O. Box 489, Mount Morris, Ill. 61054.

Five years ago, chemists Stanley Pons and Martin Fleischmann announced to a startled world that they had achieved a miracle of physics. In a simple table-top nuclear device operated at room temperature, they claimed, they had generated more energy than they had used. As excited media reports around the world noted, cold nuclear fusion held the promise of producing virtually limitless energy. When dozens of labs tried without success to duplicate the two chemists' astonishing experiment, however, scientists and the general public quickly turned skeptical. "Cold fusion" was widely dismissed as a delusion, and perhaps even a fraud.

Storms, a chemist recently retired from the Los Alamos National Laboratory, contends that the conventional wisdom about cold fusion is wrong. The early attempts to reproduce the experiment were marred by imperfect conditions, materials, or equipment, and by misinterpretations. Enough reputable researchers since then have published findings, resulting from a sufficiently broad range of experimental approaches, Storms says, to make it hard to doubt "that something is going on outside the explanations offered by conventional physics."

In Pons and Fleischmann's experiment, which was carried out at the University of Utah, electricity was applied to a strip of palladium surrounded by a coil of platinum wire and immersed in a container of "heavy water" (i.e. water in which deuterium takes the place of ordinary hydrogen). As the deuterium builds up in the palladium, "it supposedly undergoes the fusion reaction" and the metal heats up. Not only Pons and Fleischmann, working in France with support from a Japanese firm, but other reputable scientists have since reported producing heat in excess of the electrical input. "Dozens of examples reporting such excess energy have now been published," Storms says. In some cases, the excess energy has been "thousands of times larger than any known chemical (that is, non-nuclear) reaction could produce."

The excess heat generated is not the only evi-

dence for cold fusion, Storms observes. Many experiments have also produced tritium and helium, both elements "known to be produced only by nuclear reactions."

Although the experimental results conflict with accepted theory, Storms says, they "strongly support the conclusion that a new class of phenomena, which I call chemically assisted nuclear reactions, has been discovered." The discovery's ultimate practical worth remains to be seen. But he urges scientists to keep their minds open.

Medical Sexism?

"The Sex-Bias Myth in Medicine" by Andrew G. Kadar, M.D., in *The Atlantic Monthly* (Aug. 1994), 745 Boylston St., Boston, Mass. 02116.

When it comes to health care, women have been treated as second-class citizens. So President Bill Clinton has asserted and women's-health advocates have insisted. Kadar, an anesthesiologist at the University of California at Los Angeles School of Medicine, agrees that there is a "medical gender gap," but, he contends, it favors women, not men.

American women, U.S. Department of Health and Human Services surveys show, seek and receive more medical care than men do (even if pregnancy-related care is excluded), and they spend two out of every three health-care dollars. That's not all. Kadar rebuts several oft-made claims:

- *A study conducted at the University of California at San Diego in 1979 found that men's complaints of back and chest pain, dizziness, fatigue, and headache more often resulted in extensive diagnostic workups than did similar complaints from women. The study is constantly cited as proof that "sex-biased" doctors take women's complaints less seriously than men's.* Not quite, says Kadar. That small-scale regional survey used the charts of only 104 men and women (52 married couples). It prompted a far more extensive national review of 46,868 office visits. The results, reported in 1981 but generally overlooked today, showed that the care received by men and women was similar about two-thirds of the time. "When the care was different, women overall received more diagnostic tests and treatment—more lab tests, blood-pressure checks, drug prescriptions, and return appointments," Kadar says.

• *Women's illnesses receive less attention from researchers than men's do. An inventory by the National Institutes of Health of its total research budget in 1987 found that only 13.5 percent was devoted to studying diseases unique to women. Yes, says Kadar, but only 6.5 percent of the budget was devoted to afflictions unique to men.*

• *Nearly all heart disease research is conducted on men, with the conclusions blindly generalized to women. A five-year Harvard Medical School study of the effects of aspirin on prevention of cardiovascular disease examined thousands of men, but not one woman. False, says Kadar. The Harvard researchers studied both sexes, almost concurrently. "The results of the men's study were reported . . . in July of 1989 and prompted charges of sexism in medical research. The women's-study results were [published] in July of 1991, and were generally ignored by the nonmedical press." The biggest study of cardiovascular health over time began in Framingham, Massachusetts, in 1948. The researchers started with 2,336 men and 2,873 women, and have been tracking the health of the survivors of both sexes ever since.*

• *Breast cancer research has been scandalously neglected. If a tumor devastated men on a similar scale, a national Apollo-style program would be launched to cure it. Not so, says Kadar. Lung cancer heads the list of fatal tumors for both sexes, but research on breast cancer, the second most lethal malignancy in females, gets more funding from the National Cancer Institute (NCI) than lung cancer research or any other tumor research. The second most lethal malignancy in males is also a sex-specific tumor: prostate cancer. Last year about 46,000 women succumbed to breast cancer and 35,000 men to prostate cancer. The NCI spent \$213.7 million on breast cancer research—four times as much as it spent on study of the prostate.*

The net result of the real "medical gender gap," Kadar concludes, is "the most important gap of all": Women live, on average, about seven years longer than men.

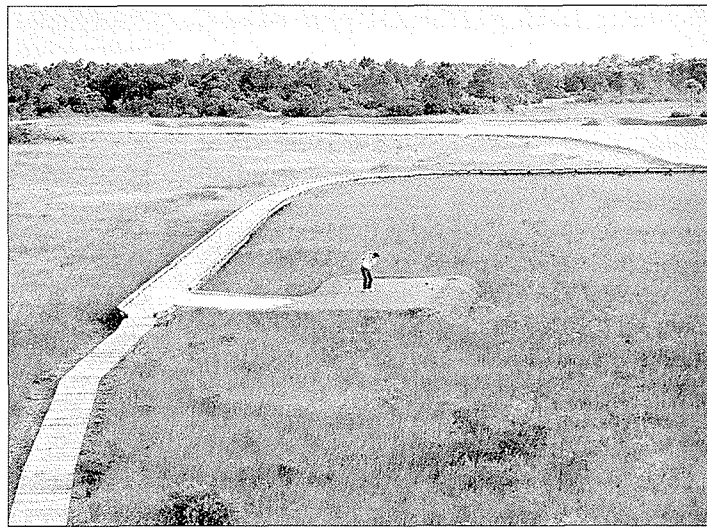
Of Greens and Putting Greens

"Toxic Green: The Trouble with Golf" by Anne E. Platt, in *WorldWatch* (June 1994), 1776 Massachusetts Ave. N.W., Washington, D.C. 20036.

Off to the links for a bit of sport amid the splendors of nature this weekend? Think again. The unnatural attractions "displace people, destroy habitats, pollute surrounding water and air with their heavy concentrations of fertilizer and pesticides, and deplete public water supplies," writes Platt, a researcher at the Worldwatch Institute.

Some 25,000 golf courses now dot the globe, covering an area almost the size of Belgium, and the number is increasing rapidly. Golf course construction is the world's fastest growing type of land development. Courses have sprung up throughout Southeast Asia; in Thailand, one is being built every 10 days. In Japan—whose 12 million golf enthusiasts are the sport's big spenders, paying as much as \$250,000 for membership in a country club—golf course development has resulted in the loss of more than 5,000 hectares (12,355 acres) of forest in a single year.

"From Las Vegas to Zimbabwe, golf courses are absorbing more and more of the scarce wa-



Golfers on this environment-friendly course in West Palm Beach, Florida, can worry about their game without worrying about harming nature.