

Dee Heth

(addendum)

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ARTICLES.

FETAL PROTECTION POLICIES

An Excuse for Workplace Hazard

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Last January the American Telephone and Telegraph Company, one of the world's largest semiconductor manufacturers, barred pregnant women from production lines at many of its computer chip plants around the country. Company officials said they were responding to a growing concern over the exposure of workers to chemicals that might lead to miscarriages, birth defects or other harm to the fetus.

A.T.&T.'s action was prompted by a controversial health study conducted in Massachusetts last year. That study, which examined employee health at a plant of the Digital Equipment Corporation in Hudson, Massachusetts, showed an increased incidence of miscarriages among production workers who use a variety of highly toxic liquids and gases to make computer chips. The study failed to pinpoint the specific cause of the problems, but the results were still alarming. In one group of sixty-seven women the rate of miscarriage was 39 percent, nearly twice the national average.

The Digital study shook the semiconductor industry. In California's Silicon Valley, where chip firms employ more than 52,000 workers, most of them women, many companies offered job transfers to pregnant production workers. Like A.T.&T., many companies announced or reaffirmed a commitment to in-house policies that bar pregnant women, and in some cases all fertile women, from potentially hazardous jobs.

Although these events raise serious questions about chemical hazards in the computer industry, they also dramatize the larger issue of the link between workplace hazards and human reproductive failure. At the same time, the practice of excluding women from jobs raises troubling questions. Are dangerous substances in the workplace in fact more threatening to pregnant women than to other workers? Is the fetus at risk only through the mother, or is a father's exposure of equal concern? What is industry doing to mitigate the hazards?

Actions like A.T.&T.'s are "just an excuse not to clean up the workplace," says Marvin Legator, a geneticist at the University of Texas at Galveston and a leading researcher on reproductive hazards. "The driving force behind such policies is the fear of lawsuits."

The government estimates that 15 million to 20 million jobs in the United States expose workers to chemicals that might cause reproductive injury. According to the National

Institute for Occupational Safety and Health (NIOSH), 9 million workers are exposed to radiofrequency/microwave radiation, which causes embryonic death and impaired fertility in animals; at least 500,000 workers are exposed to glycol ethers, known to cause testicular atrophy and birth defects in animals; and some 200,000 hospital and industrial employees work with anesthetic gases and ethylene oxide, both linked to miscarriage in humans.

No one knows how often workers suffer miscarriage or infertility due to chemicals in the workplace, or how many of their children are born with defects, but in 1985 the Federal Centers for Disease Control called human reproductive failure a "widespread and serious" problem, and one of the ten most prevalent work-related diseases.

At the same time, government statistics and university studies show a marked, and as yet unexplained, increase in reproductive disorders. Of the sixteen major birth defects monitored by the Centers since 1970—including heart, limb and brain deformities—seven have increased at rates ranging from 20 percent to 300 percent. Infertility is widespread, with one in every six American couples involuntarily infertile, unable to conceive after one year of trying. And numerous studies show a drop in both the quality and quantity of sperm, with some research suggesting a decline of 80 percent in just fifty years. No one seems to be able to explain the meaning of these statistical anomalies. Some experts believe variations are due to better and more conscientious reporting. Others say record-keeping techniques haven't improved enough to account for changes of the magnitude now being discovered.

Moreover, there is a growing list of "clusters"—the increased incidence of a particular reproductive disorder discovered in small communities and workplaces. At one semiconductor plant in New Mexico, 200 miscarriages were reported in a one-year period. At least twelve miscarriage clusters have been observed in the United States and Canada among workers who use video display terminals, which emit low-level radiation. Farmworkers exposed to pesticides have been the subject of investigations into birth defect clusters; and miscarriage and birth defect clusters have been reported among laboratory and hospital workers who use toxic chemicals and gases. "Workers frequently report they have recognized a cluster or an unusual number of reproductive problems," says Mike Silverstein, assistant director of health and safety for the United Automobile Workers. "It's less frequent that scientists undertake a study to find out what's going on."

A major source of funding for scientific research comes from the government, but studies examining the effects on reproduction of pollution or workplace hazards aren't a priority for the Reagan Administration. Researchers at the Centers for Disease Control have for years complained that the White House Office of Management and Budget has

Workplace hazard - excuse... cont'd

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researchers at the Harvard School of Public Health and the Mount Sinai School of Medicine to study the O.M.B.'s pattern of rejecting research proposed between 1984 and 1986. The final report, completed in September for the House Committee on Oversight and Investigations, found that the "OMB has delayed, impeded and thwarted governmental research" on environmental and occupational issues, and exhibited a pattern of "demonstrable bias" in its review of the Centers' research. The O.M.B. repeatedly refused to fund studies on reproductive hazards, the researchers said.

Funding inadequacies aside, there are other obstacles to understanding the link between toxic substances and health—among them, ignorance about the effects of industrial chemicals. According to Dr. Philip J. Landrigan, one of the authors of the O.M.B. survey and director of the division of environmental and occupational medicine at Mount Sinai, "too few chemicals are adequately tested for

suspected of interfering with reproductive processes. And scientists believe that approximately 90 percent of all substances known to cause cancer also cause genetic mutations.

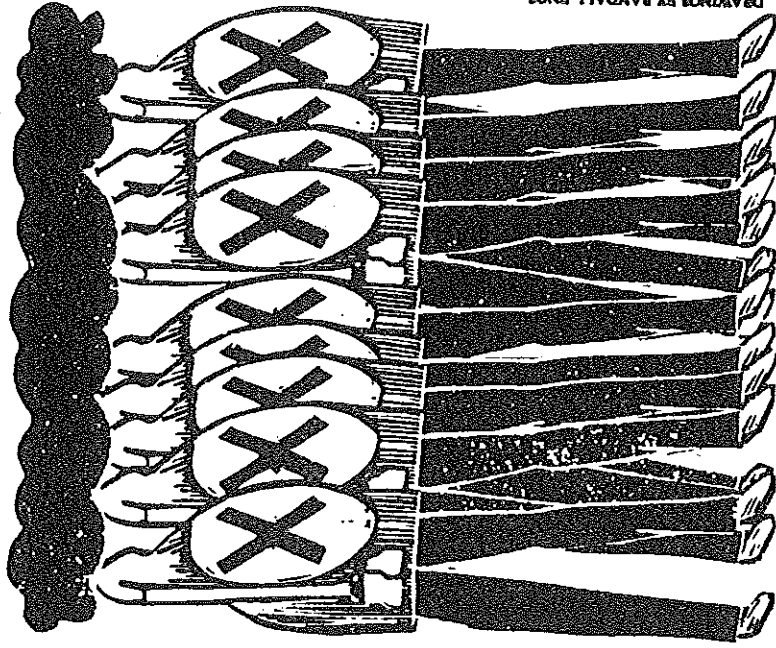
Federal law does not require chemicals to be tested for reproductive risks before workers use them. And without comprehensive toxicity tests to link exposure and deleterious health effects, there is little basis for the government to regulate. Of the more than 59,000 chemicals on the Registry of Toxic Effects of Chemical Substances compiled by NIOSH, the Occupational Safety and Health Administration has developed safety standards for only twenty-three substances, four of which are regulated for hazards to human reproduction.

Meanwhile, industry has come up with its own solution. Many large corporations have adopted exclusionary policies, often referred to as "fetal protection policies" or F.P.P.s, designed to protect unborn children. Like A.T.&T., a number of firms bar pregnant or fertile women from areas where there is a potential reproductive hazard. Other companies offer job transfers to pregnant women who feel they are at risk, although often without guarantee of equal pay. In a few extreme cases, firms have restricted employment to women who can present medical evidence of sterility. And some firms hire only men for certain jobs.

No one disputes that the fetus is extremely sensitive to toxins and that certain chemicals damage the developing child. Those chemicals, known as teratogens (derived from the Greek word *terato*, meaning "monster"), act only after the sperm has fertilized the egg, crossing the placental barrier to damage the fetus, causing birth defects. But research shows that toxins can affect human reproduction in other ways. Gametoxins decrease or damage sperm or ova, reducing fertility. Mutagens have no visible effect on parents, but damage the genes that are passed along to children and future generations, resulting in birth defects, cancer or other disorders. Other substances alter menstrual cycles or destroy sex drive.

In 1985 an Environmental Protection Agency study of data for nineteen pesticides and five industrial chemicals found no cases in which damage to the fetus was the only documented effect, implying, the study said, that attempts to protect only women from teratogens were misguided. The study, prompted by criticism of the E.P.A.'s gender-specific approach to regulation of reproductive risk, concluded that "if a pesticide is extensively tested for health effects, it is likely to show additional positive effects other than teratogenicity." Thus, teratogenic effects almost always occur in tandem with reproductive, genetic and carcinogenic effects.

No one knows precisely how many companies have F.P.P.s. Although the computer industry is now in the spotlight, the government believes exclusionary policies are most prevalent in the lead, chemical, petrochemical and oil refining industries. Firms that reportedly have such policies are Dow, Du Pont, Allied Chemical, B.F. Goodrich, Union Carbide and Monsanto. A 1985 report by the Congressional Office of Technology Assessment found that at least fifteen major U.S. corporations and numerous hospitals have formal F.P.P.s. Critics suspect many more companies have un-



toxicity before they get on the market," making it difficult to substantiate cause and effect at cluster sites. Landrigan points to a 1984 study by the National Research Council that found that in a random sample of the 55,000 or so pesticides, chemicals, drugs and cosmetics in commercial use, less than 20 percent had enough toxicity data to assess fully the effects on humans. Based on that sample the council said that only 6 percent of all chemicals in commercial use had been tested for reproductive effects and only 9 percent had been tested for genetic effects.

There is some data on chemicals that cause reproductive injury. NIOSH reports that at least fifty widely used industrial chemicals, including heavy metals, solvents, pesticides and chemical intermediates like vinyl chloride, cause reproductive failure in animals. Scores of other chemicals are

written policies and that their use will increase as scientists reveal how reproductive health is threatened by a chemically complex workplace.

"Every company in every industry has some sort of a pregnancy policy," said Sheila Sandow, a spokeswoman for the Semiconductor Industry Association, a trade group that represents U.S.-based semiconductor manufacturers. "Pregnancy is a condition that warrants special attention as a protective measure. If you drink and you're pregnant, you should stop drinking; if you smoke, you should stop smoking." And in some cases, if you work, you should stop working."

That attitude angers critics because it assumes fetal harm occurs through maternal exposure alone. But a growing body of evidence suggests otherwise. Men who manufactured the pesticides DBCP and Kepone, for example, became sterile or fathered deformed children. The wives of men exposed to vinyl chloride suffered a high incidence of stillbirths and miscarriages. Many male veterans of the Vietnam War believe the defoliant Agent Orange caused their children's birth defects.

There is also evidence that male reproductive failure is connected with carbon disulfide, methylene chloride, EDB, arsine gas and the category of chemicals known as glycol ethers, which are widely used in the semiconductor industry. An OSHA study found that of the twenty-six chemicals from which industry reports it bars women of child-bearing age, twenty-one also cause male infertility or genetic damage.

Because so many substances also affect men, critics see industry's exclusion of women as both sexist and expedient. They point out that F.P.'s are most common in industries in which women are new to the work force. The same chemicals are used in the garment industry, in hospitals and in dental offices, where the work force is mostly female, yet no one considers protecting the fetus by excluding women from those areas.

Jean Berlin, an attorney for the American Civil Liberties Union, and other labor experts argue that fetal policies violate two key Federal laws. Because F.P.'s suggest the workplace is unsafe for the fetus, they counter the Occupational Safety and Health Act, which entitles "every working man and woman" to a "safe and healthful" workplace. The policies also violate Federal discrimination laws, critics say, because they treat men and women differently "without convincing justification." In legal tests to date, the courts have ruled that exclusionary policies are discriminatory unless companies can demonstrate that the chemicals in question are uniquely hazardous to the fetus—proof that is almost impossible to provide.

Federal rules designed to guide employers in developing nondiscriminatory policies that protect both men and women from reproductive hazards were proposed by OSHA, the Labor Department and the Equal Opportunity Commission during the Carter Administration. But the controversial guidelines, strongly opposed by industry, were permitted to die after Reagan took office. In the absence of Federal regulation, unions have taken the issue to court. The U.A.W., for example, is suing Johnson Controls, because the company's mine battery-making plants exclude

all women "of childbearing capacity" from jobs that expose them to lead unless the women can demonstrate they cannot become pregnant. Although the company says its policy protects the fetus, the class-action suit, filed in a Federal District Court in Wisconsin, claims the policy is discriminatory. U.A.W. attorneys point to medical evidence that lead harms both the male and female reproductive systems. They are requesting reduced exposure for all employees.

Another lawsuit, filed in Federal District Court in Texas, charges that the Rio Grande Cancer Treatment Center discriminated against a female radiation therapist. The hospital fired the highly qualified nurse when she became pregnant, saying that exposure to X-rays could cause miscarriage, birth defects or genetic damage. But the lawsuit alleges that there is ample evidence that the risk of such damage from radiation is often higher for men. Attorneys for the nurse say the hospital could have protected her with a temporary job transfer or by carefully monitoring her radiation exposure.

Currently environmentalists are investigating whether to sue the government over its revised regulation of the pesticide dinoseb. The E.P.A. issued an emergency ban of the chemical last October, saying it posed a "very serious risk" of birth defects and male sterility for farmworkers. But on March 30 the agency reversed its decision, saying that dinoseb could be used on certain crops as long as women of childbearing capacity under the age of 45 were excluded from mixing, loading or applying it.

In the end, labor experts say the only acceptable solution is to reduce toxic exposure to levels that are safe for all workers. Ideally, that would be accomplished through both increased funding for research and workplace-safety laws. But for now, labor and environmental groups say they will continue to sue. Ironically, should rulings favor industry, female workers will be forced to fight for the right to share with men equal access to reproductive toxins. □

WHITES ONLY

Voting in South Africa

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On May 6 white South Africa will go to the polls to elect its parliamentary representatives and the country's rulers. In downtown Cape Town, I saw a banner that read, "If voting could change the system, it would be illegal." That, as far as it goes, is the last word on the coming elections, which have not the remotest possibility of changing the government, much less the system. The elections, however, do afford a rare public glimpse of the inner machinations of South Africa's rulers.

David Lewis is an organizer in South Africa's black anti-apartheid movement.