

WOHRC NEWS

WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER
SCHOOL OF PUBLIC HEALTH
COLUMBIA UNIVERSITY

Groups Protest Possible Change in EPA Standard

WOHRC has joined the Women's Rights Project of the American Civil Liberties Union, the NOW Legal Defense & Educational Fund, the Environmental Defense Fund and other groups listed below in protesting any attempt by the EPA to issue a new radiation exposure standard which will once again include a sex-based protection standard.

Having been advised that such a change was being contemplated by the EPA acting for itself and other agencies, WOHRC joined the ACLU and other concerned groups in addressing a strong letter to EPA Administrator William Ruckelshaus asking that he either reject such an attempt outright or at the least, request a renewed inquiry on this issue.

The letter noted:

"As a group, we have rejected proposals which contain differential, sex-based standards on the unproven assumption that the fetus is uniquely susceptible to injury from occupational health hazards. Such an approach may instead inadvertently reflect and reinforce stereotypes about pregnancy and unnecessary paternalism towards pregnant women.

"A twin evil is the effect of such an approach on male workers and their future children. In fact, males may be uniquely vulnerable to reproductive injury from occupational hazards such as low-level ionizing radiation exposure, and this fact may have profound adverse implications for them and their future children's health. Children whose fathers are exposed to low-level ionizing radiation face a known quantifiable risk of genetic or chromosomal aberrations. This risk is as well or better documented as the risk posed by low-level radiation exposure of the fetus in utero. There is thus no basis for heightened protection only for pregnant workers..."

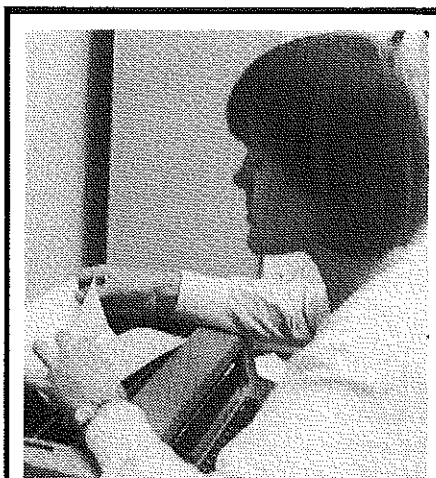
The letter summarizes the scientific data—or more particularly, the lack of data supporting a sex-based standard—and concludes that "equal exposure levels for both male and female prospec-

tive parents would not present difficult practical problems since the vast majority, 95% of all radiation workers, experience annual exposure less than those recommended for pregnant women. As a result, the regulation could easily include those men planning to father children in the same group as pregnant women and recommend that in each case exposure be kept below the .5 rem level, where 95% of all workers are ordinarily maintained."

The letter recommends that the remaining five percent of radiation workers, most of whom are male, should reduce their exposure when they are planning to have children.

The letter concludes with an offer to work towards an equitable, "state of the art," standard.

Other groups signing the letter include: *the National Women's Political Caucus; the American Nurses' Association, Planned Parenthood Federation, Equal Rights Advocates; Women Employed; Coal Employment Project; Reproductive Rights National Network; American Federation of State, County & Municipal Employers; Oil, Chemical and Atomic Workers International Union; United Automobile, Aerospace and Agricultural Workers.* □



Carbonless copy paper is useful but may involve potential hazards. See page 5.

•• News Briefs ••

• **END-OF-YEAR UPDATE:** As 1984 draws to a close, members of the advisory panel are meeting in December to review the draft of an Office of Technology Assessment report on the assessment of reproductive hazards at work. The report, an important document that will be used by legislators, is expected to be issued in 1985.

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• **ALTHOUGH** New Jersey's controversial right-to-know law on chemical labeling took effect on Aug. 29, the state must now conduct a survey of all sources of exposure and labeling before taking any definitive action on posting or publishing the affected chemicals. Industry had fought the statute arguing that under the Occupational Safety and Health Act, states may set their own regulations only with OSHA approval (an issue discussed in the August/Sept. 1984 WOHRC Newsletter).

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• **"ASBESTOS AND YOUR HEALTH"** is the title of a slide tape show produced by the Maryland Committee on Occupational Safety and Health. Covering the history of asbestos medical research, the link with cancer and preventative measures, the twenty-minute show is available for \$100 from MaryCOSH, 305 W. Monument St., Baltimore, Md. 21201.

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• **TO REPLACE** the usual "gripe sessions" at lunch, 9-to-5, the National Association of Working Women, the Coalition of Labor Union Women and the Tennessee Committee on Occupational Safety and Health, have been holding a series of "brown bag" lunch sessions on such topics as career development for clericals, sex discrimination on the job and the issue of safety at the VDT screen. An "Office Workers Survival Conference" featuring WOHRC Director Dr. Jeanne Stellman as a speaker also was planned for Nov. 17 in Nashville. □



Canada

This past October in Winnipeg, the Canadian Labour Congress held the latest in a long series of National Conferences on Health and Safety which have become the focal point for national labor action to prevent disease and injury in the workplace.

In planning the 1984 conference, the organizers noted, "recently a number of issues in the field specifically of occupational disease, its prevention, monitoring and control have come to public attention. Some of these issues are new; others have been around for some time. They form the topics of the main presentations and the workshops. It is important that we understand the issues, organize a plan of action and fight collectively to turn these issues into effective schemes for the prevention of occupational disease."

The conference, which was held Oct. 9-12, began with a radiation education day. Collective bargaining and legislative exposure limits (a topic highly relevant to U.S. concerns, see story on p. 1), and medical surveillance of radiation workers were among the subjects.

On the following days, diseases arising from poor workplace design, reproductive hazards, and the many issues of necessary legislation—everything from control of chemical testing to right-to-know legislation—was on the agenda. □

Japan

In recent years in the U.S. there has been much concern and publicity about the possibility of young children swallowing flakes of peeling paint containing lead. Absorption of lead, particularly by the young can have serious physical effects including neurological effects and blood disorders. Now a report from Japan documents the special lead hazard for children living in a pottery producing area.

The investigation carried out by scientists from the Gifu University School of Public Health focused on the levels of lead exposure of three-year-olds and their mothers in a pottery producing area and the levels of lead exposure of three-year-olds whose parents worked at pottery-making in the home.

While other investigators have called attention to the lead risk of children living in a polluted industrial area and a few studies have shown that young children living near a smelter have a higher risk of lead exposure than adults living in the same area, according to the authors this is the first study to compare the comparative lead risk of children and young adults in the same household.

Noting that children come into contact with surface dust or soil whether playing indoors or out, and children exhibit much hand to mouth activity and are less likely to wash their hands frequently, the Gifu team was able to show a higher urinary lead level for children than their parents. Furthermore, children whose parents worked at pottery had a higher urinary lead level than their playmates who merely lived in a pottery-producing area. □

South Africa

A recent report from the Industrial Health Research Group (IHRG) at the University of Cape Town shows multifaceted activity in research, education and consultant work in the field of occupational health. Much of the IHRG effort is directed towards the needs of the independent Black Trade Union movement. Among the workers served are food and canning workers, mineworkers, motor assembly workers and brewery employees. The IHRG also maintains contact with the South African Society of Journalists in Cape Town.

In the past four years, the group has been consulted on such topics as spray-painting, industrial noise, work in hot environments, the impact of such substances as silica dust, sulphuric acid, lead and talc. The group also provides information and commentary on intended, new and amended legislation and regulations. When IHRG survey work turns up occupational diseases not on the schedule of compensable diseases, notice is given to the appropriate governmental authority. For example this year IHRG asked that occupational asthma be included as a compensable disease in certain industries, most especially the grain-milling industry.

The IHRG also runs educational training programs in cooperation with various unions. For example a pension bargaining course was held with representatives of the stevedores.

IHRG scientists and personnel have participated in survey work on such problems as asbestosis, silicosis and byssinosis. □

Legally Speaking . . .

More on the Cyanamid Case

By Mary Sue Henifin

The District of Columbia Court of Appeals held, on August 24, that the Occupational Safety and Health Act "cannot be stretched so far as to hold the sterilization option of [American Cyanamid's] fetus protection policy is a 'hazard' of 'employment'."

The case arose out of the company's 1978 policy that required all female employees under 50 at its plant in Willow Island West Virginia, to show proof of surgical sterilization as a precondition for working in its lead pigment department. Five women had sterilizations to keep their jobs.

The Oil Chemical and Atomic Workers

Union argued in the case that this policy violated the OSH Act's General Duty Clause that requires employers to provide workplaces "free from recognized hazards that are . . . likely to cause death or serious physical harm."

The court reasoned that although the "policy may be characterized as a 'hazard' to female employees" and that sterilization can be a "serious physical harm," the General Duty Clause applies only to hazardous materials and processes.

The court accepted, without comment, the company's unsupported argument that it could not reduce airborne lead to a

level "that posed an acceptable risk to fetuses." Nor did the court examine the over-breadth of American Cyanamid's policy, which covered all women of child-bearing age whether or not they were planning pregnancies. Selectively quoting from OSHA's lead standard, the court ignored provisions of the standard that require the same protective lead levels for both men and women workers who plan to parent children, based on sperm vulnerability to lead.

Joan Bertin, a lawyer at the American Civil Liberties Union, who won an out-of-court settlement for the women who were sterilized, in a case based on employment discrimination, fraud, and other claims, described the decision as "extremely disappointing. The court failed to examine the facts of the case and the law." □

WOHRC FACT SHEET



WOMEN'S OCCUPATIONAL HEALTH RESOURCE CENTER

WORKING WITH ANIMALS

There are a myriad of jobs involving contact with birds, fish or animals, large and small. Although working with animals seems less threatening than working in a coal

mine or with chemicals, the reality is that contact with the animal kingdom has the potential for health risks. Here we examine these rather special occupational hazards.

One doesn't have to be a lion tamer or an underwater scientist studying sharks to be a candidate for possible health risks because of a job involving animals. The county dog catcher, workers who clean cages in laboratories, agricultural workers, men and women who fish for a living and even a food handler making sausage with meat from an infected hog are among those who encounter very real hazards because of contact, whether direct or indirect, with the animal world.

While a lot of attention is paid to the safety of the lion tamer or shark watcher, there is very little clamor about the safety of people doing more mundane work with animals. Nonetheless, debilitating allergic or immunological reactions, the danger of exposure to infectious agents or anesthetic gases, physical injury such as bites and muscle strain and job stress are part of the picture.

Adverse Reactions

Working with animals often entails exposure to organic matter which can set off allergic or immunological reactions. This is somewhat different from more familiar occupational health situations. For example, a coal miner may develop a respiratory ailment that is the lung's response to an irritant, coal crystals, whereas, a snow crab processor who develops asthma is displaying an allergic response to organic matter. In the fishery industry, occupational asthma has been documented in oyster, prawn and fish-processing workers and this year, a study from Quebec showed, "a highly significant correlation between a positive skin test to crab extracts... and occupational asthma, rhinitis and/or skin rash at work..."

Since the development of confinement rearing of animals, human beings are

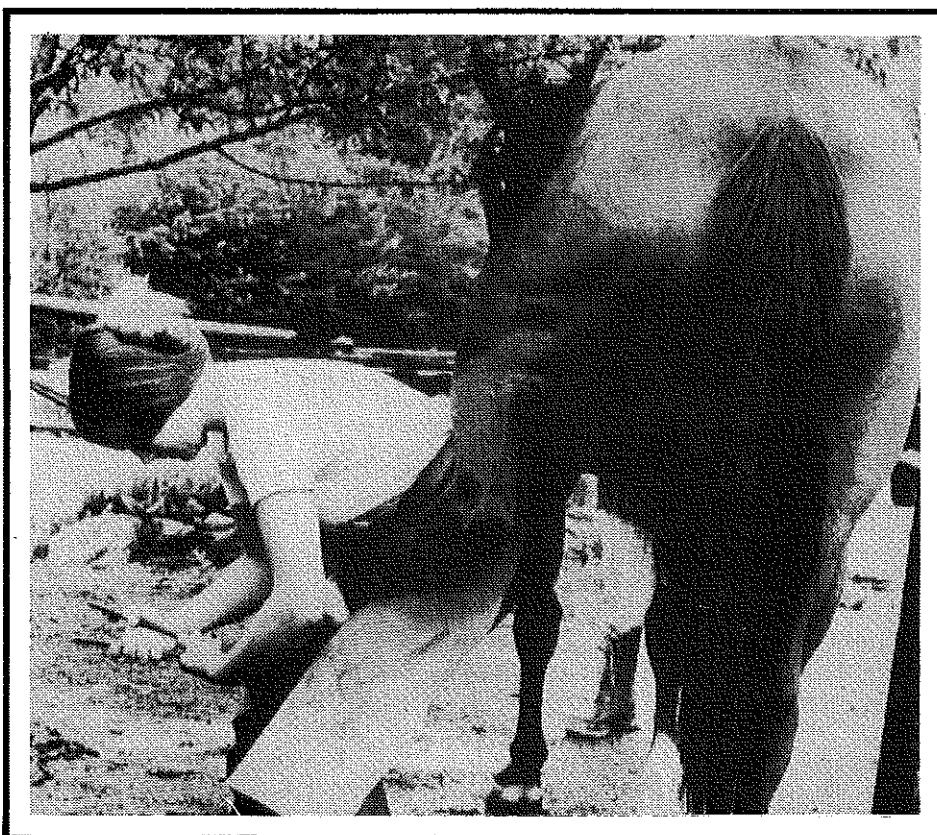
being exposed to massive amounts of organic matter. For example, in the last ten years, there has been a surge in confinement rearing of swine. It's estimated that some 500,000 people are involved in tending swine in a closed work environment. Earlier this year a team of researchers in Iowa reported what they consider, "an emerging occupational health hazard" associated with such work.

Based on reports from workers complaining of bronchitic symptoms as well as symptoms consistent with asthma, hypersensitivity pneumonitis, airway obstruction and acute respiratory distress, the scientific team studied pulmonary function among such workers before and after a four-hour work shift and compared their lung functioning with office workers or students with no prior exposure who were put into the work atmosphere for the purposes of the study. The air in the swine confinement area also was analysed for contaminants such as particles and gases which were confirmed.

The study found declines in lung function in both groups but the decrements were more pronounced in the swine workers.

There are some other facts to keep in mind in considering adverse effects resulting from exposure to animals. The first is the fact that even when damage is not obvious—and some ill effects can take a long time to develop—the body is reacting. For example, a study done in Denmark showed antibodies to hen and duck antigens in poultry workers. In silence, these workers' immunological systems were setting up a defense reactions to a threat.

People also differ in their reactions. For example, a bee sting that might cause one person pain and swelling might lead to extreme reactions in another person. For example, a study done in Ohio, suggested a cause-and-effect relationship between the development of neurological symptoms including seizures and insect stings.



Another point to keep in mind is the fact that some workers who deal with animals are vulnerable to combined adverse effects because of their occupational environment. For example, on the farm there are a host of potential hazards—pollens, animal dander, grain dust, mold spores, inorganic dusts, ammonia fertilizers, insecticides, herbicides, motor fuels and nitrogen oxides and putrifactive gases. These multiple insults lead to the fact that in general, farmers are more likely than other occupational groups to suffer respiratory conditions.

Dangerous Exposures

Exposures to waste anesthetic gases and vapors and the potential for contracting zoonotic (animal-to-human) disease are very real hazards facing those who work with animals.

In recent years evidence of ill effects from waste anesthetic gases—headache, nausea, renal and hepatic disorders, cancer, behavioral change, reproductive effects—has accumulated in data from different occupations. NIOSH estimates that some 50,000 veterinarians and their assistants are routinely exposed to waste anesthetics.

Zoonotic disease is a very real hazard for those who work with animals no matter what the setting or how unorthodox the pattern of transmission.

For example, Q fever is a disease of people who work in contact with such livestock as cattle, goats and sheep—agricultural workers. Recently, the Canadian Medical Association Journal reported a study prompted by the fact that Q fever had become endemic in the province of Ontario. Instead of concentrating on farm workers, the investigators focused on personnel at a research institute where sheep were used for perinatal studies. The investigators were able to document an outbreak of Q fever which, despite considerable illness—Q fever resembles the flu—went undetected in a hospital!

In another study, one done by the Bacterial Diseases Division of the Centers for Disease Control, it was noted that an outbreak of Salmonella heidelberg among infants in a hospital nursery could be traced to a woman who had contact with infected calves while she was pregnant. The woman transmitted the infection at birth to her own baby who passed it along to its companions in the nursery.

Even if a particular animal is not ill or a particularly effective "reservoir" for an infectious agent, transmission can occur. For example, people can contract spotted

fever in the seemingly helpful and harmless act of de-ticking their dogs. Ticks may be crushed and the fingers may become contaminated. Infections through abrasions in the skin or rubbing the eyes have been known to occur in humans.

NIH Program

Since animal research is so vital a part of worldwide scientific effort, and exposure to infectious agents is part of the job, it's useful to look at the Animal Handlers Medical Surveillance Program in force at the National Institutes of Health in the Washington D.C. metropolitan area. Devised over the last several years by the Occupational Medical Service, Division of Safety, and the Veterinary Resources Branch, Division of Research Services to protect employees as well as to protect an estimated population of some 4,200 animals—everything from dogs to chimpanzees—from diseases carried by humans, the program is quite complex and involves several stages. For humans this means careful pre-employment examinations, immunizations, follow-up monitoring and, if needed, care for work-related acute illness and injuries. For many of the animals—large research animals and selected rodents and rabbits—it means quarantine to reduce the risk of zoonotic diseases such as tuberculosis, rabies, salmonellosis.

High Risk Groups

There are an estimated 10,000 animal control officers in the U.S. While it is their work which contributes much to public health, little attention is paid to the hazards they themselves face. This fact led to a study in New Mexico reported this year in the American Journal of Public Health. One hundred and two full-time animal control officers were contacted. About one-fourth of them were women. These were people used to dealing with such animals as dogs, cats, bats, skunks, raccoons, foxes, mice and rats among others.

The animal control officers were found to be at a clear increased risk of animal bites.

According to the researchers, extrapolation of this data suggests that each year over 50,000 animal bites might occur to full-time animal control officers in this country. They conclude, "assessments of animal control personnel bite experience, including rabies exposures, should be performed in other areas."

Rabies is of course a significant hazard in work involving animals. It is important therefore to note that in a study reported in "The Lancet" last spring, human diploid cell vaccine, whether given intramuscularly or by automatic intradermal

jet injection, failed to produce antibody levels predicted by earlier studies. This finding is of interest because human diploid cell vaccine is more immunogenic and significantly less toxic than earlier rabies vaccines.

While the health risk to veterinarians is scarcely a new subject, the familiarity of danger can lead to forms of denial or mistaken diagnosis. For example in a case reported this year in California, a veterinarian thought he was suffering from flu and failed to seek treatment. He actually was suffering from bubonic plague. Not only were his chances for survival reduced by his delay, nearly sixty people with whom he had face-to-face contact were in danger. Awareness of risk is clearly one of the requisites of working with animals! □

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Formaldehyde Still in the Headlines

As 1984 draws to a close, the health risk of formaldehyde exposure and the need for control remain a focus of controversy. Currently, Federal courts have ordered OSHA to review a petition for an Emergency Temporary Standard that the agency rejected, and the EPA reviewing the position of formaldehyde on its toxic substances list.

In 1983, the United Automobile Workers petitioned the U.S. District of Columbia Circuit Court for an order to force OSHA to issue an ETS. While such an order has now been handed down, in an article in "Industrial Safety & Hygiene News," Dr. Mark Silverstein, UAW occupational health physician, notes, "there is good and bad in the decision...the

For a complete description of formaldehyde use, health risks and issues of control, sent \$1 for a WOHRC Fact Sheet published in Spring 1984.

unfortunate part is that after waiting two years, they simply bounced it back to the agency. The court also failed to set a deadline for the agency. I think that's a terrible judicial mistake given the history of an agency which has consistently and deliberately delayed regulatory action. We are asking the court to set a deadline and the issue isn't closed yet."

In industrial situations, formaldehyde exposure can result in irritation of the eyes, nose and upper respiratory tract,

Continued on p. 6

Carbonless Copy Paper Magical or Malevolent?

By Jeanne M. Stelman, Ph.D.
Executive Director, WOHRC

Several years ago researchers at the Department of Environmental Health at the University of Washington responded to complaints of eye, skin and respiratory problems among the office workers in many diverse settings around the University. They carried out interviews, performed air samples and discovered an unexpected possible source of the problems—the formaldehyde emitted from carbonless copy paper. In fact, when they sampled the air in some of the filing cabinet drawers where the forms had been separated and stored, they found formaldehyde levels as high as 0.551 parts per million!

Carbonless copy paper works on a simple principle. One sheet of the paper contains numerous microcapsules which hold a mixture of solvent and other chemicals. As the physical pressure of writing or typing is exerted on the paper, the microcapsules under the pressure points burst and release their chemical contents which then react with the second sheet of paper. As if by magic the image of the writing appears in exactly the pattern as the original pressure lines.

But the magic loses some of its glamor and intrigue when we look more closely at potential side-effects of this technological advance in office copymaking. Formaldehyde, for example, can be irritating and even cause severe responses in some people. (There is no evidence associating carbonless copy paper with cancer, nor, given the low doses and the relatively short period of time it has been used, would it be possible to even investigate the question. The likelihood of detectable increased cancer risk from carbonless copy paper is remote.)

In investigating further the question of carbonless copy paper, I happened upon another startling fact. Up to 1971 the microcapsules of carbonless copy paper contained PCB's, polychlorinated biphenyls, those toxic, persistent and all too ubiquitous chemicals which have since been banned from such use by the Environmental Protection Agency. Levels as high as 7% PCBs could be

found in carbonless copy paper.

Still more amazing, under a grant from the Department of Energy, scientists at Iowa State University linked the PCBs they were finding in the effluent from refuse-burning power plants with the high levels of PCBs found in recycled waste paper. They pinpointed the PCBs in the carbonless copy paper used more than a decade earlier, as a major source of the PCBs in recycled paper, especially paperboard.

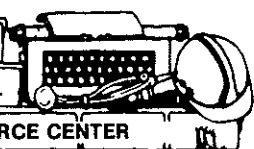
Here again, it is not possible to link human disease and disability with these PCBs. It may not be occurring—we don't have the means at our disposal to tell. But it is sobering to consider the chain of technological events that has led to the problem. And it is certainly sobering to consider that tens of thousands of office workers have unknowingly been exposed to PCBs, which are among the most toxic chemicals known, while carrying out the routine task of filling in multiple-part forms.

I live in Brooklyn, New York, not too many miles from a formerly busy industrial section, now an abandoned, depressed area. One of the largest abandoned factories was once in the business of manufacturing carbon paper. The empty building provides still additional silent testimony to another health effect of carbonless copy paper—unemployment and despair.

We can ask many profound questions about the way in which technology changes. How are decisions made about chemical ingredients? How are products tested? How do workers inform themselves about the nature of the materials they work with? How is an employer who purchases paper for the office supposed to fathom that employees may consequently come in direct contact with substances like PCBs? And what are the bases for making the technological and economic decisions that lead to the manufacturing of one product versus another?

These are questions for which we, as a nation, do not yet have ready answers. Perhaps the time to ponder these issues is now. □

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(Subscription information on page 6)

*Work History***Publicizing Hazards Before TV**

By Vilma Hunt

You may have seen on public television recently the hour-long dramatization of "The Water Babies", a children's story written by Charles Kingsley in 1863. You would not have known that occupational health was a critical element in its writing. The author was a well-known writer of novels and tracts which evidences his passionate sympathy for the poor, the afflicted and the weak.

His hero in "The Water Babies" is Tom, a little chimney sweep in England. The story ends with Tom returning to land and finding the master, Grimes, to whom he had been apprenticed, imprisoned in an chimney. Grimes says "Did I ask to be brought here into the prison? Did I ask to be set to sweep your foul chimneys? Did I ask to have lighted straw put under me to make me go up? Did I ask to stick fast in the chimney because it was so shamefully clogged up with soot?"

Why would such a story appear in the children's literature of a hundred years ago and what does it have to do with publicizing occupational disease? A great deal! In 1775 Percivall Pott, a London physician had reported that the occupation of chimney sweeping was associated with cancer of the scrotum. Coal dust acted as a carcinogen which caused fatal cancer by the time a boy had reached

adolescence or soon after. Not until 1814 was an act passed forbidding the climbing of chimneys by children, most of whom were 6 and 7 years old, small enough to fit in narrow flues. But by the 1860's the practice was actually increasing, due to lack of legal enforcement. Insurance companies were known to refuse coverage of those homeowners using mechanical means of chimney sweeping because of the belief that the climbing boys (as they were also called) were the best insurance against chimney fires. Eventually in 1875, after 100 years of effort by groups such as the Societies for the Elimination of the Necessity for Climbing Boys in many English cities, writers like Dickens, Tennyson, Blake and Kingsley, and politicians—England moved to enforce the licensing of chimney sweeps and the 1814 law to prohibit the use of climbing boys.

Cancer of the scrotum was the first medically defined occupational cancer. The cruelly abused victims were children, the country was part of the civilized 19th century world and the problem was 100 years in the solving. □

This year Prof. Hunt is a Mellon Research Fellow at the Massachusetts Institute of Technology.

FORMALDEHYDE*(Continued from page 5)*

causing sneezing, tearing, shortness of breath, difficulty in breathing, sleeplessness and nausea. There also have been animal studies documenting the carcinogenic potential of formaldehyde.

Formaldehyde exposure can occur in unexpected ways.

Recent Studies

In a study reported in the American Industrial Hygiene Association Journal, it was shown that there can be formaldehyde concentrations in workrooms because of off-gassing from flint sandpaper containing an urea-formaldehyde resin as the minor component in a double glue system.

The effect of being exposed to formaldehyde in a closed environment was underlined by a study reported this fall in the American Journal of Public Health. Sixty-five Wisconsin mobile home households volunteered for an assessment of indoor formaldehyde gas. Formaldehyde concentrations ranged from greater than 0.10 to 0.80 ppm, with the risk of ocular discomfort showing a positive dose-response relationship. The study was different because the households were chosen at random rather than being subject to investigation because residents complained of medical symptoms.

While these studies document the short-term effect of exposure, an important issue, the long-term effect, has not been addressed. □

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