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The CANCER SYNDROME

by Ralph W. Moss

What has gone wrong with the "war on cancer"—the massive government campaign against the disease that kills one American in five? This "war," waged largely by costly surgery, radiation therapy, and toxic chemotherapy, is at best at a stalemate, and at worst, lost. The traditional or the orthodox methods of treatment have arrived at a dead end.

The Cancer Syndrome is a critical investigation into the treatment of cancer. It discloses how the cancer establishment of research institutions, hospitals, medical associations, government agencies, foundations, and large corporations, often work in such a way that inadequate measures are taken and important possibilities are left unexplored.

By examining in detail six of the historically most innovative unorthodox methods of treatment—Laetrile, vitamin therapy, Coley's Toxins, Burton's immunology, the Livingston vaccine, and hydrazine sulfate—Ralph Moss also exposes the inner workings of the cancer establishment. His argument is not that a conspiracy exists to prevent the discovery of a cure or to suppress promising alternate approaches, but rather that the self-interest of these various agencies, institutions and practitioners is often at odds with new discoveries and the needs of the victims themselves. The book also details how the financial involvement of certain large corporations is in direct conflict with the attempt to identify and eliminate cancer-causing agents in

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the environment and how commercial motives direct which new drugs are developed while excluding the commonly available substances that cannot be patented or exclusively marketed.

The Cancer Syndrome offers no panacea, nor does it attempt to assign blame. But it does disclose the powerful forces that continue to pollute our environment with carcinogens, stifle radical new approaches to treatment, and lead to misleading expectations for cures. The book makes clear that only by understanding how we have reached the present impasse can we begin to redirect the enormous resources available to fight and achieve control over this dreaded affliction.



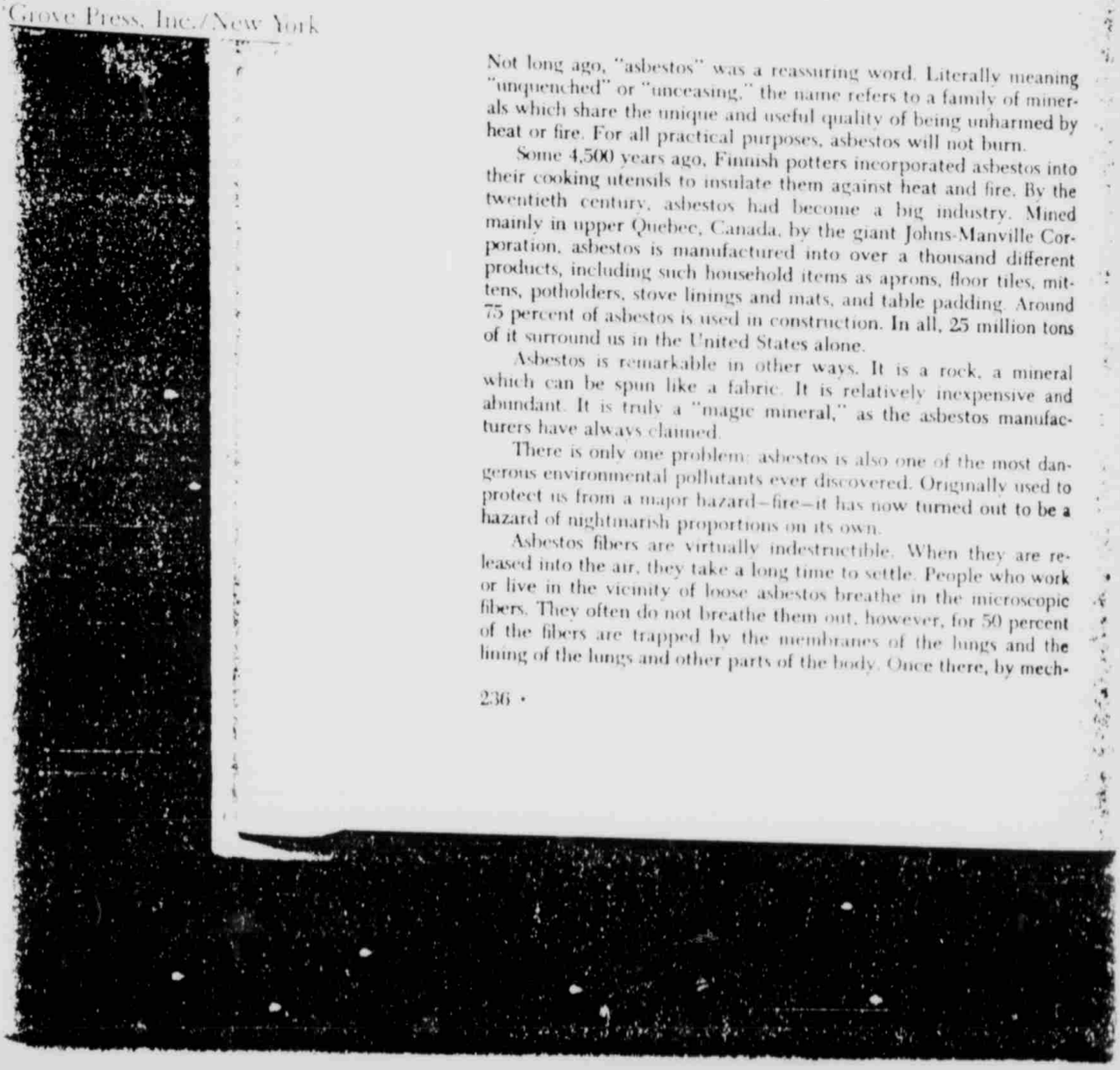
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A freelance writer living in New York City, Ralph Moss is former Assistant Director of Public Affairs at Memorial Sloan-Kettering Cancer Center. He is the author of numerous articles, many of them on cancer research, for such magazines as *Science Digest*, *The Progressive*, and *Science and Society*.

The Cancer Syndrome

RALPH W. MOSS

Grove Press, Inc./New York



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Asbestos: The Harvest of Death

Not long ago, "asbestos" was a reassuring word. Literally meaning "unquenched" or "unceasing," the name refers to a family of minerals which share the unique and useful quality of being unharmed by heat or fire. For all practical purposes, asbestos will not burn.

Some 4,500 years ago, Finnish potters incorporated asbestos into their cooking utensils to insulate them against heat and fire. By the twentieth century, asbestos had become a big industry. Mined mainly in upper Quebec, Canada, by the giant Johns-Manville Corporation, asbestos is manufactured into over a thousand different products, including such household items as aprons, floor tiles, mittens, potholders, stove linings and mats, and table padding. Around 75 percent of asbestos is used in construction. In all, 25 million tons of it surround us in the United States alone.

Asbestos is remarkable in other ways. It is a rock, a mineral which can be spun like a fabric. It is relatively inexpensive and abundant. It is truly a "magic mineral," as the asbestos manufacturers have always claimed.

There is only one problem: asbestos is also one of the most dangerous environmental pollutants ever discovered. Originally used to protect us from a major hazard—fire—it has now turned out to be a hazard of nightmarish proportions on its own.

Asbestos fibers are virtually indestructible. When they are released into the air, they take a long time to settle. People who work or live in the vicinity of loose asbestos breathe in the microscopic fibers. They often do not breathe them out, however, for 50 percent of the fibers are trapped by the membranes of the lungs and the lining of the lungs and other parts of the body. Once there, by mech-

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anisms still not understood, the fibers irritate the delicate cells, creating "asbestos bodies"—harmful lesions which are visible only under the microscope.*

If exposure persists, scarring of the lungs takes place. This condition is known as asbestosis. Eventually, after many years, scar tissue replaces healthy lung tissue. The victim progresses from persistent coughing to difficulty in breathing. Finally he dies—from a lack of oxygen or from heart failure, caused by the strain of pumping blood through the scarred lung tissue. It's a terrible death.

But asbestosis is only one of the dangers. The *main problem* is cancer. Lung cancer forms within and around the scar tissue. Another *form of cancer* attacks the linings of the lungs (mesothelial tissue). This is called mesothelioma. Once a rare disease, it has now become common among asbestos workers. Other kinds of cancer are also typical results of asbestos exposure.

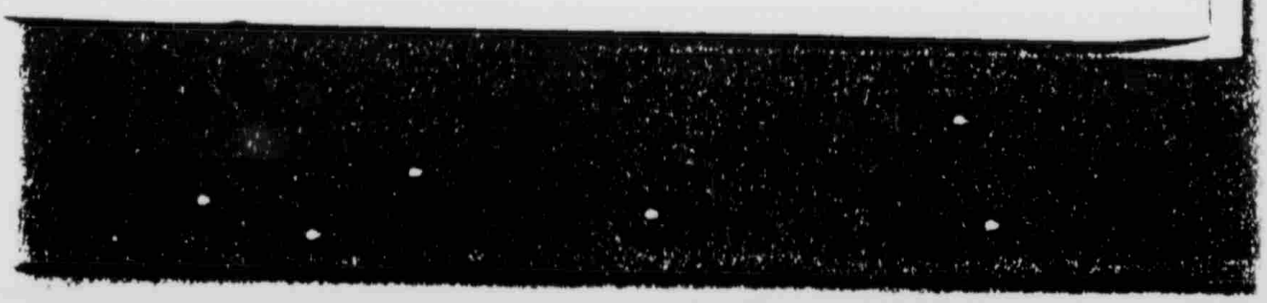
U.S. Department of Health, Education and Welfare statistics estimate that between 4 million and 8 million American workers may die of asbestos-related diseases. In fact, it was once thought that only asbestos workers were in danger of these diseases. It *is now known*, however, that people who have worked near asbestos, and even people *who have lived in proximity to it*, are also in danger. Since these diseases take a long time to reveal themselves, often as long as thirty years, the millions of workers exposed during and after World War II are only now beginning to show up in the cancer clinics.

"The harvest time of the disease has now arrived," said Dr. Philip Polakoff, a specialist in occupational medicine in Berkeley, California (cited in Weinstein, 1978). It is a harvest of death for thousands.

Equally frightening is the fact that almost all of us have now *been exposed* to asbestos to some significant degree. A high percentage of all urban dwellers have asbestos bodies in their lungs at autopsy—even if they never worked near asbestos (Brodeur, 1974). Government officials now state that 10 to 15 percent of *all* cancer deaths are due to asbestos alone.

Since the mid-1970s, government officials and scientists have begun to acknowledge the danger of asbestos and to warn those who were exposed to get *medical checkups*. These officials often add that science has only recently learned of this danger. This, however, is *not true*. The perils of asbestos have been known for many years. But few scientists spoke out on behalf of workers and the public, and

* Asbestos bodies are inhaled asbestos fibers that have been altered by the reaction of the lung tissue and coated with a substance rich in iron.



those who did were not listened to by the institutions which stood to gain from asbestos's continued use.

In 1900 a London physician first identified a new disease, which he called "asbestosis." The London doctor didn't even see fit to publish his findings in a scientific journal but simply passed his observations on to a government commission, where they lay buried for several decades (Kotelchuck, 1974).

The medical profession in the early part of this century may have been ignorant of this disease and the danger of asbestos. But the people most concerned with the production of asbestos were not unaware of its dangers. The records show that many workers quit their jobs in asbestos mining and manufacturing soon after being hired because they considered it dangerous. In 1918 U.S. and Canadian insurance companies stopped selling personal life insurance policies to asbestos workers—a clear indication that these companies were also well aware of the asbestos hazard. It is a fair assumption that the asbestos manufacturers also knew of the dangers (Brodeur, 1974).

In 1924 the medical profession rediscovered asbestosis, when Dr. W. E. Cooke reported in the *British Medical Journal* the untimely death of an asbestos worker. This thirty-three-year-old woman had been an asbestos factory worker since the age of thirteen. On autopsy, Cooke found massive amounts of asbestos in her scarred lungs. Eleven more cases of asbestosis were reported in Great Britain in the 1920s. American doctors at the Mayo Clinic and Yale University also reported cases of asbestosis among U.S. workers. In fact, by 1935, twenty-eight cases of asbestosis had been reported in the leading medical journals of Great Britain and the United States (Kotelchuck, 1974).

The British government responded by making asbestosis a compensable disease under their workmen's compensation acts and instituted safety rules. American asbestos manufacturers began a campaign to *prevent* the same thing from happening in the United States. Recently released internal documents show how the various giant manufacturers—especially Johns-Manville (J-M) and Raybestos-Manhattan—colluded to prevent the hazard of asbestos from being known.

In the early 1930s, for example, the editor of *Asbestos*, a trade magazine, wrote to Sumner Simpson, the president of Raybestos, asking if the time might not be ripe for an article on "dust control" in American factories.

The Raybestos president forwarded the letter to a top Johns-Manville attorney with the comment, "I think the less said about asbestos, the better off we are," a statement which neatly summa-

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rized the strategy and thinking of the entire industry in those years. He added, however:

> At the same time we cannot lose track of the fact that there have been a number of articles on asbestos dust control and asbestosis in the British trade magazines. The magazine *Asbestos* is in business to publish articles affecting the trade and they have been very decent about not reprinting the English articles (Weinstein, 1978).

On the specific request of the Raybestos president himself, Johns-Manville's lawyer wrote back:

> I quite agree with you that our interests are best served by having asbestosis receive the minimum of publicity. Even if we should eventually decide to raise no objection to the publication of an article on asbestosis in the magazine in question, I think we should warn the editors to use American data on the subject rather than English (ibid.).

"American data" on the subject was far less extensive than that of the British and, as shall be shown, much of it was paid for by the manufacturers and biased in favor of industry's position that asbestos was harmless.

In order to counter the anti-asbestos studies, Johns-Manville and Raybestos-Manhattan sponsored a study of asbestos workers carried out by doctors at a Metropolitan Life Insurance Company and the Department of Public Health at McGill University, Montreal. Although the study appeared to be an objective, academic report it was actually guided by the asbestos industry.

According to South Carolina Circuit Judge James Price, recently released internal documents show "written evidence that Raybestos-Manhattan and Johns-Manville exercised an editorial prerogative" over this Metropolitan Life study. In fact, Price has granted a new trial to the family of a dead asbestos worker after seeing these documents (ibid.).

Specifically, minutes of a meeting between a Metropolitan Life doctor—Anthony J. Lanza—and a Johns-Manville attorney and other industry officials on November 28, 1933, revealed that the attendees felt that Lanza's study "would be helpful to us, if favorable, in the event we should ever be involved in litigation" (ibid.).

Before Lanza finished his study, he dutifully sent it to industry officials for their comments before publication.

In a letter to Dr. Lanza in December 1934 the Johns-Manville attorney wrote:

> I am sure you understand fully that no one in our organization is suggesting for a moment that you alter by one jot or title [sic] any scientific

facts or inevitable conclusions revealed or justified by your preliminary survey. All we ask is that all of the favorable aspects of the survey be included and that none of the unfavorable be unintentionally pictured in darker tones than the circumstances justify.

I feel confident that we can depend upon you and Dr. McConnell to give us this "break" and mine and (others') suggestions are presented in this spirit (ibid.).

The Metropolitan Life study was conducted on Johns-Manville workers between 1929 and 1931, but was not published until 1935. ("The name of the game is not truth, of course, but delay," says David Kotelchuck, a student of the asbestos controversy [Kotelchuck, 1974].) A total of 126 workers in Canada and the United States were examined for signs of asbestosis. The authors did not conclude that there was any serious problem of asbestosis among J-M workers. In fact, they claimed that the workers appeared healthy and were not at all disabled.

So much for the conclusions. If one looks at the *actual data* in their report, however, it reveals that of the 126 workers examined, 67 definitely had asbestosis, 39 may have had it, and only 20 appeared free of the disease. Thus, 84 percent seemed to show signs of lung scarring (the positives plus the doubtful) and only 16 percent were definitely clear at the moment they were examined.

In addition, out of 121 physical examinations, 96 workers—or 79 percent—complained of persistent coughing and shortness of breath, the classic signs of early asbestosis. In response to this finding, the authors of the Metropolitan Life report state that "too much emphasis should not be placed on statements of subjective symptoms" (cited in ibid.).

This study was then quoted by the United States government as proof that asbestosis was *not* a serious health hazard. In fact, the U.S. Public Health Service published the Metropolitan Life study as an official government Public Health Report. "Few actions more clearly illustrate the interlock between industry and government," writes Kotelchuck (ibid.).

The asbestos companies were quite concerned that the United States would follow the example of Britain and make asbestosis a compensable disease under the Workman's Compensation Act. This had, in fact, been proposed in New Jersey. A J-M lawyer therefore wrote to Dr. Lanza:

> As it is the policy of Johns-Manville to oppose any bill that attempted to include asbestosis as compensable, it would be very helpful to have an official report to show that there is a substantial difference between asbestosis and silicosis [a similar disease caused by inhalation of silica dust]

and by the same token, it would be troublesome if an official report should appear from which the conclusion might be drawn that there is very little, if any, difference between the two diseases (Weinstein, 1978).

Dr. Lanza complied with these requests and never made any comparison between asbestosis and silicosis, which was recognized as a compensable disease. (Had asbestosis been recognized as compensable, the company might have been held liable for damages.) In fact, asbestosis did not become compensable in New Jersey until after World War II.*

But the problems of the asbestos workers were not over. In 1935 two doctors at the Medical College of South Carolina performed an autopsy on an asbestos worker and found lung cancer amid the scar tissue. By 1942 ten such reports had followed in the medical literature and it became known—at least among specialists—that asbestos also caused lung cancer in workers.

With this revelation the industry took a more aggressive policy. They commissioned a study in 1938 from scientists at Saranac Laboratory, an Adirondack tuberculosis sanatorium and research center with a long history of cooperating with industry. The asbestos manufacturers paid $15,000 to support the study, and the J-M attorney wrote to another industry official:

> It would be a good thing to distribute the information among the medical fraternity[,] providing it is of the right type and would not injure our companies (Weinstein, 1978).

The Saranac study, conducted by Drs. Arthur Vorwald and John Karr, simply dismissed the asbestos-cancer link by commenting that the workers found to have lung cancer were not a random sample of asbestos workers. They also had asbestosis. Perhaps, the scientists argued, there was some special relationship between asbestosis victims and lung cancer. The only way the asbestos-lung cancer link could be definitely proven was by carrying out a cancer study among a large number of asbestos workers, irrespective of any other disease.

But industry controlled the medical records of the asbestos workers, and it was not about to open these records to inquisitive scientists. Thus, the entire matter lay dormant for many years. Kotelchuck remarks:

> Scientists did not protest the industry's denial of access to this information or insist in their scientific papers that epidemiological studies be car-

* Dr. Lanza rose from assistant medical director at Metropolitan Life to chairman of the Institute of Industrial Medicine at New York University Medical School. He was the author of well-known textbooks on lung diseases, and remained a leading expert on asbestos until his death in the early 1960s (Kotelchuck, 1974).

ried out. True to their professional codes, they kept silent. So nothing happened—except 20 more years of growing profits for the asbestos industry (Kotelchuck, 1974).

And, it might be added, twenty more years of cancer for asbestos workers.

In 1956 the Quebec Asbestos Mining Association (QABA) commissioned a study from the Industrial Hygiene Foundation (IHF—now the Industrial Health Foundation). Based in Pittsburgh, the IHF performs research for industry and is basically pro-management.

The IHF study examined 6,000 Quebec asbestos miners' health records for evidence of lung cancer. They found none. However, they had ignored one of the cardinal principles of such studies: the twenty-year time lag between first exposure to an agent causing lung cancer and the clinical appearance of the disease. This is called the "twenty-year rule" for lung cancer. According to Dr. Irving Selikoff:

> For lung cancer the percentage of all deaths that occurred at 10 years or less was trivial; it was not until 25 years after onset of employment that deaths [from lung cancer] became common [among shipyard workers] (Selikoff, 1978).

These facts were certainly known to the authors of the QAMA report, for they themselves cite studies, by Hueper and others, which contain explicit reference to the "twenty-year rule." But by studying a relatively young group of workers, two-thirds of whom were between twenty and forty-four years of age, the industry-sponsored scientists were able to make the report come out favorable to the companies.

By the early 1960s, the asbestos health hazard began to receive increasing attention. A doctor in South Africa discovered a high incidence of mesothelioma among asbestos workers. This disease was once so rare that it was not even listed as a separate cause of death in the International Classification of Causes of Death. The best estimates, based on autopsy series, was that only one out of 10,000 people died of it.

But among asbestos workers it was soon found that 7 or 8 percent were dying of this cancer of the lining cells—somewhere around 1,000 times the number expected.

At about the same time, Dr. Irving Selikoff and his co-workers at Mount Sinai Medical Center in New York broke through industry's monopoly of health data on asbestos workers by going directly to the unions involved.

Selikoff's findings were a bombshell. He, too, found that among young workers there was little change in their X rays. "In the New

York area," he has said, "when we examined somewhat over a thousand asbestos insulation workers, we found that of the 725 with *less* than twenty years from onset of exposure, most had normal X rays." After twenty years, however, extensive disease began to appear with appalling frequency (ibid.).

In 1943 there were 632 men in a New York pipefitters union. All of them have been "followed" by Selikoff and his colleagues. By 1977, the outspoken physician told a medical meeting, "instead of the 330 anticipated deaths (given their ages in 1943) there were 478 deaths.

Why did some 150 people die who were not expected to die? Well, there should have been 56 deaths from cancer, and there were 210. Instead of 13 deaths from lung cancer there were 93. One out of every three asbestos workers dies of lung cancer. This is simply a disaster! (ibid.).

"Interestingly, too, instead of 15 deaths from cancer of the esophagus, colon, stomach and rectum there were 43—a modest increase," Selikoff adds ironically. "Obviously, anyone who inhales dust also tends to ingest it."

Selikoff next followed up this New York study with a more extensive report on thousands of asbestos pipefitters across the country.

On January 1, 1967 there were 17,800 men in the international union. By 1977, there were 2,270 deaths, instead of 1,661 expected. . . . Once again, instead of 320 deaths due to cancer there were 994 (ibid.).

Selikoff and his Mount Sinai colleagues were able to draw some lessons from these studies.

First, until this time it had been assumed that the main hazard of asbestos came from asbestosis. In fact, as late as 1968, government officials shrugged off suggestions of any other danger (Brodeur, 1974:23). But, says Selikoff, "the major excess [of deaths] was from cancer" (Selikoff, 1978).

So prevalent was cancer among asbestos workers, their family members, and even neighbors of asbestos plants that the Mount Sinai doctor remarks, ominously, "We're beginning to understand why one out of every four Americans—if things go as they are—will have cancer in his or her lifetime and why 20 percent of all deaths in this country are now due to cancer" (ibid.).

Second, not only workers are susceptible to the ravages of asbestos and other environmental hazards. *Consumers* of these products are also at danger, and with over 1,000 products made of or with asbestos, that includes almost everyone. In fact, says Selikoff, sometimes consumers are at greater risk than workers, since in a

factory carcinogens may be totally enclosed. There are *some* health regulations for production, but consumption is largely *uncontrolled* and unregulated.

Third, other chemicals may interact with asbestos to *incite* an even greater risk of disease. For example, asbestos workers who also smoke have an even greater risk of contracting lung cancer (Fraumeni, 1975:468). "They are sitting targets," says Selikoff.

Fourth, although even a brief exposure to asbestos can be hazardous—even fatal—in general the chances of contracting the disease is related to the length of time and the extent of exposure. The risk is obviously higher for those most heavily involved in the production of asbestos, who can inhale up to 8 billion fibers and fibrils (submicroscopic fibers) of asbestos a day, 50 percent of which are retained in the lungs.

Nor have workers generally been told when their health was threatened by asbestos exposure.

For example, Dr. Kenneth Wallace Smith, medical director of Johns-Manville until 1966, testified in a lawsuit that he could see early X-ray changes in a patient perhaps ten, twelve, or fifteen years before he developed any clinical signs of disability.

But he did *not tell the J-M* workers they were coming down with asbestosis or cancer. In a 1949 confidential report to management he urged:

> As long as the man feels well, is happy at home and at work and his physical condition remains good he should be permitted to live and work in peace. . . . Should the man be told of his condition today, there is a very definite possibility that he would become mentally and physically ill, simply through the knowledge that he had asbestosis (cited in Weinstein, 1978).

Many experts believe, however, that "early detection of asbestosis is critical since it is *irreversible* when fully developed and gradually destroys the lungs." If, *on the other hand*, the disease is monitored closely, the patient's life can be prolonged (ibid.).

Theoretically, the government should be a watchdog and should prevent such abuses from occurring. In fact, however, government scientists have been among the most vocal advocates of industry's position. Lewis Cralley, a top official of the Public Health Service's Division of Occupational Health, carried out a study of health conditions in the asbestos industry. He "suppressed its findings for six years," says Kotelchuck, "until they were released by other . . . officials over his objections" (Kotelchuck, 1974).

Although the asbestos industry has largely blocked *investigations* of the asbestos peril, Cralley told reporter Paul Brodeur, "all I know

is that the first real interest came from industry. They asked for our help back in 1964, and they have cooperated with us magnificently" (Brodeur, 1974).

During Cralley's tenure as head of Occupational Health, government investigators were not required to identify individual factories in their reports on hazards, forward interpretations of data to state agencies, or even make any recommendations to factory owners (ibid.). In fact, says Brodeur in his award-winning study *Expendable Americans*,

> in order not to embarrass management or make workers apprehensive, the government engineers who took air samples during the environmental surveys not only were forbidden to discuss the nature of their activities with any workers they encountered but were also instructed not to wear respirators, which would have afforded them some protection against the hazard of inhaling asbestos dust (ibid.).

Through scientists such as Cralley, industry was afforded an entrée into the inner circles of the medical establishment, including such prestigious universities as New York University, McGill Medical School, Wayne State, the University of Pittsburgh, and Carnegie-Mellon and other groups such as the American Public Health Association, the International Union Against Cancer, and the American Academy of Occupational Medicine. In fact, Dr. Lee B. Grant, medical director of Pittsburgh Plate Glass Company—a major asbestos user—eventually became president of the American College of Preventive Medicine (ibid.).

Over the years, most cancer scientists have shown a lack of interest in the asbestos problem, just as they have failed to deal with environmental factors in general. For many years, in fact, Selikoff and his group were among the few asbestos labs in the United States.

Since the early 1970s, the American Cancer Society has given financial support to Selikoff, and a page and a half of its 1974 *Annual Report* is taken up with a description of its joint work with the Mount Sinai team. In that same year, the Society gave Selikoff about $150,000, two-thirds of which went for research on asbestos (Garfinkel, 1979). While this seems to be a large sum, it represents only a fraction of 1 percent of what ACS garnered from the public that year ($108 million). By 1978 support for the Mount Sinai group had risen to $286,000 for all of Selikoff's projects, including asbestos research, while public donations to ACS had risen to almost $140 million (ibid.; ACS, 1978). This increase is a modest recognition of the growing public awareness of the asbestos problem.

The record of Memorial Sloan-Kettering Cancer Center is even

worse. The 386-page 1976 *Annual Report* of the Sloan-Kettering Institute, which details hundreds of research projects, contains no mention of studies on asbestos.

This lack of interest in asbestos (as in other environmental and occupational causes of cancer) has had some unfortunate consequences for MSKCC employees, as well as for the public, which might benefit from such investigations. In 1976 the Center's administration began renovating two of the older buildings in the complex. Dust flew in the corridors of the hospital that summer and fall, but no one outside of the administration knew that these clouds contained asbestos, which had accidentally been freed from old pipe-coverings by workmen.

Jane McGill, the head of the Employee Health Service, wrote in her 1976 annual report that there had been certain "environmental problems." One of these, she noted, was that "asbestos-containing pipe-covering had been removed by the contractors by dry technique and not according to OSHA [Occupational Safety and Health Administration] precautions."

"It was determined that one area was contaminated with asbestos fibers," she said (McGill, 1976). Later that year, *Second Opinion*, the "underground" employees' newsletter at MSKCC, obtained a copy of this report and publicized it *(Second Opinion*, June 1977). No official announcement was made that for several months employees, visitors, and possibly patients had been exposed to asbestos-laden dust.

Apparently, MSKCC did not have an expert sufficiently versed in the problems of asbestos to deal with the question, for Dr. Irving Selikoff and Dr. Arthur Rohl, both from Mount Sinai, and Dr. Robert Sawyer of Yale University were called in and asked to assess the extent of damages (McGill, 1976).

Although there is more public awareness of the asbestos peril today, real improvement may be slow in coming. The National Cancer Institute now has literature which it sends to those who fear they stand a risk of developing asbestos-related diseases. It also has designed posters to warn the public of the risks involved. Other government agencies have begun to provide information, chest X rays, or, occasionally, inspections of possibly contaminated areas.

Much effort has been expended in trying to limit the number of fibers permissible in the air. While such controls are important, it is necessary to point out that even if fibers are tightly regulated, the problem may not end. Each fiber can—and does—break up into a

multitude of smaller fibrils, so small that 1 million of them, side by side, measure an inch (Brodeur, 1974).

These fibrils can be detected only by electron microscope, which few industrial hygiene laboratories possess. Little research has been done on the fibril problem, but it is known that an asbestos worker in a supposedly safe plant, whose air contains only two fibers per cubic centimeter, can still inhale from 800 million to 8 billion fibers and fibrils in an eight-hour day (ibid.:30).

For the consumer, the problem of controlling asbestos exposure may be even more difficult. Asbestos is in the environment—millions of indestructible tons of it.

Given the past history of underestimating the danger of asbestos, several important and disturbing questions remain. How much of this asbestos poses an immediate danger to the public? How much is a "time bomb" which will explode each time an old building is demolished or falls into disrepair? Does the asbestos have to be removed, or can it be contained? Who is going to pay for this clean-up? Are there any ways to remove asbestos once it is entrapped in the body? Are there any really safe substitutes for this "miracle fiber"?

Answering such questions will certainly take a great deal more research. But while the scientists deliberate, asbestos continues to pour into the environment virtually unchecked—over 750,000 short tons in 1976 alone (Standard and Poor's, 1977).

The asbestos industry has sidestepped its heavy responsibility for this situation. The companies have even requested the government to pay for whatever losses they incur in over $2 billion in lawsuits which asbestos workers have filed against them. This "bailout" was discussed at a meeting of Congressman George Miller's (D.-Calif.) House Committee on Education and Labor. There is a large Johns-Manville plant in Congressman Miller's Martinez district, according to the *Guardian*, a New York–based radical newspaper (*Guardian*, December 20, 1978).

An even more questionable plan involved the exporting of asbestos to populations either unaware of its danger, desperate for work, or unable to do anything about the threat because of political repression. As regulations have tightened in the United States, the asbestos industry has begun to move its factories abroad. It has generally chosen poor countries, such as Taiwan, South Korea, Brazil, and India (ibid.).

This migration of so-called runaway hazardous shops began in the late 1960s. Taiwan, South Korea, and Brazil are now all large exporters of asbestos products to the United States; actually, they

themselves import the raw asbestos from American companies, such as Johns-Manville, and ship their finished products back to the United States and other industrialized countries. The favorite spot for such relocation has been Mexico.

In 1967, for example, Amatex, a Pennsylvania asbestos firm, closed its Milford Square plant, although it was quite new, and opened an asbestos yarn mill in Agua Prieta, a small town across the border from El Paso, Texas. It also operates a plant in Juarez, Mexico. According to Barry Castleman, a consultant to the Environmental Defense Fund and an expert on asbestos:

> In December 1974 Amatex began to import asbestos textiles into the U.S. from the Juarez plant. Amatex "imported" about 2 million pounds of asbestos textiles from its Mexican border plants in 1975, about one-fourth of U.S. imports from the entire world that year (ibid.).

U.S. journalists who visited the two Amatex plants in 1977 found "clumps of asbestos clinging to nearby bushes and fences where neighborhood children play. Inside the plants, the air was filled with the deadly white fibers" (ibid.).

The U.S. government has aided the asbestos industry in moving its hazardous plants out of the country—in effect, exporting asbestosis and cancer to foreign workers. For example, most of the imports come from so-called beneficiary countries. These countries are allowed to export their goods duty-free to the United States.

Some foreign asbestos plants are even subsidized directly by the United States. According to Castleman, a plant in Madras, India, "was covered by $1 million in political risk insurance by the Overseas Private Investment Corporation," a U.S. government agency (ibid.).

As knowledge of the asbestos peril spreads, however, foreign workers are fighting back against the threat. In Cork, Ireland, for example, asbestos workers and the community delayed the opening of a newly completed asbestos manufacturing plant, owned and operated by Raybestos-Manhattan. The $8 million plant was unable to open for many months, and did so only at reduced capacity after the Irish people imposed safety regulations on the owners (ibid.).

In the United States a series of struggles has been waged over asbestos in schools and other public buildings. This began in April 1972 when an elementary school in Lander, Wyoming, was ordered closed after it was found that children were breathing, according to a government report, "an unhealthy mixture of air and asbestos dust" (Bourne, 1978).

According to a Public Interest Research Group study, the school librarian had become suspicious of a layer of dust covering furniture

throughout the school. The dust turned out to be asbestos, falling from deteriorating ceilings which had been sprayed with an asbestos insulation eleven years before. Such sprayed-on insulation was common all over the country from the 1950s to the 1970s. The school had to be closed until the hazardous material could be replaced.

In January 1977 six elementary schools in Howell Township, New Jersey, were closed when excessive levels of asbestos were found there. One child appeared to be sick from an asbestos-related disease, and dozens of other children complained of unexplainable headaches, sore throats, and respiratory congestion. The problems of Howell Township may have been aggravated by children who scraped the ceilings with sticks and grabbed at the insulation. Children played with pieces of the insulation, which looked to them like cotton candy, and threw it in each others' faces (*New York Times*, January 4, 1977).

In late 1978 Harlem parents shut down two adjacent New York City schools, P.S. 208 and P.S. 185, when they discovered asbestos flaking from a fourth-floor ceiling. The Board of Education attempted a "cosmetic cover-up," Helene Brathwaite, head of the Parents' Association, has said (*Second Opinion*, December 1978). They tried to put up a new ceiling and leave the asbestos in place. In doing so, they raised such a storm of asbestos that the children, teachers, and parents could hardly see their hands in front of their faces. So the parents shut the schools down. In some places, such as the auditorium, the asbestos had been exposed, behind a grill, since the school opened in 1967.

The Harlem parents demanded—and got—a secret Board of Education report which showed that at least 189 of the City's 1,000 public schools were contaminated with asbestos. This figure was later revised to about 500, although no one knows for sure how bad the situation really is. Even some school officials seem to think the Board of Education is underestimating the numbers involved (ibid.).

Although using asbestos to insulate buildings has been banned since the mid 1970s, millions of office workers still work in asbestos-laden buildings, including Madison Square Garden, the World Trade Center, and about half of the country's skyscrapers. Fresh-air systems often circulate right over the sprayed-on asbestos, picking up fibers and fibrils into the air current. In the furor that followed the Harlem exposures, many workers in New York suspected that they, too, were working or living in asbestos-contaminated buildings. It is very difficult for them to find out if they are in danger. Mount Sinai maintains the only electron microscope in all of New York City which can detect asbestos in the air. Using this machine, it takes a full day to test one building. When the head of the laboratory was

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asked what was being done to uncover the asbestos hazard, he replied—with unusual directness—"Nothing" (*New York Post*, November 17, 1978).

In an interview at the school Helene Brathwaite voiced her frustration over this situation:

> Industry has bombarded us with different kinds of substances that are harmful to our health, without asking us if we wanted them or not, without testing properly, and then telling us *we* have a problem. This has to do with capitalism and the Almighty Dollar. That's the basic problem (*Second Opinion*, December 1978).