# DR. IRVING J. SELIKOFF'S ADDRESS

to the Delegates of the

TWENTY-FIRST CONVENTION OF THE
INTERNATIONAL ASSOCIATION
OF
HEAT AND FROST INSULATORS AND
ASBESTOS WORKERS

CHICAGO, ILLINOIS
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*Due to the great interest and the many requests for a copy of Doctor Selikoff's address to the 21st Convention of the International Association of Heat and Frost Insulators and Asbestos Workers held in Chicago, Illinois, September 5, 6 and 7, 1967, we provided him with a copy of his remarks and requested that he include charts and photographs so that this booklet could be published for our membership and others who are interested in this matter.*

ALBERT E. HUTCHINSON
*General President*


*Doctor Irving J. Selikoff, Professor of Environmental Medicine*
*Director of Environmental Science Laboratory,*
*Mount Sinai School of Medicine, City University of New York*

This morning we are privileged to have with us Dr. Selikoff. I have an introduction given to me here, and I am going to give it to you, because I am sure you would want to know his titles and the honors bestowed upon him by others.

He is Professor of Environmental Medicine, Director of Environmental Science Laboratory, Mount Sinai School of Medicine, City University of New York; he is also Chairman of the Division of Environmental Sciences of the New York Academy of Sciences; he is a holder of a number of awards, including a Certificate of Merit of the American Medical Association, and possibly the highest honor in American medicine, the Lasker Award of the American Public Health Association.

But I think with all those titles and the many, many more that he has that we, in the Asbestos Workers organization, can lay those aside, because we recognize Dr. Selikoff as just that, a doctor, a most dedicated doctor, who has given us the benefit of his untiring efforts for the past five, six or seven years.

I am sure that when he addresses us this morning, he is going to indicate to you the effort that he has put into this thing.

So, I am going to let him carry it on from there.

But today, he is going to deal with many questions, and tomorrow he is going to answer what he is talking about today, so he is going to be in on two sessions. And if any of you delegates have a suggestion or a question that you would like to refer to him, if you would just jot that down and give it to his secretary, who is seated here, his secretary and nurse, who is seated next to him here, he will try to answer the question for you sometime during either today or tomorrow.

Now, we are also privileged to have with us today, because of Dr. Selikoff being here, another doctor who is interested in hearing what Dr. Selikoff has to say. He is Dr. Stephen Kaimmer, Medical Consultant for the State of Washington. I haven't had the privilege of meeting him yet, but I understand he is in the room here.

We also have with us as a result of the interest in this problem from the Long Beach Naval Shipyards, G. S. Watkins, U.S. Senior Medical Officer, Long Beach Naval Shipyard, for the purpose of visiting with Dr. Selikoff and learning of this efforts in the asbestos workers' diseases.

We have Mr. Clifford Krieger, Safety Department Superintendent, and also one of your own who is now moved up into the position of supervision, Brother Charles Carmines. It's nice to have them with us also.

With this, I'd like to call on you now, Dr. Selikoff, to come up and give us the benefit of what you have found out over the last five years since your last report.

(Applause.)

DR. SELIKOFF: Thank you, President Hutchinson, and my respects, deep respects, to President Emeritus Sickles, President Mulligan and Secretary Haas.

Also, before I begin, may I pay my respects to the other two members of my union who are here, Dr. Kaimmer and Dr. Watkins, and if you think you fellows have a strong union . . .

(Laughter.)

In his introduction, President Hutchinson mentioned some of the positions which I fill, but I'm here this morning only partly in those capacities and at least in equal part in the function I hold just as honored and perhaps even more important, that as Medical Consultant to the International Association of Heat and Frost Insulators and Asbestos Workers, because in that role, I'm attempting to fulfill perhaps the highest role of a physician, not simply in gathering knowledge about the ills of mankind, but the use of this knowledge, for the benefit of all.

This morning, thinking about coming here, I had thought of beginning by apologizing for the medical profession, apologizing in the sense of our having allowed the problems of which we will talk to have developed to this point, and in so doing abdicating their public health responsibility which they accept when they take the Oath of Hippocrates.

After I had breakfast and felt a little better, I thought perhaps instead of apologizing, I might explain, and the explanations may be a little unusual. I'll start off by talking about the Australian aborigines. You probably know that in their aboriginal state, they have no idea where babies come from. In fact, when a woman feels life, she usually blames it on the spirit of the bush that happened to be moving at the time she first feels life. **It was pretty hard for her to connect two events that are nine months apart.**

We can come much closer to home. Only 350 years ago there was the first great book written on mining diseases, a book called De Re Metallica, which, by the way, was translated by a President of the United States, Herbert Hoover, when he was a mining engineer.

In this book, written by Agricola, there were women in the mountains of East Germany who had had nine husbands. He noted that





it was peculiar these husbands all worked in the mines. But he had no idea why. **He couldn't connect two events, working in the mines and death from silicosis two or three years later.**

It's hard to connect events which are far separated, and that is what has happened with the several diseases to which insulation workers are liable.

Men begin breathing in dust, but the diseases that they develop don't develop for 25 or 30 or 35 years, and probably that is why we doctors didn't understand it until recently.

For example, the first case of asbestosis was described in the medical literature in 1927 by a doctor by the name of Cooke. And if I can paraphrase, I am sure that doctors in the Midlands of England around that time probably said to him, "Look here, Cooke, you know that isn't true. She probably had scarring from tuberculosis." Everybody had tuberculosis in those days. Until 1935, 1940, few believed that asbestosis existed, and probably that is the reason why we are Johnny-come-latelies on the scene.

But certainly we should wake up to the realities of the problem at this time. I think that the most important function I have had has been to alert the individuals in my profession to the problems which we face, and I would now like to discuss them.

I had hoped that we would have a slide projector here this morning and perhaps we will before the morning is out, but without it, you perhaps will have to be a little more attentive to what I will say without the aid of a blackboard or slides. And I'd like to tell you the data we have uncovered.

And before I do, I would like to pay my respects and give my thanks to those among you who have been my tutors and my mentors in all that I have learned in these last six years.

First, to George Rider, sitting here in the New York delegation, who first took me under his wing and told me what fiber glass was and what was happening in the trade.

And then to your International Officers, President Sickles who came repeatedly from Washington to tell me what was going on and tell me where to look and how to look. To President Hutchinson who time after time after time went through his files, dug up information, gave me all the data with regard to all the people I was concerned about, and recently Secretary Haas as well, who has done the same thing. But perhaps even more to the members and officers of locals 12 and 32. And here my respects are not only scientific but personal. I have in mind a man who is no longer with us. I am

sure many of you will remember Johnny Bogovich of Local 12 was at the time of your last convention here suffering from the disease associated with breathing in these dusts from which he soon died.

He never said an ugly word, never complained. He gave me every help to his dying day.

To another man who is fortunately well, but not here with us today, but one of nature's real gentlemen, Terry McConnell of Local 32.

And in Local 12 to Nicholas Lucich, Ed Kellner, Jack Novak.

Jack, by the way, for example, a few weeks ago, took me by the scruff of the neck and brought me down to the New York City Board of Education so I could speak to the engineers there about the problems inherent in lining ducts with fibrous glass.

In Local 32, Jim Mulhern, Ed Sanborn, Jim Grogan, Jim Dwyer, who did the same thing with me, forced me, took me out of my own work which I thought occupied my attention and took me to more important things, to visit with the New Jersey State Department of Health to see if we could keep glass out of the ducts of at least State buildings and thereby give a deep motivation to the rest of the community.

And last, of course, but not least, my righthand man—or I should say my right-hand woman—Janet Kaffenburgh, who has been with me all through this in developing the information and data which I will now talk to you about.

We started by saying, well, what happens to men who are insulation workers that might be different from all other men? How are you fellows different?

What we did was to make a list of every single man who was a member of Local 12 or Local 32 on December 31, 1942. Now, you may say, well, that's like oxtail soup, going pretty far back for soup.

(Laughter.)

The reason is what I told you before about this young woman in the Australian outlands, because what happens takes a long time, and it is not of interest, really, to know only what happens to men today. It is what happens over a long period of time.

There were 632 members of these Locals on Dec. 31, 1942. 890 men joined sometime between January 1st, '43 and December 31st, '62. But we were primarily concerned with those men who had, by the end of 1962, been in the trade at least 20 years.





We knew what should happen to them. How do we know that? We have all kinds of statistical tables from the U.S. Bureau of Statistics, and so forth, saying how many men died of any kind of disease you can think of during 1943, '44, '45, '50, '55, '60 and so forth.

And with big computers—by the way, in this I had the valued assistance of my colleague, Dr. Cuyler Hammond, who is Director of Research of the American Cancer Society, and a brilliant man, a man, by the way, who developed much of the information with regard to the hazards of cigarette smoking—I hate to mention the dirty word—

(Laughter.)

—and he has been working side by side with me in this research.

By the way, I am not really scared to mention it, because Mr. Noyes of Local 24, as he was coming into this room, said, "Gee, Doc, don't scare them." He said, "When you spoke to us down in Washington, you scared me, but" he said, "I was all right. In a day or two I was able to smoke again."

(Laughter.)

And there is a fellow—I don't remember what Local he is from—there is a fellow by the name of Hensley—does anybody know what Local?—he sent in a questionnaire in the recent survey that we had, giving me a lot of information and a lot of good suggestions, very intelligently done, and at the end of it, he says, "By the way," he said, "I might as well confess. I really prefer to breathe through a cigar rather than through a mask."

(Laughter.)

Well, with Dr. Hammond, we were able to construct tables about how much illness there should have been for these 632 men at Locals 12 and 32, from 1943 through 1962.

It is tough to do, but it can be done, because we have to take into consideration such things as a man's age, and each year, because after all, a man of 45 has a different risk of disease than a man of 65, in any given year, and with human beings the way they are, and with the risk of lung cancer becoming so great in the last 20 years, the risk for a man of 45 has differed each year since 1943.

In other words, a man of 45 would have had a certain risk in '43, another man of 45 would have had a different risk in '44, another man of 45 would have still had a different risk in '46, and so forth. As the risk of these diseases is going up rapidly in the last

It is a very complicated piece of work, but with computers it can be done.

We established what are called expected rates for this period of time. Before I am through, I think you are all going to be half-baked biostatisticians.

We found that of the 632 men in these two Locals, there should have been, if their experience was the same as all other U.S. white males—not talking about women, not talking about anything else except white males living in the United States—there should have been 203 deaths. Actually, there were 255. **52 men died more than should have died.**

With the assistance of these people I have mentioned, we got death certificates on each of the people who died; we went to the hospitals, reviewed the records, examined the slides and x-rays, and checked everything to see why the 52 extra men died.

TABLE 1

EXPECTED AND OBSERVED DEATHS BY CAUSE AMONG 632 ASBESTOS WORKERS EXPOSED TO ASBESTOS DUST 20 YEARS OR LONGER

| | 1.1.43-12.31.62 | 1.1.63-4.30.67 | Total 1.1.43-4.30.67 |
|---|---|---|---|
| Total Cancer: all sites | | | |
| Expected | 36.5 | 8.6 | 45.1 |
| Observed | 95 | 49 | 144 |
| Cancer of Lung and Pleura | | | |
| Expected | 6.6 | 2.3 | 8.9 |
| Observed | 45 | 27 | 72 |
| Cancer of Stomach, Colon & Rectum | | | |
| Expected | 9.4 | 1.8 | 11.2 |
| Observed | 29 | 8 | 37 |
| Cancer all other sites combined | | | |
| Expected | 20.5 | 4.5 | 25 |
| Observed | 21 | 14 | 35 |
| Asbestosis | | | |
| Expected | 0 | 0 | 0 |
| Observed | 12 | 15 | 27 |
| All other causes | | | |
| Expected | 167 | 38.9 | 205.9 |
| Observed | 148 | 30 | 178 |





We had some surprises. It was true that some 12 died of asbestosis, scarred lungs, just couldn't breathe any more. Nobody in the general population is supposed to die of that, so that accounted for 12 extra deaths.

**But whereas there should have been, had their experience been the same as everyone else's, 6 deaths due to cancer of the lung, there were 45.**

**Whereas there should have been 9 deaths due to cancer of the stomach, cancer of the colon, there were 29.**

And something else: There is a very rare disease—and you can break your teeth on this one—called mesothelioma. Nobody knows too much about it. I will tell you why nobody knows about it, because it has been so rare that it is not even coded by the U.S. Bureau of Statistics. It is not separately coded in the International Classification of Causes of Death. It is very rare, so rare that at my hospital, from 1930 to 1960, we only saw three cases, and we have a huge hospital, very active.

We also did something else to see how rare it is in the general population today. We took the statistics of the American Cancer Society's study on smoking Some of you, in fact, may have even enrolled in that. If you remember, in 1959, 60,000 volunteers of the American Cancer Society registered over 1,000,000 people and got a lot of information about them, what they smoke, how deep they smoke, what size stub of cigarette is left, what they eat, do they eat fried food, what kind of city do they live in, what kind of automobile do they drive, and so forth.

In that series of over 1,000,000 people, there have now been 70,000 deaths, and of the 70,000 only 11 have been due to mesothelioma.

Well, in the first group of 255 deaths of Local 12 and Local 32, 4 died of mesothelioma; in other words, about 1 out of 70 or 1 out of 60, rather than 1 out of 10,000. And, at the same time, around 1963, '64 and '65, from other parts of the world, in areas around factories in England, South Africa and elsewhere, reports of this peculiar disease called mesothelioma—peculiar, unfortunately, because it is incurable—began to filter in, that it was occurring to people who were exposed to certain kinds of dust, especially asbestos.

This indicated to us that there was something peculiar about people who work in the insulation trade. Many of them die when they shouldn't die, and they die of diseases that other people don't get, at least not in such numbers.

Since 1963, when this first information was published, we have continued our researches. There were 370 men of this initial 632 alive on January 1st, '63, and we have watched this whole group of men since, and now we had a great deal more information, because I had examined almost all of these men, and I knew a great deal about them, everything from the day they started work to what they smoked to whether they worked a lot in powerhouses, whether they wore masks or not, whether they did a lot of shipyard work—by the way, that might be interesting, because shipyards sometimes use different kinds of asbestos, for example, different kinds of insulation. Much of what they use contains amosite rather than chrysolite.

Amosite is much better in its resistance to salt water, for example. We had all this information and by April 30th of this year, April 30, 1967, we reviewed our experiences, and this is what they are:

Knowing the ages of these men in 1963, there should have been 47 deaths by April 30th, 1967. There were twice as many, 94.

Twice as many members of Local 12 and Local 32 died as should have died in those 52 months.

TABLE 2

OBSERVED AND EXPECTED NUMBER OF DEATHS AMONG 370 ASBESTOS INSULATION WORKERS DURING THE 52 MONTH PERIOD FROM JANUARY 1, 1963 THROUGH APRIL 30, 1967. EXPECTED NUMBERS ARE BASED UPON UNITED STATES MORTALITY DATA DISREGARDING THE SMOKING HABITS OF THE SUBJECTS

| Cause of Death | Observed Deaths | Expected Deaths |
|---|---|---|
| Total, all causes | 94 | 47.5 |
| Total cancer (all sites) | 49 | 8.6 |
| Cancer of lung, pleura, bronchus and trachea | 27 | 2.3 |
| Bronchogenic carcinoma | 24 | * |
| Pleural mesothelioma | 3 | ** |
| Peritoneal mesothelioma | 7 | ** |
| Cancer of stomach | 3 | 0.6 |
| Cancer of colon and rectum | 5 | 1.2 |
| Cancer of all other sites combined | 7 | 4.5 |
| Asbestosis | 15 | 0 |
| Heart and circulatory disease including stroke | 22 | 28.5 |
| All other causes of death | 8 | 10.4 |

* United States data not available, but figure should be only slightly less than 2.3.

** United States data not available, but these are rare causes of death in general population.





Now, these are not numbers. These are human beings.

Again, when we analyzed the causes of death, once more there were over 10 deaths due to asbestosis. There should have been none.

Well, this is a hazard you people face, and a hazard, I hope we are going to be able to clear up. There is no reason under the sun that this can't be cleared up, none, because it depends upon how much dust, in large part—there are individual reactions, not everybody reacts to the dust the same way; there are individual idiosyncrasies, but, basically, it is due to how much dust you men breathe in. And if we can't make the trade safer, we are lazy. If we can't keep dust out of the air, we don't deserve to call ourselves the proud United States of America.

So, there were these excess deaths due to asbestosis.

Again, there should have been 3 deaths due to lung cancer. There were 27.27 out of 94! This is extraordinary!

There should have been no deaths due to this rare disease called mesothelioma. There were 10. That's 10 deaths of mesothelioma out of 94 asbestos workers, whereas the American Cancer Society only saw 9 out of 70,000 people dying in the general population.

There were supposed to be 2 deaths due to cancer of the stomach or colon, and there were 10.

We also found something else, and this, again, gives us, I hope, a good opportunity to clear up and clean up this trade, but this is going to depend on you in large part. There were, among the 370 men, 87 who never smoked cigarettes regularly. And there were 273 who did.

We then analyzed what happened to these two groups of men separately. Of the 273 men who smoked cigarettes, there should have been 2.98 deaths due to cancer of the lung. You say, well, how could there be 2.98? That's the way the statisticians talk. There were 27.

Among the 87 men who did not smoke—and now we are using statistics based upon smoking habits in the population—there should have been between zero and 1 cancer of the lung. There were none.

In other words, from 1963, to the present time in 1967—and that includes up to today, or up to yesterday, when I left New York—I have yet to see a lung cancer in an asbestos worker who [illegible] smoke cigarettes.

TABLE 3

OBSERVED AND EXPECTED NUMBER OF BRONCHOGENIC CARCINOMA DEATHS AMONG 370 ASBESTOS INSULATION WORKERS DURING 52 MONTH PERIOD FROM JANUARY 1, 1963 THROUGH APRIL 30, 1967; BY SMOKING HABITS

| Smoking Habits | Workers Observed * | Observed Deaths | Expected Deaths |
|---|---|---|---|
| Never smoked regularly | 48 | 0 | 0.05 |
| History of Pipe, Cigar smoking only | 39 | 0 | 0.13 |
| History of regular Cigarette smoking ** | 283 | 24 | 2.98 |
| Total | 370 | 24 | 3.16 |

* All with more than 20 years from onset of exposure.

** Includes cigarette smokers who also smoked pipe or cigars.

Also, by the way, I did not see a cancer of the lung in an asbestos worker who smoked cigars or an asbestos worker who smoked pipes, if he didn't smoke cigarettes at the same time.

If levity were in order at this time, I perhaps should say, "Put that in your pipe and smoke it."

(Laughter.)

But this information is of tremendous importance. It is almost like saying that, if you work in a dynamite factory, you shouldn't smoke, and cancer of the lung could be wiped out in your trade if you people wouldn't smoke cigarettes, period.

As bad as the dusts are, as dangerous as they might be, from our experiences so far—I am not saying it won't occur, because it might, yes, here and there, just as it can occur to anybody, because this is a random thing that can occur—lung cancer can be wiped out as a problem among insulation workers.

I think that you people in these next years are going to have to do some real hard thinking for yourselves and real hard thinking for your trade in general.

Now, tomorrow I will review in some detail much of the information that I have had the opportunity of putting together from the questionnaire which you have answered.

One final remark for your own thinking, before tomorrow, with regard to fibrous glass: As you will notice, I have said nothing about it to this point, because I know nothing about it. Why? The old-timers among you will know that it really didn't come into use as a general substance until around 1945, '46, towards the end of the war.





If asbestos and silica and beryllium and other dangerous dusts don't show their effects for 25 or 30 years, how can we trust anyone who says that glass is not dangerous? We won't know for 5 or 10 or more years how dangerous it is.

In conclusion, I would like to not merely repay my respects to the people I have mentioned here before, and who are with me, in part, on the dais, but to the entire membership of your Union, who have taught me so much, and especially to the members of Local 12 and Local 32.

Thank you very much.

(Applause.)

PRESIDENT HUTCHINSON: Thank you very much, Doctor. As usual, I think when you are addressing any group of our people, we find that they give you the undivided attention that your message deserves, and we certainly appreciate your being here.

We are going to prevail upon you tomorrow to again address us, and we probably will have the slides then, and if we can sandwich this in during the time the Election Committee is counting the ballots, it won't be too much of a problem. We will have quite a little delay there, so we will have an opportunity then.

We can set that up and get into a little bit of that this morning, if you like. How long are the slides?

DR. SELIKOFF: Five or ten minutes.

PRESIDENT HUTCHINSON: Fine. We will set it up and go along with that.

I would also like to announce, for the benefit of those of you who don't know, that I see Mrs. Selikoff is sitting in our audience over here, and we are very glad to have her with us.

(Applause.)

While we are getting the slides set up, I think that everyone realizes we do have much work before us, and as soon as we have heard from Dr. Selikoff on the slides, I think that we should consider going back to work in committee. So, think about this, and I will put a question to you right after we have the slides as shown by Dr. Selikoff.

PRESIDENT HUTCHINSON: Brothers, if I might have your attention here while they are setting up, we might get a little bit of business taken care of.

Are there any questions to the doctor from the floor while we are setting up these slides? Anybody have a question they would like to pose?

DELEGATE FROMDAHL: Van Fromdahl, Local 5. My question is, is there anything to which you attribute the fact that cigarettes are so much worse than cigars or pipes, or why a cigar or pipe doesn't have an adverse effect on us?

PRESIDENT MULLIGAN: I can answer that question. There was always the saying that a pipe and cigar was an old gentleman's smoke, when he is in years gone by. And the cigarette, I would hate to tell you who they said smoked them. That is my answer. If Dr. Selikoff can give a better one than that, okay.

(Laughter.)

DR. SELIKOFF: Mr. Fromdahl, the answer is we don't really know, because this is true not only about asbestos workers, but true in the population, of the population in general. Perhaps President Mulligan is right. In the general population if you smoke cigars or pipes, your risk of developing lung cancer is very little, very little more than if you never smoked at all. Is it possibly because many cigar smokers don't inhale? Is it possibly because many pipe smokers don't smoke all the time? Is it possibly that the smoke that you inhale is at a different temperature? Is it possibly because cigarette tobacco is cured differently? Is it possibly because different insecticides like arsenic are used in growing some types of cigarette tobacco and not pipe tobacco? We don't know. But for everyone in this country, the risk of cigarette smoking is very much greater than for pipe or cigar smoking, and not only for cancer of the lung. Cancer of the lung is pretty rare as a disease except among asbestos workers. If you don't smoke, chances of dying of cancer of the lung are one in 400. If you do smoke cigarettes, it is 15 times as much. But still one out of 35. The risk of coronary death is much greater. If you don't smoke cigarettes, your risk of dying of a coronary is one out of 6. If you do smoke cigarettes, it is one out of 3. It is only twice as much. But it's twice something common.

One of the peculiar things about cigarettes is that the smoke has a lot of carbon monoxide, very large amounts. You can get as much as 10 percent carbon monoxide. The same carbon monoxide found in automobile exhausts, but much more, because you don't put your face in the tail pipe of a car, unless you want to commit suicide. But you do inhale the smoke of a cigarette directly.

Let me tell you a little story. Tests were done to find how much





carbon monoxide traffic policemen have in Paris as a result of standing on the busy street corners.

They tested their blood for carbon monoxide before and after four hours of traffic duty. And they found in about two-thirds of the traffic policemen that the level of carbon monoxide in the blood went down after standing in traffic in the midst of Paris. And you know what it was when they analyzed it? That the traffic policemen who smoked cigarettes had to stop smoking when they went on duty, so their carbon monoxide went down even though they had to stand in the midst of traffic.

Now, we have very little information with regard to the effect of carbon monoxide. This may play a role. We don't really know, but what we do know is if you men start to smoke cigars, your wives might not like the smell, but you are going to be healthier.

DELEGATE FROMDAHL: Thank you.

(Applause.)

PRESIDENT HUTCHINSON: Van, I don't know whether you got your question answered or not, but I do know that Dr. Selikoff put the court reporter to the test. If he could spell some of those words that he was just saying, we have got a good man here.

I am going to be anxious to read that portion of the transcript.

(Whereupon some slides were shown.)

DR. SELIKOFF: This slide that you see up here is not a slide of a man who worked with asbestos or any of the insulation ducts. But it will show, as will the next two, why our profession missed the boat for so long. This is a slide of a man who crushed rock. The man crushed rock on a railroad and got old-fashioned silicosis. This is a slide of silicosis. You see in the center the heart, and all the white dots are the silicotic nodules. Believe it or not, despite the almost total covering of the X-ray with the silicotic nodules, the man wasn't short of breath at all. Between the nodules, the lung is functioning well, and so there is plenty of good lung to breathe with.

Next slide, please. This is of a man who was a mustard mixer. You say why did he get silicosis? He used a pneumatic hammer to grind the millstone to grind the mustard seed with. Silicosis is an occupational hazard of mustard mixers.

You can see the large conglomerate nodules, yet he wasn't short of breath because he had plenty of good lung left to breathe with.

Next slide, please. There are two slides of a coal worker. This

is what is called coal workers pneumoconiosis. As you can see, the lungs are shot through with large nodules which contain a great deal of coal, very little silica. He wasn't short of breath at all even though the X-rays looked terrible.

When it gets worse, even these people get short of breath when they get complicated coal workers pneumoconiosis.

Doctors had experience with this type of X-ray for 30 years. When they came upon an asbestos worker's X-ray they weren't impressed.

You see very little, a little bit of fine weblike white lines, **because the scarring is different. It's diffuse, it's fine, it's not dense and nodular, and it doesn't show well on X-rays.**

My colleagues weren't impressed with this, especially since many of the people that they met who had this kind of an X-ray had no real history of asbestosis. Why? A man gets sick, he often leaves a heavy trade. He may become a building superintendent. He may become an office clerk, anything to get a little lighter work because he can't do heavy work any more.

Another problem consisted of the fact that when studies were made of insulation workers, it was generally of men on the job. But are they the ones solely to examine if we wish to study a disease? The next slide demonstrates our experiences.

Of the 1522 men in the top line who were members of Locals 12 and 32 during that period of time, when we came on the scene in 1962 there were only a thousand men who were working. There were 62 retired, 34 ill, and 75 had gone to other jobs, and many had died.

If you look only at the men who are working, you are looking at the men who are all right. If you were to look at the 100 men who were retired or ill, then you would have seen what would have happened over the 20 or 30 years. But generally, doctors who are doing surveys like this in a plant or factory, examine the healthy men. They never see the sick, who are not on the job. That is why over the years in 1950 and 1960 when a few surveys were done by inexperienced people an overoptimistic picture was reported.

My respects to Captain Watkins here today, and I'm sure this is not his responsibility at all, but the Navy in 1945 and 1946 commissioned a study to be done of insulation workers in all Navy shipyards, and it was done by some excellent men, Captain Fleischer with the assistance of Professor Drinker of Harvard.





They studied a thousand insulation workers in 1945 and '4( They published an article saying everything is fine because all th men they examined had been in the trade only four or five years just during the war, and they didn't see the men who had been i the trade for 20, 25, 30, 35 years.

I examined 346 men who worked for less than 10 years in th New York and New Jersey locals. This is a record of the percentag of men who had some abnormality of some kind or other on th X-rays. Of the 346 men with less than 10 years in the trade, onl one out of 10 had anything at all wrong with his X-ray. And eve those had only minimal changes, the tiniest of changes. Even th men with 10 to 19 years in the trade showed very little. Most ( them had perfectly normal X-rays.

And of those that were abnormal, the abnormalities were min mal. But after 20, 30 years and 40 years in the trade, the pictur was different. Very few had normal X-rays. And when abnormali ties were present, they tended to be quite severe in many cases.

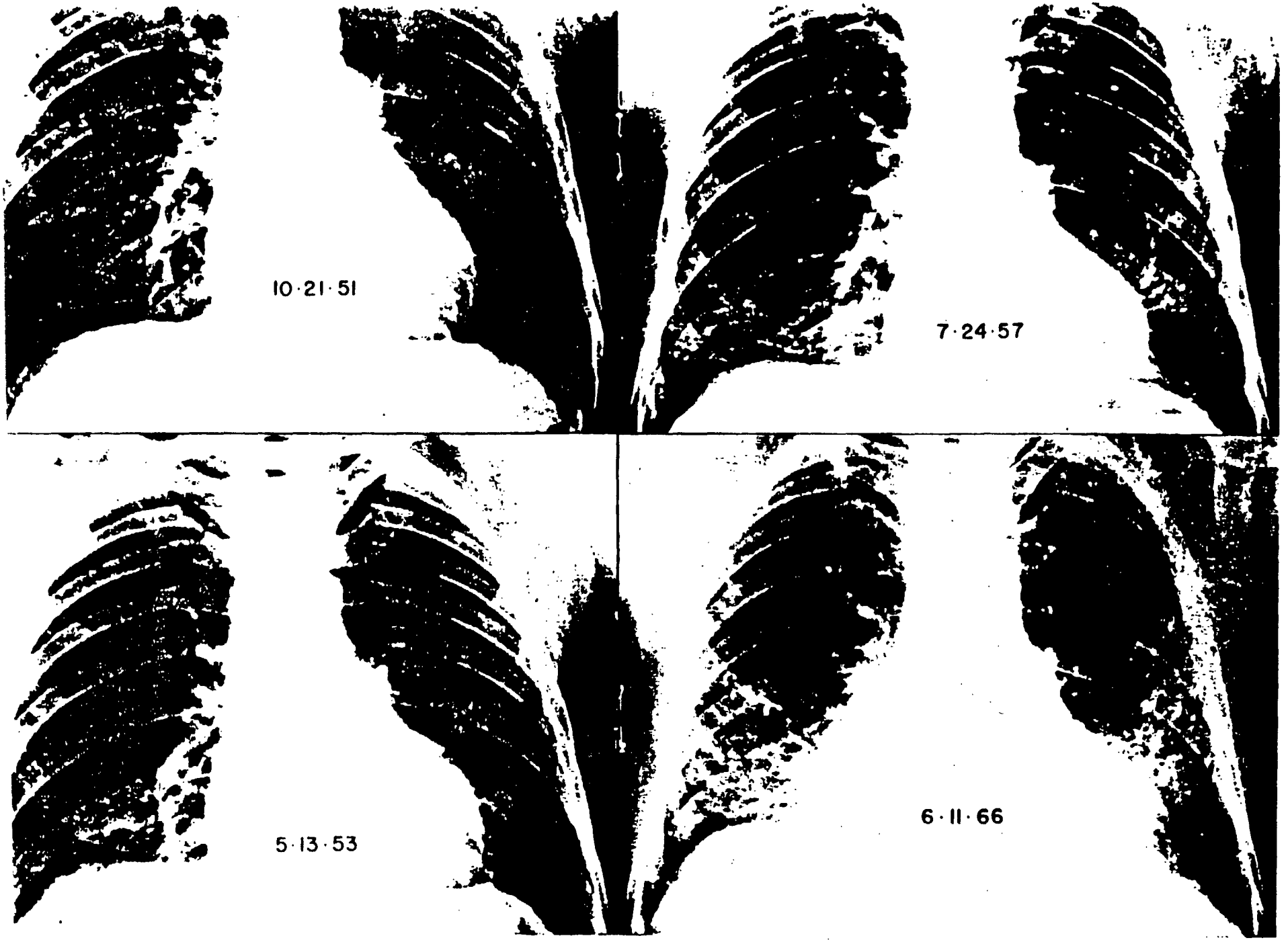
PRESIDENT HUTCHINSON: Since we are going to have Dr Selikoff with us tomorrow, and I don't know just what time tomor row, we are going to have to prevail upon him to bear with us, w will refrain from asking any further questions now, and any of yo who have some, save them for him and tomorrow we can refe them to him.

Brothers, while the Constitution and Bylaws Committee is put ting some final touches on their report, we are going to again ca on Dr. Selikoff this morning to further his report of yesterday So, Dr. Selikoff, if you are ready, we are ready.

DR. SELIKOFF: President Hutchinson, delegates to the conve tion, I think that a minute might be spent to pick up where we le off yesterday. I think you remember that we were talking abou teaching our aborigines something, the question of time, and th first three slides will point out how we perhaps have to teach som of our aborigines in this country.

The first slide is a perfectly normal X-ray. There is the hea in the center and clear black air-filled lungs on either side. As yo will notice the date, it's 1951. It's a man by the name of Bob Ker who was a patient of mine and he did have a little shortness ( breath. I examined him and I couldn't find a thing wrong wit him. He was a truck driver at the time. He was a machinist, bu out of work and he was driving a truck.

N[illegible] slide, please. In this one in 1966, fifteen years later, yo w[illegible] now there is a white infiltration in both lungs.




PRODUCED
JM - 83

FIGURES 1-4

...n worked almost his whole life as a machinist. In the film of ..., there is moderately extensive asbestosis (the infiltrations appearing ... the lower portions of each lung field). This had gradually been ...sive on serial X-rays from 1953.

The only exposure this man had to asbest...s was as a weaver of asbestos brake linings in 1937. Yet the particles had remained in his lungs from then on. *As in almost every instance, the effects of exposure did not show for many years.*

*Health hazards in the insulation trade are a long-term problem.*

Next slide, please. Now, these are three slides in a row and you will notice the first one in 1951 shows nothing, the second one around 1956 or '57 begins to show the infiltration and the last one is extensively infiltrated. And all this time Bob had worked only as a machinist or truck driver.

When I saw this I said, "Bob, there is something you are not telling me. There is something peculiar about your lungs. Something is happening to them. Do you work with something you didn't tell me about?"

He said no. His wife, Edith, was sitting at the side of the room. She said, "Bob, don't you remember in 1937 you worked for three months at Worldbestos. You took a job as a weaver, and for three months you breathed in asbestos dust."

The dust he breathed in in 1937 had been in his lungs ever since, causing progressive scarring! This emphasizes the fact that insulation dusts do not show their effects for many years after being inhaled.

In light of these films, I think we can understand the mistake made in St. Louis in Local No. 1. My apologies to the present delegates from Local No. 1, but I must recall some ancient history to you.

In 1940 or '41, in perfect good faith, the Local's attorney, worried about glass being dangerous, contacted a doctor in whom this lawyer had confidence, a pathologist in St. Louis, and said, "Look into this question for us."

And he did. In 1942 he published a paper saying glass is fine, there is nothing wrong with glass. What did he do? He went to Toledo and went to what is now the Fiberglas Corporation. At that time it was the company that later became Libbey-Owens-Ford. He asked the men questions, he X-rayed some and saw nothing.

This doctor meant well, but he was an aborigine. He didn't know that dust effects may take 20 to 40 years to become evident. And the fiberglass companies, ever since, when anybody writes them about fiberglass, say this has been investigated by the doctors and the doctors found it safe, and they even give you the name of the paper if you have any doubts about it.

In order to keep the glass fibers from breaking, they are often coated with oils. Some oils are harmful to human tissue. I don't think that foreign materials of this type belong in the human lung, and yet when they put this glass on the inside of a duct in a school building with 6-year-olds and 8-year-olds, and glass is put into the





lungs of these children, they are going to live with it.

If men aged 50 or 60 breathe it in, nothing is going to happen to you by the time you are 85 or 90.

But children live a long time. We believe that foreign materials do not belong in the human lungs. We certainly should not have anything entering the lungs that we can prevent.

Since you people are so close to the problem, I am counting on your support of public health measures to keep the glass out of the lungs of the general, unsuspecting population who don't even know that they are being subjected to this problem.

In approaching this problem, again let's not make the mistake of the aborigines in St. Louis. The research has to be properly done, has to be well documented, has to be carefully analyzed.

The second thing that we accomplished yesterday was, I think, that we have come to some awareness that a problem exists. This is rather new. You wouldn't think so, looking at the statistics I showed you yesterday, but it is rather new.

Two years ago, when your International Officials had me invited to the meeting of the Contractors Association in New York, after I told them a few things, some of them came over to me and said, "We are awfully surprised to see you as you were." They thought I had horns. They thought my only job in life was to see that men should get unfair compensation for diseases which they knew didn't exist.

For example, a year and a half ago, I spoke to some of the Johns-Manville people and suggested that the problem was a joint one, and they might even like to meet with some of your officials, and I offered my laboratory as a neutral ring.

Everything was arranged and the people were supposed to come, and a week before they called and cancelled and said they had something to do that was perhaps more important.

So that, although it's taken time, there is now an awareness of the problem and with that awareness the rest will follow.

I would like to take a few minutes now—I hope I have these few minutes. I hope you are not in the middle of an election right at the moment—to review some of the remarkable data that I have begun to collect, and the answers to the questionnaires that you people have been sending in. Besides it being a remarkable survey, the most successful that I know of in American industrial medical history; qualitatively, too, it's been remarkable and it would be a

good thing for any industrial engineer to sit down with these questionnaires for a month or two and analyze them.

Could I have the next slide, please? I have made a list of the major headings which will encompass the basic replies that we have had. There are 10 major areas, and the first one was, and probably is, the most important one, the development of safer materials.

I have seen this answer in hundreds of different forms. For example, Tom Hutchinson of Local 79 really stated the principle. He said, "If working as an insulator is a health hazard, then I believe all insulation materials should be researched. If the material is safe, none of the other precautions are really necessary."

Bob McCaffrey in Local 40 again put the principle. He said, "I don't think the asbestos worker can do a thing about this until the materials are changed for the better."

Don Ratcliff, Local 44, said. "With all of the technical knowledge and science in the world today, if enough effort were put forth, these materials could be manufactured to be less hazardous."

LeRoy Dhaemers, Local 49, mentioned that the material should be treated when manufactured, so that when cut, there would be less dust.

And Herman Hubert, Local 60, stated that all insulation manufacturers, not the contractors, the manufacturers, should include dust suppressive agents in the material, and the scientists know what such agents can be, to eliminate dust.

Many specific measures were recommended.

For example, it was pointed out that facing should be put on both sides of glass block, and other kinds of work. Many people said that, including Don Green. And a good idea, for example, came from Ken Lapriore. He made the point that when they manufacture insulation block, they should be scored at the factory so that actually a minimum of cutting would be necessary at the job site.

I know there are a lot of problems in these things. The basic principle is correct. The development of safer materials.

There have even been suggestions, just to show you how the range of thinking is, that you fellows ought to give all the work to the carpenters.

(Laughter.)

The answer is to make this a safe trade.





Now, in light of these suggestions and in line with what we have said, we have had two meetings recently, and this is interesting, and it shows again the awareness and the improvement. We have had two meetings recently with the top scientists at Johns-Manville, in their research laboratory at Mansville, New Jersey, to lay out a joint research program. We have some equipment that they don't have and some scientists that they don't have and they have some equipment and scientists that we don't have.

A joint program of development of safer materials; the problem being to develop materials that would maintain the insulation properties and the useful industrial properties that they now have while changing their injurious properties to human beings.

For example, there are ways of coating fibers. There are ways of flash exposure of fibers to very high heats which changes and seals their surfaces so that, when the surfaces come into contact with human beings, they would not injure them.

These things have to be explored. There are many ways of testing all these approaches. And a large program of development of safer materials has been begun and I hope will be developed as rapidly as possible.

In line with this action, the second group of suggestions was made that as new materials come into being, these should be tested not 20 years later, not by looking at the men and seeing what happens to them 30 years later, but at the time they are introduced.

Now, you know with our Food and Drug Act, if a manufacturer wants to put a new preservative in a candy bar or in a box of corn flakes, he has to go through tests with laboratories and he has to have toxicological examinations of his new preservative.

If you are going to take it into your digestive tract through your mouth, you have to go through all these tests. But if you are going to breathe it into your lungs, nobody has thought about the necessity of proving such materials safe. Each year there are many new materials introduced.

For example, the question was raised whether these new foam and plastic agents might be safe. Polyurethane in sheet form when placed in the abdomen of a mouse will cause tumors. We don't know if this will be so in humans. These things should be studied before insulators work with them for 10 or 15 years.

This is the beginning of a whole new era of chemical insulation materials. I think the principle is correct. These things should be

researched beforehand so we are not faced 20 years later with these problems.

The next heading was the improvement of working practices, and here I think Elmer Robertson of Local 80 gave a very fair general statement that better exhaust and better ventilation systems are required, particularly in shop work. Too many men work in small shops, and when there are many men working in small areas, this causes a good deal of dust. The work area should be cleaned during breaks and after work.

Many people have mentioned the use of special containers for mixing cement. Here I think our Canadian friends did a good service. They have brought down an invention that one of their contractors invented. We did some tests with this invention which is a plastic container. It has a spigot on it and you introduce the water into it and the mixing is done in the container. We did dust counts before and after this, and there was no dust in the air. It showed that the problem could be attacked, given the awareness that the problem exists and the will to work it out.

Local 118 was one of many who pointed out that wherever possible the insulation material should be wet down before application.

Many people talked about being careful when you work in close space.

In general, many comments were made about pressure on the men to work as fast as possible, and that this produced poor workmanship, and that here, indeed, haste not only made waste, but made a lot of dust. The use of special oil sprays or other wetting agents, the problems of working in hot spaces—how very often the heat is not turned off, and you fellows have to go into hot spaces and breathe, of course, much faster—all of this added up to one thing, that, urgently, an industrial hygiene program and a great deal of research were needed.

Here the question comes up as to who is going to do it. You know it is always the other fellow.

I don't know the answer to this. The insulation contractor says, "Well, I can't do this. I don't have a research staff to do this. The manufacturer should do it."

And each manufacturer says, "Let the other manufacturer do it." Or they say, "Well, it is the men's concern. They are the ones who are getting sick. Let them do it."

Well, it is not. It is the problem of everyone, the contractor, the manufacturer, and the men. And I am sure that with some good





sense and a lot of hard work and, well, as some of the men said, a little arm-twisting from time to time, that a good engineering program utilizing the services of some of the university engineering departments—for example, Harvard has an excellent industrial engineering department—this can be surmounted, and should be done.

The next large heading was the provision of adequate ventilation. Person after person after person said this. Mr. Granger of Local 21 mentioned that suction fans pulling dust away should be used on many, many occasions where they are not now being used. Bill McGalin, Local 51, pointed out that it helps a good deal to completely encase all parts of the saws, including the blade, when they are cutting, and also that vacuums should be attached to the saw.

I was on a job once that Harry Roche took me to. I saw that you fellows were pretty smart. You really didn't need a vacuum. When you were cutting block, you had the wind to your back, and all the electricians and plumbers downwind were getting the dust.

(Laughter.)

With regard to this ventilation, I might say that the problem has not been solved even where it has been looked at carefully. For example, the Navy has had a great deal of concern with this when, in ships, old insulation is ripped out, and they know well that this is one of the most dangerous jobs, and they pay a lot of attention to it.

To the present, there has been no good first-rate, effective exhaust system designed to work in such areas, but I am assured that when industrial hygiene research programs are established, that the Navy yards will work hand in glove with the researchers in helping develop this.

I might say there is some background to this, that you people aren't the only ones who have been affected by changes in industrial advances with regard to the use of power tools.

Some of the men said that unless better exhaust systems and ventilation systems are worked out, they should take all the power tools off the market.

As machine tools are put in, much more dust is created. This is a general rule in all dusty trades.

So, those of you who have pointed out that if your employers want you to use power tools, hand in glove with that, simultaneously, there should be concern with regard to adequate ventilation, have been right on the point.

The next area that was discussed was the question of masks. May I have the next slide, please. As you will see from this slide, about half the people who answered the question—20 percent hen't answer—but those who did answer the question, half thought re masks were good, and half thought that they were not good.

We had an idea that men would wear masks if they didn't smoke, nd they wouldn't wear masks if they did smoke, because, you now, you just can't get a smoke easily when you are wearing mask.

We had the computer look over the responses for us to see whether this was true, and it wasn't true at all. Men didn't wear masks whether they smoked or didn't smoke.

TABLE 2A

SMOKING HABITS AND MASK WEARING HABITS OF ASBESTOS WORKERS ON A DUSTY JOB
(in percentages)

| | No Answer | Never | Sometimes | Usually | Always |
|---|---|---|---|---|---|
| Smokers | 3.3% | 18.7% | 52.3% | 17.9% | 7.6% |
| Ex-smokers | 5.9 | 16.7 | 46.0 | 19.8 | 11.5 |
| Cigar, pipe smokers | 1.5 | 25.0 | 46.9 | 25.0 | 1.5 |
| Non-smokers | 3.4 | 18.6 | 43.4 | 22.1 | 12.4 |
| | 3.9 | 18.6 | 47.1 | 19.5 | 8.9 |

We then asked the question, if you remember, what was wrong bout the mask?

As you go through, there are all kinds of things wrong with asks. This information is tremendously valuable. Not many eople have asked the workmen what is wrong about them or what good about them or bad about them. We now know for the first me in American history what 13,000 or 14,000 men who have to ear masks, who realize their importance, have actually thought bout this, and, in a moment or two, I will tell you the usefulness this information.

Next slide, please. This was an analysis, if you can make it out. is a correlation. We wanted to know who thought the masks ere good and who thought they were bad. And we thought, well, t's analyze it by whether or not they wear the masks. We found he ones who thought the masks were good were the fellows who idn't wear them.

(Laughter.)





With this information, two weeks ago I had a session with three wonderful gentlemen at the Bureau of Mines who are responsible for masks in the United States, Earl Hayes, Dr. Hayes, Dr. Shoub and Frank Memmott, three marvelous, excellent people. We went over this information, and some other things, too, some of the problems that we found in our research with masks. For example, some of the masks that have been approved by the Bureau of Mines and that have been issued to you men, when you get to breathing through them, you pick up particles that may actually enter your lungs, because the filters are made out of material that shouldn't be in the human lungs.

(Laughter.)

Well, we went over this material, and at the end of this month there is a meeting scheduled between the Bureau of Mines and the mask manufacturers to discuss changing these filters, and also to begin a large-scale research program with the development of better masks not only for your trade but also for all dusty trades in this country.

May I have the next slide, please? This slide shows the last five conditions that you people thought warranted a good deal of attention. The first was the importance of cooperation between the Union and the contractors. The first group of people felt that it was necessary to educate the Union before you could think of educating the contractors. For example, Ken Murphy in Local 123 said let every union know the hazards of this not by some letter, but by some means of photography, and it would be nice to send a letter to all unions to explain the hazards of the asbestos worker for the purpose of acknowledging this fact to the employer.

After you train yourself, then you should teach the contractors. For example, Harry Field in Local 129 stated that when they approached the Allied Chemical Company, the company stated, when it was a question about X-rays, that it was not their concern, because all of you fellows had years in the trade before you had come to them.

Tom Dillon mentioned it was necessary to contact all contractors by letter in regard to handling and installing materials properly, raising as little dust as possible, providing equipment, et cetera, and some even went so far as Charlie Brown, Local 21, and said that sometimes it might be even necessary to enforce such safety procedures by putting it into working agreements.

Many people stated that not only was it necessary for the contractors to supply better material, but some people went all the

way back and said that the architects should be educated, when they make their plans, to give you fellows more space to work in. And that is not a bad idea. But I don't know how to teach architects.

(Laughter.)

It was pointed out that the International should work as closely with the manufacturer in addition to the contractors, and that it would be valuable to have joint union-contractor safety committees.

With regard to safety practices, scaffolding, ladders, lighting, et cetera, were mentioned.

The eighth was the question of health and welfare plans, and many statements were made here, and some went beyond this, but related to it, like Walter Hanna of Local 93, who made significant comments with regard to the importance of compensation.

Now, with regard to health and welfare, I think that you people ought to give a great deal of thought to this, and not perhaps the way you think that I mean. It is all well and good to have annual examinations, or in some cases even more frequent than annual examinations. It is all well and good to have doctors examine you. If any disease is troublesome and present, it should be taken care of in good time. But you are walking a tightrope. I am speaking very frankly to you. It is very important in the future as the contractors get the wind up, and as the insurance companies begin to pressure the contractors, that every step be taken in good time in advance to avoid victimization, because this is a hazard for you.

I can tell you a tiny bit of what we have done in New York and New Jersey. We have made sure that the examinations not be paid for by the contractors. In fact, in New York and in New Jersey nobody pays for them, which is all right. But where they have to be paid for at all, I would suggest that health and welfare plans, et cetera, undertake the cost, and no information go to the contractors, because if a doctor finds a little tiny scar on the X-ray, which I know probably doesn't mean a thing in most cases, and if a contractor reads an X-ray report saying that in the lower lung field fibrotic linear scars were present, he is not going to hire that man if he can get away with it.

This is very important, because the contractor, even in the best of good spirit, doesn't know and might take the wrong action. We don't even tell the union officials in Local 12 or Local 32 what we find when we examine a man. Nick Lucich hasn't any idea at all whether or not there was anything present when I examined Ed Kellner's lung. Only Ed Kellner knows. There is no reason why anyone else should know. If Ed wants me to write to his doctor to





give his personal physician the information, that's fine. But nobody else except the man is supposed to know.

And I would suggest that you people think about this carefully, and that your International discuss this among yourselves and get the best possible legal advice of what to do in good time.

I am raising this not as a medical problem, but a human problem, and something that is very important.

Finally, with regard to shorter work weeks, I don't think we are going to do this. I don't think you fellows are strong enough, or the contractors educated enough, to do this. But if you speak to me as an industrial physician with knowledge of occupational medicine, and if you ask me what is the fastest way of cutting the dust inhalation in half, I would say have the men work half time, get paid for full time, but work half time.

(Laughter and applause.)

You laugh, but let me tell you, this was a problem that the Caisson Workers faced. I have been working with Local 132 in New York of the Subway, Tunnel Caisson Free and Compressed Air Workers, the men who drill the tunnels, working under compressed air and in caissons. That's hazardous.

They have a rule that if a man is under pressure for two hours, he is off for four hours and gets paid for six. And it is safe and it is right. And everybody recognizes it.

There are many other instances of hazardous working conditions. I just point this out to you. I am not optimistic about it. But, by the same token, it is not a bad idea.

For example, if you men could have significant increase in pay, work fewer hours, some even said that retiring earlier—those must be the members, I think, from Local 80 in Florida—

(Laughter.)

With regard to personal hygiene facilities, many people mentioned better working conditions, including better washing facilities, and even mentioned changing clothes before going home, an opportunity to change clothes before going home.

By the way, I think one of the reasons some people haven't worn masks and protective devices in the past is they didn't want to appear as a sissy, and sometimes they felt the Super wouldn't like it, or the bosses wouldn't like it.

Well, that's just too bad. You are not being a sissy. You are being smart. I don't particularly care whether the boss does like

it. If he keeps you well, his compensation rate goes down.

But with regard to personal hygiene, there is even another reason. May we have the next slide, please. Remember, I mentioned this peculiar, rare, almost unknown disease called mesothelioma, which occurs usually with asbestos? Several years ago, Molly Newhouse and Hilda Thompson, in London, two very good doctors, reviewed all the cases of mesothelioma in a big hospital called the London Hospital. There were 76 cases. And of the 76 cases, I think there were 35 who worked with asbestos, almost half the cases.

Eleven lived within a half mile of a big plant, a big asbestos company in London.

But they also found that 9 people had contact with asbestos only by virtue of the fact that somebody in the family worked in the trade and came home, as they put it, with the white stuff all over their clothes, and the wife had to wash the clothes and be exposed to asbestos that way.

So, it is not a bad idea to consider the possibility of better hygiene practices.

I think from review of these data, it is apparent that much can and much will be done to make this trade a healthy and a safe one. No question about this. This could be a healthy, prosperous and safe trade. But it will take a good deal of cooperation, a good deal of hard work, a good deal of persistence.

And in this work I can assure you that I and the scientists associated with me will be happy to do everything we possibly can.

Thank you very much.

(Applause.)

PRESIDENT HUTCHINSON: Thank you very much, Dr. Selikoff. I know that you are going to stay around with us this evening—I hope you are going to stay around with us this evening—and attend the banquet we have provided for all the members, guests, and so forth.

We want to introduce you from the head table tonight, too, so be ready for that.

Now, are there any questions for Dr. Selikoff before we get on to something else?

A DELEGATE: I would like to ask Dr. Selikoff if there is any possibility of getting copies of these slides?





DR. SELIKOFF: Yes, you can have copies of any of these slides. If you get in touch with Mrs. Kaffenburgh, I am sure she will be able to arrange for any of these materials.

A DELEGATE: Mr. Chairman, was there a tape made of this speech today?

PRESIDENT HUTCHINSON: There wasn't a tape made of it, but there was a record. The reporter does have a complete record. This will be made available to all local unions.

DELEGATE TUTEN: I would like to ask a question. We have had talk in the Miami Local about x-rays of the chest, and we talked to Dr. Tate, through our Chairman, Bobby Lopez, and he advised us that if we do this, we would be in a position with respect to the lawyers and so forth petitioning the courts to bring these in against us in case we have a compensation case.

During this past negotiation, our contractors had a letter with them that their insurance carriers are beginning to require them to see that we take these examinations. They want to see what is in our lungs and so forth before we can go to work for them.

I would like to ask the good doctor if he can give me a little encouragement as to what I can do or how we should go about this.

I am sure Bobby is interested in it. He he is here with us today.

DR. SELIKOFF: I am sorry that I am not a lawyer, but a doctor, but I think I did point out, and what you have said emphasizes it, that this will be an increasing problem, and I think, too, what you said points up something else which is very disheartening, but which we have to change, and that is, instead of the insurance companies getting after the contractor to make safer conditions, they may suggest the contractors x-ray the men and not employ those with x-ray changes.

But, by the same token, you fellows have to defend yourselves. That's one of the reasons, I think, you have a union, isn't it?

PRESIDENT [illegible] is it.

DR. SELIKOFF: [illegible] contractors want you to take x-rays so you should be [illegible] they shouldn't have compensation costs, fine, but not to take x-rays to help them lower their compensation costs. That's not the purpose of it.

Moreover, about bringing this question into compensation court, part of the answer is making sure you have good compensation laws.

You have to present your case well so that you are not victimized. It is going to require a good deal of work on your part this year or two.

DELEGATE NEUMANN: Dennis Neumann from Minneapolis.

Does this take a special type of chest x-ray, or is the normal x-ray capable of showing signs of these diseases?

DR. SELIKOFF: 95 percent of what can be wrong will be seen on an ordinary x-ray. There are some little niceties, as in all trades there are tricks to this, but, basically, a good x-ray will show almost everything.

My advice to you people is for you to get good doctors in your own areas. Now, I am perfectly willing to help you all I can. You can send me all the films you want, and I will read them for you and so forth. But that's not the answer. Get good doctors in your area, even if they are not expert at this time in this field, give them your work, give them the opportunity of examining your people and you will be surprised. If they are good doctors, in a little while they will learn a great deal about this, and they will be highly skilled and highly competent, and with an ordinary x-ray, they will be able to pick up everything that is important in this field.

I have suggested to Mr. Hutchinson that it would even be feasible, if you people will select good physicians in your own areas and your own cities, that one day a conference can be called. We would be happy at my laboratory to act as hosts at this conference, for all the physicians working with asbestos workers. We can come together for a day or two and review all the problems, tell them everything we have learned so they can go back and have five years experience at their fingertips immediately. This can be done, but you need good doctors in your own areas.

DELEGATE KARIS: Mr. Chairman, George Karis, Local 12.

In line with what the good doctor is saying, I would like to see if I am correct in assuming—I believe I heard this before from the doctor—that many x-ray technicians and many doctors are not as adept in defining a lung x-ray from an asbestos worker as should be.

In this true, Doctor?

DR. SELIKOFF: Yes, George, it is absolutely so. I think I showed you some slides yesterday afternoon showing what most doctors are accustomed to looking at when they are talking about silicosis or pneumoconiosis, big things as big as my fist, whereas the scars of an asbestos worker's lung are very fine and tend to be underread.

That's why I ask that you get good doctors, and after they have examined a fair number of you men, they will know how to interpret them. Don't get 50 doctors when you have a local of 50 men because each man will only be able to see one doctor. Get one o two good doctors so they will know what the score is, and they wi! be very adept at it.





DELEGATE HOUSTON: Houston, San Francisco.

Are you aware, or have you been in contact with, Drs. Cooper and Tabershaw and the research program going on now at the University of California at Berkeley?

DR. SELIKOFF: Clark Cooper is an old and good friend of mine. Irving Tabershaw is another very good and old friend of mine. When Clark was in Washington at the Division of Occupational Health, I spoke to him in 1963 and told him, that when he settles as he was going to do in '63 or '64, when he gets out to San Francisco I would make contact for him with your local out there. I spoke to Carl Sickles and to Al Hutchinson, and we saw to it that when Clark got out there you had a very capable and skilled physician available. They are extraordinarily remarkable physicians who will do a good deal of research for you.

PRESIDENT HUTCHINSON: Are there any more questions to the doctor?

(No response.)

Brothers, I would like to say here and at this time that I think that many of the things that the doctor has related to you in his discussion of the past two days have lent much weight to the recommendation that I had in my report creating a Health Hazard and Legal Fund. I say Health Hazards and Legal Fund because this was dealt with just a moment ago in that we are going to need some awful competent legal advice, which we can get—all we have to do is turn Shipman and Dunn loose on it—but we are going to have to get some money to put into this program to get the information that is necessary to funnel this thing through the proper committees of Congress, the proper committees of school boards and through the various other areas where we have to have the exposure.

So, in my report, I asked for 50 cents per month per member contribution to take care of this.

The committees have dealt with it, and they will be reporting it further to you, but this is what we plan to do.

We have talked about this thing for 35 years. We know the problem. It is going to continue to be as great a problem until and unless we spend a little money and tackle it from that direction.

I think then we can start making progress. Otherwise, your Health Hazards Committee will be back five years from now telling you just about the same thing we told you today, that the problem still exists and we have done very little about it, except talk.

President Sickles would like to have a word on this.

PRESIDENT EMERITUS SICKLES: Mr. Chairman, I just can't help but impose on your time for a few moments, because I want to make a confession. Some few years ago—Brother Rider could tell you when, or the doctor—I had a call from New York. Vice President Rider said that he had a man, a doctor,—the name was immaterial—but that he wanted to see me and have a talk in behalf of the organization on the question of asbestosis, silicosis, or whatever lung disease might have been in their minds at the time, and he wanted to do something for the asbestos workers in this line, and George wanted me to come up and give the doctor my blessings.

Well, I was apprehensive. I though and remembered the old proverb, "Beware of the Greek bearing gifts." Of course, the doctor isn't a Greek. But I though there were others maybe practicing the same method and looking for a fast buck. I'm being frank.

But I did go because I had the necessity of making other trips to New York on other business, and I met and had lunch with the good doctor and with Vice President Rider, and I couldn't convince myself that I was right. I felt that the man was sincere and was dedicated, and he didn't ask for a buck.

So I said, "What can we lose?" We joined hands. I did very little. I did some communications with our locals, helped the doctor set up meetings, happened to be in New York City Local 12's office while he was examining a given number of men that came in on Saturdays to be examined, and while I was there the nurse said, "Come on, get in line. Strip to the waist. You are no better than the rest." And I did.

Well, the results, I will tell you, because at my age I might as well tell the truth. I have the scars. And you know how long it has been since I did any pipe covering. A lot of people didn't think I did much, anyway, while I was working, and maybe that's true, because I was too busy being a parttime business agent when I was working, and my mind was on other things than the job.

I make a confession to that, too, now, now that you have been so generous with me with my pension facilities and transportation mode and all that goes with it.

But I want you to know that this man is a dedicated man.





interested only in the human liver, and he was heaven-sent to the asbestos workers. And every asbestos worker here and in the future, and those in the past and their families, can be thankful that there was sent to this earth and to the asbestos worker Dr. Selikoff. Thank God for him.

(Applause.)

PRESIDENT HUTCHINSON: Carl, I think you just said it. With that, we have a tremendous amount of business before the Convention, so we will call on the Constitution and Bylaws Committee if they are ready with their report.