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CONFIDENTIAL

February 19, 1969

TO: F. J. Solon, Jr.
W. P. Raines
Carl Thompson -- Hill & Knowlton

RE: TRANSCRIPT OF MEETING WITH DR. GEORGE WRIGHT ON THE SUBJECT OF MESOTHELIOMA

Attached is a copy of the transcript that we had made from the tape recording of our recent meeting with Dr. George Wright on the subject of mesothelioma.

Because of the rambling, often ungrammatical nature of human conversation and because of the transcriber's unfamiliarity with the subject of asbestos and health, you will find many confusing sentence constructions and many misspellings of familiar terms and names in this transcription.

Nevertheless, I felt that it would be of advantage for each of us to have a copy of the transcript to look over before our next meeting with Dr. Wright. Hopefully, it will refresh our minds as to the events of our previous meeting and may very well spark some additional probing questions for Dr. Wright next time we gather. At the very least it should help us avoid following paths already covered.

Once our meetings with Dr. Wright on the subject of mesothelioma are completed, this transcription, along with any others that may be prepared, will be edited for the purpose of putting together a mesothelioma work book that can serve as a handy guide in dealing with the subject in the future. It should also be of great assistance to Hill & Knowlton in the preparation of a mesothelioma background paper.

I need not remind you of the confidential nature of this transcription. We would not want to in any way embarrass Dr. Wright, who was very candid with us in his conversation, especially in regard to the capabilities and motives of certain of his colleagues in the asbestos/health field.

Matt

Matthew M. Swetonic

F.J.S.

~~VOICE:~~ I suggest we get rolling, (unclear) and I further suggest that we get to the meat of the mesothelioma subject and I'm sure that's not going to be exhausted in 45 minutes, but I think we had better stick to that one.

George, as I expressed to you last time, the thing that we're fundamentally after is this. (unclear) in various places, magazines and so forth, seeing more and more of the use of the word mesothelioma and a lot of things being said about it, and I think that we've simply got to get your thinking so that we can put this into position papers and have it available for various uses that we - where we may find it necessary to put it to good use, and we're not up to date on what's going on in meso, and you've got all the information. You've got the recent experiences on your trip and so on, and we'd just like to have you expound in any direction you want to take.

DR. GEORGE WRIGHT: Okay.

VOICE: Is that a fair statement of what we're after?

VOICE: We hope to ultimately put it into some piece of paper and use it -

VOICE: But the Time Researcher would say, "Mr. Rains, (phonetic) what about this mesothelioma I hear about?" We'd like to eventually have someone say, "Honey - we'll, send it over to you." "Here it is, here's what we're aiming for eventually."

VOICE: We wouldn't do that until you had seen it.

VOICE: No, no, of course not.

DR. WRIGHT: Well, first of all I don't have to go back so far as to the very beginning. People have some information. Let's explore first the question that's constantly recurring and that is, one, is there such a thing as a mesothelioma? And second, is there full agreement on what mesotheliomas are when you meet them face to face? In other words, how uniform and how acceptable on the broad base - by that I mean, throughout a country or throughout the word, is the diagnosis of any single or any group of cases? And, I can say at the outset that there is no agreement whatsoever about this.

There are still those pathologists who say that a true mesothelioma, namely something arising from the mesotheliom may not exist. I would say, if I had to give a weight to this, I would say that such people are in an extraordinary minority but would remind you that Columbus was one of a small group also, and that the facts are that this has not been settled to everyone's satisfaction. Quite apart from that, is the question of criteria that will permit a uniform acceptance of a single case as being a mesothelioma.

This has been the subject of a considerable amount of discussion and still is. In fact, it is still one of the things to which the newly created Mesothelioma Group at the National Institute of Environmental Health Sciences is going to address itself. I don't know whether you know about that committee.

VOICE: I know vaguely about it.

DR. GEORGE WRIGHT: I can tell you -

VOICE: Olsen (phonetic) heads it up, doesn't he?

DR. GEORGE WRIGHT: Yes.

VOICE: And he's got the registry center down there.

DR. GEORGE WRIGHT: It's going to be there, and I have seen the Committee that he has appointed to more or less hand guide this, and I don't know who all the pathologists will be but I have the other Committee and I don't think I'm at liberty to tell you who's on it, because he may be forced by various pressures to change it a little bit before he's through, or to add people to it.

VOICE: Is that what came out of the Claire-Ruse (phonetic) Conference so-called?

DR. G. WRIGHT: Yes. Have you seen the minutes of that -

VOICE: No, Sir, I haven't.

DR. G. WRIGHT: Would you like to have them?

VOICE: Could somebody run them off? While we adjourn?

DR. G. WRIGHT: Sure, it'll only be a few minutes.

VOICE: If it's on this subject, I think it would be very useful to have it right away.

DR. G. WRIGHT: Well, if I give them to you, you will have to know that these are confidential to some degree. I'm sure they're not marked confidential, and I'm sure you'll leave them in the hands of other people.

VOICE: But this you can get someone to photostat.

DR. GEORGE WRIGHT: I haven't read it myself.

VOICE: Yes, I think it would be very useful.

DR. GEORGE WRIGHT: But there will be constituted under Paul Colten's (phonetic) direction, a group of pathologists and a group of others such as epidemiologists, physicians, etc., who are - cancer experts and so on, who are going to look at this full problem, and one of the things involved here is the matter of having some acceptable criteria that will categorize what a mesothelioma is. This can be pointed up by indicating to you that in South Africa they have such a panel, and they are looking through all of the material that has been alleged to be a mesophelioma in the past, in whatever registries are available in South Africa and they are also looking at new material, and out of the original group that were called mesothelioma by Herr Wagner (phonetic), roughly 25% have been considered to not be mesotheliomas by this new panel.

The information they gave me was, that with the exception of one man whose name I could give you but I don't think it's important, - there's one man on the panel who feels that mesotheliomas either don't occur - this is a pathologist, or are extraordinarily rare and doesn't believe that those things that are being looked at in South Africa are mesotheliomas.

VOICE: May I ask you a technical question? Is this somewhat like the difference between epithelial and adinocarcinoma (phonetic)? In the lung? The question of where it

originates?

DR. GEORGE WRIGHT: Yes, to a large degree it's this, because quite to my surprise Thompson (phonetic) agreed, and surely he's a strong mesothelioma man.

VOICE: Yes.

DR. GEORGE WRIGHT: Agree when I asked him whether or not it would be possible that what they now call a mesothelioma actually originates within the lung itself, in the most distal part of the lung, perhaps from an (unclear) membrane, and simply grows to the outside and then appears as a mesothelioma.

VOICE: Then when you take the slides, you get the mesothelial -

DR. GEORGE WRIGHT: No, you just get a tumor, which is in the position of the mesothelium -

VOICE: Oh, I see.

DR. GEORGE WRIGHT: And directly attached and located there and could look like a (unclear) kind of tumor, which a mesothelium tumor can look like. It is a category of tumors let's say that has some describible characteristics. The real question is, does it arise from the mesothelium or does it arise from the most distal parts of the lung, but still within the lung. Now this is -

VOICE: It pushes it way through.

DR. GEORGE WRIGHT: Now this is not a minor question, because you have to ask yourself why as asbestos portal of entry

is the air tubes, why is it that the tumor would originate in the mesophelium? In the pleura, and not in the lung itself? It's much more readily understood if you say - oh, well this tumor that now is being called a mesothelioma, is in fact a lung tumor that arises from within the lung, and then you don't have the problem of getting the asbestos fiber to it.

And in fact, Corvin McDonald's group (phonetic) has said, let's don't talk about mesothelioma. Let's just talk about primary pleural tumors which simply means that the tumor is located at the level of the pleura.

VOICE: Does this apply to the peritoneal mesothheliomas too?

DR. GEOPGE WPIGHT: Sure, you can say the same thing about the peritoneum, as far as that's concerned.

TIED TO?

VOICE: But not the type to the lung, but to the -

DR. GEORGE WRIGHT: To the gut.

VOICE: To the gut, yes. In other words, this is a stomach cancer.

DR. GEORGE WRIGHT: Now in the gut, it's not quite as easy to see how this could come about, because the distance from the lining cells of the gut to the peritoneum is well quite a bit greater and you have to go across some pretty strong structures such as muscle and so on.

VOICE: Those are by far the minority cases, aren't they - the

DR. GEORGE WRIGHT: Well, I don't know if you can say by far the minority. They are in the minority.

VOICE: Yes, yes.

DR. WRIGHT: Well, all of this is to say that there is some disagreement in terms of categorizing a tumor that seems to occur with a greater than expected frequency in the periphery of the lung or on the surface of the lung, and also invading the chest wall.

VOICE: The reason that I brought up the adinal (phonetic) versus the epithelial - thing for the lung cancer, is that this has been an important question in talking about the gross lung cancer -

DR. WRIGHT: Sure, that's right.

VOICE: Whether the adinal (phonetic) carcinoma, or the epidermoid carcinoma is always necessarily epidermoid - that may have come out of the gland and -

DR. WRIGHT: Sure.

VOICE: And broken through there.

DR. WRIGHT: And then you have the different kinds of tumor cells within the same tumor.

VOICE: It's within that category of problem, is it? Can I _ I mean, can I think of it that way? As a similar, similar type problem that we're talking about -where it originates?

DR. WRIGHT: The question is, where did it originate.

VOICE: Yes.

DR. WRIGHT: And if you think that it originated in the mesothelium, it's called a mesothelioma.

VOICE: Yes.

DR. WRIGHT: If you think that it originates in the alvilar cells (phonetic), it's an alvila cell carcinoma.

VOICE: Yes.

DR. WRIGHT: Now you're in the lung category, because then the next step from an alvila cell carcinoma is a bronchiolar cell carcinoma. These terms are used sometimes interchangeably. Well, I would just simply say that the current state is that there is not - well, I'll put it more positively, there is agreement that in some segments of the population there is a frequency of a tumor which can be called a malignant tumor in terms of its progressive and invasive character. There's a greater frequency than should be in certain population groups, the most striking of course, was the population that lived in the region from Preuska (phonetic) North through Creedman (phonetic) in what's called the Northwest Cape, a province of South Africa.

VOICE: There's no question of this being in the - I can't say it - mescthelioma group, at the time it's found?

DR. WRIGHT: It is in the most distal part of the lung or in the covering of the lung.

VOICE: Yes.

DR. WRIGHT: One of the two. It's almost impossible to get a tumor - by the time that you know that it's there, if it hasn't gotten big enough, to involve all of this.

VOICE: Now most of our - what we think of as lung cancer, usually manifests itself around the bifurcation

of the bronchi or - I said manifests, not originates, but this is in an opposite area.

DR. WRIGHT: Further out.

VOICE: Yes.

DR. WRIGHT: Far out as you can get.

VOICE: There are some who think that the major bronchus, bronchi tumors may have originated farther away from the bronchus than they appear to at first.

DR. WRIGHT: I suppose that's possible.

VOICE: Well -

DR. WRIGHT: That's off our subject.

VOICE: Yes, but it is - what we're talking about is going in the other direction really?

DR. WRIGHT: Yes.

VOICE: Yes.

DR. WRIGHT: Because when you come to the gut, it's in a completely different league because here it is on the outer surface of the intestinal tract, but you can still argue about where it originated.

VOICE: Yes, yes.

DR. WRIGHT: Well, there are people who are trying to develop acceptable criteria in South Africa. They think that maybe they've had a fair meeting of the minds, and in Great Britain I'm telling you that there's been a fair meeting of the minds. In this country there is surely anything but a meeting of the minds because we've just begun to look at this.

When you speak to somebody like Thompson about the fact that in certain rather unusual circumstances mesothelioma doesn't appear to occur, he says that such people just don't recognize mesophelioma.

VOICE: Uh-huh.

DR. WRIGHT: And when you talk to other pathologists in the world, they say that's ridiculous. We may argue whether it's a mesothelioma or not, but you can at least know whether it's a tumor, and in this category of people that I'm going to tell you about, tumors have not been found. Now, as you know the high rate of occurrence was in a population that lived in the Northwest Cape in South Africa. That was the beginning, and this involved people who lived in the mines - worked in the mines rather, and also people who did not work in the mines, such as some of the women.

Nevertheless, because it occurred with such great frequency and because there always is in the mind of any well-trained man the question of well, why did it occur here and not seemingly elsewhere? The obvious thing to look at was well, what do these people do, what goes on in their community that's different than in other communities? So, obviously the thought was well, crycidilite (phonetic) mines are in this area, and this seemingly kind of closed their minds it seems to me, because there are other things peculiar to that area, which were pointed out to me when I was in South Africa, such as the fact

the Kalahari Desert lies just to the West and the sand from that area blow all through this region, and if you were to take a look at the soil you might find that it had different trace metals, although so far this is only being looked at not - we still don't have any information on it.

The reason this becomes important is that as of this present moment, in the crycidilite mine area (phonetic) of the Northern - of the Northeast Transvaal, which is many miles away, in that crycidilite area (phonetic) as of this moment, no cases of mesothelioma of any kind have been reported.

VOICE: Now have they - you were talking first, earlier about Wagner's work, weren't you?

DR. WRIGHT: Yes.

VOICE: Had Wagner gone into the Transvaal? I mean, has somebody gone in there looking for them as (unclear) might?

DR. WRIGHT: Wagner's data arose by reason of cases that were occurring in the tuberculosis hospital, a receiving hospital that serviced the area, and also by reason of the fact that he had access to the routine autopsy material in the pneumo- (unclear) research unit. And the law over there is, that any man who's worked as a miner, when he dies it's the obligation of the doctor to obtain the heart and lungs of that man and ship them to the pneumo (unclear) research unit. So Wagner has all these from all over.

VOICE: Uh-huh.

DR. WRIGHT: And the pneumo (unclear) research unit has continued this work in the same way that it has - it gets its lungs from the Transvaal just as well as we get them from the Northwest Cape.

VOICE: Wagner is in Pennard (phonetic).

DR. WRIGHT: Now.

VOICE: In Wales.

VOICE: In fact, he made mention - of the first draft of the background -

VOICE: Yes, I remember that.

DR. WRIGHT: Now when I asked - of course, this was a major question for me to ask of these guys, and I've asked Young Webster (phonetic) who is in charge of the Pneumo (unclear) Research Unit and who is a pathologist, who is on this panel and who is interested in mesothelioma, and I've asked Lace Kramer (phonetic) who is the official who has to do with the determining of whether or not a man is adjudged to have some illness arising out of his employment, and therefore could be taken out of his employment - they have a term for that that escapes me at the moment - I've asked both of these men, is there any reason to believe that the collection of material, or the mechanism by which it would come to yours or to some other equally interested person's attention - is it any different in the Northwest Cape than it would be in the Transvaal, and they assure me that there is absolutely no difference.

That, if the cases were in the North - Northeastern

part of the Transvaal, (coughing here) - up around the fringe area - that they should have them, and when you ask them how many cases they have, they say they have at the most three. You go to the mining people and say, is this true? The mine doctor says, no, we don't have any. Those are not cases of mesothelia. Let's just accept the idea that they do have two or three. The number of people at risk in the area in general is so close to the number that are in the Northwest Cape, that you ought to have them in the hundreds.

Now this may not be true just for crycidilite (phonetic), but we've got another one to talk about, but before I go to the next one let me say this. Then I asked Dr. Detroit (phonetic), who is the Industrial Hygiene Doctor for the State, whether the duration of exposure and the history of exposure would have been substantially different in the Transvaal than in the Northwest Cape as far as crycidilite is concerned, and he said that he thought not. That there might have been a slightly heavier exposure in the Northwest Cape, but that the practices for mining and milling and the exposure of the general public were essentially the same in the two areas, and that the duration of the exposure was essentially the same in the two areas.

So that if you were going to have any epidemic of mesotheliomas in that crycidilite area (phonetic), they should have them, and they don't have them. So I think it's reasonable

to raise the question as to why it was that crycidilite was picked on as being the cause of the mesotheliomas, in the Northwest Cape.

Is there some other difference between the two areas? Well, other differences have not really been looked for. It's just been accepted that this is the thing.

VOICE: Which is in effect that they felt they had found a whipping boy and they -

DR. WRIGHT: Well, they seem to have a fairly logical cause. Now when you add to that in retrospect as you now take a look at what has been reported in other parts of the world, you find that where crycidilite (phonetic) has been handled in the docks in England and in the textile plants, that there is an unusual frequency of something called a mesothelioma, so it may be more reasonable to think that crycidilite is involved in some way, but only the crycidilite (phonetic) from the Northwest Transvaal. I mean - Northwest Cape, and not the crycidilite - and so far I don't know of anyone who has come up with a population only exposed to crycidilite from the Transvaal, where you don't find them. Get an exposed group in England of this kind - this would be something that you'd like to find, but I suspect you'll find that the users of crycidilite have bought it from both places.

VOICE: Well, the British have medical people, have basically bought the idea of (unclear) mesotheliomas, right?

DR. WRIGHT: If there is such a thing as a mesothelioma, yes.

VOICE: Just - there's no doubt, they've got it in the factory regulations now.

DR. WRIGHT: Yes.

VOICE: They're going to have precaution label, apparently blue asbestos -

DR. WRIGHT: Yes, they've bought the idea, and they've now asked that you prove that this is not true.

VOICE: Right.

DR. WRIGHT: Which is not only - I'm just giving you - I don't think that you would find the majority of the men who are reasonably knowledgeable in South Africa, who would say that crycidilite (phonetic) has nothing to do with it. I'm just saying that you must raise some questions because the experience in the Transvaal is quite different. Now I know that there'll be those - like Solikoff (phonetic) did to me the other day, he'll say - but oh, the exposure hasn't been nearly as long in the Transvaal, and all I can come back and do is say, - well, I was told that it was. And he says, -oh, no, it wasn't. Why argue that point?

VOICE: Is there any basic difference in the people? I mean, one group isn't white and one group black or anything?

DR. WRIGHT: No.

VOICE: No real essential difference?

DR. WRIGHT: There's a mixture. You have white miners

and black laborers, and you have the blacks living in the area. Now the exposure as far as that part of it is concerned, which was of interest and which has been grabbed on, runs as follows:

It's been alleged that the exposure of the women and those who were not actually working in the mill or underground has been rather light, and this is - keeps creeping along with the idea that small exposures will be harmful elsewhere. Well actually the exposures were really quite high for everybody. The rugs in the area were made of crycidilite. The mine that I visited in Creedman (phonetic), the manager said that up until they took measures the ground was blue and there was no vegetation for yards around the area, hundreds of yards.

This was so true that they have now paved all their roads with macadam and they have covered their tailings piles either with big stones or with plastic, sprayed it on, and they have cleaned up the mill to the point where it's really very good-looking and they have trapped and filtered all of the air that they exhaust from the place so that they don't spew that out anymore and now the ground is nice brown, sandy ground with plenty of vegetation growing on it.

So the exposure - and furthermore, many of the women work, and the babies were carried on their banks, worked at hand carving, and that's been done away with.

VOICE: That's been done away with?

DR. WRIGHT: Yes, there are no more women handcarving,

only men.

VOICE: You remember that - oh, okay, remember that.

DR. WRIGHT: The men don't carry the babies. They stopped about fifteen years ago -

VOICE: That was the (unclear) that came out in the magazines, showing some gal -

DR. WRIGHT: That's against the law now. Actually, handcarving is frowned upon, but it still does go on. Well, there's another very interesting thing and that is that there's a very substantial crycotile (phonetic) mine and mill in the fringe area, or in the Transvaal area with many years history of production, and just as dirty as all the others in the past. And yet, here's an area from which as I say, the Pneumo (unclear) Research speaks of three mesothelium - and the mines say none, and the three that they have are not from the crycidolite mines or the crycotile mines (phonetic). They're from the amycyte mines (phonetic).

VOICE: In the same area?

DR. WRIGHT: In the same area. So now you've got another little bit of indication that there is a place in the world where the opportunity to find mesotheliomas should be the same as it was in the Northwest Cape, another place namely the Transvaal, and yet they don't find them.

VOICE: They do not find them in the Transvaal?

DR. WRIGHT: They do not find them in the Transvaal

in the crycidolite area or in the crycotile area (phonetic). There are alleged three cases in the amycyte area of-

VOICE: Of the Transvaal?

DR. WRIGHT: Of the Transvaal. Now amycyte (phonetic) came under question because first of all -

VOICE: Excuse me, who says these are? Thompson?

DR. WRIGHT: Pneumo (unclear) Research -

VOICE: Oh, I see. Okay.

DR. WRIGHT: So far has said that. That's Ian Webster (phonetic), and just says that that's what they are, doesn't know where the men there have worked, for certainty, because as you know the black laborer comes from all sorts of areas, and there's a good possibility that black labor could have worked for a year or two over in the Northwest Cape and then gone to work subsequently in Transvaal. These are some questions that I'm sure will come out in our discussions in Johannesburg.

VOICE: Can you give us a roundhouse figure of how many they think they have found around the Northwest Cape Area? At this point? Webster started looking in what? Sixty? He came up with a fair -

DR. WRIGHT: Wagner.

VOICE: Wagner.

VOICE: Thirty two or thirty three?

VOICE: Oh, no. It was over a hundred.

DR. WRIGHT: I think they're on the order now of

something like 180.

VOICE: 180 total.

VOICE: Total cases.

VOICE: Out of a possible, what?

DR. WRIGHT: No one knows, you have no denominator because -

VOICE: Are these women and men, miners -

DR. WRIGHT: Everybody, miners, blacks and women.

VOICE: I suppose they do have details on their age and how long they could possibly have been exposed and so forth?

DR. WRIGHT: Many of them not because you can't get this retrospective -

VOICE: Yes.

DR. WRIGHT: You can find that some of them were on the payroll of the mine, but - and you know something about their age, but really the blacks have very little in the way of vital statistics.

VOICE: Well, that's -

DR. WRIGHT: The white miners, yes, they would have that, and they would know something about the length of exposure and it isn't always forty years.

VOICE: But it is interesting at any rate, cause you've had some time to look for it, looking for it. I think Wagner reported in '60, and he must have found them a little bit before that, so let's say ten years, you've had to watch for this stuff,

an awareness of it, and theoretically everybody in that area at approximately the same exposure or duration of risk, and yet relatively,still relatively few.

DR. WRIGHT: What you're getting at is whether there's an epidemic, such as Thompson predicted.

VOICE: Yes.

DR. WRIGHT: And this goes to what we were talking about a couple of months ago. Webster is very adamant about this. He just says there isn't going to be any epidemic.

VOICE: Theoretically -

DR. WRIGHT: There isn't going to be any, not even theoretically. They now have it by the year as I recall, from 19 - the rate of discovery of cases, from 1960 up till 1966 or 1967, and they're running very evenly, 20 new cases a year. There's been no great increase, but -

VOICE: But theoretically you would have thought -

DR. WRIGHT: If there was going to be an epidemic within six years you should see a very appreciable - it should have gone from 20 to 40 to 80 -

VOICE: Yes.

DR. WRIGHT: To 160. Webster said that that's just not going to happen. They have that kind of information.

VOICE: He doesn't know why it isn't going to happen, I guess, because if he did -

DR. WRIGHT: Well, he doesn't think that they are minor exposures. He thinks that you have to have a substantial

exposure, to have it happen, and secondly he doesn't think it's fiber alone.

VOICE: Yes.

DR. WRIGHT: He thinks you have to have something plus fiber. He doesn't know what it is.

VOICE: That thing in itself could be one of the most significant -

DR. WRIGHT: Well, when you get around to asking him what the other thing is -

VOICE: I mean the figures -

DR WRIGHT: The numbers.

VOICE: The numbers themselves are a good, understandable thing.

DR. WRIGHT: Of course.

VOICE: If this is only - if this is the rate going on -

DR. WRIGHT: Not only that, what's going to be very interesting and which they do not have, and he says that he hopes to have it by the time of the conference. I asked him - "well, do you know whether or not the ones that your panel is turning down as mesotheliomas were the neighborhood cases?" Because, if you speak to some of the men down there, the approach has been in the past this, on the part of Wagner and others. If you had a tumor that looks like it might possibly be a mesothelioma, and there's a history of any association of - in any way with the fiber, ergo - it's a mesothelioma.

That if you look without knowing anything about it, it isn't always necessarily called a mesothelioma, and 25% of them have been thrown out, and the question is were those that were thrown out the ones that were neighborhood cases? In other words, they knew they lived in the (unclear names) area, leaving behind only those who would actually have a working exposure, which begins to be the case in England where if it wasn't a working exposure it's recognized that it was a very substantial exposure.

They don't know this because at the present moment because the panel is looking without knowing the exposure. They don't want to know it, and Ian said that as soon as they are finished with it, then they will go back and get what the exposures were. How it will turn out, I don't know.

VOICE: I don't want to - but you time is growing short. I wonder if we could jump suddenly to the United States and what you know about it here and what we know about it, maybe going back. I don't know what your plan of development is.

DR. WRIGHT: Well, I think that it would be better if I did it in a systematic way and did it again next week.

VOICE: Right , very good.

DR. WRIGHT: I wouldn't know what I talked about the next time.

VOICE: Okay.

DR. WRIGHT: Now, amycyte (phonetic) is chemically and physically rather similar to crycotile (phonetic). It's closer -

I mean to crycydolite (phonetic). It's closer to crycydolite than it is to crycotile, and obviously they wanted to take a hard look at it, and it was just as dirty an operation, both as regards the working place and the surrounding community. I was there, and it's only mined in one very small area around Pinge (phonetic).

And, the duration, that is the number of years that amycyte (phonetic) has been being produced is equivalent to that so far as the living and recently dead population is concerned, is equivalent to that of crycydolite (phonetic), so it's very striking to me that in this situation, even though they had been striving very hard to find cases of mesotheliomas that the best they can come up with is three. Now, I'll come to the United States just for a moment, because in - the only place where there has been a striking - that isn't quite right, because we just double the number. That's striking enough, but the only place where a substantial number of mesotheliomas has been disclosed is in the insulation workers.

Partly it's because none of the other groups has been looked at in the same way, although this isn't completely true because if there was an epidemic of mesotheliomas it would make itself known in the Sepford Region (strictly phonetic), where crycotile (phonetic) has been mined for years, and where the doctors aren't so stupid, but that if there were something very striking, especially in retrospect, and the doctors do know up

there about mesothelioma, In retrospect they would say - oh, yes, we've been wondering what those funny tumors are. It just hasn't happened so far up there, and it hasn't - unless we are misled,happened to the same degree as in the textile industry, but I don't think we can say anything about the textile industry. But we can say something about the insulation industry because surely Selikoff (phonetic) has published that he has these mesotheliomas of the pleura and peritoneum.

Will everybody agree that they're mesotheliomas? Well, I suspect that they will not, and one of the reasons I think that is - it's never happened elsewhere, and secondly, Church (phonetic), his own man has already said in my hearing that when he looks at these tumors he finds as of the moment he can classify something like 26 varieties. Well, there aren't all that many, so - each one must be classified almost differently, or 2 or 3 in any one classification.

So, one really wonders, is this really a homogeneous group? That you can call mesophelioma? Or, is he talking about some other tumors? And, that is something for the future to tell.

VOICE: Have they gone to the registry now, do you think?

DR. WRIGHT: All these tumors will go to the registry.

VOICE: Yes, right.

DR. WRIGHT: All the past ones have gone, and surely all the new ones.

VOICE: You mean all that Selikoff and Church (phonetic) have studied?

DR. WRIGHT: Well, if Selikoff holds out, then he's doing what he's asked others not to do.

VOICE: Does he agree - as said at the meeting -

DR. WRIGHT: He may decide to hold everything out when he learns that he's on the committee.

(LAUGHTER)

DR. WRIGHT: That's neither here nor there, we'll find out about it.

VOICE: Yes.

DR. WRIGHT: At any rate, the interesting thing about it is that the information group (insulation groups?) seems to be aware there is the greatest - and this is a group who certainly have been exposed to various kinds of fiber, crycotile and amycyte (phonetic) as being the most abundant, and some agreement that there may have been to some degree some crycydolite exposure, although this has never been considered to be a characteristic fiber in insulation production, but I guess that no one would be brave enough to say that there's been absolutely no crycydolite used.

VOICE: Isn't there some in the spray that -

DR. WRIGHT: Yes, I think so. A fellow up there said the other day that there was.

VOICE: That's what I thought, yes.

DR. WRIGHT: So there have been all three used.

VOICE: Yes.

DR. WRIGHT: But Selikoff (phonetic) is fond of saying - oh, this is amycyte,and yet it's rather interesting that in South Africa where there is this very heavy amycyte exposure, and where the same guys discovered the mesophelioma in the crycydolite, they are not discovering it in the amycyte, and I can understand why they might want to find some. Well now, before I leave South Africa, let me tell you that first of all Thompson when I spoke to him said - you see all these asbestos bodies, this can only mean that we're going to have an epidemic.

VOICE: He said that to you again this trip?

DR. WRIGHT: Yes, and I said - well, why don't we have it, and why don't they find all these? And he said, - well, anyone who fails to find them doesn't recognize them, and I said - well, how about Neuerman (phonetic), who is the Finnish pathologist who says there are no mesotheliomas associated with anthropolite (phonetic), and he said - Neuerman (phonetic) wouldn't know a mesothelioma if he saw it. And I said, - do you mean to tell me that he wouldn't even know that it was a tumor? And he said - that's right. Well, when you face this kind of a mentality it's somewhat like our friend up on Fifth Avenue, and it's the kind of guy that you'd just like to walk away from, because their mind is made up and they're going to find whatever it takes to fit the facts.

Thompson further said that asbestos fibers are so

ubiquitous that he had to give up his own experimental work because even in the distilled water he found asbestos fibers. I didn't follow that up, other than to raise my eyebrows - and say - I don't quite see how a fiber gets distilled over, and he said, well - with the electron microscope the water, the distilled water is full of asbestos fibers.

Well, mavbe they are down there, because maybe he's got enough crycydolite sprayed around his laboratory to do that, but at any rate when I said - well, how about talcum powder, and he had to allow that there was some fiber in talcum powder, and I brought home some talcum powder fom the drugstore and it's got fibers in it. I don't know what they are, whether they're asbestos or talcum, but I'm going to give some to Louis Crowley (phonetic) and see -

Now back to the general area, because as you know almost always you'll find some disagreements that don't appear on the surface and surely don't appear on the right. (unclear name) Kramer and - he's in the Miners' (unclear) Board, and is the fellow who has to do with saying whether or not, if a man has an injury if he deserves compensation, and Ian Webster who is in charge of Pneumo (unclear) research in - both feel strongly that there is not going to be an epidemic, that the public exposures other than in the immediate vicinity of a mine or a mill are negligible.

Webster even gave as an official pronouncement in

poses no hazard?
a letter that I saw, that asbestos (unclear) pipe does not have it whatsoever, that query having been made to him.

VOICE: Whose going to get that letter?

DR. WRIGHT: Ian Webster.

VOICE: You mentioned that December 17th?

DR. WRIGHT: I can't find it. I'm still looking. I may find it somewhere in my things. I haven't been through them all.

VOICE: Would you consider writing him and asking him to repeat it, or would that be -

DR. WRIGHT: I'll ask him when I'm down there.

VOICE: You mean next - in the -

VOICE: I think the discussion at our meeting was that you were going to give Jack the address, and that you were going to write to him.

VOICE: Yes.

DR. WRIGHT: Well, I can give you the address -

VOICE: Is that work for me to do?

DR. WRIGHT: Of course. You can just say that - have him put his view that it isn't a hazard.

VOICE: You say that he wrote to some government -

DR. WRIGHT: He did write to the government, yes.

VOICE: That's what I recall. I want to get that address from you. I don't think you had your address book that day as I recall.

DR. WRIGHT: That's alright, I could give you the telephone number.

VOICE: And I was about to phone him.

DR. WRIGHT: Pneumoconiosis Research Unit (phonetic), Post Office Box 4788, Johannesburg - I guess it would be, Union of South Africa.

VOICE: Very good.

DR. WRIGHT: You find that when you begin to talk around a little bit that there are some conflicting opinions, and there are two people who represent asbestos producers, crycydolite and amycyte people (phonetic), a radiologist and a pathologist, both of whom feel very strongly that the mesothelioma situation has been grossly exaggerated. The pathologist is the one who raised the question as to whether there is such a thing as a mesothelioma. He's the guy who got up in Dresden and said that these things they're calling mesotheliomas are predominantly metastatic lesions.

VOICE: Yes.

DR. WRIGHT: As you know, out of all of those mesotheliomas that have been reported in South Africa, I think it's something under ten in which there's been a complete autopsy, the bulk are just from the lung and heart things that are sent to the research unit, or they are biopsy specimens.

VOICE: So they don't even know that these are primaries?

DR. WRIGHT: Well -

VOICE: Or he said -

DR. WRIGHT: Well, they think that they can look at them and tell that you see.

VOICE: But he says that -

DR. WRIGHT: But he said that they really need a complete autopsy. When I say ten, I might be in error, but there are much fewer that they've had autopsy on than have not been autopsied. I think they are stretching it a little, but I do have and gee, why didn't I give that to you? I have two things that he wrote, the pathologist wrote -

VOICE: That the government (unclear) -

DR. WRIGHT: That you really ought to have. Well, you'd have to make photostats of photostats.

VOICE: We've done that.

VOICE: Some of the stuff we've copied is unbelievunreadable?
able, and unreal -

DR.WRIGHT: This is Bruckman (phonetic), who is the pathologist. His answer to this fellow, and that you won't have too much trouble copying. This is the statement from the Scientific Research people. Why don't you copy those off? - mesothelioma - this is by Hurwitz (phonetic) also, a pathologist.

VOICE: Fine.

DR. WRIGHT: I've got two very good papers on the subject of that asbestos itself, like Sydney Steele (phonetic) wrote.

VOICE: Oh? You mean two written by others?

DR. WRIGHT: Yes.

VOICE: (unclear) regardless, you would have some curiousity about why - whether these are metasticized or anything else, why they were doing it in this peculiar place for this peculiar group of people. I mean -

DR. WRIGHT: Yes, it's an unusual event.

VOICE: Yes.

DR. WRIGHT: From a quantitative point of view, it's clear that some people down there, possibly those whose ox has been gored the heaviest, look upon Wagner as an opportunist of the first order, a man whose judgment was not always sound because he was influenced by the great desire to promote himself with this mesothelioma thing. They don't go so far as to say there's no problem, but they say that the magnitude of it has been grossly exaggerated by him.

VOICE: With a closed mind.

DR. WRIGHT: Well, with a deliberate intent to find and to stretch the truth. Now these are rather serious things to say -

VOICE: They're not said openly.

DR. WRIGHT: They're not said openly, and the other thing is that I suspect that Wagner, like all other humans who find themselves in what they think is a situation of great interest, who pursue it very very strongly and make some errors in terms of numbers, and there's nothing wrong with that,

providing in the end that it tends to balance itself out which is what it's doing.

I wouldn't attribute any malignant intent to what - to Wagner myself. There are those down there who do.

VOICE: Are you talking of Wagner or Thompson now?

DR. WRIGHT: Wagner.

VOICE: Right.

DR. WRIGHT: Thompson I'm through with - saying anything about him.

VOICE: You already decided that one?

DR. WRIGHT: Well, I have nothing more to tell you about him, but Wagner I think cannot be dismissed as being a dishonest man, and being a fabricator. That he may have been in error in enthusiasm, I could readily understand him, because I think many of us are, and this should be taken into account and it may have something to do with what you might call the neighborhood or non-direct exposed people.

That he needs to continue to substantiate his position is probably also true. There are some other oddities about it, and that is that Wagner's sister is Ian Webster's wife, and that makes Webster I think a little reluctant to criticize Wagner, so that the fact that he does criticize him is to be taken into account. That it's probably closer to what Hurwitz and the other man -

VOICE: Bruckman (phonetic)?

DR. WRIGHT: The pathologist say, than maybe I would

like to believe. I was shown a letter which contained in it a statement: Please hurry up and find a case of mesqthelioma from Tinge (phonetic).

(LAUGHTER)

And it was a letter from Wagner. So this is the sort of kind of climate that should never go beyond this desk, but which I must report to you, because it goes to some understanding. Now my considered judgment would be that it doesn't alter the basic things at all. It might go to the quantitative end of it and it goes to of course, his great desire to find the mesotheliomas in this other area, so then you're forced to say, well, why in this area do you not find them, since to all intents and purposes as far as the fiber exposure is concerned, they are the same.

VOICE: Yes.

DR. WRIGHT: So maybe it isn't fiber at all, or maybe it's fiber plus something that's peculiar in the Northwest Cape. This, he is not going to want to have to face anymore than I would have to want to face it after I had made such a todo about it. Webster believes and possibly this is because of thinking along these lines, that there must be something besides exposure to fiber, and he currently says that he thinks that a previous inflammation of the pleura - he's gotten involved in the tuberculosis question quite heavily because he finds a high incidence of tuberculosis in the asbestos miners, higher than in the quartz

exposed people.

Now the problem down there is of course, that tuberculosis in the natives is as essentially as it was in our country about thirty years ago, it's rampant, very common, and I don't know what other things might happen in those areas besides this exposure to asbestos fiber. Ian is very careful, doesn't say too much about it, and is being very conservative, but possibly he's led into some of these avenues because he would like to find an explanation that would help his brother-in-law off the hook.

I don't think I have anything else to say about South Africa, mesothelioma, and I think it's about the time that I ought to get the hell out of here.

VOICE: Yes, you should.

DR. WRIGHT: We'll talk about New York mesophelioma the next time. What time do you have?

VOICE: I have about four after three.

DR. WRIGHT: I'm going to try to get together with - next week I'm coming back and I'm going to try to meet Dr. McCann (phonetic) who is the doctor for General Dynamics, and I'm going to look at some insulation settings with him -

VOICE: Very good thought, - they just bought -

DR. WRIGHT: They just bought -

VOICE: Bought Asbestos (unclear) Corporation -

VOICE: They wrote us for some information.

VOICE: They already -

DR. WRIGHT: McCann?

VOICE: No, their Public Relations Department have already inquired for information from us which - which is a unique experience because no other company had that interest, which I thought was good.

DR. WRIGHT: Fine, get in touch with Hugh, because Hugh is going to try to set that up for either Thursday or Friday of next week. That's - that means that I'll be here either on the alternate day, either Thursday or Friday -

VOICE: You'll be here those two days?

DR. WRIGHT: Yes. I'm in Connecticut on Thursday and then I'll be here on Friday, and vice-versa, so far as my firm plans are -

VOICE: Then we could make a date?

DR. WRIGHT: Yes.

VOICE: And drop you a note or whatever.

DR. WRIGHT: You're doing better by me than what poor old Bucher gets. He gets it day after day, doesn't he?

VOICE: Who? Oh? Oh, yes. Sure does. Morning of afternoon would that be, do you know, Jack?

DR. WRIGHT: Well the day that I go to Connecticut would be out.

VOICE: It's out. It's got to be the other day. As you know, I get jammed up but I'll hold them both as long as I can.

DR. WRIGHT: Morning is probably better because on

a Friday I'd like to get out of here by noon if I can.

Friday evening is a son of a bitch to get out of here.

VOICE: I know that, so I'll just put down - would prefer morning in any event.

VOICE: Can I ask just one quickie that you're going to touch on? I'm just curious as to your reaction. Selikoff now says that he's - 10% of his deaths among insulation workers are mesothelioma, is that high?

VOICE: Pardon me?

VOICE: We haven't gotten the others back.

VOICE: Yes, no they're still being done, yes.

VOICE: (unclear) along, and just settle for one copy.

VOICE: They were only planning one copy.

VOICE: Excuse me, Carl - I'm sorry.

VOICE: That's alright.

VOICE: That one out of ten of his insulation deaths, insulation-worker deaths now are mesopheliomas.

DR. WRIGHT: One out of ten? I hadn't seen the figures but if he can tell you that -

VOICE: Am I not right- I'm going on mentally - but I know we were shocked when we saw that.

DR. WRIGHT: Well, 50% of his deaths are cancer.

VOICE: Yes.

DR. WRIGHT: 10% of those are mesotheliomas.

That's a very high frequency.

VOICE: Yes. 20% of those.

VOICE: No, no - he said 10% of the total deaths.

VOICE: Total deaths,- and he says - 50% are cancer. So that would mean 20% of cancer - yes. That's pretty damned high, isn't it?

DR. WRIGHT: 10% is very high.

VOICE: Yes.

DR. WRIGHT: If they're all mesotheliomas.

VOICE: Yes, well -

VOICE: Well, there's got to be somebody else trying to _

VOICE: Yes, well - we - Thompson,or do a - wish that guy's name were something different.

VOICE: Yes.

VOICE: I wince every time -

VOICE: I wince a little myself. Of course he doesn't have the P and vinegar in his name that I have.

VOICE: I know. I know that.

DR. WRIGHT: Boy, you ought to meet that guy.

VOICE: I met him, you know.

DR. WRIGHT: He's a bantam rooster, isn't he?

VOICE: He came right over into the middle of a group of us at Dresden and he'd say - okay, here I am in the camp of the enemy. That type --

DR. WRIGHT: Oh, he's very insulting. I went all the way down to Capetown to visit him, and he knew that he was the only guy and his opening remarks to me were - well, you represent the industry, don't you? You'll whitewash them.

(LAUGHTER)

VOICE: Yes - well that's the tipoff you know. Any guy who can think that way will operate for the record.

DR. WRIGHT: I said - oh, I don't think so. He said - oh yes, - you fellows are all alike. So I said - you can see who's on the committee and if you want to call somebody like Paul Colten (phonetic) and Marvin Krisher (phonetic) whitewashers - I think you need your head examined. I handed it right back to him - without a smile. I said - that's an insulting thing to say to somebody unless you know them better.

VOICE: He's a little - a short, sandy-haired bantam rooster. That's what he is.

DR. WRIGHT: No, I wouldn't take two minutes of that crap, from him or from anybody else.

VOICE: A bantam rooster type.

DR. WRIGHT: I haven't finished my report. In fact, I haven't started to dictate it yet, on my South African trip.

VOICE: Oh, I thought that was done, in fact I was going to ask you about a copy.

DR. WRIGHT: No, there were so many other things to do.

VOICE: You may shut it off -

END OF SESSION

MINUTES OF THE SEVENTEENTH MEETING OF THE SCIENTIFIC COMMITTEE OF THE INSTITUTE OF OCCUPATIONAL AND ENVIRONMENTAL HEALTH

The meeting was held in New Orleans, Louisiana, March 15 and 16, 1975.

Present were:

Dr. George W. Wright,	Chairman
Dr. Ian Higgins,	Member
Dr. Paul Kotin,	Member
Dr. Marvin Kuschner,	Member
Dr. Premysl V. Pelnar,	Scientific Secretary

**

Dr. Michel Lesage,	Medical advisor, QAMA

Guests present during the first half day:

Dr. H. Weill,	Tulane University
Dr. M. Ziskind,	Tulane University

1) Dr. Wright introduced Dr. M. Lesage who will serve as liaison between IOEH and QAMA. In this function he replaces Dr. Karl Lindell who has retired from his advisory function with QAMA by the end of 1974.

2) It was unanimously resolved that Dr. Wright on behalf of Scientitic Committee write a letter of appreciation to Dr. Lindell for many years of most valuable cooperation and support to IOEH.

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Johns-Manville

Internal Correspondence

To: PAUL KOTIN, M.D.

Date: NOVEMBER 2, 1977

From: LOIS GAUL

Copies: G. WRIGHT, M.D.

Subject: MEETING WITH DR. GAZE, OCTOBER 31 , 1977

DR. GEORGE WRIGHT AND DR. WILLIAM R. PAUL MET WITH DR. GAZE IN YOUR OFFICE ON MONDAY, OCTOBER 31, 1977. M. HARRIS WAS UNABLE TO ATTEND THE MEETING, BUT DR. GAZE WAS ACCOMPANIED BY G. MORGAN AND A MR. TANNER.

DR. GAZE STATED THAT HE WISHED TO DISCUSS THE OBJECTIVES AND ROLE OF THE INTERNATIONAL ASSOCIATION WHOSE JOB HE SAW AS ESSENTIALLY ONE OF PUBLIC RELATIONS AND OF PRESENTING INDUSTRY'S CASE IN THE BEST POSSIBLE WAY. ALTHOUGH EVERY COUNTRY'S PROBLEMS WITH RESPECT TO ASBESTOS ARE SOMEWHAT DIFFERENT, DR. GAZE FEELS THERE IS SUFFICIENT UNIFORMITY FOR A COORDINATED EFFORT. THE AIM IS TO PRESENT INDUSTRY'S SIDE WITH MORE AUTHORITY AND PRECISION THAN HAS BEEN DONE UNTIL NOW.

DR. GAZE ALSO STATED THAT COMPARED TO SELIKOFF AT THE JOHANNESBURG CONFERENCE INDUSTRY APPEARED "CONFUSED" AND MORE PREPARATION IS NEEDED TO ANSWER THE KINDS OF STATEMENTS SELIKOFF IS MAKING. DR. GAZE WAS SOMEWHAT CONCERNED THAT PARTICIPANTS AT THE JOHANNESBURG CONFERENCE DID NOT QUESTION SELIKOFF AND SEEMED TO ACCEPT HIM AS AN AUTHORITY.

DR. WRIGHT POINTED OUT THAT STATEMENTS ARE NOT CONTRADICTED AT SCIENTIFIC MEETINGS BECAUSE THEY ARE WEIGHED BY SELIKOFF'S PEERS AND SCIENTISTS FAMILIAR WITH FIELD KNOW VALUE OF WHAT HE IS SAYING. DR. WRIGHT AGREED THAT THE SCIENTIFIC WORLD HAS NOT PUT FORWARD A UNIFORM OR STRONG COMPETITIVE ATTITUDE TO COUNTER SELIKOFF; HOWEVER, AT SCIENTIFIC MEETINGS MOUNT SINAI IS CAREFUL IN WHAT IS SAID, STICKS TO WORK IT KNOWS, AND PRESENTS REASONABLE DATA. DR. WRIGHT EMPHASIZED THAT NOT EVERY-THING SELIKOFF SAYS LEADS TO MISCHIEF, THAT HE WAS REASONABLY CAREFUL AT JOHANNESBURG. THE PROBLEM IS THAT IN NONSCIENTIFIC MEETINGS, SELIKOFF AND MOUNT SINAI REPRESENTATIVES ARE LOOSER IN THEIR INFERENCES, BUT DR. WRIGHT IS NOT CERTAIN ABOUT WHAT CAN BE DONE WITH RESPECT TO SELIKOFF'S STATEMENTS TO GOVERNMENT AGENCIES AND NEWS MEDIA.

DR. WRIGHT ALSO STATED THAT THE ASBESTOS INDUSTRY IN THE UNITED STATES HAS BEEN TREATED PRETTY FAIRLY BY GOVERNMENT REGULATORY AGENCIES OVERALL. ASBESTOS HAS NOT BEEN BANNED AND THERE IS NO TALK OF BANNING IT. THE PRESS IS THE GREATEST DANGER.

AS FAR AS WHAT TO DO ABOUT THE SITUATION, DR. WRIGHT INDICATED THAT THE EUROPEANS (GERMANS, BELGIANS) MUST BE BETTER PREPARED AND MUST DOCUMENT WITH NUMBERS IN THE LITERATURE. THE ASSOCIATION SHOULD STRESS THIS. DR. WRIGHT THEN DISCUSSED LEPOUTRE'S BELGIAN DATA AS AN EXAMPLE, STATING THAT FROM WHAT HE UNDERSTOOD THERE WAS NO FOLLOW-UP ON PEOPLE WHO LEFT THE PLANT, AND WITH MESOTHELIOMA SUCH FOLLOW-UP IS MOST IMPORTANT. HE

ALSO HAD THE IMPRESSION THAT DEATH CERTIFICATES ARE A PROBLEM IN BELGIUM AND FRANCE BUT THAT THESE ARE IMPORTANT FOR APPROPRIATE STUDIES.

DR. GAZE THEN ASKED ABOUT THE THESIS THAT FIBER COATED WITH CEMENT IS INNOCUOUS. DR. WRIGHT REPLIED THAT HE DIDN'T BELIEVE IT, THAT IN THE MACHINING OF PIPE, FOR EXAMPLE, BUNDLES MAY BE FRACTURED, RELEASING FIBRILS NOT ON THE SURFACE ORIGINALLY AND WHICH THEREFORE MAY NOT BE COATED. DR. WRIGHT THEN DISCUSSED HIS RECENT WORK WITH KUSCHNER ON GLASS FIBERS, AND THAT COMPARED TO ASBESTOS, GLASS HAS LESS PROCLIVITY TO CAUSE FIBROSIS. THE REACTION IS QUALITATIVELY THE SAME BUT QUANTITATIVELY NOT LIKE ASBESTOS.

DR. GAZE INQUIRED ABOUT WEILL'S STUDIES AND ASKED WHETHER DATA WERE CONCLUSIVE AND WHETHER THERE WERE ENOUGH CASES IN THE STUDY. DR. WRIGHT STATED THAT WEILL'S STUDY WAS A RELATIVELY SMALL ONE, BUT THERE WAS AN EXCESS BRONCHOGENIC CANCER EXPERIENCE. MORTALITY AND MORBIDITY COMPARISONS USED LOUISIANA STATISTICS NOT U.S. AS A WHOLE. EXCESS CANCER WAS NOTED ONLY IN THE TWO HIGHEST CATEGORIES OF EXPOSURE, WHICH SUGGESTS A LEVEL THAT IS TOLERABLE. WEILL STARTED WITH POPULATION THAT HAS A BETTER MORTALITY EXPERIENCE THAN LOUISIANA OVERALL. WEILL'S GROUP OF A/C SHEET WORKERS DID NOT REPRESENT A PURE CHRYSOTILE EXPOSURE--THERE WAS A SMALL UNDETERMINED AMOUNT OF CROCIDOLITE. IN THE PIPE PLANT THERE WAS, OF COURSE, MUCH MORE CROCIDOLITE AND THE CONTRAST OF THESE TWO POPULATIONS IS USEFUL. UNFORTUNATELY, THE NUMBER OF DEATHS IS SMALL, ESPECIALLY IF AN ATTEMPT TO DIVIDE THEM INTO CATEGORIES OF SEVERITY OF EXPOSURE IS MADE. IT IS MOST DIFFICULT TO ASSESS THE RESULTS AT THIS POINT.

DR. GAZE MENTIONED THAT ROBERT MURRAY BELIEVES HE HAS IDENTIFIED A GROUP OF WORKERS WITH ONLY CROCIDOLITE EXPOSURE. THERE MAY BE A GROUP AMONG BATCHER BOX WORKERS ALSO AND SMITHER IS IN TOUCH WITH THIS GROUP TO VERIFY. OTHERWISE, THERE IS PROBABLY NO GROUP OF "BLUE" WORKERS OUTSIDE OF SOUTH AFRICA.

DR. GAZE ALSO MENTIONED THAT HE HAS BEEN READING U.S. LITERATURE ON THE HIGHER CANCER RISK IN POPULATIONS RESIDING NEAR REFINERIES AND THAT THIS SITUATION MAY CONFOUND THE DATA IN NEW JERSEY. DR. WRIGHT STATED THAT HE TRIED TO POINT THIS OUT AT JOHANNESBURG. INSULATION WORKERS HAVE A MORE DIVERSE EXPOSURE HISTORY THAN DO WORKERS IN ASBESTOS MINING AND MILLING AND THAT IT IS IMPORTANT TO ACCOUNT FOR (1) COMMUNITY EXPOSURE AND (2) OTHER OCCUPATIONAL EXPOSURE. DR. WRIGHT SAID HE WOULDN'T BE SURPRISED TO FIND THAT MANVILLE HAS A TOTALLY DIFFERENT EXPERIENCE THAN ANY OTHER PLANT.

DR. GAZE REMARKED THAT THE PROBLEMS IN THE U.S. ARE LARGELY RELATED TO GOVERNMENT AGENCIES, ALSO UNIVERSITY RESEARCHERS AND THE MEDIA, BUT IN EUROPE THESE FACTORS ARE COMPOUNDED BY TRADE UNIONS WHICH HAVE IMPOSED ALMOST A BAN ON THE USE OF ASBESTOS. IN FACT, THE TRADE UNION CONGRESS HAS RECOMMENDED THAT ASBESTOS USE BE BANNED TEN YEARS FROM NOW.

DR. GAZE ASKED WHETHER ROBERT MURRAY WAS RIGHT MAN TO HEAD INTERNATIONAL ASSOCIATION. DR. WRIGHT INDICATED THAT FROM HIS BRIEF MEETING WITH

MURRAY IN JOHANNESBURG, HE LIKED HIM AND THOUGHT MURRAY HAD AN ENGAGING PERSONALITY. WILL MURRAY BE ABLE TO CONVINCE EUROPEANS OF THE NECESSITY OF NUMBERS FOR DOCUMENTATION?

DR. GAZE ASKED WHY THERE WAS A HIGH INCIDENCE OF MESOTHELIOMA IN THE U.K. IS THERE REALLY LESS MESO ELSEWHERE IN EUROPE OR HAS IT BEEN UNRECOGNIZED? DR. WRIGHT STATED THAT HE DOESN'T WORRY ABOUT THE DIAGNOSIS IN GERMANY. IN THE U.S. THERE PROBABLY IS SOME ERROR ON THE SIDE OF MESO DIAGNOSIS BUT THAT ANY ERRORS WOULD NOT AFFECT EPIDEMIOLOGICAL DATA. DR. GAZE SUGGESTED THAT THE FACT THAT GERMANY WAS DEPRIVED OF ASBESTOS DURING TWO WORLD WARS MAY ACCOUNT FOR THE DIFFERENCE IN MORTALITY EXPERIENCE. THE GERMAN ASBESTOS EXPERIENCE HAS BEEN IN PIPE AND ASBESTOS SHEET, NOT REALLY IN INSULATION. DR. WRIGHT SAID THERE IS A NEED TO SHOW THAT INSULATION EXPERIENCE IS NOT RELATED TO PIPE AND SHEET EXPERIENCE. ONLY HANS WEILL IS LOOKING AT PIPE IN THE U.S., SO THE GERMAN PIPE EXPERIENCE SHOULD BE DOCUMENTED.

DR. GAZE SAID HE SEES A NEED FOR SEVERAL LEVELS OF DETAILED PUBLIC INFORMATION ON ASBESTOS WHICH PRESENT FACTS IN A SIMPLE WAY IN SEVERAL LANGUAGES. HE FEELS THAT AUDIOVISUAL AIDS BACKED UP BY A SMALL TEXTBOOK WOULD BE APPROPRIATE. DR. WRIGHT SUGGESTED THAT THE INFORMATION WOULD BEST BE COMPILED BY PEOPLE FREE OF DIRECT CONNECTION TO INDUSTRY, AND THAT POSSIBLY A SMALL COMMISSION BE FORMED AND THE INFORMATION THEN CONDENSED TO CLEAR, SIMPLE PROSE BY A PROFESSIONAL WRITER. THE NEED IS TO EMPHASIZE THAT WHAT IS BEING SEEN TODAY IS A RESULT OF PAST EXPOSURES. TEXT SHOULD INCLUDE PROS AND CONS OF SPECULATION. MORE EMPHASIS THAN HERETOFORE SHOULD BE PUT ON THOSE POPULATIONS WHO HAVE BEEN EXPOSED TO ASBESTOS AT LOWER LEVELS AND WHO HAVE NO DEMONSTRABLE ILL EFFECTS.

DR. WRIGHT ALSO STATED THAT IMPORTANT FUTURE RESEARCH MAY BE IN LOOKING AT LUNG RESIDUES AND FINDING OUT WHAT THEY MEAN. HOW DO RESEARCHERS GET CASES TO LOOK AT, ESPECIALLY HOUSEHOLD CASES? THE LOGISTICS OF SUCH RESEARCH ARE DIFFICULT AND WOULD REQUIRE THE COOPERATION OF NUMEROUS AGENCIES, INCLUDING LABOR UNIONS.