FOOD ADDITIVES

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON

INTERSTATE AND FOREIGN COMMERCE

HOUSE OF REPRESENTATIVES

EIGHTY-FIFTH CONGRESS

ON

BILLS TO AMEND THE FEDERAL FOOD, DRUG AND COSMETIC ACT WITH RESPECT TO CHEMICAL ADDITIVES IN FOOD

JULY 15, 16, 17, 18, 19, 22, 23, 24, AUGUST 6, 7, 1957, AND APRIL 15, 1958

Printed for the use of the Committee on Interstate and Foreign Commerce

See pages 172, 175 to 182-192

PLAINTIFF'S EXHIBIT

MET-492

DEFENDANT'S EXHIBIT NO. FOR IDENTIFICATION

DATE: 2/24 CF

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1958

95208

consumer federation composed of dedicated women who keep a sharp eye for the consumer interest in all matters—but long before the Rome conference, these St. Louis consumer spokesmen were warning our community of the danger, and providing me with much useful information on this subject.

They feel—and I agree—that our Government must be empowered to step into this situation and really protect the consumer. That is why I support and cosponsor Congressman Delaney's bills, knowing that, based on his knowledge and experience in this field, the legislation he has drafted will in fact protect the public interest and make the public interest uppermost.

I urge you to approve the Delaney-Sullivan bills.

I thank you.

Mr. DIES. Thank you very much, Mrs. Sullivan, for your fine statement.

Questions by any gentlemen of the committee?

Mrs. SULLIVAN. Thank you.

Mr. SCHENCK. I certainly congratulate Mrs. Sullivan for the very fine statement she has presented.

Mrs. SULLIVAN. Thank you.

Mr. BUSH. I want to join in congratulating Mrs. Sullivan. I know how interested she has been.

Mr. DIES. Congressman Delaney, I believe you have some experts you want to introduce.

Mr. DELANEY. That is right.

Mr. DIES. Do you want to put them around the table there?

Mr. DELANEY. No. If it is the wish of the committee, I would like to make a very short statement, just a very short statement, and then I am glad to put them on.

Mr. DIES. Thank you, Mr. Delaney. We are very glad to hear from you, because we know you have done a wonderful job in the whole field, and the expert investigation that your committee made is largely responsible for the interest in this very important matter.

Mr. DELANEY. Thank you.

Mr. DIES. You may proceed.

STATEMENT OF HON. JAMES J. DELANEY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. DELANEY. Mr. Chairman and members of the committee, I appreciate the privilege of this additional appearance.

My statement will be very brief, but first I think I should deny the statement of Mrs. Sullivan that I am an expert in this field.

Mr. LOSER. I do not believe she accused you of being an expert.

Mr. DELANEY. I believe she said something to that effect. [Laughter.]

When I testified before you in March in support of H. R. 4014, I brought to your attention the views of a number of cancer researchers who are convinced that any food-additive legislation should contain a specific provision prohibiting the use of any cancer-inducing substance in food.

As a result of further study of this problem, I decided to draw up a fresh bill containing such a provision. Accordingly, on May 25 I introduced H. R. 7798, which is identical with H. R. 4014, except for three additions: On page 3, line 18, after "chronic toxicity", I have added the word, "carcinogenicity", and on page 5, beginning on line 19, I have added:

> The Secretary shall not approve for use in food any chemical additive found to induce cancer in man, or, after tests, found to induce cancer in animals.

Since three noted cancer authorities are scheduled to testify as soon as I have finished, I would prefer not to take up the valuable time of the committee by commenting on these provisions on this occasion. I am sure that the views of the experts will be much more helpful to you than my views as a layman.

In addition to the ban on carcinogens, I have included two provisions recommended by the Food and Drug Administration at the chemical-additive hearings last year—one, relating to the safety of food affected by radiation, and the other, relating to chemicals used in animal foods. The first of these will be found on page 1, line 9, and page 2, line 3, and the second, beginning on line 12, page 5.

I expect that FDA representatives will discuss similar provisions in H. R. 6747 when they appear here this or next week, so in order to avoid duplication, I should like to reserve further comment at this time.

Mr. Chairman, there are present this morning three of the country's outstanding cancer researchers: Dr. William E. Smith, Dr. Francis E. Ray, and Dr. W. C. Hueper. Dr. Smith has interrupted his vacation in Maine, and Dr. Ray his vacation in Tennessee, to be here, and both have come at their own expense. I am sure that what these three eminent doctors have to say will be of great interest to you, and I not only appreciate their public spirit in being willing to give you the benefit of their experience, but I also appreciate the committee's courtesy in hearing them at this time.

I will subject myself to any questions at some future date, because, since these men have given of their time and have come at their own expense to Washington, I want you to have the benefit of their expert experience and an opportunity to cross-examine them. In their own field they are considered experts, and I prefer that you call Dr. Smith as the first witness.

Mr. DIES. Yes.

Mr. DELANEY. And he will qualify himself, and then you can ask him any questions you desire.

Dr. Smith. This is Dr. William E. Smith.

STATEMENT OF DR. WILLIAM E. SMITH, ENGLEWOOD, N. J.

Dr. SMITH. My name is William E. Smith. I live in Englewood, N. J.

I received the degree of doctor of medicine from the Johns Hopkins University in 1938. Since that time, I have engaged continuously in medical research as a full-time member of the staff of the Harvard Medical School, the Rockefeller Institute for Medical Research, the Sloan-Kettering Institute for Cancer Research, and until last year as associate professor of industrial medicine at New York University. There, I was engaged in the testing of chemicals for ability to induce cancer.

I now hold a fellowship from the American Academy of Nutrition, awarded me for study of nutrition in relation to cancer, with special

eference to chemical food additives, and pesticide residues in food.

I am appearing as a private individual and not as a representative of any organization or institution.

I have studied bills proposed to assure safety of chemicals in food, and I find that H. R. 7798, a bill introduced by Mr. Delaney, is the only bill specifying that the Secretary of Health, Education, and Welfare shall not approve for use in food any chemical additive found to induce cancer in man or, after tests, found to induce cancer in animals.

I will attempt to show that other bills will tacitly permit use of cancer-inciting chemicals, carcinogens in food. For this and other reasons, I believe that H. R. 7798 affords better protection to consumers than would be afforded by other bills.

Since the Secretary must evaluate the evidence in order to make a finding as to the cancer-inciting properties, the carcinogenicity of any chemical, I submit that the wording of the sentence, excluding carcinogens, in H. R. 7798, enables the Secretary to exercise judgment in evaluating claims for carcinogenicity of chemicals.

This should avoid possible hardships from occasional reports of cancer induced by unusual procedures, such as injuries produced by subcutaneous injections of concentrated solutions of common sugar or repeated surface applications of some common acids.

The fact that some chemicals can induce cancer in human beings has been well established. An important and pecular characteristic of these chemicals is that they exert their effects only after long periods of time. In human beings, chemical-induced cancers may not appear until 20, 30, or even more years after the first exposure.

To determine the ability of a new chemical to induce cancer in human beings would thus require a generation of observation. For this reason, animals that have shorter life spans are commonly used to test chemicals for possible cancer hazards. Several hundred chemicals have already been found to have the property of inducing cancer in animals.

Some of these induce cancer in certain species but not in others. For this reason, when a chemical is found to induce cancer in animals, one cannot be certain that it will also induce cancer in human beings. If such a chemical is widely distributed in food, however, consumers would have to accept needless risks that could spell irreparable harm. Carcinogens have the unusual property of inducing irreversible changes in living cells, so that the cells slowly progress to cancer long after treatment with the chemical is stopped.

For this reason, a carcinogen introduced into the Nation's food supply tomorrow could, even though subsequently reconsidered and withdrawn, induce cancer many years later in individuals who consumed it.

A publication issued last December by the Food Protection Committee of the National Research Council contained the following statement, and I quote:

> The conservative position would demand that substances that produce cancer in experimental animals should be excluded from human foods as a precau[illegible] [illegible]sure even though it is known that a substance carcinogenic in [illegible] [illegible]nogenic in others.

New York University [illegible] of testing

chemicals upon animals for ability to induce cancer. The object of these tests was to detect any hazards for workers or consumers. In the course of this work, I induced cancer with a variety of substances in several thousand animals.

Companies with which I have worked—and these include some of the largest corporations in the country—have made extensive arrangements to protect human beings against exposure to materials that were found to induce cancer in animals.

In 1954, and again in 1956, committees of the International Union Against Cancer adopted resolutions calling for the testing of chemical food additives for carcinogenicity upon animals, and exclusion for use in food of any amount of any chemical found to induce cancer.

These resolutions endorsed the view that safe doses cannot be established with confidence for carcinogens because of their unu[illegible] pharmacological action.

Many scientists have induced cancer late in the life of animals by giving them, when young, a single dose that could be [illegible] head of a pin.

Everyone accepts the fact that a few bacteria can enter the body, multiply, and cause disease. We are concerned now with the fact that a few chemical molecules can enter the body, stir[illegible] a body cell to multiply, and as that cell and its descendants go [illegible] we eventually get a mass of cells that we call cancer.

All of the present bills to amend the food law will permit use in food of safe quantities of chemicals found harmful in higher concentration. H. R. 7798, however, precludes extension of this safe quantity principle to carcinogens. It is the only bill that does so.

The matter has practical importance because of a re[illegible] [illegible]est case, known as the Aramite decision, the details of which [illegible] [illegible]ered letter to Mr. Delaney, published by him in the Congressional [illegible] on February 21.

Briefly, this decision involved a pesticide chemical which the Food and Drug Administration found to induce cancer when eaten by animals. FDA's division of pharmacology stated it cou[illegible] [illegible]ecommend that such a substance be used on food. The ma[illegible] [illegible]requested a review. A committee met and decided that it m[illegible] [illegible] be safe to use a little rather than a lot. The Food and Drug Administration thereupon issued an order permitting sale of food containing small amounts of this chemical.

Now, nobody knows whether this compound or some particular dose of it will or will not cause cancer in human beings, but citizens of the country are being obliged to eat it without their consent.

The precedent of this Aramite decision opens the door for approval for use in food of so-called safe quantities of other chemicals that are found to induce cancer.

When someone has spent money developing a new chemical that he wants to sell for use in food, it is understandable that he would be reluctant to lose his investment, when animal tests disclose that his compound induces cancer.

The Aramite decision provides a convenient device for the developer of a carcinogenic food additive to go ahead and sell his product, but it leaves consumers to take the risk.

There is, it seems to me, no moral justification for obliging consumers, many of whom are children, with life expectancies serving the long latent period of carcinogens, to accept such needless risks. Most of us are dependent upon processed food for life. We do not have the opportunity to exercise choice, as we do have in the case of exposure to carcinogens in smoking.

The Food and Drug Administration has been well aware of this problem and of the resolutions adopted by committees of the International Union Against Cancer opposing approval for use in food of carcinogens in any dose.

Last March, however, FDA came out in support of a bill, H. R. 6747, now introduced in the Senate as well, as S. 1895, which fails to contain any exclusion of carcinogens or any requirement for testing food additives for carcinogenicity. This failure is not accidental. During the past 3 years I have corresponded with the FDA about the need for such provisions. I am told that FDA prepared that bill with the knowledge and approval of food industries, but without consulting the chairman of the congressional committee that investigated the use of chemicals in food.

Now, I have genuine respect, and I mean that, for all officers of the Food and Drug Administration, and of food industries that it has been my privilege to meet. I do not know of anybody who wants to put into food any chemical that he really regards as dangerous. I believe that American industries are the finest and most public spirited in the world. When we come to the problem of carcinogens, however, their difficult evaluation and long-delayed action tends to make us adopt the attitude of a hopeful ostrich. This problem is having its growing pains.

In 1950, the National Cancer Institute of the United States Public Health Service established a program for study of environmental chemical factors in cancer. Within a few years, a Dr. A. J. Lanza, then director of the Institute of Industrial Medicine at New York University, told me that he had been retained by a group of chemical industries to call upon the Surgeon General and object to studies conducted under this program. He stated that his objections had been successful, and that all field studies by the National Cancer Institute in this program would be stopped. They were.

A few years later, I showed this same gentleman data indicating a cancer hazard for men employed in another industry that had retained him as a consultant. He advised me to keep out of this problem, and shortly thereafter notified me that my appointment as associate professor of industrial medicine at New York University would not be renewed. It was not renewed.

Last year an official of one of the large chemical companies told me that they fired their medical director because he was too interested in carcinogens in their products.

Now, this experience is not unique. Government, university, and industrial research in this field has been obstructed, while apologies for carcinogens are in great demand.

This committee of the Congress has the opportunity to act for conservative prudence in this matter through reporting out H. R. 7798, a bill drafted by the chairman of the congressional committee that investigated the use of chemicals in food, and the only bill that

offers consumers specific protection against the needless risks of cancer-inciting compounds in food.

I thank you for the opportunity that I have had to come here.

Mr. WILLIAMS. Does that conclude your statement?

Dr. SMITH. Yes, sir.

I would like to submit a written statement for the record, if I may.

Mr. WILLIAMS. If there is no objection, it will be accepted, of course, by the committee as part of your testimony.

Dr. SMITH. Thank you, sir.

(Dr. Smith did not submit a further statement.)

Mr. WILLIAMS. There may be questions on the part of the committee. I recognize Mr. Rhodes.

Mr. RHODES. I have no questions.

Mr. WILLIAMS. Mr. Bush?

Mr. BUSH. Doctor, you said in making your tests you found out that some of these short-lived animals were not subject to c[illegible], and others were. How do you account for that?

Dr. SMITH. We do not know very much about differences that underlie differences in response of various species. It is [illegible] of the major problems in this field.

One of the most active cancer-inciting chemicals for human beings, betanaphthylamine, fails to induce tumors in many animals, and it was not for many years that a species was found that responded in the way that men did and developed tumors after being treated with that substance.

Now, this is a phase of the problem that I think is very important for us to think about in all of this, sir, because it makes us realize that we can predict the long-term biological effects of new chemicals upon human beings only imperfectly from tests upon animals, and I submit that the adulteration of food with new chemicals is not a right, but a privilege that should be permitted only when there is real need.

H. R. 7798 specifies, as other bills do not, that chemicals should be shown to be useful to consumers, if they are going to be approved for use in food.

Mr. BUSH. Well, mostly, chemical additives that are used are used for the purposes of preservation of the particular food until it is consumed, whether it be in transit or whether it be in storage; is that not correct?

Dr. SMITH. Well, they are used for a great diversity of purposes: To make foods last longer, to preserve them; to give them a different texture that may, for one reason or another, be attractive; to give them a different color, an artificial color, or perhaps an artificial flavor.

Mr. BUSH. Has it been your experience, when certain of these additives are put together in these foods, that there is any reaction against each other, or do they work together?

Dr. SMITH. I have not any experience on that subject, sir.

Mr. BUSH. That is all.

Mr. WILLIAMS. Before we proceed further, permit me to make a statement at this time.

I think it is quite obvious at this point that it will be impossible to conclude this morning the testimony of Dr. Smith and Dr. Ray, who have come from quite a distance to appear before the committee.

The House meets at 12 o'clock noon on the mutual-security authorization under the 5-minute rule for amendments and, therefore, it would be impossible for the committee to sit this afternoon.

Therefore, I think perhaps we should make the announcement that if we fail to conclude with the testimony of these doctors today, who have come from a great distance, we will open our hearings in the morning with a continuation of their testimony.

And, while we hope it will not be necessary, if it becomes necessary we will attempt to reschedule the witnesses scheduled for tomorrow for a later date which may be convenient for them.

I thought perhaps I should make that announcement for the benefit of the witnesses who are scheduled for tomorrow. I am hoping it will not be necessary; but, if it becomes necessary, I think we can work out a date mutually agreeable to these witnesses and the committee.

Mr. O'Brien?

Mr. O'Brien. Doctor, as I understand your statement, you believe that we should provide by law that a chemical which kills a rat or which causes cancer in a rat or a guinea pig or any other animal, should not be permitted to be added to the food consumed by humans, at least until we know more about the effect upon their systems of that particular chemical; is that correct?

Dr. Smith. Yes, sir.

Mr. O'Brien. Do you happen to know how widespread the use of the chemicals you have in mind is at the present time?

Dr. Smith. Well——

Mr. O'Brien. Are there numerous instances of where these chemicals have caused cancer in animals where those chemicals are now being used in processed foods?

Dr. Smith. The instance that I cited in my testimony just a few minutes ago, where this problem was brought to a test case, was concerned with a pesticide chemical. There is at least one other pesticide chemical that has been described by the Food and Drug Administration laboratories to induce cancer in animals when eaten.

As far as other chemicals in foods, many of the food dyes, coal-tar dyes, have the property of inducing cancer when tested by injection under the skin of animals.

One of the coal-tar dyes that was used in the United States in thousands of pounds annually, it was discontinued just last year, but that dye, which we all thought was safe for many years, was reported in very recent studies to have induced tumors in the intestinal tract and cancer there, when eaten.

Mr. O'Brien. Well, you do not know offhand, then, many instances of where additives other than those you have mentioned have caused cancer in the animals when they were tested? What I have in mind is this, Doctor: We know there is a double health problem here—the danger of inducing cancer in humans, and also the desirability of processing which will preserve our food supply.

Do you think, if the Delaney bill became law, that it would in effect wreck the processing business, the additive business, if you will? You do not think, do you, that the use of these chemicals is so widespread that it would completely disorganize and destroy the additive business?

Dr. Smith. The use of carcinogenic chemicals?

Mr. O'Brien. I am talking of the chemicals which induce cancer in animals.

Dr. Smith. No; I do not think that the exclusion of carcinogens would in itself create any serious inconvenience.

The basic problem, it seems to me, is that we cannot know what the long-term effect of any new chemical on human beings will be until those human beings have lived out their life span and we have had a chance to observe them throughout their lives. That means a whole generation of observation.

I cannot really see the justification for legislation which would oblige consumers to accept an endless and unlimited series of artificial chemicals in their food. Why permit the addition to foods of 50 or 150 antioxidants, if 3 or 4 would do? Why use a couple of dozen different emulsifiers, if 2 or 3 would do?

This concept was applied in the matter of the food dyes over 20 years ago. Government and industry people got together and reviewed the matter of the many different artificial colors that were being used in foods, and they sat down and they said, "Well, now, what do we really need?"

Well, they needed a spectrum of colors. They wanted to be able to achieve different shades. All right. They agreed on a limited list of artificial dyes which, in their best judgment, they felt were safe, and they established such a list and everybody then got along perfectly well, as far as the technological needs of the industry were concerned.

Now, that principle of a limited list could easily be extended to other categories of food additives. The antioxidants, the preservatives, the emulsifiers, the other compounds that are necessary for the national distribution of processed foods.

Mr. O'Brien. I just have one final question I would like to clarify in my own mind.

Do you think that some people in the food industry have tried to punish people who advocate what you are advocating here this morning? I think you practically stated that.

Dr. Smith. I have been talking about situations which involve chemical industries. I have not been aware of any of these problems in the food industry at all.

Mr. O'Brien. The chemical industry is what I meant to say. You think that there has been a move to punish people who advocate what you are advocating here today, directly or indirectly?

Dr. Smith. I have observed that scientists who advocate caution in this matter are apt to end up without a job.

Mr. O'Brien. You think that goes beyond pure coincidence?

Dr. Smith. Well, I think that it is hardly likely that the same mistake could fall out in such a pattern simply by coincidence.

Mr. O'Brien. Thank you.

Mr. Rollinger. Will the gentleman yield at that point?

Doctor, was that not the cause for your failure to be reappointed [illegible]? Did you not indicate that to the committee this morning?

Dr. Smith. Yes, sir; I did.

Mr. Rollinger. In other words, if you do not play ball with some of these large companies, you cannot continue to hold your job, at the

expense, of course, of the health of the consuming public. Would that not be the proper way to put it?

Dr. SMITH. In these cases that have occurred, that is my feeling; yes.

Mr. DOLLINGER. I wonder whether you know of other situations such as yours, giving us the names, if you can, of these doctors who have lost their positions as a result of such a situation? Is that possible to give us?

Dr. SMITH. Yes, sir; I do. I have this material, and I would be, of course, prepared to document anything that I have said.

I would prefer if you did not ask me that question, because I do not feel that this is a problem which applies to any one organization. I would not like to lay a burden upon any one company.

It is a matter of general advance in philosophy that we need here. Industries have made excellent progress in controlling readily demonstrable hazards, but there has been, perhaps very understandably, a reluctance to face up to the facts of the peculiar pharmacology of the carcinogens.

Mr. DOLLINGER. Doctor, I did not want to embarrass you, but I thought if that statement could be given to the committee, without embarrassment, of course, it might establish a pattern, and we are interested to look into that if we can.

You can think the thing over between now and before the committee recesses, not today; and if you think you can do it in good conscience, it might be very helpful to us.

Dr. SMITH. I could do that. I do not know what the customs are here——

Mr. DOLLINGER. Why do you not discuss that with Mr. Delaney, and see what you can do?

Dr. SMITH. I would prefer to give it to the committee for its advice, rather than to mention it in an open meeting where there might be newspaper reporters who would pick up a statement of this sort.

Mr. DOLLINGER. I think we could receive it under those circumstances—can we do that, Mr. Chairman?

Mr. RHODES (presiding). If there is no objection.

Mr. DOLLINGER. Thank you.

Mr. O'BRIEN. I have finished, Mr. Chairman.

Mr. RHODES. Mr. Heselton?

Mr. HESELTON. The last line of questioning interested me very much particularly in terms of what I understood you to say, Doctor, in the course of your testimony, when you identified 1 individual from New York University, and then went on to mention, I think, at least 2 others whom you did not identify.

I have some questions I would like to ask. I am not a scientist and am not competent in that field, but there are some questions I think, that should be asked of each of you gentlemen, that is, yourself, Dr. Hueper, and Dr. Ray.

However, I think possibly, in view of the course this hearing has taken, and the likelihood we will have to go to the floor in a few minutes, they should be deferred until after Dr. Hueper and Dr. Ray have given their statements, and then perhaps the three of you would be willing to answer this very short series of questions which should be a matter of record before the committee.

Let me ask you this: Were there two other unidentified individuals to whom you referred in your statement, or did I misunderstand you?

Dr. SMITH. I——

Mr. HESELTON. I am not asking you to identify them now.

Dr. SMITH. I have referred to three.

Mr. HESELTON. Three.

Dr. SMITH. Three separate individuals.

Mr. HESELTON. Yes.

Dr. SMITH. Who have found their research or their actual jobs terminated after they became involved in problems of carcinogens of commercial interest.

Mr. HESELTON. Let me ask you this: Did I understand you correctly to suggest that the type of action which I understand you feel may have taken place in some instances, reached as far as [illegible] to the Food and Drug Administration?

Dr. SMITH. No, sir.

Mr. HESELTON. Without naming any individual.

Dr. SMITH. I do not believe I said that, and I did not mean [illegible] that impression.

Mr. HESELTON. Possibly I misunderstood you.

My feeling is this, Mr. Rhodes, and I am not sure—I regret the chairman had to leave—I suggest to Mr. O'Brien and Mr. Dollinger in particular that, in fairness to everyone involved, we hold a brief executive session to develop what you have asked.

I believe the committee should have this information, even though it be in executive session, and then it will determine whether it should go on the public record.

I think it ought to be a matter, however, referred to Mr. Williams, and probably to Mr. Harris, and I prefer not to pursue that line of questioning until they determine what course of action we should take.

I do not believe—and I am making no prejudgment at all—I do not believe, and I am certain Dr. Smith and I am sure Mr. Delaney would not want to leave any cloud over anyone without documenting the conclusions that they wish to express to us.

On the other hand, I think the committee would be extremely handicapped in handling this legislation unless they had a frank statement of what your conclusions are, and I think that may be a very proper subject of a brief executive hearing, even at 9:30 tomorrow morning, in order to accommodate the gentlemen who have come so far.

May I suggest that you take that up with Mr. Williams and Mr. Harris?

Mr. RHODES. I think, Mr. Heselton, that is a very good suggestion, and I will take it up with Mr. Williams.

I wonder if the doctors could find it possible to stay over until tomorrow?

Dr. SMITH. I can, sir.

Mr. RHODES. How about the other two?

Mr. DELANEY. Yes; I believe both of them will be available tomorrow. They will stay over.

Mr. HESELTON. Then I would like to defer the questions I have.

Mr. O'Brien. Will the gentleman yield?

I think the gentleman has taken the proper position. I do not think any of us would like to feel that there are any persons in this country, whether in industry or anywhere else, who would want to feed people things that would cause cancer. I think perhaps in some instances there is just an area of disagreement, where there is a feeling, "Let well enough alone; let's not pursue this any further, because it might cause us some economic damage."

But it seems to me that if we read our history, we find scientists have been struck down throughout the years because they dared to disagree with the status quo. And whether the committee finally agrees with what you have testified to, Dr. Smith, or not, I personally feel that you are taking a very courageous line.

Dr. Smith. Well, thank you, Mr. O'Brien. I should like to say that I do not feel there is anybody that I know of in the country who deliberately wants to use anything in foods that he honestly would feel in his own mind was dangerous. It is not a question of that at all. We have a very difficult and complicated problem, and there is room for a lot of question and a great deal of further research.

What I am trying to say is that, with the peculiar and unusual pharmacology of the compounds that induce cancer, where they have irreversible effects on cells, we cannot afford to take chances. We cannot let these things get into foods in the thought that, if 3 or 4 more committees consider the thing for 3 or 4 or 5 more years, or 20 more years of laboratory research is done, and it is decided that this was a bad idea, we cannot go back.

Once a carcinogen affects a cell, the removal of that chemical does not mean that all will be well and the cell will not progress to cancer. The effect on the cell is accomplished, and that cell then can go on and multiply, and its descendants go on and multiply and we then end up with a tumor.

Mr. Heselton. Doctor, let me say that, in raising the question as to procedure, I am not suggesting in any way at all that you are not here in good faith, that you are not attempting to offer us the best judgment you can give us.

But, as I have read the bills—and I am afraid Mr. Delaney is not here—but I will not ask you to answer it except in this sense: It is my understanding you have recommended the new bill of Mr. Delaney, H. R. 7798, in terms of the prohibition against the Secretary's approving for use in food any chemical addition found to induce cancer in man or, after tests, found to induce cancer in animals.

That has been the heart of your testimony this morning. If I understand the situation correctly, that was not in Mr. Delaney's bill when it was before the committee in 1956. I think that the questions which obviously remain in the minds of my colleagues, Mr. O'Brien and Mr. Dollinger, and I think are in the minds of all the committee, may deserve some further consideration in executive session by the committee. I am sure you understand it is not intended as any reflection upon you or anybody else in that sense.

You do not have to comment. I just want to make it clear so there would not be any misunderstanding.

Dr. Smith. I have supported H. R. 7798 because of those particular provisions, but I would like to say it is my belief that H. R. 7798 is a generally good bill in its other aspects.

Mr. Heselton. Yes, sir.

That is all, Mr. Chairman.

Mr. Rhodes. It is now after 12 o'clock, and I am quite sure there will be a quorum call in a few moments. If there is no objection, we will adjourn until 9:30 tomorrow morning.

(Whereupon, at 12:05 p. m., the subcommittee adjourned, to reconvene at 9:30 a. m., Friday, July 19, 1957.)

FOOD ADDITIVES

FRIDAY, JULY 19, 1957

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HEALTH AND SCIENCE OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to recess, at 10 a. m., in room 1334, New House Office Building, Hon. John Bell Williams presiding.

Mr. WILLIAMS. The committee will please be in order.

Before continuing with the hearings this morning, I would like to make a brief statement.

The Subcommittee on Health and Science was not entirely unprepared for the line of testimony which was given yesterday by Dr. Smith and which may or may not be continued today by Dr. Ray and Dr. Hueper.

The issues involved are of a scientific nature, and I am sure the members of this subcommittee would not presume to pass upon the merits of the testimony of these expert witnesses.

In anticipation of the controversial nature of these scientific issues, the subcommittee has requested, as previously announced, the National Academy of Sciences to appoint a panel of experts and to suggest an impartial chairman to discuss the scientific background for the chemical-additive legislation before us, including the scientific issues raised by Dr. Smith and other scientists who will testify today.

I am happy to announce this morning that Dr. William E. Darby, head of the department of biochemistry, director, division of nutrition, Vanderbilt University School of Medicine, and chairman of the Food Protection Committee of the National Academy of Sciences, who was suggested as impartial chairman of the panel, has kindly consented to act in this capacity.

Dr. Darby is at the present time in Indonesia, but he will return shortly and the panel hearings have been scheduled for Tuesday, August 6, and Wednesday, August 7. Invitations have gone out to the 15 members of the panel suggested by the Academy, and the names of the members will be made public as soon as acceptances have been received by those invited to participate in the panel discussion.

It is apparent to the Chair that the situation in which this committee finds itself with regard to the safety of chemical additives is somewhat dissimilar from the situation which arose with respect to the safety of the Salk vaccine in recent years.

The scientific panel recommended by the National Academy of Sciences to discuss the safety of the Salk vaccine presented a balanced

view of the scientific considerations which had to be taken into account in determining whether to proceed with the polio-vaccination program which had been recommended to the Congress by the administration or whether to discontinue vaccinations.

In the case of chemical additives, too, what the committee may need is a cross section of the scientific points of view held by competent scientists in this field. The subcommittee expects that the panel recommended by the academy will present to the subcommittee all of the considerations which must be borne in mind in passing on the safety or the lack thereof of chemical additives.

I might state, also, that we have only 45 minutes this morning in which to take testimony, due to the fact that the House is meeting at 11 o'clock.

On yesterday we heard Dr. Smith, who presented a statement to the committee and then subjected himself to interrogation by members of the committee. We did not complete Dr. Smith's testimony, and if he will come to the stand we would be very glad to hear further from Dr. Smith.

STATEMENT OF DR. WILLIAM E. SMITH, ENGLEWOOD, N. J.—Resumed

Mr. WILLIAMS. Dr. Smith, on yesterday, shortly before the committee found it necessary to adjourn because the House was in session, and at a time when it had become necessary for me to absent myself from the committee, I am informed that some rather startling statements were made by you which may have reflected upon certain people or institutions. If you would care to elaborate further on that, the committee would be glad to hear you.

Also, the Chair will recognize any member of the committee for any questions that he might have. I might state, though, that we have Dr. Ray here, from Florida, who also has come here at great expense to himself, and the committee would like very much to expedite this matter and to hear both Dr. Ray and yourself on anything further that you might care to state to the committee.

So, at this time, the Chair recognizes you, Dr. Smith, for any statement you might care to make.

Dr. SMITH. Thank you, sir.

I had understood yesterday that this matter might be explored in executive session. However, if that is not the case, I feel it is of sufficient importance so that I feel obligated to describe material that has come to my attention in this field.

It is a matter of record that can be demonstrated by reference to the biographies of the men involved——

Mr. DIES. Of whom?

Dr. SMITH. Of the men involved—that four scientists and physicians have lost their appointments after becoming involved in problems concerned with carcinogens of commercial interest.

To begin with, betanaphthylamine, which is considered the most dangerous carcinogen for man, has induced cancer in the bladder of many hundreds of men who have been engaged in its manufacture

Mr. DINGELL. What was the substance?

Betanaphthylamine. The fact that this substance was responsible for these tumors is

was confirmed through experiments on animals. These experiments were conducted on dogs, and were done and reported by Dr. William C. Hueper, who at that time was, I believe, assistant medical director for the Du Pont Co.

Now, that was in 1938, when that paper was published. If you look at the record, you will find that in that year Dr. Huepers position with the company was terminated.

Now, this compound is of very real importance for our interests here, because from it are made some of the most widely used food dyes. I understand that more than 100,000 pounds of these dyes are certified for use in food in the United States each year.

Mr. DINGELL. Doctor, may I ask you this question: Are any of these derivatives of betanaphthylamine used as food dyes, and if used as food dyes, do they possess the same properties of producing cancer as the parent substance possesses?

Dr. SMITH. Dyes made from betanaphthylamine are used as food dyes: indeed, yes. Whether they possess the property of the parent substance, we cannot be sure, but I am told that it is exceedingly difficult to make these dyes pure and free of the parent substance, and there is evidence now beginning to appear that these dyes are split to release a carcinogenic substance in the body.

Now, this is a problem that should have been investigated long before the dyes were used; not 20 years after they were used.

Let me give you other instances. A very large program for study of the cancer-inducing properties of chemicals was set up by Dr. Robert Collier Page, who was the general medical director for the Standard Oil Company of New Jersey. Now Dr. Page no longer has his position.

Mr. HESELTON. Do we have his full name?

Dr. SMITH. Dr. Robert Collier Page.

(The following information was later received for the record:)

After reviewing testimony delivered on July 19, 1957, by Dr. William E. Smith, Standard Oil Co. (New Jersey) contacted Dr. Robert Collier Page and received the attached communication, which the company would appreciate having inserted at an appropriate point in the subcommittee record.

E. STEWART SCHACKNE,
Standard Oil Co. (New Jersey),
New York, N. Y.

JULY 23, 1957.

DEAR STEW: I was glad to have your phone call last Friday and, naturally, greatly interested in the report out of Washington that a statement had been made before a congressional subcommittee to the effect that I had been obliged to leave Standard Oil Co. (New Jersey) because of my interest in cancer research and that this was opposed by the company. Needless to say, I was astounded and shocked by such an allegation.

As you know, I am perfectly willing that you should quote me to this effect and make sure that any such allegations are entirely untrue.

I am presently enjoying my capacity as a consultant to Jersey Standard and sincerely hope that it will not be necessary to refer to the above matter again.

Sincerely,

Hon
R. C. PAGE

Dr. SMITH. In 1951, I think it was, Dr. Arthur Vorwald, who was at that time the director of the Saranac Laboratory, described his [illegible] that cancer of the lungs could be induced by a chemical, a [illegible] industrial interest. He no longer has his position. The year

following his discovery, I received a letter from him advising me that he regretted to have to say that he had offered his resignation.

I had a similar experience myself, as I told you yesterday.

Again, as I told you yesterday, a program for study of environmental factors in cancer was initiated by the National Cancer Institute. This program was terminated, and I mentioned that to you yesterday, and I would be glad to submit to you, as a part of my testimony, a letter from the director of that program, documenting the point that I made.

Mr. WILLIAMS. Doctor, may I interrupt you at this point? With respect to that, and since the subject has been brought up again today, on yesterday you testified as follows. This was included in your prepared statement:

> In 1950, the National Cancer Institute of the United States Public Health Service established a program for study of environmental chemical factors in cancer.
>
> Within a few years, a Dr. A. J. Lanza, then director of the Institute of Industrial Medicine at New York University, told me that he had been retained by a group of chemical industries to call upon the Surgeon General and object to studies conducted under this program.
>
> He stated that his objections had been successful, and that all field studies by the National Cancer Institute in this program would be stopped. They were.
>
> A few days later I showed this same gentleman data indicating a cancer hazard for men employed in another industry, that had retained him as a consultant. He advised me to keep out of this problem; and shortly thereafter notified me that my appointment as associate professor of industrial medicine at New York University would not be renewed. It was not renewed.

With respect to the first paragraph that I just read, I made inquiry yesterday of the Surgeon General, and received this letter this morning, which I should like to have included in the record and which I will read at this time.

This letter is dated July 19, 1957, and is over the signature of Dr. L. E. Burney, the Surgeon General, and I quote:

> I appreciate your thoughtfulness in bringing to my attention an excerpt from the testimony of Dr. William E. Smith, of Englewood, N. J., who appeared before your committee yesterday. His statement indicated that a representative from the chemical industries had objected to a program of studies being undertaken by the Public Health Service relating to environmental chemical factors in cancer, and that as a result of this objection all field studies in this program were terminated.
>
> Since I was not stationed in Washington during the period indicated in the statement, it is not possible for me to speak from any personal knowledge of the situation. I can state, however, that on its face the statement is not in conformity with the facts. The Public Health Service has continued its program of field studies involving chemicals suspected of causing cancer and, in fact, has expanded the program of environmental cancer research, both in laboratory and in field investigations.
>
> I am having a thorough exploration made of available information relating to this matter, and shall be able to give you a more complete report at an early date.

And that is signed "L. E. Burney, Surgeon General."

Dr. Smith, there seems to be some differences of opinion as to, between you and the Surgeon General, whether these field studies have or have not been continued.

Mr. DIES. Mr. Chairman, if you will pardon the interruption [illegible] it would be more than a difference of opinion. This witness made [illegible] unequivocal statement that all of these studies, this [illegible] that is not true. Not only [illegible]

That creates an issue of fact between the witness, who has testified before our committee, who has made a positive statement, and the Surgeon General, who has contradicted flatly that statement.

I think there ought to be some statement by the witness upon what basis he told the committee this was stopped.

Mr. DINGELL. I appreciate the gentleman's interest in that point and I am extremely interested, too, but I do wonder if we are not getting ourselves a little far afield and getting ourselves into a trial of an issue which has very little to do with the legislatiton before this committee.

Mr. WILLIAMS. I was going to make a statement about that.

Mr. DINGELL. And in view of that, Mr. Chairman, may I very respectfully suggest to the Chair that it would be well, particularly in view of the very limited time remaining to us, to concentrate whatever time remains, especially since the witnesses have come so far at their own expense, on getting into the business of whether food additives are dangerous to human beings. If so, whether food additives are being produced, which are dangerous to human beings, and what we should do in the form of reporting out a bill of the type of which there are several before this committee.

Mr. WILLIAMS. Permit me to say at this point that I find myself in agreement with the gentleman from Michigan, one of the very few times I have agreed with him.

Mr. DINGELL. Perhaps the chairman ought to reappraise his position. [Laughter.]

Mr. WILLIAMS. Perhaps.

Dr. Smith, you have, in your testimony, made some rather serious allegations. You have made the flat charge that cancer research or research into this field was stopped.

The Surgeon General has denied this, made a categorical denial. However, reading the last paragraph of the Surgeon General's letter, I note that he says:

> I am having a thorough exploration made of available information relating to this matter, and shall be able to give you a more complete report at an early date.

Doctor, the business before the committee at the moment, of course, is the food-additive legislation. What relationship pressures of one organization or one group of individuals on another group of individuals may have to this legislation has not been made clear to me. I fail to see where those matters might have a bearing on the merits or lack of merit of the legislation before us.

However, I recognize, and I am sure other members of this committee recognize, that the charges that you have made are serious enough to warrant at least an explanation by all parties concerned. And I feel reasonably certain that after the committee has received the more complete report that will be submitted to us by the Surgeon General, that the committee will then want to get together and decide [illegible] course of action to take next, with respect to the particular incidents which you have pointed up.

For the moment, though, we would like to proceed, if possible, with respect to the merits of the legislation before us, and to have our [illegible] confined to that.

[illegible] say, also, that we will keep the record open to all persons [illegible] organizations charged by Dr. Smith in his testimony—in order [illegible] them to reply to his charges.

And I might say, also, Doctor, that we will keep the record open in case you would like to submit documented evidence or proof of the incidents to which you have referred. We would be glad to receive any additional information that you might care to submit to the committee, dealing with this matter.

Mr. HESELTON. Mr. Chairman, I have no doubt you intended to include an opportunity for Dr. A. J. Lanza, who has been mentioned specifically in Dr. Smith's testimony, to make any reply he wishes to the statement made by Dr. Smith.

I do not know whether he is now director of the Institute of Industrial Medicine at New York University, but whatever his position is, he should be given the opportunity to do so.

Mr. WILLIAMS. I think definitely we should keep the record open to anyone whose name has been mentioned, or anyone even by inference who might be involved in the incidents that have been reported to the committee, including Dr. Smith and his associates, if they desire to elaborate further on the matter.

(The following letter was received for the record:)

NEW YORK UNIVERSITY-BELLEVUE MEDICAL CENTER OF NEW YORK UNIVERSITY, INSTITUTE OF INDUSTRIAL MEDICINE, *New York, N. Y., July 22, 1957.*

The Honorable JOHN BELL WILLIAMS,
Chairman, Subcommittee on Health and Science of the House Committee on Interstate and Foreign Commerce, House Office Building, Washington, D. C.

DEAR MR. WILLIAMS: With respect to the testimony of Dr. W. E. Smith on July 16, 1957, before the Subcommittee on Health and Science of the House Committee on Interstate and Foreign Commerce, Dr. Smith stated that I had been retained by a group of chemical industries to call upon the Surgeon General and object to studies conducted under the program established by the National Cancer Institute of the United States Public Health Service. There is no truth in this statement.

As a matter of fact, during the years referred to in Dr. Smith's testimony I was privileged to encourage several Public Health Service studies in industry. One such study was a cooperative effort between the chromium industry and the Public Health Service. This led to the first publication in this country showing lung cancer in the chromium industry (Machle and Gregorius, Public Health Reports, vol. 63, pp. 1114–1127, 1948). This study was continued by the Public Health Service on an industrywide basis and led to a further publication (Public Health Service Publication No. 192, Health of Chromate Workers). Again, in the period 1952–55, the Public Health Service conducted field studies in the diatomaceous earth industries. This study grew out of conferences between myself, the Public Health Service, the California State Board of Health, representatives of industry, and others interested. The report of this study is in preparation and will shortly appear as an official Public Health Service publication.

At no time have I ever advised the Surgeon General of the Public Health Service that any industrial field study be discontinued.

For the record, I would like to insert a categorical denial of Dr. Smith's implications that his nonreappointment was in any way related to his interest in cancer hazards in industry. Dr. Smith's nonreappointment was based on the judgment that his training and competence made him unsuitable for continued responsibility on the faculty of New York University.

Very truly yours,

ANTHONY J. LANZA, M. D.,
Professor Emeritus, Industrial Medicine

Dr. SMITH. Thank you, sir. I would welcome that.

I would like, if I may, to have one more word in response to [illegible] seems to be a discrepancy between my testimony

yesterday and the statement contained in the letter received this morning from the Surgeon General.

I should say that the situation that I referred to occurred in, I think it was 1951, which was prior to the appointment of the present Surgeon General. And the letter from the director of the program that I referred to, which was at the National Cancer Institute, I have here. And I offer it for the record and I would like to submit it for the record.

I would also like to submit for the record another letter from a physician who was present at a meeting with the medical director of the Du Pont Co., and who states that he recalls that that officer said that Dr. Hueper had been discharged by that company shortly after showing that betanaphthylamine induced cancer.

I would be glad to answer any further questions.

Mr. WILLIAMS. Might we take a look at those [illegible]

Mr. O'BRIEN. I think the Chair has stated very [illegible] feeling of the other members, or this member of the subcommittee. We do have a major problem here, a major question, and if we get on a complete tangent we would not [illegible]

I would like to make this additional [illegible] these allegations refer to any public agency, that such matter be respectfully referred to the Special Committee on Legislative Oversight which has been created at this session.

Mr. HESELTON. I want to further reserve the right to object. I do not know whether we should do that or not.

I suggest that this should be decided in executive session.

Mr. WILLIAMS. With respect to the inclusion of the letters in the record, is there objection on the part of any member of the committee?

Mr. HESELTON. Yes. That one we agreed to——

Mr. DINGELL. I would like to associate myself with the remarks of our colleague, Mr. Heselton, on the determination of this matter in executive session, Mr. Chairman.

Mr. WILLIAMS. I think that is a matter that should be considered in executive session. That is a matter of procedure.

The question now is inclusion of these letters in the record.

Mr. DINGELL. Mr. Chairman, may I be recognized for the purpose of asking several questions of the witness during the process of determining these matters?

Mr. WILLIAMS. You may proceed.

Mr. DINGELL. Doctor, I have been interested in your remarks, and I was just wondering, since our time is very short, would you care to elaborate on the use of carcinogens, particularly of substances either known or strongly suspected to be carcinogens in food, giving specific attention to those items which are or might be reasonably expected to produce cancer in the human body; what those substances are, if they are used, how they are used, and how many of them there are, if you could, this morning.

Dr. SMITH. This was the subject of the two last issues, which are [illegible] volumes, of the Acts of the International Union Against [illegible]. It was the particular subject of a meeting held by the union [illegible] last year, and the chairman of that session is available to you [illegible] testimony.

He is Dr. William C. Hueper, and I understand he will offer testimony.

I think that it would be more appropriate if he would handle matter.

Mr. DINGELL. All right.

Doctor, may I ask if there is anything further that you would to tell this committee this morning?

The reason I say that is we have another prominent medical here from Florida, and we are anxious to hear him.

Dr. SMITH. I would only like to say that in all of my comm this morning my personal experience is of no importance to anybody except myself. It happens that I have devoted 20 years to me research. I have a wife and three children. I got entangled in problem of commercial carcinogens, and the result is that I have job and no prospect of ever being able to continue in the field to which I have devoted my scientific career.

Now, that is of no particular importance. I am perfectly expend able; but when I see one man after the other who is engaged in this kind of research end up pushed out of his work or out of his career, I believe that this is a problem that is of importance for the public health. And it is for that reason that I have spoken openly as I have today.

Mr. WILLIAMS. I believe members of the committee have looked over these documents that were submitted.

re objection to the inclusion—to permitting Dr. Smith to include these as part of his testimony?

The Chair hears none, and you will be permitted to include these as part of your testimony, Doctor.

ever, I think it might be well for you, in the case of one of these letters, to identify the author of the letter, E. S. Ross.

Dr. SMITH. Dr. E. S. Ross is the chief medical director of the Brotherhood of Railroad Trainmen.

Mr. WILLIAMS. Is he presently in that capacity?

Dr. SMITH. Yes. He is here this morning.

Mr. WILLIAMS. He has offices in Washington, D. C.?

Dr. SMITH. His office is in Cleveland.

Mr. WILLIAMS. This letter was addressed from Washington yesterday.

If there are no objections, these will be included in the record.

(The letters referred to are as follows:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
PUBLIC HEALTH SERVICE,
NATIONAL INSTITUTES OF HEALTH,
Bethesda, Md., August 24, 1955.

Dr. WILLIAM E. SMITH,
New York University Postgraduate Medical School,
New York, N. Y.

DEAR DR. SMITH: I have your comments on my editorial on "Silicosis, Asbestosis, and Cancer of the Lung" and your inquiry concerning my more recent activities in field studies on occupational cancer problems.

The Canadian case referred to in the editorial applies to the claims made by the widow of a Mr. Maurice Labbé, 805 St. Catherine Street, Trois-Rivières, Quebec, Canada. The legal procedures in regard to this case which were negotiated before the Workmen's Compensation Commission of Quebec took place during the last few months of 1951 and the first few months of 1952. The

legal adviser to the minister of labour of Quebec was Mr. Louis F. Grande-Allé, Quebec, Province of Quebec, Canada.

activities in fieldwork on environmental cancer were discontinued during part of the summer of 1951 when I was requested to stop such activi- had no further contacts with industry or State health departments of environmental and occupational cancer. This event was brought by a complaint, as I was officially told, about my activities in regard to conditions bringing about lung cancers among workers employed in the industry, made to my superiors in Washington in behalf and in the of the American chromate industry by Dr. Lanza, as its medical repre- sentative. Dr. Lanza apparently acted in the role of a lobbyist, because in a conversation on July 25, 1951, I had in regard to this matter with O. F. Tarr, vice president, Mutual Chemical Co., I was told Dr. Lanza had this step in behalf of the American chromate industry.

The immediate reason for this complaint was provided by a copy of a manu- prepared by Dr. Mancuso and myself on observations made in Ohio on and health hazards among chromate manufacturers which I had given before its publication in Industrial Medicine and Surgery to Mr. Tarr, who had forwarded this copy to Dr. Lanza. As a result of this event, it was strongly suggested to me to take my name off these manuscripts and it is for this reason that my name is lacking on the second paper dealing with the joint investiga- tions on health hazards among chromate manufacturers conducted by Dr. Mancuso and myself (Occupational Cancer and Other Health Hazards in a Chromate Plant: A Medical Appraisal. II. Clinical and Toxicologic Aspects. Ind. Med. & Surg. 20: 393–407, (September) 1951).

Due to these lobbying activities of Dr. Lanza, not only my field studies have come to an end since 1951 but there was for some time serious interference even with my experimental work in the field of occupational cancer because I was not able to continue for some time my cooperative work with the Mutual Chemical Co. on blood reactions in chromate manufacturers. It was only after a rather long delay that I finally succeeded in reactivating this problem.

I can say that during the lifetime of Mr. Tarr, I had enjoyed the most harmonious, cooperative relations between the Mutual Chemical Co. and the carcinogenic studies section—as my section was called at that time. It is my belief, however, that, through the intervention of Dr. Lanza, not only the interest of America industries with cancer hazards to workers employed in these indus- tries, but of the American people at large, and of the American medical profession, was seriously damaged.

Sincerely yours,

W. C. HUEPER, M. D.,
Chief, Environmental Cancer Section,
National Cancer Institute.

WASHINGTON, D. C., *July 18, 1957.*

DR. WILLIAM E. SMITH,
Englewood, N. J.

DEAR DR. SMITH: In response to your inquiry, I do recall a meeting with you and the medical director of the Du Pont Co., who was, I believe, a Dr. Fleming. I recall he said that Dr. W. C. Hueper had been discharged by that company shortly after showing that betanaphthylamine induced cancer. This meeting was in New York toward the end of 1955.

Very sincerely,

E. S. ROSS, M. D.

Mr. WILLIAMS. Are there any further questions of Dr. Smith?

Mr. O'BRIEN. Mr. Chairman, may I suggest in view of the time, we hear from Dr. Ray?

Mr. WILLIAMS. Thank you, Dr. Smith.

I might repeat that if you have additional information that you would like to submit to the committee, we would be very happy to receive it.

Dr. SMITH. Thank you.

Mr. HESELTON. Mr. Chairman, may I request that Dr. Smith supply at his convenience the chronology of his association with Harvard

Medical, Rockefeller Institute of Medical Research, Sloan-Ke... Institute, and New York University?

Mr. WILLIAMS. Did you hear the question?

Dr. SMITH. No, sir.

Mr. HESELTON. Would you be willing, at your convenience, ... to simply supply the dates of your association with Harvard M... School, Rockefeller Institute of Medical Research, the Sloan-K... ing Institute for Cancer Research, and New York University?

Dr. SMITH. I was in bacteriology at the Harvard Medical S... from 1940——

Mr. HESELTON. I do not mean you should do it now orally. Will ... supply it for the record?

Dr. SMITH. Yes, sir.

Mr. HESELTON. Thank you.

Mr. WILLIAMS. Thank you, Dr. Smith.

(The information requested follows:)

ENGLEWOOD, N. J., *August 26, 1957.*

Hon. ... EN BELL WILLIAMS,
Chairman, Subcommittee on Health and Science,
House Office Building, Washington, D. C.

DEAR MR. WILLIAMS: At the end of my testimony before your committee ... July 19, Mr. Heselton asked me to supply for the record the chronology of my association with various institutions. This is as follows:

In 1933 I received the degree of doctor of medicine from the Johns Hopkins University and became a research fellow in bacteriology at the Harvard Medical School. From December 1938 until November 1940 I was laid up with tuberculosis. From November 1940 to September 1941 I was a fellow in medicine at the Massachusetts General Hospital, from September 1941 to September 1943 an assistant in bacteriology, Harvard Medical School.

From September 1943 to September 1947 I was assistant in pathology at the Rock... Institute for Medical Research, and from September 1947 to Sept... associate at the Sloan-Kettering Institute for Cancer Research. I w... professor of industrial medicine at New York University from September 1949 to July 1953, thereafter associate professor until June 1954. I now have a fellowship for study of nutrition in relation to cancer awarded by the American Academy of Nutrition.

Please allow me to express my appreciation for the courtesy extended me to appear before your committee.

Respectfully yours,

WILLIAM E. SMITH, M. D.

(The following letter, regarding the above testimony, was later received for the record:)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
PUBLIC HEALTH SERVICE,
Washington, D. C., October 11, 1957.

Hon. J... EN BELL WILLIAMS,
Chair... Subcommittee on Health and Science,
Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CHAIRMAN: In my letter of July 19 concerning testimony before the subcommittee by Dr. William E. Smith of Englewood, N. J., to the effect that studies of "environmental chemical factors in cancer" had been terminated by the Public Health Service because of industry opposition, I offer to provide you with information in support of my belief that Dr. Smith's statement was not in conformity with the facts. I am pleased to supply you now with a report on our environmental cancer research program which I believe will supplement and clarify the record with respect to the development of this important activity which for a number of years has merited continued congressional interest and support.

See Hueper's letter p 189

...ental cancer—those external and internal influences which ... cancer in experimental animals and in man—were started as a defi... ... at the National Cancer Institute of the National Institutes of ... in 1946 when a new section on environmental cancer was started under ... The activity gradually expanded. Work was carried on in the ... a modest laboratory was established at Georgetown University where ... 2 rooms and 2,500 square feet of space. In the spring of 1952, 4 pro... people, including Dr. Hueper and 2 clerks, were in a Cancerigenic ... portion and the laboratory at Georgetown had 2 scientists and 6 support... also under Dr. Hueper's direction.

...mination of the increasingly important environmental cancer program ... undertaken in 1952 which enlarged it and gave it greater diversification. ... has continued up to the present time. It is not true that the Public ... service was persuaded by representatives of industry to terminate or ... its environmental cancer field studies.

...Prior to the 1952 reorganization, the Cancerigenic Studies Section of the Na... Cancer Institute had been concerned, under the direction of Dr. W. C. ... with the general problem of the relation of environmental factors to ... Its activities included the planning of and collaboration in occupational ... surveys, consultation services, and laboratory research. Technical as... and consultation in relation to occupational cancer were provided to ... health departments, medical schools, and various Federal agencies. ... of carcinogenic hazards in manufacturing were also undertaken in co... with several industries. In May 1952, a new section designated as ... Cancerigenic Field Studies Section was established under Dr. Hueper to ...strate on epidemiological environmental cancer surveys. The name of ... original Cancerigenic Studies Section was then changed to Cancerigenic ... Studies Section, to concentrate on laboratory research in enviromental ... As the organization of this work progressed, the Cancerigenic Research ... Section was transferred, in October 1952, to the Research Medicine ... of the National Cancer Institute, and the new Cancerigenic Field ... Section was redesignated the Field Studies Section of the Cancer Con... ... The professional staff of the Field Studies Section had been aug... to carry out field investigations in occupational and environmental ..., with special emphasis on occupational factors related to lung cancer. ... were also laid, however, to pursue field studies on tobacco, nickel, asbes... ... radioactive water, minerals in nonuranium mines, and cigarette ..., in cooperation with various organizations throughout the country.

The field studies which originally were the responsibility of Dr. Hueper, have remained in the Field Investigations and Demonstrations Branch, formerly the Cancer Control Branch, under Dr. Raymond F. Kaiser, while the laboratory studies continue to be directed by Dr. Hueper under the Associate Director of Research for the National Cancer Institute. The primary purpose of this division of enviromental cancer studies was to distribute the projects properly within the organizational structure which the National Cancer Institute was evolving to administer its growing program.

Another factor involved in the 1952 reorganization of environmental cancer studies was the matter of proper adjustment between the research work of the National Cancer Institute and the occupational health activities of the Public Health Service's Bureau of States Services. A careful definition of program responsibilities, with particular reference to activities of these two branches of the Service which involve cooperation with State agencies and with industry, had to be worked out.

Since the reorganization of environmental cancer studies in 1952, this area of the National Cancer Institute's research program has steadily expanded both as to grant-supported and direct operations, with the continued support of Congress and the cooperation of industrial interests, State health departments, medical schools, Federal agencies, labor organizations, and other groups.

Under our grants program, we are at present supporting 34 projects dealing with environmental cancerigens in 30 separate research institutions, at an annual cost of $420,195. (A list of current pertinent research studies supported by grants is presented in attachment I.)

Our laboratory work at the National Cancer Institute in Bethesda has been increased with an expansion of facilities and increase of staff since 1952. In this program, under Dr. Hueper's direction, projects on chemical causes of cancer are being conducted. The present staff consists of 14 persons occupying

almost double the floor space available in 1952 and utilizing equipment valued at $350,000. (A list of the projects reported in 1956 for this laboratory is presented in attachment II.)

Field studies in environmental cancer have been steadily expanded. We now have 40 investigators, scientists, engineers, epidemiologists, statisticians and clerks, exploring many facets of the environmental cancer problem among definable groups of the human population. University scientists have been supported to an increasing degree through field investigation grants. (A list of pertinent current direct operational field projects is presented in attachment III, and a list of pertinent field investigations grants is presented in attachment IV.)

The National Institutes of Health at Bethesda has been the scene, on two occasions since 1952, of meetings of industrial medical directors for discussion and advice on environmental cancer research. The Cancer Control Committee, which screens applications for field investigation grants and advises the National Cancer Institute on program, has had, since its inception, a subcommittee on environmental cancer to review the field and recommend activities in need of support. In addition to scientific papers on chemical hazards and other environmental cancer subjects published regularly by National Cancer Institute scientists and grantees, the Public Health Service has discussed these studies freely before appropriations subcommittees and other committees of Congress over the years. Moreover, special publications, such as the progress report represented by attachment V, and a public health monograph by Dr. Hueper entitled "Environmental Causes of Cancer of the Lung," have been issued by the Service.

In summary, this program was inaugurated on a very modest scale in 1948 with Dr. Hueper in charge of both the laboratory research and the field study program. In 1952 the program was reorganized, with the laboratory research program remaining under the direction of Dr. Hueper and the field study program assigned to the direction of Dr. Kaiser. Since that time both parts of the program have been expanded, so that each is substantially larger today than the combined program was at the time of the reorganization. While Dr. Hueper's responsibilities for the field studies program were terminated by the reorganization, the program itself was continued and expanded under Dr. Kaiser's direction.

I trust that this information will serve to correct any impression left with the subcommittee by Dr. Smith's testimony that environmental cancer studies have been discontinued or curtailed by the Public Health Service. On the contrary, the steps I have described were taken to produce optimum results with the staff and facilities at our disposal. This is, in fact, an area of our cancer research effort which, in my estimation, will continue to demand the attention and emphasis that we are giving to it.

Sincerely yours,

L. E. BURNEY, *Surgeon General*

ATTACHMENT I

NATIONAL CANCER INSTITUTE

Research grants in chemical carcinogenesis, fiscal year 1957

Institution and grant No.	Investigator	Project title	Amount
Baylor University, Houston, Tex., CY-3462(C2)	A. Kirschbaum	Role of ovarian and adrenal cortical secretion in growth and genesis of mouse mammary cancer.	$13,512
Boston University, Boston, Mass.: CY-3133	H. M. Lemon, H. H. Wolff	The biosynthesis, transport, and metabolism of steroids in relation to endocrine-stimulated cancers.	24,820
C-3468	O. J. Kessler, L. A. Mirand	Metabolic aspects of chemical carcinogenesis. Carcinogenic activity of steroid hormones, reference to adrenal steroids.	13,685
University of Buffalo, Buffalo, N. Y., C-2122(C3)	H. Sobel, J. Marmorston, H. I. Hadler	Investigations in certain phases of chemical oncology. Mechanism of carcinogenic action of hydrocarbon 9,10-dimethyl-2-benanthracene.	12,699
Cedars of Lebanon Hospital, Los Angeles, Calif.: C-2012(C3)	F. D. Ingraham, E. A. Bering, Jr.	Investigation of new plastics for use in neurosurgery and general surgery.	12,205
C-2599(C2)	R. A. Huseby	Quantitative relationship of estrogen administration to mammary gland development and mammary carcinogenesis in mice.	7,613
Children's Medical Center, Boston, Mass., C-2107(C3R1)	B. S. Oppenheimer, W. L. Simpson, H. S. Zackheim	Processes involved in carcinogenesis by polymers.	4,224
University of Colorado, Denver, Colo., C-1820(C2)	S. Rogers, H. Popper	Species differences in carcinogenesis in response to chemical carcinogens.	4,870
Columbia University, New York, N. Y., C-1930(C5)	F. A. Kummerow, H. D. Lambert, J. Berkman	Conditionality of tumor production (urethane).	22,728
Detroit Institute of Cancer Research, Detroit, Mich., C-879	H. Mescon	Tissue changes produced by prolonged administration of ethionine.	4,992
Duke University, Durham, N. C., C-1741(C4)	A. Tannenbaum	Possible carcinogenic activity of polymerized fats.	11,479
Henrotin Institute for Medical Research, Chicago, Ill., C-2001(C3)	H. R. Gutmann	The site and mode of action of urethane.	7,417
University of Illinois, Urbana, Ill., C1832(C3)	R. J. Gorlin, N. H. Rose, O. H. Daub	Controlled evaluation of the factors concerned with the metabolism of steroids by human skin, with particular reference to precancerous and cancerous lesions.	6,386
Long Island Jewish Hospital, New Hyde Park, Long Island, N. Y., CY-3110	M. Kuschner, N. Nelson, S. Lasktin	Exploration of mechanisms of carcinogenesis through nutritional investigation.	6,860
Massachusetts Memorial Hospital, Boston, Mass., CY-2800(R)		Research on the mechanism of action of carcinogenic aromatic amines.	12,959
Michael Reese Hospital (Medical Research Institute), Chicago, Ill., C-248(C11)		Effect of vitamin A deficiency upon cancer induction.	12,980
University of Minnesota, Minneapolis, Minn.: C-2571(C2)		Synthesis and properties of 1-, 2-, 3-, and 10-monomethyl-3,4-benzpyrenes and some di- and trimethyl-3,4-benzpyrenes.	20,473
C-3322		Synthesis and properties of 1-, 2-, 3-, and 10-monomethyl-3,4-benzpyrenes and some di- and tri-methyl-3,4-benzpyrenes.	6,660
University of New Mexico, Albuquerque, N. Mex., C-1505(C4)		The experimental induction of bronchogenic carcinoma by compounds of chromium.	5,120
New York University, New York, N. Y., C-2311			6,038