WIRETAPPING, EAVESDROPPING, AND THE BILL OF RIGHTS

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BEFORE THE

SUBCOMMITTEE ON CONSTITUTIONAL RIGHTS

OF THE

COMMITTEE ON THE JUDICIARY

UNITED STATES SENATE

PURSUANT TO

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CONTENTS

WIRETAPPING, EAVESDROPPING, AND THE BILL OF RIGHTS

TUESDAY, MAY 20, 1958

UNITED STATES SENATE,
SUBCOMMITTEE ON CONSTITUTIONAL RIGHTS
OF THE COMMITTEE ON THE JUDICIARY,
Washington, D. C.

The subcommittee met, pursuant to call, at 10:25 a. m., in room 457, Senate Office Building, Senator Olin D. Johnston, presiding.

Present: Senators Johnston and Hruska.

Also present: Charles H. Slayman, Jr., chief counsel and staff director; and William D. Patton, first assistant counsel; and Thomas B. Collins, professional staff member, Committee on the Judiciary.

Senator JOHNSTON. The committee will come to order.

This hearing today marks the beginning of a series of public hearings planned by the Subcommittee on Constitutional Rights, dealing with the subject of wiretapping and the Bill of Rights. Another session has been scheduled for the day after tomorrow, and other sessions will be scheduled and announced in the future as appropriate.

The session today will be devoted primarily to the background questions: What is wiretapping? How is it done? What methods exist today for overhearing or intercepting conversations?

I want to emphasize that today's hearings are primarily preliminary in nature. We do not intend to deal today with the basic questions motivating our entire study of the subject, that is: How do eavesdropping, wiretapping, and similar invasions of privacy affect our constitutional rights; and are present-day laws sufficient to protect the rights of the individual?

It is my expectation that these hearings, and, indeed, the subcommittee's entire study of the subject of wiretapping, will be conducted in a completely objective manner, with no preconceived and unshakable judgments regarding the subject. The subcommittee hopes to obtain all the facts.

I will say—and I am sure I speak for all members of the subcommittee on this score—that during the course of our study of this important subject, we shall be zealous in our concern for the rights of the individual, and will scrutinize with great care any alleged violations of these rights.

We will call the first witness.

Mr. SLAYMAN. Mr. John J. Hanselman, assistant vice president, American Telephone & Telegraph Co., who has come down from New York City.

Senator JOHNSTON. You may proceed in such manner as you see fit, Mr. Hanselman.

STATEMENT OF JOHN J. HANSELMAN, ASSISTANT VICE PRESIDENT, AMERICAN TELEPHONE & TELEGRAPH CO.

Mr. HANSELMAN. My name is John J. Hanselman, and, as has been stated, I am assistant vice president of the American Telephone & Telegraph Co. in the operation and engineering department in New York City. For most of my telephone career I have had supervisory responsibility for assisting the associated Bell System companies in the commercial development of the telephone business.

Let me say at the outset that we very much appreciate this opportunity to come here and talk with you very briefly about telephone communications and its place in the social, business, and governmental activities of this country.

I will proceed with this statement, if you agree.

Telephone service today is a vital factor in practically all of our activities. Perhaps the best way to appreciate its impact and importance is to consider what would happen if we should suddenly be without telephone service. It is quite obvious, I believe, that all government, business, and social activity would almost immediately be slowed down and very shortly come to a standstill.

In a relatively short span of years, the telephone has grown from a useful device for the few to a vital everyday necessity for all. Hardly any business is so small as to be without telephone service, and larger business firms may have several thousand telephones at a single location. Today, 4 out of 5 families have telephones in their homes.

There are now over 64 million telephones in the United States. This is three times as many as in 1940. Since 1920 there has been a 400 percent growth in telephones, while population has increased only 60 percent.

Telephone service here has also been growing much faster than households. Today 78 percent of the households have telephone service, which is more than twice as many as in 1940.

Not only is the number of telephones growing rapidly, but perhaps even more importantly, the use of the telephone has grown equally dramatically. Every day there are 230 million local telephone conversations, and, in addition, 10 million long-distance conversations. This comes to a total of about 80 billion telephone conversations per year.

The average annual telephone conversations per person in the United States has grown from 161 in 1920 to 246 in 1940, and today stands at 460. This further indicates the increasingly intimate relationship between the growth in telephone usage and the growth and development of this country.

Close to 85 percent of the telephone service in the United States is provided by the Bell System and its associated companies. The remainder is provided by some 4,100 independent telephone companies, practically all of which interconnect with the Bell System and with each other.

Incidentally, some 55 percent of the world's telephones are in the United States, even though we have only 6 percent of the world's population. Virtually all of the world's telephones can be reached by any telephone in this country.

There are many reasons why telephone service has developed so rapidly. For example, the spreading out of our population to all four corners of the country, the increasing size of towns and cities, the tremendous development of suburban areas, good roads and automobiles, have all contributed their part.

Also, the steadily increasing tempo of business, the Nation's demand for a wide variety of products and services, the keen competition for the consumer's dollars, the increasing complexity of the means of production and distribution, have combined to make the telephone more and more of a necessity. To illustrate:

Government, in order to carry on effectively and exercise its functions in the public welfare, uses the telephone.

The Defense Department, in preparing for the national defense, uses the telephone.

The farmer who wants to make an emergency repair on his tractor or find the best market for his produce, uses the telephone.

The manufacturer who wants to order more raw material or arrange for a shipment of his product, uses the telephone.

The oil company that wants to confer with its geologist regarding the location of a new oil field, uses the telephone.

The chemical company that wants to discuss a new and valuable formula with its research laboratories, uses the telephone.

The financial house which wants to arrange a loan or market securities, uses the telephone.

The consumer, whether businessman or housewife, uses the telephone.

The telephone is used for all these and many other business purposes, whether on a local or long-distance basis, because it provides an immediate, direct, private means of communication that is almost the equivalent of a face-to-face conversation. The telephone shatters distance because it is equally effective whether the other person is in a nearby office, across the continent, or overseas.

The telephone is likewise used for a wide variety of family and social purposes. Here the intimate, personal quality of the telephone has made it possible to keep in touch with parents or children at distant points, to give encouragement or sympathy to loved ones, to hold families together, to make new families grow, to keep in touch with friends, both new and old.

Another reason for the rapid growth of the use of the telephone is that telephone service is continually being improved.

The average long-distance connection took 14 minutes to complete in 1920. The speed of completing connection in 1930 was reduced to 2 minutes, but today the average long-distance call is completed in only 72 seconds.

In 1920, the quality of transmission was equivalent to 2 people talking to each other while they were some 50 feet apart. In 1940, improved transmission brought the 2 talkers within 20 feet. Today transmission has been further improved to a point equivalent to their talking to each other face-to-face, that is, only 6 feet apart.

Another example of service improvement is that the percent of Bell telephones with dial service has gone from 32 percent in 1930 to 60 percent in 1940, to 76 percent in 1950, and about 92 percent today. Rapid progress is also being made in arrangements which permit customers to dial long-distance calls.

Business telephones have always been largely on an individual line basis. But in recent years the greater privacy and availability of individual lines has put them in great demand for residence service also. Four-party service is being rapidly eliminated and more residences have individual line service now than ever before. Rural service has also been improved by reducing the number of parties on the line, providing full metallic circuits, and eliminating the old hand-crank telephone.

Telephone service has also been made more convenient by means of new and improved telephone instruments. A great variety of telephone arrangements are available for the office and place of business. In the home, extension telephones in color are now located in the bedroom, kitchen, living room, or other handy locations. Extensions make it easier to originate calls, as well as to answer incoming calls promptly.

Finally, telephone service is attractive because of its low cost. While telephone rates have been increased somewhat in recent years, the increases have been low as contrasted to price increases of other commodities and services and the overall cost of living. For example, to pay the average monthly bill for minimum local service in the larger cities required 3.7 hours of work for the average factory worker in 1940, and only 1.7 hours in 1957. The relatively low rates for telephone service bring it within the reach of practically everyone. They have been made possible, in spite of increased wages and increased material costs, through continuous improvements in the art of telephony and the more efficient management of the business.

This ability to develop a valuable service at reasonable rates has in turn attracted to the Bell System alone more than 1,600,000 shareowners, whose investment in the business makes available the capital needed to support its growth and development.

In conclusion, then, telephone service has grown far more rapidly than population and many other criteria of growth, such as general business activity. It uniquely meets the current communication needs of government, business, and the home. Telephone service has been continuously improved and tailored to better fit in with the wide variety of its customers' needs. It is fast, dependable, and economical. Its employees, both management and nonmanagement, have the respect and esteem of the communities in which they work and live. Anything that would detract from the confidence which the public has in the privacy of telephone service would be a serious blow, not only to the telephone industry, but, perhaps more importantly, to the country as a whole.

Senator JOHNSTON. I would like to ask just a few questions at this time, after listening to the fine statement that you have presented here.

Is it not your opinion, as an official of the telephone company, that Americans today use the telephone for local and long-distance calls in connection with their families, their personal, and private relationships, as well as for social, business, and professional matters?

Mr. HANSELMAN. Yes, indeed, that is true.

Senator JOHNSTON. Now, that being so, what procedures has the telephone company followed to prevent its own employees from listening in on private telephone conversations? When I ask that ques-

tion, I mean its own employees, of course, operators and other personnel.

Mr. HANSELMAN. Of course, only a relatively small proportion of the total employees have access to equipment which would permit listening in on telephone conversations. That is primarily the operators and also the plant installation and maintenance people. Of course, as you know, more and more of our telephone service is on a dial basis, both local and long-distance.

Now, with regard to the procedures the telephone company follows, I might say this: In the first place, the telephone company is exceedingly careful in the choice of its employees. I am not completely sure of these figures, but out of 30 applicants for plant jobs, I think only 1 is taken, for a variety of reasons.

Likewise, in our selection of traffic people, a very careful process is gone through, including a review of the person's background and other circumstances, which would insure that the telephone company has a responsible, competent individual.

Following such a careful selection, the telephone company makes available to all employees a part (sec. 605) of the Communications Act, which tells what the requirements are with regard to maintaining the secrecy of telephone communications and the prohibition against divulging any information which they may happen to hear.

Those people who are directly associated with line equipment and switchboards, in most cases are asked to sign a statement in which is outlined what the requirements are with regard to the secrecy of telephone service. In this way we are sure that our employees not only have the written material before them, but, in fact, that they have read it.

In addition, the supervisory people continuously watch the people to make sure that there is no listening in.

Perhaps more importantly, as far as our traffic people are concerned, there is no reason why they would listen in on telephone calls. They are instructed and trained, the minute the connection is up, to cut out of the connection. That is necessary, because they have to go on and work on the next call.

As a general proposition, with the very close supervision we have of both our traffic and plant people, there is very, very little opportunity for listening in. We feel that with the training and instruction given to our employees, they very carefully observe the regulations of the Federal Communications Commission, and such state requirements as there may be.

Senator JOHNSTON. Now, what steps does the telephone company take to prevent other people from listening in on private telephone conversations? I mean by "other people," of course, in that question, people other than telephone company employees.

Mr. HANSELMAN. Well, in the first place, our operating buildings are closely guarded for a variety of reasons, so that an outside person does not have access to that part of our equipment which would permit him or her to listen in on connections.

An outside person would not be allowed in the telephone company building unless he had passed certain security regulations, and in most of our buildings, a person not a telephone company employee is re-

quired to either wear a badge to designate him individually to other employees that are around, or be continuously accompanied by a supervisory person.

Mr. SLAYMAN. Mr. Chairman, with your permission, I would like to ask a few questions along the line of your last question.

Senator JOHNSTON. Proceed.

Mr. SLAYMAN. Then, moving a step further, Mr. Hanselman, what steps does the telephone company take to insure the privacy which you mentioned in your prepared statement to the paying customers of the telephone service? What steps do you take?

You have described how you keep other people out of the building, but what steps do you take with regard to the telephone lines themselves and junction boxes into a business building? How do you protect the customer from wiretapping by anybody other than employees of the telephone company?

Mr. HANSELMAN. I am afraid you are getting somewhat outside of my personal field, because I am a commercial businessman, and these questions you are raising are more directly related to our plant operations.

But I could say this from my broad general knowledge of the business: I know that we have our own employees continuously examining and working on the outside plant, and if at any time they should find any irregularity, they take such appropriate steps as seem desirable to eliminate it.

I might say that it is an extremely rare occasion for the telephone company employees to find any irregularity in the operation of the facilities.

Senator HRUSKA. Will the chairman yield?

If anything were observed by way of tampering with junction boxes themselves, what steps would be taken by your employees?

Mr. HANSELMAN. They would report it to their supervisory people, and they in turn would report it to the appropriate law-enforcement officials if there seemed to be any reason for it.

Senator HRUSKA. Is there any inspection of these boxes for this eventuality, or is there anything else which would draw to their attention anything which would be irregular in any of these connections?

Mr. HANSELMAN. So far as I know, such inspections are made, of course, at any time anyone believes or feels that for some reason there may be a tap on his wire. In that case, the telephone company does make a special investigation of that customer's line.

Senator HRUSKA. There are occasions, are there not, for routine checkups and service calls of other kinds, which, as a byproduct, would probably disclose anything that was irregular? Would that be true?

Mr. HANSELMAN. Yes, that is quite true, and I had intended to cover that in my first comment, that in the day-to-day operations, our employees are all cautioned to be aware of any irregularities in the outside plant or the terminal boxes.

Senator JOHNSTON. Do you do anything in the field of educating your customers to tell when a wire might be tapped, a buzzing or just a sound so that they can tell when it is tapped? Do you do anything in that field whatsoever?

Mr. HANSELMAN. That is a technical question which is really pretty difficult to answer. Frankly, I do not know of anything which can be done that would clearly intimate to a customer that there was some irregularity on his line.

Senator JOHNSTON. Is it not true that if a wire is tapped it does leave, in some instances, a buzzing sound, a little buzz?

Mr. HANSELMAN. I really do not know, and I doubt whether that is true in a great many cases.

Senator JOHNSTON. Well, what if a recording is being made? Can you not usually tell that?

Mr. HANSELMAN. Well, really, again I think this is something a technical man might be in a better position to answer. My knowledge is largely derived from what I have read, and probably you folks have read, too, in newspapers. This is a technical question, and I could well appreciate that a wire conceivably could be tapped without a person knowing that a tap has been placed.

Senator JOHNSTON. Well, in your opinion, and from your association with the telephone company, can a paying customer of the telephone company make any valid assumption about whether his telephone is being tapped or not?

Mr. HANSELMAN. Yes; I think he can make the assumption that it is not being tapped, because of the various precautions which we take to make sure that the telephone plant is not tampered with in our day-to-day operations. And this matter of tapping wires, I understand, is an exceedingly difficult thing to do under many circumstances. To find the particular cable, the particular wires—it is a rather difficult thing to do.

So I think our customers can generally assume that there is no wiretap on their lines.

Senator JOHNSTON. You say that they can assume that. How would they know whether or not a wire was tapped?

Mr. HANSELMAN. Well, I do not know that there would be any easy way in any case that they would know.

If they did notice some sound, some noises, some buzzing, why that might create a suspicion in their minds. They probably would report it to the telephone company, and the telephone company would then investigate to see whether it is a loose connection somewhere, or whether it is actually a tap on the wire.

The buzzing sounds can be created by many things. The mere fact that there is some noise on the line may be due, on rainy days, to just water getting in on a loose connection, which sometimes causes a slight sound. So that there could be no assurance that any noise does mean that there is a tap on the wire.

But should a noise occur, the customer is instructed to report it to the telephone company, and the telephone company would very promptly completely review the customer's facilities to make sure that they are in good working order, and that there are no foreign attachments on them.

Senator JOHNSTON. We certainly thank you for coming here today.

Mr. HANSELMAN. Thank you, sir.

Senator HRUSKA. The record may show at this point that Senator Johnston was called away for other committee business, and we will carry on the committee until he gets back.

Senator JOHNSTON. Senator Hruska will take the chair until I get back.

Mr. SLAYMAN. The next witness is Prof. Richard Schwartz of the Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia, Pa.

Senator HRUSKA. Mr. Schwartz, have you a statement for us?

STATEMENT OF PROF. RICHARD F. SCHWARTZ, MOORE SCHOOL OF ELECTRICAL ENGINEERING, UNIVERSITY OF PENNSYLVANIA

Mr. SCHWARTZ. I do not have a prepared statement because of the shortness of both time and secretarial help, which did not allow me to get one made. I have some prepared notes from which I would like to speak; you may ask me questions, of course, on any points that are not clear.

My name is Richard F. Schwartz, and I am a research associate in electrical engineering at the University of Pennsylvania.

Senator HRUSKA. How long have you been with the university?

Mr. SCHWARTZ. I have been with the university since 1951, but I have been engaged in communications engineering research and teaching since 1946.

Senator HRUSKA. Where did you get your schooling?

Mr. SCHWARTZ. Rensselaer Polytechnic Institute, where I received a bachelor's degree in electrical engineering in 1943, and a master's degree in 1948; and at the University of Pennsylvania where I have completed all of the course requirements for the doctor's degree in electrical engineering.

I have had some experience in industry as well as at the university, in the field of communication engineering and electronics.

About last July, Mr. Samuel Dash, former district attorney of Philadelphia, called the Moore School of Electrical Engineering and wanted to know if we could supply him with a technical expert in the field of communication engineering to guide him in a study he was making for the Pennsylvania Bar Association on the subject of wiretapping and electrical eavesdropping. This study was being financed by the Fund for the Republic.

I was called in to satisfy this requirement for a consultant, even though at the time I wasn't too well acquainted with the field of wiretapping.

Senator HRUSKA. When did this occur? When did you get this call?

Mr. SCHWARTZ. This was a year ago, about the first of July.

In the following months I undertook a concentrated study of the technology of the subject, attempting to explain to the lawyers who were undertaking the main study what could be done and what could not be done; what was possible on the basis of sound engineering practice; what was possible on the basis of technical skill. I was also required to answer certain question as to how the person being eavesdropped could defend himself against these things.

I was required to look into a great many things which were rumor. Some had been reported in the literature; some were verbally reported. I interviewed a number of people. I read what I could find on the subject, and I analyzed what I could find and tried to explain

in a report for the Pennsylvania Bar Association what these things were all about.

Senator HRUSKA. Have you rendered your report?

Mr. SCHWARTZ. The report has not yet been released, and therefore it is not yet available for public consumption, but it will be very shortly, and I imagine a copy will be available to this committee at that time.

I was asked by Mr. Slayman when he contacted me if I would give the background technology of this subject, and I understood his instructions to mean I was to discuss eavesdropping as a whole for the committee, and I have made some notes on it.

I would like to talk first about the telephone system and how vulnerable it is to tapping.

The telephone system is, at least theoretically, vulnerable to tapping anyplace between the subscriber at one end and the subscriber at the other end. Now, there are certain points where it is much more vulnerable than other places. These points are within the premises of the subscriber himself, and within the area up to and including the terminal boxes which were mentioned in the previous testimony.

These terminal boxes are multiple units. That is, there is not just 1 along a given line, but there may be 3 or 4 with the same lines available at the terminals; in other words, there may be several places in a neighborhood where the same lines are exposed to anyone who wish to get at them.

Senator HRUSKA. Are the lines not a little more difficult to identify, however, the farther you get away from it?

Mr. SCHWARTZ. I was going to go into that in a moment.

In the first place, the reason for the multiplicity of the boxes is for flexibility in the telephone system itself. If a subscriber moves away, the company may wish to put another phone in, to change the number, or perhaps move a telephone with a certain number to another location. For this reason, it is very important that they be able to have access to a certain line from the central office at more than one place. And it is for this reason that there is more than one terminal box with the same line available at terminals within.

Now, as far as identifying a particular line, there are two ways in which it can be done, very broadly.

One is by subterfuge, that is, getting the information somehow from an official source. Now, since I am only a technical man, I do not think I should go further into that. But this is one way that it is reported to have been done.

The other way in which it may be done is by certain electrical tests that may be made on the line itself. Some of the popular literature has described wiretappers as having a test by which they put two fingers across the suspected line, ring the number and wait for a tingle or shock. If they don't get one they have guessed wrongly. So much for the direct tapping.

There is another kind of tapping which has been mentioned by various people; this is called inductive tapping. By means of this technique, no direct connection to the line itself needs to be made at all. It is accomplished by a coil of wire which has approximately two or three thousand turns in it which may be wound either in a flat configuration like a pancake, or into a cylindrical configuration like a pencil.

This coil of wire, when placed in the vicinity of a telephone, may

be acted on by what is known as the electromagnetic field of the telephone which induces in the coil a signal that corresponds to the voice signal on the line itself. Once this phenomenon has occurred, this signal in turn may be conveyed by wires to a tape recorder or amplifier, or whatever other place the eavesdropper wishes to make of it.

Now, you might think these coils of wire are particularly rare, but I have brought with me some literature which shows that these coils of wire are available to anyone who wishes to get them.

/This is a bulletin from the Electronics Supermarket, located in Philadelphia, Pa., and I see listed in here a telephone pickup coil for $2.90. This shows these items are available to anyone who wishes to get them./

The particular pickup coil that is advertised is actually for use by, for example, a businessman who wishes to make a recording of his own telephone conversations. The coil comes in a size approximately the size of this envelope [indicating]. It is placed on the desk, the telephone desk set is placed on top of the coil, and the wires from the coil then can go to a tape recorder.

I do not know how widespread this practice is, but certainly the inexpensiveness of the device makes it almost seem as though everyone would want to have one.

Senator HRUSKA. I imagine, Mr. Schwartz, that there are other catalogs; are there not?

Mr. SCHWARTZ. I have some other catalogs I will come to in connection with some other things.

Senator HRUSKA. I am furnished with a copy of a catalog here which is quite bulky in size, and has a very beautiful cover, quite attractive. It presumes to tell about radio parts, audio systems, test equipment, tape recorders, and so on.

Is it true that anyone who wishes to purchase any of these parts and use them for eavesdropping or wiretapping has free access to them, if he has a few dollars?

Mr. SCHWARTZ. Well, perhaps 90 percent of the parts in the catalog, of course, would not be too useful to the wiretapper. To the eavesdropper they would be, because eavesdropping is broader than just wiretapping. It is true that anyone has access to this sort of thing. And to have it otherwise would be actually dangerous to the economy, because our whole radio and television business rests upon the free purchase of these parts by engineers and technicians and repairmen.

Well, these inductive pickup coils, to return to this subject, are effective over a distance of—well, it is difficult to ascertain the exact distance, but let us say that in a practical case they might be effective up to 2 feet away from a telephone; and under very unusual circumstances, such as the absence of any other electrical equipment in the near vicinity, they might be effective over a larger distance.

They come in different configurations, as I mentioned before. It would be possible, for example, to make one in a cylindrical shape, equipped with a suction cup, that could be stuck on the wall of a telephone booth, a pay phone, to surreptitiously listen in on a conversation in that manner.

The auxiliary equipments that a wiretapper uses are principally tape recorders and some specially built equipment to perform unique functions.

The tape recorder is necessary because usually the eavesdropper wants to have a permanent record and not rely on his memory alone.

This would be very important, for example, in cases where—let us take a hypothetical case—a man or a wife suspects his mate of infidelity, and he or she taps his own telephone; he or she wants to have a record with which to confront the other person. This apparently is a fairly widespread practice in some parts of the country.

Another equipment which is necessary for the eavesdropper is an automatic switch which will turn on a wire recorder or tape recorder. The tape recorder may have a spool of tape on it that will last 12 hours, and in order that the eavesdropper can go away and make sure that this machine does not start turning and use up all the tape when no one is talking on the telephone, it is usually provided with some sort of switch which is actuated by the telephone itself.

Now, there is one type of switch which is actuated when someone speaks into the telephone. This is called a voice-actuated switch. And in that way, the tape recorder will conserve tape to the greatest degree.

The other type of switch is what is called a line-operated switch, and this will start the tape recorder working as soon as the receiver is picked up off the hook. This means if someone picked up the phone but didn't speak, the tape recorder could be using up tape and not recording anything.

Another piece of equipment which is used by wiretappers is a device for recording the number called. That is, when the number is dialed the electrical signals that are sent to the main office consist of very sharp impulses, very closely spaced, so closely spaced that by listening you couldn't count them. It is necessary to have some sort or a device that will mark these down so that they can be looked at; then one can tell what number it is that is being called.

One way of doing this would be to record them on the tape recorder and then play back the tape recorder at a much slower speed. Then one could distinguish the individual clicks, and in that way find out what the number was.

But it is also possible to build a device which will record these in pen and ink on a moving paper. Such a device could probably be built for around $50.

/And again, this serves to point out the fact that provided you have the skill, practically anyone could afford to wiretap./

Senator HRUSKA. Well now, Mr. Schwartz, in that connection, I have here a catalog from a Connecticut firm. When you speak of the degree of skill that one needs to build things or to fashion them or to put them in working order, I have a catalog which on the first page has this, that this company is a technical and manufacturing firm, specializing in the design and development and manufacture of electronic aids for the investigator and/or security officer.

And then they go into a listing of a lot of items, such as technical investigative kits, vestpocket transmitters, transmitters for concealment behind picture frames, telephone line transmitters which make it possible to monitor a telephone line from a remote point, and other similar eavesdropping equipment.

Do you know if there are other such companies in existence which specialize in eavesdropping equipment, either for investigators or security officers or for other people?

Mr. SCHWARTZ. There are a number of companies which manufacture equipment for law-enforcement agencies. Usually one has to have proper authorization in order to even get a catalog, or to order from these companies. In fact, I had never heard of such outlets until I started this study; then Mr. Dash, with his previous experience as district attorney, made me acquainted with the fact there were such companies.

I have here a bulletin of another one. This one is located in Chicago. And there is one located out on the west coast that I know of.

Senator HRUSKA. From your study of the situation this far, would it be very difficult for someone not authorized to really lay his hands on one of these catalogs and do a little ordering? And if he did, and were not authorized, did your studies disclose that maybe his order would not be filled if it was accompanied by good United States currency?

Mr. SCHWARTZ. I did not look into that particular aspect of the situation because it was evident to me as an electronics engineer that anybody that was skilled in electronics could probably do the same thing with parts that were available.

Senator HRUSKA. I understand, but some people are not skilled in electronics, and they may have the desire and urge to do a little eavesdropping or wiretapping. It is that type of person to whom I am now addressing my inquiry.

Mr. SCHWARTZ. It probably would be possible for these people by subterfuge or otherwise to get hold of such catalogs and illegally order the equipment. I do not know exactly how it would be done. But I think there would be ways of trying it anyway.

I would like to talk a little bit about the detection of taps, particularly in view of the fact that this was mentioned before in the previous testimony.

I agree pretty much with Mr. Hanselman on the pains that the telephone company goes to to try to maintain a secure system. In fact, if you have a tap on your phone, the only real way to find it is by inspection of the system itself, unless the tap is done in a very unskillful way.

Now, you mentioned before, Mr. Chairman, the fact that buzzes and clicks on the line might indicate a tap. Buzzes and clicks on the line, or any other extraneous noises, are more likely to indicate something wrong with the line, such as moisture or a terminal which is bad. Certainly a skilled wiretapper would take pains to try to avoid introducing any additional noise, and it is perfectly possible to tap a line without introducing any additional noise. So that this is not a reliable yardstick by which to judge whether a line is being tapped.

The telephone company has a number of routine tests that are made from the central office, mainly to check the statistical performance of their system. And some of these are called capacitance tests, for example, which test the quality of the telephone line from hour to hour; these tests are made around the clock.

It is my understanding from talking with telephone engineers that if anyone tampers with a line and does it in an unskillful way, this will show up on the capacitance test.

There are also tests for what is called unbalance, and there are numerous other tests which I do not want to burden you with the details of, that the telephone company can make.

But, in the final analysis, the finding of a tap rests upon inspection of the premises and each of the junction boxes between one customer and another.

Senator HRUSKA. Even if something were indicated on any of this equipment, however, would that necessarily enable them to locate the location of a tap?

Mr. SCHWARTZ. It might enable them to locate one but again it might not—certainly it would be located as to what line it was on, but the actual location along that line would probably not be clear without inspection.

Now, there is one other thing in this connection which you mentioned yourself, and that was the detection of a tape recorder connected to a line. A tape recorder is usually possible to detect when it is connected to a telephone line. Most tape recorders make use of an inaudible high frequency signal which is called an ultrasonic signal. It has an important use in the mechanism of tape recording. This signal can leak onto the telephone line and can be detected by appropriate equipment.

As far as protection of the system, how could one make the telephone more secure? Of course, one could prescribe locking all the terminal boxes, but a person who would do such a thing as wiretapping, would not be stopped by a lock, so this is not very realistic.

There are possibilities for protecting a given system, however. That is, if you want a private line from point A to point B, you could protect this given system because you would have complete control over the route over which the lines went.

But when the system is as widespread as a general telephone system, when you want the freedom to call any customer in the country and you have to go through the central office, it becomes very difficult to prescribe any additional precautions that could be taken to protect the telephone system.

Senator HRUSKA. What you are saying in effect is that there is no foolproof system of protecting the privacy of telephone conversations. Is that not about the effect of your statement?

Mr. SCHWARTZ. That is right.

With your permission, I would now like to progress on the other forms of eavesdropping. However, before I do so, I can point out just one additional thing with regard to telephone systems.

I have two other catalogs here which have listed in them such items as, a Western Electric linesman phone, a complete telephone system, desk sets and wall sets, telephone hand sets. I mention this because these things might be useful to the potential wiretapper, and these are also readily available to anyone who wants to get them.

Senator HRUSKA. Mr. Witness, the staff here has furnished me with a little brochure in that same connection about devices, one of which is described as follows:

> The Executive: A desk pen-set microphone; concealed-type microphone with inkwell design; very sensitive pickup, and ideal when disguised microphone is required; actual ballpoint pen surmounting the detecting structure.

Is that the thing you are talking about, eavesdropping in a de luxe way?

Mr. SCHWARTZ. That is correct. That is the aspect of the thing I am going into next.

Senator HRUSKA. That is fine, because our curiosity has been aroused by some of the literature we have here, and perhaps some of us have wished from time to time to have some of those things around at crucial moments.

Mr. SCHWARTZ. Well, the use of microphones for eavesdropping is fairly straightforward. There are no tricks involved.

Senator HRUSKA. Would there not be if there is a ballpoint pen with a base that is slightly enlarged for ostensibly decorative purposes?

Mr. SCHWARTZ. This is not a real trick. It is just hiding a microphone in a place that you do not suspect it.

There are many types of microphones. Some are sensitive, and some are insensitive; there are large microphones and small microphones; there are expensive microphones and cheap microphones; and some use batteries and some do not use batteries. And all these types can be used by the eavesdropper in hiding a microphone in a room where he wants to pick up some conversation.

Microphones come as small as a half inch in diameter, and some of them may work well over long distances with a pair of wires. Other types of microphones, equally small, will only work over a short distance with a given pair of wires.

I point this out because this shows the latitude of microphones available, so that for any particular situation that an eavesdropper might have, he has a very wide range of instruments to choose from.

Senator HRUSKA. With reference to distance, we have heard tell of eavesdropping devices which operate by having a man outside the building point a special microphone toward a window, for example, and pick up the voices and conversations of people inside the building.

Is that kind of thing possible?

Mr. SCHWARTZ. That is possible, and with your permission I would like to return to it later. I was going to say something about directional microphones a little further along.

Senator HRUSKA. Very well.

Mr. SCHWARTZ. One thing which has received some attention in both the popular literature on this subject and also in some of the other hearings held other places on wiretapping is the use of silver paint or some kind of metallic paint in place of the wires to connect the microphone over here at point A to someplace else at point B.

This silver paint is something which is no mystery to electronic engineering, because we have been using it for perhaps 15 years now for the manufacture of what are called printed circuits. The paint has particles of silver in it, so that when it dries the particles of silver touch one another and provide a conductive path along the paint from one point to another.

In order to illustrate this for the committee, I took some silver paint yesterday and painted it on this piece of cardboard, and I labeled one end point A and the other end point B. In case you would like to see it, you may. I do not know whether you can see it from there.

Senator HRUSKA. It is visible from here, Mr. Schwartz.

Mr. SCHWARTZ. This provides a conducting path from this point [indicating] to this point [indicating] along the cardboard. And instead of 6 inches, I could have gone 20 feet with the same sort of thing.

Senator HRUSKA. Could you go 60 feet?

Mr. SCHWARTZ. Well, that depends on the type of paint you start with. The particular paint I have is not a very good conductive paint.

Senator HRUSKA. I mean, with paint of some kind, how far can it be elongated?

Mr. SCHWARTZ. I do not know that there is any particular limit on the distance. The principal limitation is that when this paint dries, it has some brittleness, and if there is any vibration or anything of that sort, the conducting path may be broken, and then you no longer have a connection to the microphone.

The way the eavesdropper uses this is to paint two wires on a floor or on a baseboard from the hidden microphone, around corners, and so on, to the point where he wishes to pick up the signal and make use of it. Then the painted wires can be covered over with either wallpaper or with additional paint that matches the color of the walls. Or maybe the paint will blend in with the surroundings and will not need any further concealment.

This paint is not expensive. It also is available to anyone who wishes to get it. I have a sample in my briefcase if anyone wants to see what it really looks like.

Senator HRUSKA. Have you names of companies and their addresses and telephones? [Laughter.]

Mr. SCHWARTZ. One of the best known manufacturers, I think, is Du Pont. [Laughter.]

Senator HRUSKA. I think that has some significance, because, after all, if it is a commodity that is readily available, I am sure it has a great deal of significance for the company. That is not a plug for the company you mentioned, but I presume they have no monopoly on it; am I right?

Mr. SCHWARTZ. There is no monopoly. There are 6 or 8 companies in the field of conductive paints, so that you have your choice.

Now, the microphone has certain properties which are drawbacks in one sense, but also helps in another sense. To make effective use of a planted microphone, one would want it as close to the person whose conversation is being recorded as possible. One would say it should be within about 4 feet for optimum clarity. It is true that microphones will work up to 15 or 20 feet away, but the farther away you get, the more you pick up extraneous noises, the rattling of other objects in the room, other conversations, and outside noises coming in the windows.

However, a microphone can be made somewhat directional. That is, just an ordinary, small, basic microphone can still be made somewhat directional so it will still have more tendency to pick up sounds in one direction than another. This can be used to some extent to discriminate against noise.

In addition to this property, every microphone has a certain frequency response; that is, it picks up sounds having certain frequencies easier than other sounds. Both these properties may be used to discriminate against extraneous noises.

There is another type of microphone which I did not mention before, that has been mentioned in the various other hearings on this subject, that is the possibility of converting a telephone to a microphone. An ordinary telephone sitting on its cradle on the desk can be modified so that when it is placed on the cradle, when the hook is down, the microphone in that instrument can still be alive. And by the provision of

an additional wire to the set, this sound can be picked up and can be recorded.

Now, this was one of the things that the Pennsylvania Bar was particularly interested in, because it had been so widely reported, and it was suspected that the people who were reporting it were not giving this information in good faith. But I checked into the circuitry of the telephone and it is perfectly possible to do this.

Senator HRUSKA. Now, Professor Schwartz, let me get this clear, The telephone is in its normal position in the cradle?

Mr. SCHWARTZ. That is right.

Senator HRUSKA. And then any conversation in the room around that telephone is still being transmitted?

Mr. SCHWARTZ. Not over the telephone line. It is being transmitted to an additional wire which has been added to the system, and then to a tape recorder or to a listener.

Senator HRUSKA. So that is another version of the ballpoint pen, in other words?

Mr. SCHWARTZ. It is another version of a hidden microphone.

Senator HRUSKA. Yes.

Mr. SCHWARTZ. Now, coming back to your question before, about the concealment of microphones, it is true that these law enforcement agencies that sell equipment to the law enforcement people sell microphones that are concealed by all sorts of innocuous gadgetry.

There are possible desk sets, as you mentioned. You could have microphones concealed in lamps; you could have them concealed in briefcases; and many of these things are actually sold by these special agencies that you mentioned for law enforcement.

Mr. SLAYMAN. I did not quite follow you awhile ago on your 4-foot limitation. Would that 4-foot limitation apply to these concealed microphones in lamps, telephones, and ballpoint pens?

Mr. SCHWARTZ. I stated that for optimum pickup of a voice you would want to be within about this distance, if you want freedom from extraneous noise and optimum quality of pickup.

You will notice in a broadcast studio or someplace like that, the microphone is usually a few feet away from the subject. It is not on top of him, and it is not 20 feet across the room. I would say 3 to 4 feet is usually a good distance.

Now, there is still another type of microphone which I have not said anything about. It was developed for the entertainment field.

On the large floors of entertainment places, dance floors and large dining places, frequently an entertainer, a singer, let us say, may wish to circulate among the patrons, and it is desired, if she is singing a song, that all the patrons be able to hear her.

A microphone was developed for this, which is carried on the person of the individual, and it is called a wireless microphone. It consists of a little frequency modulated radio transmitter, which picks up the sound and converts it into a radio wave and transmits this radio wave within a distance of about 1,000 to 1,200 feet away. And at this point, within a 1,200-foot radius, there must be a receiver for this radio wave which will pick it up and abstract the intelligence from the radio wave, and convert it back into sound.

It is called a wireless microphone. They are quite expensive. They may cost over $1,000 apiece. But they are available, again, to anyone.

They were developed for a specific use in the entertainment field, but they are available to anyone who wishes to use them.

The microphone itself is about the size of a pack of cigarettes. Of course, it requires some batteries to run it, and the batteries take up a little more space than that. They must be concealed someplace also on the person.

Now, in order to detect the microphone that is hidden, you have a number of techniques which are available to you that were not available in the case of wiretapping. One is to make use of the well known—that is, it was well known during World War II—mine detector. If there is a little metallic object of any kind hidden in a room, one could search the room with an instrument like a mine detector, and one might find it this way. It is true that the mine detector could be fooled by the springs in a chair, let us say, or the nails in a wall, but nevertheless this would be one way you could go about it.

There are other techniques that can be used for detection of wireless microphones.

Now, directive microphones were something that I said I would return to. Directive microphones were first developed for aircraft noise pickup. That is, before the advent of radar in World War II, our only aircraft detectors were acoustic ones, and these were very large directive microphones which could pick up the sound of an airplane several miles away. And these microphones were also applied to the entertainment field for picking up sounds across a football stadium, for example, or for picking up any other sounds at a distance.

One such microphone is called the parabolic microphone, which consists of an ordinary microphone mounted in the center of what is called a parabolic dish, more accurately called a parabolic reflector. This parabolic reflector may be 2, 3, or 4 feet in diameter. In a sense, it looks very much like the antenna of a radar set, which I am sure the committee has seen pictures of. And the principle involved is very much the same.

Now, the use of a parabolic reflector will increase the effectiveness of a microphone some 3 to 5 times, just to give a rough figure. That means if a given microphone alone is effective at 20 feet, with a parabolic reflector it could be effective at 100 feet. And at the same time, it provides a directional property so that it may be pointed at a given place.

I think that this is what you may have been referring to, Mr. Chairman, when you asked me the question on the directive microphone before.

There are certain restrictions on parabolic microphones. One could be pointed from one office window to another across the street and pick up the conversation inside the second office, provided that window was open, and provided there were not a lot of drapes or sound-absorbing materials in the other office that would deaden the sound.

There is another type of highly directive microphone.

Senator HRUSKA. Before you leave that, is there any way of detecting the existence or functioning of that type of device you have just described?

Mr. SCHWARTZ. I know of no way, no electrical way, at any rate, of detecting such a device. The only way I know of to find such a device

would be to actually see it. And, of course, since they are large, there is some possibility that they could not be too well concealed.

But there is another type of microphone which perhaps is easier concealed, and which does very much the same thing, and it is called a tubular microphone. It was described in the technical literature approximately 20 years ago. It was developed by the Bell Telephone Laboratories, but I do not believe it has ever found extensive commercial application.

There is a picture of one in a popular magazine I have brought along. This happened to be Popular Science for October 1957. And there is a picture of a tubular microphone in here which is available to the committee to see if they wish.

Senator HRUSKA. Thank you.

Mr. SCHWARTZ. It consists of 50 aluminum tubes, about three-eighths of an inch in diameter. It has been popularly called the shotgun microphone. These tubes are all bundled together like a bundle of sticks, and there is a basic microphone at the common end of these tubes. The device is used by pointing it at the object of the pickup.

Its limitations are pretty much the same as the parabolic microphones.

One of the things that I have mentioned from time to time and which runs through all of this business of eavesdropping is the tape recorder. Now, tape recorders are available to everyone for use in the home, for commercial use, for broadcast use. And they run from $100 up to thousands of dollars in price. If you were going to eavesdrop someone, the very cheapest variety might do perfectly well for you. There is nothing about the more expensive ones that makes them better adapted to eavesdropping than the cheaper ones.

Tape recorders also come miniaturized in size. For example, they come fitted to a briefcase. I have here a bulletin from the Amplifier Corporation of America which shows a tape recorder fitted in a briefcase, and this can be used, for example, by the businessman going on a trip. He can take this along with him and go to a conference and either record a conference directly at the location, or he can return to his hotel room and dictate his thoughts and impressions of what went on at the conference.

This is sold, in other words, for standard use, but it could be available to an eavesdropper, too.

This particular company that makes this is only one of a number that I have heard of.

Senator HRUSKA. And what would its size be?

Mr. SCHWARTZ. This particular one is a standard-sized briefcase. I do not know whether you can see the picture on the sheet or not from there, but it is a standard-sized briefcase in this particular instance.

There is another type of recorder which is called the Miniphone recorder. It is a wire recorder rather than a tape recorder, and it is adaptable to a carrying case that mounts on the person. It is battery operated, and will record up to 5 hours constantly. It was developed in West Germany and sold in this country.

The other day, when I was contacted for this hearing, I told the committee counsel that I would like to mention just briefly the fact that there are a number of other eavesdropping devices which have found special application. I do not know to what extent they

have been used for private eavesdropping, but I know that some of these devices have been used by plant security personnel to accomplish special things. And these are video devices, rather than audio devices. That is, they survey the person visually. One of these things is a closed-circuit television camera, by means of which one can have a small camera no bigger than a woman's purse, let us say, mounted in a wall and connected by wires to a monitor in some other place. And this has been used by security people, for example, in suspected cases of theft, where it is wished to maintain surveillance on a particular place where theft has occurred but where it is impractical to hide a man. Instead, one of these cameras is hidden and then at another place, perhaps a hundred feet away, there is a monitor where that spot can be watched remotely.

And then there is another thing which has been used in this area. That is the standard camera which is electrically tripped. You may either have a trip wire which mechanically sets off the shutter on a camera, or you may electrically trip a camera by fitting it up with a solenoid on the shutter and having some sort of electrical device at a given point that will actuate the solenoid. So if you wished to survey a person automatically and not be there yourself, you could plant one of these cameras, have it electrically tripped, and the camera would take pictures for you.

Senator HRUSKA. Could that be done, Professor Schwartz, with what is commonly referred to as the magic eye, that opens grocery store doors?

Mr. SCHWARTZ. That could be used, but that is not the only device.

Senator HRUSKA. But that is one.

Mr. SCHWARTZ. It could be used. I just bring this out to show the field of electronics could be used or misused over a very wide range in the field of eavesdropping and can be adapted to visual surveillance as well as listening in on a person.

That concludes pretty much what I had planned to talk about. I have a number of other things available if any of the committee cares to look at them. I am open to questioning now.

Senator HRUSKA. Thank you, Professor Schwartz. I am sure that, while many of the things you have mentioned have come to the attention to the committee staff, have come to the members of the committee in some form or other, this does give us a good record in one place of the variety of things and the various aspects of the problems, which will be very useful as we go along in the hearings.

Mr. Slayman, have you any questions of Professor Schwartz?

Mr. SLAYMAN. I have just 1 or 2 more, Mr. Chairman.

You mentioned use of closed-circuit television cameras for visual inspection, Professor Schwartz. Could this closed circuit television apparatus be coupled with infrared equipment to take pictures or watch people in the dark?

Mr. SCHWARTZ. Well, the usual camera that is used for closed-circuit television is called the Vidicon camera. It is a camera that was developed, oh, perhaps 9 or 10 years ago, that operates under a very wide range of lighting conditions. I believe it does not usually give as clear a picture as the commercial television studio camera, but its versatility makes it very useful in this particular application. Whether or not that camera is sensitive to infrared, I do not know. But I can say this much about the infrared story, that photographers know that infrared film is available, so a conventional camera could be

used for this application to take pictures in near darkness. The technique of doing this is usually to have some source of infrared light or infrared rays at the location where the picture is to be taken. And these infrared rays are not very apparent to the person who is being photographed. Infrared film is also sensitive to visual light, so that it could work under both darkness and light conditions.

Senator HRUSKA. Well, thank you, Professor Schwartz, for your time and for your disclosures here and your information.

Mr. Slayman, who is our next witness?

Mr. SLAYMAN. Mr. Chairman, the next witness is the Honorable Thomas McBride, attorney general of the Commonwealth of Pennsylvania, whose office is in Harrisburg, Pa.

Mr. McBride, will you have a seat, please. I will be through in a moment, with an introductory statement.

We had planned, Mr. Chairman, in orderly procedure, to hear witnesses on techniques of wiretapping and eavesdropping on the first day of hearings, today. Then, on the second day, Thursday, May 22, we would hear witnesses on the current status of the law and the background of the law covering wiretapping and other eavesdropping. So, the first day on techniques, the second day on the law. And in subsequent hearings we intend to get into who is doing wiretapping and eavesdropping, and for what purposes; and then, ultimately, who favors what kind of legislation, whether it is a strengthening of present statutes or modifying of present statutes. But Mr. McBride has a constitutional duty in Pennsylvania to be at a board meeting on Thursday, and I did not see when we would be able to schedule him again, so I took a little liberty with the program and asked him if he could come today. He also has with him Mr. Ivan Levin, a special agent in the department of justice for the Commonwealth of Pennsylvania, who can serve Mr. McBride as a technical adviser.

Senator HRUSKA. That is fine, Mr. Levin. Will you come forward and sit at the table here with Mr. McBride and be available for such observations as you might want to make and answer such questions as may be put to you.

I would like to say, Mr. Slayman, you are to be commended for exercising the discretion you have, because we want to accommodate the witnesses who come before us and we would like to avoid inconveniencing them as much as possible.

Mr. SLAYMAN. Thank you, Mr. Chairman.

Senator HRUSKA. Mr. McBride, have you a formal statement for us?

STATEMENT OF HON. THOMAS McBRIDE, ATTORNEY GENERAL OF THE COMMONWEALTH OF PENNSYLVANIA, HARRISBURG, PA.

Mr. MCBRIDE. I do not. I had hoped that perhaps any contribution I might make would be in the nature of answering questions; but if it is expected that I should make a general statement, of course, I can.

Mr. Levin's presence here is due to the fact that, for the Department of Justice of the Commonwealth of Pennsylvania, he made a special study of wiretapping before the present Pennsylvania statute was enacted, to ascertain how wiretapping was done. And he is prepared to state, for the committee's information, along perhaps some of the

lines that Professor Schwartz has talked about, what he knows about actual methods used. And if you would just as leave hear him first or have me go into the general views I entertain about the law, I have no preference since we would be going back together. If the chairman wanted to hear Mr. Levin now on the technical aspects of wiretapping, as to which I am ill equipped, indeed, perhaps you would get a followup of the general testimony given by Mr. Schwartz.

Senator HRUSKA. Mr. McBride, the Chair feels that perhaps, without in any way reflecting upon any contribution which Mr. Levin could make, it would be at this point somewhat repetitive; and we would like to take advantage of your presence here to go into the legal aspects at least at this time. Now, there may come, during the time of your testimony here, an occasion when we can make inquiry of Mr. Levin.

Now, you have mentioned statute law in the State of Pennsylvania on this subject. Can we start out by having you describe for us that statute law and its scope and in general its provisions?

Mr. MCBRIDE. Yes. In Pennsylvania many people were of the belief that wiretapping was being indiscriminately employed, both by law enforcement officers without supervision by their highest superiors and also by private detective agencies at the instance of private persons. And so the various legal associations like the Philadelphia Bar Association became interested in the problems in its overall accommodation to the whole problem of law enforcement.

We of the bar felt that society enacts 2 kinds of laws, one covering the prohibited conduct of its citizens and the other covering the conduct of society itself, and that the decent accommodation of those 2 rights was the main effort of the civilized society, so that the utmost freedom would be preserved along with what is generally looked upon as the specific area of law enforcement.

We look, however, at both civil rights and prevention and punishment of crime as law-enforcement problems, because the first eight amendments to the Constitution are law and they must be enforced, too. So in the accommodation of those specific guaranties which are law enforcement problems and the punishment and detection of crime, a law enforcement problem there should be a proper balance. So we went into a general study of the subject to determine whether there should be an outright ban on wiretapping such as contained in section 605 of the Federal Communications Act, or whether there should be a provisional ban subject to the right of law enforcement officers to tap wires after having previously gotten a warrant issued by a judge of a court of record.

We were faced with the problem, first, of the private wiretapper. I think everybody agreed that that was unequivocally bad. When it came to law enforcement, however, there was a general area of agreement that, if adequate safeguards could be imposed to protect private rights, it would be desirable that law enforcement officers be left unfettered. As a result, however, of the varying views both of law enforcement officers, of members of the State legislature and others, it was determined, at least primarily by the Philadelphia Bar Association; that is, by a majority, that there are no adequate standards that can be adopted that will at the same time accommodate the demands of law enforcement officers and the rights of private parties. So they recommended to the general assembly that there be an out-

right ban of wiretapping, with only one provision, so that in a case such as kidnaping, if permission was granted by one party to a conversation—that is, the subscriber to one of the two lines being used—then there should be freedom to listen in on that private line. That was based upon the theory that even in private conversation, when one man talks to another, he runs the risk that his confidence will be betrayed. And we thought that it was not unreasonable that each person to a telephone conversation run the risk also that that conversation be betrayed.

Senator HRUSKA. Let me understand you, Mr. Attorney General. There was an outright and absolute ban, with one provision. When you say "provision," do you mean "exception"?

Mr. MCBRIDE. Exception. That is, there was an outright ban upon everybody including law enforcement officers, except that with the permission of one party, the law enforcement officers could listen in on a conversation.

Senator HRUSKA. In what type of case?

Mr. MCBRIDE. In any type of case.

Senator HRUSKA. In any type of case upon which the law enforcement officers are working?

Mr. MCBRIDE. Yes.

Senator HRUSKA. Now, you mentioned kidnaping, but that was just by way of illustration and not by way of limitation?

Mr. MCBRIDE. No, it was not by way of limitation. But I am still in a sort of preparatory statement, because that was not the law that was ultimately enacted. We thought, however, that was a reasonable accommodation of the rights of individuals and the requirements of the law enforcement officers. And when that was proposed, it came to the House of Representatives in Pennsylvania and they amended it to provide for a right on the part of law enforcement officers to wiretap if previous authority was gotten from a court of record by analogy to a search and seizure warrant.

The Senate went along with the absolute ban and went even further by striking out the exception that we had written in, and made it similar to what the Federal law was interpreted to be by Judge Learned Hand in the Polakoff case and in others, so that even the permission of one party was not sufficient, there had to be permission of both.

The thing went to a conference between the House and Senate and then the bill was ultimately enacted. I think it was Senate bill 97 of the sessions of 1957, and it is presently the law of Pennsylvania; and that is, there is an outright ban on all wiretapping, making it a criminal offense to either tap or divulge—either the tapping or the divulging is a criminal offense—and preventing the introduction into evidence of the results of any such wiretap, and providing, as I say, no exception on behalf of law enforcement officers as to any type of crime. So that in Pennsylvania today there is an absolute ban on all kinds of wiretapping by anybody and providing for criminal sanctions.

Senator HRUSKA. And what are in general those criminal sanctions? What penalties are involved?

Mr. MCBRIDE. I think it is 1-year imprisonment. It is, however, in Senate bill 97; and I do not have a copy with me.

Senator HRUSKA. You might furnish it for the record, if you will.

Mr. McBRIDE. Yes, sir, I will be delighted to. It also, of course, provides for a rather substantial fine in addition.

(The act, S. 97, to which Mr. McBride referred is reprinted below:)

AN ACT To define and prohibit unauthorized interception divulgence or use of telephone and telegraph communications providing criminal penalties and civil damages, including attorneys' fees for the violation thereof and limiting the admissibility of evidence

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

SECTION. 1. No person shall intercept a communication by telephone or telegraph without permission of the parties to such communication. No person shall install or employ any device for overhearing or recording communications passing through a telephone or telegraph line with intent to intercept a communication in violation of this act. No person shall divulge or use the contents or purport of a communication intercepted in volation of this act. Whoever wilfully violates or aids, abets, or procures a violation of this act is guilty of a misdemeanor and shall be punishable by imprisonment of not more than one year or by fine of not more than five thousand dollars ($5,000) or both and shall be liable to any person whose communication is unlawfully intercepted or divulged for treble the amount of any damage resulting from such unlawful interception, divulgence, or use but in no event less than one hundred dollars ($100) and a reasonable attorney's fee; the term "person" includes natural persons, business associations, partnerships, corporations, or other legal entities and persons acting or purporting to act for or in behalf of any government or subdivision thereof, whether Federal, States, or local. The term "divulge" includes divulgence to a fellow employe or official in government or private enterprise or in a judicial, administrative, legislative, or other proceeding. Except as proof in a suit or prosecution for violation of this act no evidence obtained as a result of an unlawful interception shall be admissable in any such proceeding. Nothing in this act shall be interpreted to apply to acts done by personnel of any telephone or telegraph carrier in the performance of their duties in connection with the construction, maintenance, or operation of a telephone or telegraph system.

SECTION 2. This act shall take effect in thirty days.

We certify that this bill has passed the Senate and the House of Representatives.

Chief Clerk, Senate.

President pro tempore, Senate.

Speaker, House of Representatives.

Approved—The _____ day of _____ A. D. 1957.

Governor.

Now, the whole question brought up by the Commonwealth of Pennsylvania's relationship to the Federal Government is that we have in effect in Pennsylvania a wiretapping statute which would stand on its own, unless amended by a subsequent legislature, of course, whether or not there was any national act which changed the present section 605 of the Federal Communications Act.

Senator HRUSKA. I take it by that your comment just made goes into the field of preemption, is that what you have in mind?

Mr. McBRIDE. No, I don't think that the question of preemption—well, if you carved out an area whereby Federal officials were permitted to wiretap upon court approval, I have no doubt that the supremacy clause would protect them against any State prosecution. So long as, however, they are forbidden to wiretap and also forbidden by the State, I think that Federal officials would be liable to prosecution in the State as well as in the Federal Government.

Senator HRUSKA. Well, I guess I do not follow you through that

statement. Would you mind either repeating it or elaborating on it? I did not quite get it.

Mr. McBride. Yes. The preemption doctrine you are talking about is one most recently enunciated by the Supreme Court in the Mesarosh case. That is, when the Federal Government enters the field, and particularly in a field like telephone conversations which may be both interstate and intrastate, and the person who listens on the wire is unable to distinguish as between whether or not they are interstate or intrastate, if the Federal Government says that in enforcement of Federal law Federal officials could tap wires, I personally entertain no doubt that under the supremacy clause of the United States Constitution, then the State law would be inoperative to proscribe the conduct of such Federal officials. It does not specifically apply to Federal officials or State officials. I see no difficulty in so applying it now, because the Federal statute proscribes such conduct, too. Perhaps, however, this is an area where it is thought that section 605 was preempted, the same way as the Congress has preempted the field in, let us say, subversion. I think though that both statutes could be presently enforced.

Senator Hruska. Of course, some of us would feel that there probably was not preemption in the subversion cases, but there was a very high official body who thought that Congress did so.

Mr. McBride. Yes, in a case which, I may say, came up from Pennsylvania.

Mr. Slayman. Mr. Chairman, may I ask a question on this point at this time?

Senator Hruska. Surely.

Mr. Slayman. At the present moment, under the status of the State law of the Commonwealth of Pennsylvania, are you telling the committee that the Commonwealth of Pennsylvania can prosecute criminally anyone wiretapping within the Commonwealth, whether that person is a private detective, a business competitor, a misinformed local police official or Federal official?

Mr. McBride. Yes.

Mr. Slayman. That would include—I'm just asking this question to pinpoint your answer—that would include this question: Could the Commonwealth of Pennsylvania today prosecute criminally under its State laws an FBI agent who is tapping wires in Pennsylvania?

Mr. McBride. Under the law as drawn, it could. The only remaining question would be the constitutional one of whether it is operative against Federal officers when the Congress of the United States, under section 605, said that it is a criminal offense to both tap and divulge. The Treasury Department and the FCC say under the Federal statute it is a criminal offense to either tap or divulge. The Department of Justice has ruled that for its purposes, its interpretation of the law, it is a Federal criminal offense only to tap and divulge; and they define divulgence as not including the divulgence among the various employees of the justice Department itself. This question was recently raised but not decided by the Supreme Court of the United States in an opinion by the Chief Justice in *Rathbun* v. *United States*, with a dissent from Mr. Justice Frankfurter and Mr. Justice Douglas.

Mr. Slayman. Well, Mr. Attorney General, what is the Federal court decision that applies to this Department of Justice position? What does Rathbun hold in that regard?

Mr. McBRIDE. Rathbun—on the question of tapping and divulgence?

Mr. SLAYMAN. Yes, sir.

Mr. McBRIDE. Rathbun specifically reverses decision on that point; and all other Supreme Court of the United States decisions. Benanti and others, have specifically reserved decision on that point. It remains undecided as a matter of Federal law whether the Department of Justice of the United States is correct in its interpretation or not.

Senator HRUSKA. Now, when was this law passed in Pennsylvania, Mr. McBride?

Mr. McBRIDE. In 1957, about May.

Senator HRUSKA. Has enough time elapsed to get any results in its operation?

Mr. McBRIDE. Well, there have been no prosecutions under it because it is very difficult to get evidence that it has been violated. But I can say from personal knowledge that there is a feeling among public officials other than prosecuting officials, a feeling of greater freedom. They feel, now that there is a law proscribing the tapping of wires, that they can talk more freely over a telephone than they could before.

Senator HRUSKA. Will that same feeling be shared by those who are engaged in illegitimate operations or illegal operations?

Mr. McBRIDE. You mean the underworld?

Senator HRUSKA. Yes.

Mr. McBRIDE. I suppose it would be.

Senator HRUSKA. Is that good or bad? It is good for the underworld but bad for the others.

Mr. McBRIDE. No, I think you return to the age-old question of accommodating yourself to the rights of society to have its criminal laws upheld and the rights of individuals not to be unreasonably interfered with. When you get to the area of crime, I think that wiretapping is effective. I am not one of those who believe that wiretapping does not catch criminals. The only question is whether the use of wiretapping is so essential in enforcement of law that it overbalances the greater good, undoubtedly, that comes from the feeling of freedom that people have that they are not being listened to. It must be remembered, and it is not just raising a bete noire to say, that indiscriminate wiretapping in the totalitarian countries is practically their hallmark; and the attempt to eradicate that was thought desirable, apparently, both by the Congress of the United States in enacting the Federal Communications Act and by the Commonwealth of Pennsylvania in enacting its statute.

Senator HRUSKA. What are your personal views, if you care to state them, with reference to the question that you have just raised?

Mr. McBRIDE. My personal view is that wiretapping should be banned, that there isn't sufficient good done by it to overcome the harm that is done by that feeling of loss of freedom of decent people. It is sometimes said, "If you are not committing a crime, why do you care who listens on your telephone?" Well, I know any number of decent people who do not want anybody listening on their telephone. I do not think the families of any of us want people listening on their telephones. If you could tap only a conversation between somebody you know is committing a crime, I think the feeling of men like me would be entirely different. But the line itself is tapped; and the in-

nocent, the guilty, the kind of people who have been shown up—there have been clergymen, lawyers and many others whose names and statements were published in the public press as a result of some wiretapping that was done in my own native city. And I think that those people should have been allowed to talk without having their conversations listened to by anybody.

Senator HRUSKA. And you do not feel, apparently, then, that any precautions taken by way of getting a court order on the analogy of search and seizure would be sufficient protection, a sufficient deterrent to indiscriminate use of wiretapping and harmful wiretapping such as that to which you refer.

Mr. MCBRIDE. Well, now, I have two views about that—and they are not contradictory ones. I am informed, although I have no personal knowledge about it, but there have been many things written, about the New York system that indicates that the number of actual applications to the court for permission to wiretap is infinitesimal when compared to the number of wiretaps that are done without court order. Now, that is the first view. I do not think tapping would be restricted to just getting court orders.

Senator HRUSKA. In other words, the gate being open on a provisional basis would in actual practice open it much wider than the scope of the court orders themselves.

Mr. MCBRIDE. I think it would necessarily do that. But then, secondly, let's address ourselves to the question of court orders. They seek to draw an analogy between wiretapping and search and seizure. Now, in search and seizure, we are all familiar with the fact that, when you want a search warrant, you go to a judicial officer, you take an affidavit, you tell him what the facts are. And then he passes judicially upon the question of whether or not there is probable cause to issue the warrant of search and seizure. To that extent, both wiretapping and search and seizure would be the same. And as to that, I see no particular difference between them.

After that, however, in search and seizure cases, the warrant must be served in a limited time. It is served upon a designated place. If anything is seized, if the person is there from whom it is seized, a copy of what is seized is left with him. If he is not there, a copy is left at the premises. In any event, he is notified that a warrant has been issued against him. If he feels a sense of outrage, he then goes to the judicial authority who issued that warrant and whose name appears upon it; and he complains that there is no probable cause for believing him to be guilty of any offense. And if he wishes it, he has a test as to whether or not probable cause actually existed for the issuance of this warrant. And so search and seizure, even though secret, even though up until the time the warrant is served the only two people who know about it are the judge and the man who is going to do the search, that secrecy can be put up with because, to let the world know that next Monday I am going to search that man's home will result in nothing.

Senator HRUSKA. It does have criminal facilities and it does have immediate tests which can be applied.

Mr. MCBRIDE. Yes. Now, compare that to wiretapping. You get a warrant to tap a man's telephone and you tap it, let's say, 30 days, 60 days. He does not know that it is being tapped. He is given no notice. When the tap ends, there is no judicial authority to whom he

can go and complain, "You have no right to tap my wire as against someone else's." If nothing is found, the wiretap information is still there for the police, possibly the court, and anyone else in the police department to know about it. But he has no right whatever, by analogy to the search and seizure provisions, to go before a court and to establish in an adversary way that there was no right to issue it in the first place. And then usually the warrant procedures would require that, if after the end of 30 or 60 days they wished to renew it for a further period, they bring to the judge what they have and he reads it over to see whether or not they should continue. Well, now, we know as a practical matter that no judge on earth can do his judicial work and read 60 days of wiretapping to decide whether or not it should stay on for a longer period.

Senator HRUSKA. Well, that is fine.

Now, Mr. McBride, have you heard of any complaints on the part of law enforcement officials in Pennsylvania that this law has impeded their work in any way, or has been a detriment to them rather than otherwise?

Mr. MCBRIDE. Yes, I have. The law enforcement officials, the police, feel that any attempt to stifle wiretapping impedes them in the detection and punishment of crime. And I think to some extent that complaint is justified.

Senator HRUSKA. But that has to be balanced, as you say, against these other considerations of larger public policy and the impact on society as a whole. Is that your position?

Mr. MCBRIDE. Yes. Their suggestion is they should be able to tap wires in gambling, in so-called numbers cases, any kind of a case that the policeman decides that he wants to tap. They do not restrict their position to kidnaping or treason or something like that. They put it "anything that endangers life or the public welfare or public safety." Now, every criminal statute on the books is detrimental to the public welfare. If it weren't detrimental to the public welfare, it would not be on the books, it would not be a proper criminal statute. So I think it is true that the police departments do protest against it, and to an extent their complaint may be justified.

Senator HRUSKA. How wide are these protests? How widely do you find them voiced on the part of law enforcement officers?

Mr. MCBRIDE. I find them most widely voiced in the city of Philadelphia, where protests have been made against the Pennsylvania statute and they say that it has interfered directly with their work.

One of the protests was from a—not even from a policeman, but after there had been a raid upon a home in Philadelphia and it turned out to be the home of two elderly ladies who could not possibly ever be suspected of being in the gambling racket. This high public official said that, had they been permitted to wiretap, they would not have made this mistake; had they been able to listen to these elderly ladies, they would have known that they were decent people.

And then also the claim is made that juvenile delinquency is on the increase because they cannot tap wires. It is obvious that they do not go around tapping juvenile wires.

Senator HRUSKA. Now, Mr. McBride, in that connection, to your knowledge has there been any increase in the crime rate in Pennsylvania resulting from the passage of this law?

Mr. MCBRIDE. I cannot say one way or the other. There has been a definite increase in crime in Pennsylvania since the law passed. I

understand that there has been a definite increase in crime in New York and in other States throughout the Union. And I doubt very much that the increase elsewhere at least can be imputed to the Pennsylvania Antiwiretapping Act.

Senator HRUSKA. Well, thank you very much, Mr. McBride. This has been very enlightening and it will serve as a good start for the series of witnesses which we will have day after tomorrow along this same line.

Mr. Slayman, have you any other questions of Mr. McBride?

Mr. SLAYMAN. No, sir.

Senator HRUSKA. Thank you again, Mr. McBride; and you, too, Mr. Levin. We are happy to have had you here. We are sorry we could not call upon you for your contribution in this, but perhaps we will have further occasion to do so.

Mr. SLAYMAN. Mr. Chairman, I would ask your permission to print separately, as an appendix I to these hearings, material which I have listed here [indicating], Background Materials on Wiretapping, Eavesdropping, and the Bill of Rights, which would be printed now and be immediately available for use in the committee.

Senator HRUSKA. And later on appended to the hearing?

Mr. SLAYMAN. Yes. If we can print this immediately, we would not have to wait for this transcript to be corrected.

Senator HRUSKA. Very well, the request is granted and you may proceed accordingly.

(The table of contents of the Background Materials on Wiretapping, Eavesdropping, and the Bill of Rights follows:)

Background Materials on Wiretapping, Eavesdropping, and the Bill of Rights

CONTENTS

Senator Hruska. The meeting stands in recess. We will have further proceedings on Thursday, May 22, at the set time.

(Whereupon, at 12:30 p. m., the hearing recessed until Thursday, May 22, 1958.)

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