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THE COUNCIL OF NATIONAL DEFENSE

by

Mr. Walter S. Gifford
President, American Telephone & Telegraph Company

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THE COUNCIL OF NATIONAL DEFENSE

I will make some remarks on the Council of National Defense, but added in the request for me to come here was the statement that you would like me to talk on the Council of National Defense with particular reference to the communications industry. I did not intend to confine my remarks today to the communications industry, but it did occur to me that there were a few items which I think would be useful to have in your records with reference to the communications industry and the way it prepared at the time of the World War.

The Council of National Defense really got under way in December, 1916. Shortly after its organization it divided itself into groups. The Advisory Commission of the Council of National Defense, which was made up of seven civilians and was supposed to advise and did advise the Council, which was made up of six cabinet officers, organized itself into functions, one commissioner being particularly concerned with industry, another one with raw materials, another with supplies. Another advisory commissioner took transportation and communication, another labor, another education, and another medicine. Then these advisory commissioners formed sub-committees reporting to them of industries and of people in the respective fields which they had undertaken to represent. The result was that Mr. Willard, who is the commissioner who was in charge of transportation and communication, organized a communications committee which was to advise with him with reference to problems concerning the communications industry. The personnel of that committee was Mr. Theodore N. Vail, Chairman; Newcomb Carlton, President of the Western Union Telegraph Company; Charles P. Bruch, Vice-President of Postal Telegraph Company; N. C. Kingsbury, Vice-President of American Telephone and Telegraph Company; and F. B. McKinnon, Vice-President of United States Independent Telephone Association. That group substantially covered the communications industry except for the radio telegraph which was largely in the hands at that time of foreign companies and had to be treated separately. As a matter of fact, most of the work of preparedness from the standpoint of the communications industry had been really done prior to the formation of this committee, which I expect was early in

1917, so there was very little for this committee as a committee of the Council of National Defense to do. There probably was less for this particular committee to do than almost any of the other dozens if not hundreds of committees which were formed and reported to the Council of National Defense - committees of industries and medical associations, nursing, education, etc.

May I be permitted to read briefly (it will take a few minutes but I think it ought to be in your record) just what the communications industry had done to prepare prior to the actual declaration of war or immediately subsequent to the act of declaration of war. I think the industry still is prepared to do the same thing in case of another emergency. I mean that you have here an unusually integrated industry. The company that I represent probably represents some 70% to 80% of the whole industry and we are on amicable terms with the other parts of the industry. I think there will be no real difficulty in getting an immediate contact and an immediate mobilization of the communications industry to help in an emergency whenever it may come and whatever it might be.

Principal Bell System Activities in the World War

In 1917 the principal operating communication organizations in the United States outside of the Bell System (and of the German owned Telefunken Wireless) were:

- The Independent Telephone Companies
- The Western Union Telegraph Company
- The Postal Telegraph Company (and Commercial Cables)
- Marconi Wireless Telegraph Company
- United Wireless and Federal (West Coast) Wireless
- All America Cables

While I have not been able to find a complete record of the war activities of the communication industry as a whole, the records of the Bell Telephone System not only show its own wartime activities but indicate the substantial part played by other communication organizations.

The independent telephone companies, under the leadership of Mr. F. A. McKinnon, then Vice-President of the United States Independent Telephone Association, conducted a campaign in recruiting qualified men for Signal Corps work.

In addition to a large number of men released for other military and naval service, several hundred men were recommended specifically for Signal Corps service. Many of these were assigned to field duty. For example, a considerable number of the officers and men of the 308th, 309th and 310th Field Signal Battalions were from non-Bell telephone companies. These companies also cooperated in recruiting telephone operators for service in France.

The Western Union, during a period when the government and commercial requirements placed upon its service were at a high peak, supplied a large number of expert telegraph operators and other personnel for Signal Corps work. Up to the end of 1917 the company had released over 1200 employees for military and naval service.

Similar cooperation was given by the Postal Company and by the cable and radio companies. In addition, expert technical advice was given when required by the government. For example, one phase of the transatlantic communications problem had to do with an investigation of the nature and extent to which enemy countries were utilizing transatlantic electrical communications. The board to investigate this matter consisted, in addition to General (then Major) Carty, Vice-President of the American Telephone and Telegraph Company, of Major Yorke, Vice-President of Western Union Telegraph Company, and Major Bruch, Vice-President of Postal Telegraph Company.

The non-Bell telephone companies were called upon in many locations to furnish additional circuits to take care of government requirements. For example, telephone service for the National Army Cantonment at Camp Sherman, Chillicothe, Ohio, (including the provision of a telephone exchange and necessary equipment) was furnished by the Home Telephone Company of Chillicothe. The telegraph companies also furnished facilities for telegraph service to camps and other new centers arising in connection with our military effort. In addition, large additions to their existing facilities were required to handle the greatly increased volume of government business. The cable and radio companies cooperated with the Army and Navy in maintaining transatlantic communications under what were then very difficult conditions.

The independent telephone manufacturing companies, such as Kellogg, Stromberg-Carlson and others, assisted in the production of telephone material for military use.

In addition to the part played by the operating communications companies and by telephone manufacturers, much assistance was given by manufacturers of electrical equipment, such as the General Electric Company in connection with the provision of radio and vacuum tubes, the Westinghouse Company in the furnishing of electrical apparatus for the Signal Corps, and numerous smaller manufacturers who made their facilities available for the production of Signal Corps materials.

Bell System Activities

During the war the Bell System not only maintained its commercial telephone service in the United States but met the demands of the military and naval establishments and of other government departments for additional telephone service.

In addition to personnel for war service released for military duty, the System furnished specialists to the Army and Navy for technical duties. The personnel of the System remaining on their regular duties were placed at the disposal of the government for advice and assistance of any character whenever required. Among other departments which rendered important service was the force of over a thousand engineers and laboratory experts normally engaged in special research and development work relating to the transmission of intelligence by telephone and telegraph. No such body of men with like training and experience of this kind were available elsewhere. The services of this force were placed at the disposal of the government and a large part of their time was devoted to special work at the request of government departments. At the peak over 90% of the activity of the research and development departments of the Bell System was on war work.

1. War Declared April 6, 1917

For over a year prior to declaration of war, in recognition of the necessity of adequate communications in the mobilization of national resources, the Bell System

cooperated with the government in studies of preliminary plans to meet war conditions.

- (a) Three-day test in 1916 in cooperation with the Navy of long distance telephony for communication between Washington, navy yards, naval stations, and warships at sea.
- (b) Lectures by J. J. Carty, Vice-President of American Telephone and Telegraph Company, before War College and Naval War College on the "Organization, Plant, and Personnel of the Bell System."
- (c) Demonstration of long distance telephone service to Army officials; conversations with General Pershing on Mexican border.
- (d) At the request of the Chief Signal Officer (October 2, 1916), plans were prepared involving conferences with the presidents of Bell System Companies and preparation of preliminary arrangements for the selection of personnel for service in the Signal Corps.

2. Employees in Service

There were about 212,000 Bell System employees when war was declared. About 25,000 of them entered into the war service; of these approximately half served overseas. Of the total number of employees in service about 4,600 were in the Signal Corps of the Army. A large part of the others were technically trained men engaged in communication work carried on by other branches of the Army and in Naval communications. These large reductions from the limited force of trained telephone men available came at a time when the Bell System had to meet the most extraordinary demands ever put upon its service.

3. Battalions Furnished by Bell System

Twelve complete telegraph battalions of 216 men each were organized, the officers and enlisted personnel coming wholly from the Operating Telephone Companies of the Bell System. In addition, the radio companies of two field signal battalions were organized largely from the personnel

of the Western Electric Company, the manufacturing department of the Bell System.

Beginning with the 406th Telegraph Battalion (Bell Telephone Company of Pennsylvania) which sailed for France in June, 1917, all of these units saw extensive service in France and several of them served with the Army of Occupation after the Armistice. The last of the Bell System battalions, the 410th (Chicago Telephone Company) returned in March, 1919. A number of these battalions served with combat forces in the zone of the armies, while others were engaged in construction, maintenance, and operation in the zone of communications.

4. A.E.F. Telephone and Telegraph System

An extensive telephone and telegraph system, extending from the base ports in France forward to the various Army headquarters and establishments at the front, was constructed and operated by the Signal Corps during 1917 and 1918. This system provided service to supply bases, camps, hospitals, and other military establishments and was inter-connected with the principal communications systems of the Allies and with the French commercial system. It was largely constructed, operated, and maintained by the telegraph battalions and other special personnel from the Bell System.

The military telephone and telegraph system in France was planned and outlined in the United States in May, 1917, in conference between representatives of the Army and the Bell System, at which time detailed requisitions were prepared for the material required for the initial installation which included 400 miles of main line, 165 miles of branch lines, and five principal offices. The large stocks of material carried by the Western Electric Company made it possible to provide at once not only liberal allowances of material but to make duplicate shipments in view of the hazards of transatlantic transportation.

In designing and constructing this system, it was necessary to furnish from the United States practically every item of material except poles. Telephone repeaters were provided and constituted what is believed to be the first installation of this equipment ever made in a military communication system.

By the end of the war the Signal Corps had erected over 1,700 miles of permanent pole lines and had strung over 22,000 miles of wire. The system included 15,000 telephone stations connected to 400 central offices. Practically all the work was done between January, 1918, and the Armistice.

5. Transatlantic Communications

In August, 1917, Colonel Carty, Vice-President of the American Telephone and Telegraph Company, was directed by the Chief Signal Officer to prepare plans and to take the necessary steps to secure from all hazards the continuity of telegraph communications between the United States and the A.E.F. This study was carried on during the entire period of the war by a board of Army and Navy officers, a number of whom, in their civilian capacities, were officers of the Bell System (Jewett, Slaughter, and others).

6. Coast Guard Wire System

At the outbreak of hostilities it was important to extend the Coast Guard communication system so that hostile activities at sea might be immediately known and reported. The Bell System was authorized in April, 1917, to proceed with this work in accordance with plans previously prepared for the enlargement and reconstruction of the Coast Guard telephone system, including connection of about 100 light-houses, some as much as 20 miles offshore, and 200 Coast Guard stations, the laying of some 300 miles of submarine cable, the construction of over 650 miles of pole line, and the stringing of over 1,200 miles of wire, together with the interconnection of these facilities with the wire network of the Bell System.

7. Telephone Operators for the A.E.F.

In November, 1917, the Bell System was requested to provide French-speaking women telephone operators for service with the A.E.F. Thousands of applicants were interviewed and those who qualified were given special and thorough courses of training in military telephone operating. The first contingent sailed about the first of 1918 and at the end of the war several hundred of these operators were serving in France and many more were in training in the United States.

8. Research and Inspection for the A.E.F.

In June, 1917, the A.E.F. requested 10 officers and 50 non-commissioned officers and privates for a "division of research and inspection for Signal Corps supplies and material" in France. Lt. Col. Shreeve, Majors Buckley and McGrath from the Bell System, with additional personnel recruited largely from the technical staffs of the Bell System totaling about 50 were sent to France, the first contingent sailing in September, 1917.

9. Radio Equipment for Airplanes and Submarine Chasers

Following demonstrations made with the cooperation of the Navy in 1915 and 1916 of radiotelephone equipment, and having the advantage of previous fundamental research, the Western Electric Company designed and got into quantity production suitable radio equipment for plane-to-ground, and plane-to-plane communication, and for short range communication between submarine chasers. Within less than a year important results were accomplished in this field which had been needed by the Allies since the beginning of the war.

10. Submarine Detection

Anti-submarine problems were handled by a special board of naval officers, of which Lt. Col. Jewett, then Chief Engineer of the Western Electric Company was one of four advisory members. This work reached large proportions and hundreds of technically trained men of the Bell System were engaged in it. Fundamental studies of the properties of sound waves in sea water led to the development of apparatus to detect these waves and to determine the location of their source and for signaling and direction finding equipments.

11. Other Technical Contributions

- (a) Production of a secret ciphering system employing printing telegraph apparatus.
- (b) Development of apparatus for detection and location of invisible airplanes.
- (c) Quantity production of vacuum tubes.

Substantial development work was necessary to provide vacuum tubes to meet the special requirements of the military and naval service. From

April, 1917, to December, 1918, about 400,000 vacuum tubes were furnished by the Western Electric Company to the Signal Corps and Air Corps alone. The vacuum tube technique developed by the Bell System was made available not only to the Western Electric Company but to other manufacturing companies.

- (d) Improved flash and sound ranging equipment for accurately locating enemy artillery was developed and considerable quantities of apparatus produced for use in France.

13. Telephone Service within the United States

During peace times telephone traffic flows through certain centers and over certain well-established routes and the facilities of the Bell System had been designed to meet these conditions. War brought sudden and important changes. For example, Washington became the center of an enormous new traffic and it was necessary to rapidly increase five-fold the number of long distance lines radiating from Washington to all parts of the country. By May 1, 1918, six additions had already been made to the Washington toll board increasing its capacity to over 300% of what it had been early in 1917, and among others 64 additional circuits were being provided to New York, 23 to Philadelphia, 19 to Baltimore, and two for the entire distance between Chicago and San Francisco.

Local traffic was increasing very rapidly at certain points. In Washington, one entire new central office was required, together with substantial additions to those already in service. Large additions to the underground system were necessary and much special work including large switchboard installations was required by various government departments. In other cities, such as Bethlehem, Pennsylvania; Charleston, South Carolina; Indianapolis, Indiana; and Omaha, Nebraska, substantial additions to local facilities had to be installed.

Sixteen national army cantonments housing 30,000 to 40,000 men each were constructed by the Army and it was necessary to provide adequate telephone service, including complete common battery and modern cable distributing plants, not only for these cantonments but at 15 of the

16 National Guard camps. Most of these cantonments and camps were located several miles from the nearest city and beyond the range of existing trunking plant. The installation of telephone facilities at these camps required increases in the switchboard facilities at most of the cities, through which they were connected for telephone service.

Due to the importance of government communications, it was necessary to work out arrangements for giving precedence to government calls. This required the development of special operating methods and special instruction to some 12,000 operators. Also, in order that government service might be maintained with a minimum of interruption, usual maintenance work was supplemented by extraordinary tests and inspections to insure continuity of service.

I have read that not to boast about all of the work which the Bell System did during that period but because I think it is important for you to know that we not only could do again what we did then if we had to, and therefore that you can rely on us to be of assistance in case of an emergency, but we can do more because the art has developed substantially since that date. There were limits to the distance to which you could talk in that day. You could not talk across the ocean, and it was not until 1915 that you could talk across the country. Of course that was just before the war; it was a recent development when we entered the war. Now you can talk around the world if you want to. There is no limit to the range of speech. You can talk to 93% of the telephones in the world and to practically all of the civilized countries in the world, whether in Europe, Africa, South America, or Asia.

There have been some rather striking developments in submarine cable since the date of the World War. Some of those have been put into effect in the cable that the Western Union laid some years ago, which is a high speed permalloy cable which is much more efficient and will carry a much larger volume of messages than the older cables. Since that period of time we have made further substantial developments in the submarine cable although to date there has been no demand for

laying a new submarine cable either telephone or telegraph. As you know, there are no very long distance telephone submarine cables and it was not until relatively few years ago that we knew how to lay a long telephone submarine cable at all. We had one in contemplation to be laid from here to England at the time the depression hit. During the past few years substantial improvements have been made in the laboratories so that when the time does come to lay a telephone submarine cable it will be much more effective than it would have been had we laid the one seven years ago that we contemplated. There have been really startling developments in the submarine cable field from the standpoint of efficiency.

Of course radio is the method now by which we talk to Japan or London or Australia.

There have also been quite striking developments since the war in the conference telephone service by which we can link up many people scattered throughout the United States, and let them all hold a conference by telephone. It is being done right along by industrial concerns and I should think in case of emergency it might prove to be very valuable for use by the Army.

We have a new type of telegraph service since the war called a "switched telegraph service", by which you put your telegram through on the same basis that you put a telephone call through. That is, you connect up with somebody in the same town or in a distant town who subscribes for the same service and you type your telegram right through to that individual just as you would make a telephone call and talk to him. In this case it is a telegram which is received on the far end by the typewriter instrument of the subscriber there. There are many thousands of those now in use and its use is growing. That also would be useful, it seems to me, in case of an emergency.

At the time of the war we had no such thing as sending pictures by wire. Now you can send pictures both by radio and by wire. The newspapers make very extended use of telephotography. That is another additional factor that has developed in the communication field since the war.

The whole field of broadcasting with all of its implications is new since the war. Its influence on morale, on public opinion, and on sentiment is of course great and would make a very important adjunct to any high command carrying on a war.

We have recently developed a new type of cable known as a "Coaxial Cable", which will send several hundred telephone communications simultaneously. It is a small cable about the size of one's finger, and these communications go scrambled up in the cable and are unscrambled at the other end. It is much more economical with any volume of traffic for long distances than stringing separate wires or stringing the old cable with many pairs of wires in it. Also, along with the development of that cable has been the development of certain ways of sending several messages over a pair of wires that are already in existence instead of just sending one or two or three messages, which was all we could do at the time of the war.

The coaxial cable is expected to prove very useful in the transmission of television. As a matter of fact, it is almost essential to the development of any system of television if you want it to go farther than a radius of fifteen or twenty-five miles around the broadcasting television transmitter. If you want to transmit it from one town to another it has to be transmitted, under present technique, by wires and it would require so many wires as to be too costly to accomplish unless we had such a development as the coaxial cable. That is very promising. We have a coaxial cable installed between New York and Philadelphia on an experimental basis and we transmitted, I think about two weeks ago, our first television picture over it and it came through very well indeed. Of course there is further work to be done. Just what part television will play in the national defense I do not know. The information that I get from Europe, where they have gone a little bit further than we have in the actual use of local television in and around given communities, is that they feel that it will have a considerable part in this building up of morale and sentiment if and when the emergency comes and the need for it is felt. It is one of those things that has not arrived yet but is on its way. How long it will take in arriving nobody really knows.

At present the Bell System has already worked out with the Army methods of selecting the Signal Corps recruits from its organization if and when the emergency arises. It has worked out a list of communication materiel that would be needed and the way of getting it from the Western Electric Company, for instance, and it has already drawn up cantonment contracts for telephone service at cantonments needing only to be signed if and when needed. I think that what I said last year still holds true. I do not think it is overstating it to say that as far as the communications industry is concerned we are prepared to go forward to supply any needs that may occur in connection with an emergency and do it promptly and I think effectively. I think the communications industry is in a pretty good state of preparedness from the standpoint of national defense and can be relied on.

That is taking a good deal of time again this year on the communications industry and I apologize for it, but I was somewhat surprised to find that this particular record of what was done does not happen to be, so far as I could find out, here or anywhere for that matter, so we dug it out. It seems to me that it will be useful in case of another emergency to turn back and see what we actually did and how we did it; hence, I drew up this memorandum which I have just presented.

To go back to the Council of National Defense, I would like to say this: I think perhaps the man who was more responsible for the Council of National Defense and for industrial preparedness than any other single man in the country was, Mr. Howard Coffin. I saw in the morning paper that he died yesterday. My mind turns back to a very great many pleasant and interesting experiences and arguments he and I had back in 1916. He is the man who undertook the drive for inventorying 28,000 plants back in the spring of 1916, the year before we entered the war when we were being reasonably careful not to be apparently preparing for anything. It was done under the auspices of the Naval Consulting Board. I have always questioned in my own mind the exact value of it although I personally worked early and late on it and did the detail work of getting the information in. The engineering societies: mechanical, electrical, civil, mining, and chemical joined together and their membership did

splendid work in going around and filling out forms with reference to manufacturing plants, outlining what they could do if and when war came. As I have said, I questioned the value of it as a thing that we actually used in placing orders. I did not question the value of it at all in the importance of interesting manufacturers and interesting the country in the idea of preparedness and defense under the then conditions. People who had not given any consideration to it were made alive to the situation by the fact that somebody asked them to fill out a rather elaborate questionnaire explaining what, in case war should come, they thought their factory could best do. I think it was very worthwhile, taking it from the overall standpoint, but exactly how much use was made of it I never was able to find out.

Out of that industrial preparedness survey came the law creating the Council of National Defense, which was passed in the spring or early summer of 1916. There were others, of course, who were interested in getting some such statute passed and I don't know that we can say any one person was responsible, but undoubtedly the work of the Industrial Preparedness Committee of the Naval Consulting Board, of which Mr. Coffin was the head, was a great factor and had a great deal to do with the passage of that act. It really grew out of this situation: In this industrial preparedness survey of all these 28,000 factories and industrial concerns, in making that up we found that there was a great lack of understanding on the part of industry as to where they could go or what they could do to find out from the Government what they might expect in case an emergency arose. There was no point of contact whatever really between industry and the Government. The Quartermaster's Department was accustomed to buying supplies in very limited amounts for the then Regular Army, with small stocks kept in warehouses here and there. It had no contact with manufacturers or industry generally. Although there were a certain limited number of outside suppliers, the Ordnance Department was very largely getting its materials from the Government arsenals, etc. It had relatively little to buy from outside manufacturers or outside producers. There was a provision in the National Defense Act which created the Council of National Defense which to some extent provided for placing experimental orders with

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manufacturers and getting them to understand in advance how to make whatever it was that they had to make. We were very fortunate, I always thought, at that time that we had made so many munitions and supplies for the allies so our manufacturers were not entirely at sea as to what might be needed or how to make some of the equipment which would be needed. They had had some training for a couple of years or so in the manufacture of shells and various items which were shipped to the Allies in Europe.

The theory of the Council of National Defense was largely to provide a point of contact between the civilian world and the Army and Navy world, the military world. Six cabinet officers comprised the Council, the Secretary of War, the Secretary of the Navy, the Secretary of Agriculture, the Secretary of Labor, and the Secretary of Commerce. The Secretary of War was the Chairman. Then there were seven civilians selected by the President to serve as advisory commissioners and these civilians were to be representative of different walks of life. That is, they would be representative of labor and of industry and, as I already told you, of medicine and of education, etc.

There were a number of detailed items that the Council of National Defense was supposed to do as set forth in the law, but I think you could dismiss those very largely and come down to one sentence, if I remember it correctly and I think I do, which is at the end of all the detailed items. It states the duty of the Council of National Defense and of the Advisory Commission is the creation of relations which will render possible in time of need the immediate concentration and utilization of the resources of the nation. That was a pretty large order. It was not to concentrate the resources itself, it was not to place orders, it was to create relations that would render possible the immediate concentration and utilization of the resources of the nation. That is really what I think the Council and its Advisory Commission did and I think it did it very successfully. The Advisory Commission organized itself into divisions. In the raw material field it appointed committees on from alcohol to committees on zinc. In the supply field it appointed committees on cotton goods and woolen goods; in the manufacturing field it appointed committees on industry, etc. The

result of it was that we had a group of people on a committee who could tell us something down here in Washington, who could tell the Army or Navy something, about the shoe industry if you like, or whatever industry they wanted to know about. That is, you could call a committee of four or five or more shoe manufacturers down to confer with you anytime.

We had to move rather rapidly because we did not get organized until the fall - it was December, 1916, when I came down to start organizing the Council of National Defense. By February we had broken off relations with Germany and things were moving pretty fast. The Advisory Commission appointed its own committees. The Council of National Defense law provides for the appointment of committees and that they serve without compensation, or the Government may pay their expenses coming to and from the meetings. This gave an official status to these civilian committees who were able then to come down here and meet with members of the Army or Navy in conference to find out what the requirements were and what that industry could do to help. We realized that we were on dangerous ground in that we were in effect asking people to sit on both sides of the table at the same time. These were committees appointed by the Government with a certain Governmental standing and yet they were men who were going to supply materiel and other things to the Government. As promptly as may be, a very few months later when we got this thing a little more in hand we discharged all of those committees. In place of them we asked industry to form their own war service committees, which I think you all know about. Those committees were in no sense official Governmental committees. The industries themselves picked the people to be on those committees and appointed the committee. They were frankly on one side of the table and the Government men were on the other side.

To get things going in an emergency you do the best you can and do it the quickest possible way. In order to get the whole resources of the country quickly into a situation where we could deal with them in any way practically we had to pick our own people and go forward as rapidly as possible. As the Colonel said in opening this meeting today, I thought and still do think that the most difficult thing at that time was

not this getting in touch with industry, finding out what industry could do, or getting industry to do things - the most difficult thing was finding out what it was the Army and Navy wanted industry to do. That was really a very disheartening thing. We had these committees, we had people coming down and saying: "What is it you want us to do?" We did not know. I would like to suggest again as my lesson from that experience that that is the most important single thing. I have found in my long experience that the leaders of industry of this country are amazingly resourceful. If you tell them what it is you want and give them a certain amount of leeway to do it I think you will be quite amazed with the results. That does not mean that you do not have to have supervision so you do not try to make everything in one town and have a bottleneck that you cannot ship out of, etc. It does not mean that you do not have to have supervision to prevent prices from going to extraordinary and unreasonable heights. You need supervision of all of that, of course. You need supervision of priorities. But the first thing you need is to know what the Army and Navy are going to want in the particular emergency they are facing - the best guess they can make at least of what they are going to want and then work your other problems out from there.

I have read (although I am sorry to say I have not studied it as much as I should like to but I have not had an opportunity) the Industrial Mobilization Plan. I was very much impressed with it and it seems to me, without attempting to criticise in any detail, that it is very comprehensive and very satisfactory. My only comment on it, if I am at liberty to make one, is that I should feel sorry to see it put into law at this stage of the proceedings. I do not know how you are going to know what kind of emergency the next emergency will be. This is apparently set up pretty much on the basis that it is going to be very much like the last one; the chances are it may not be like the last one at all; it may be something different. I am not sure what the effect would be if today Congress declared an emergency and these laws that are proposed here automatically went into effect as they are written now. I am not sure what the reaction of industry or of the general population would be. I am sure that the reaction on our entering the war in 1917, twenty years ago, was amazing. We had practically no one who was not for putting their shoulder to the wheel and making things go.

We had some skeptics here in Washington at that time who said if we could not get things with teeth in them in the law right away that nothing would happen, yet we know that it was some months, for instance, before the Food Administration got any teeth in its legislation at all and all it had to do was suggest that we do not use, say, sugar and then they had to come out next day and say: "For Heaven sake! use sugar because there are not warehouses enough to hold it." The same thing was true of gasoline, meat, etc. In other words, all you had to do under those conditions was to say what you wanted people to do in this country and they did it and did it a hundred percent or so near a hundred percent that it was practically a hundred percent. In a sense they over did it. The skeptics were quite confounded because certainly in the early part of the war there was no trouble getting anything you wanted done without a big stick. Of course as war goes on (certainly if it went on as long as it did with the nations in Europe, which was three years longer than for us) and it almost gets to be a business, some of that enthusiasm wears away and people begin to look at things more selfishly. Then is when you need to begin to need your controls or your Government supervision.

If I read this proposed legislation correctly, you will suddenly, the minute an emergency happens, throw in a very elaborate and complete system of control, some of which may be needed very promptly, some of which in the particular emergency at hand may never be needed. I do not know what the next emergency will be, nobody knows, but you have disturbed everybody with the fact that their prices are going to be fixed, for instance; you have disturbed everybody that this, that, and the other is going to happen, and then you find people saying: "Well, I guess we will shut down our factory or stop spending money because we do not know whether we are going to be permitted to sell this thing or not," etc., and you may create uncertainties that will hurt rather than help. It seems to me that it would be better to have your Industrial Mobilization Plan set forth as you have it and then keep on working, as I understand you are doing so effectively, figuring out what the needs of the Army and Navy would be and thereby have something that can rapidly be whipped into shape to fit the emergency when it comes. It seems to me that is better than to straight jacket it in advance by having something on the books which may or may not fit

the emergency, needing changes at the time if it does not fit. And changing it perhaps is not going to be so easy, particularly some items in the legislation I am quite sure will be politically very difficult to change when the time comes.

The advantage of the Council of National Defense was that it was a piece of machinery that tided over this period of transition from peace time to war time and it did it effectively, in my judgment, because it was elastic. It did it effectively because it did not have this dictatorial power lots of people think it or any other organization should have if it is to be effective. I do not think that is necessary when you get the sentiment and the feeling of patriotism that one gets at the outset when we go to war. I do not think it is necessary to have dictatorial authority immediately. I think that ultimately you have to have a great deal of centralization of power under the war powers of the President. It certainly is not the kind of thing you would want to give to anybody who is President, it does not make any difference who, for a scrap on the Mexican Border, etc. - even though it is the kind of thing you would like to give to the President in the case of a world war. This is set up so it is pretty easy, it is all down, it is all passed, it is all on the statute books, and all you have to do is to have a war. How much of a war or what kind of a war do you have to have to turn it all over? Those are my thoughts on the Industrial Mobilization Plan. I am not against the plan, I am addressing myself to the question as to whether we would be better off putting it into legislation at this time or leaving it as a mobilization plan, studying it each year, revising it each year, and keeping it up to date.

It seems to me that the Council of National Defense, which is now on the statute books (it is not being used but it is there still) could again be made to tide over temporarily the going from peace into war; providing very elastic machinery for mobilizing the resources of the country, bringing them in contact with the Government departments. Out of the experience of that you will then create such agencies as the conditions of that particular emergency require you to have. That is, you will ask Congress for such agencies as you want. Certainly I am sure, even though you read the documents of the ministry

of munitions of France and England (which I tried to do back in 1916) you could have evolved nothing out of them, at least I could not, which finally would have resembled what we finally set up here and we evolved it out of the Council of National Defense. I do not know that it is realized but practically all really grew out of the Council of National Defense and its Advisory Commission and their deliberations. When I say Council of National Defense I do not want you to think I am talking about just the civilian members, the non-Governmental members, because it provided a very valuable and very useful meeting ground with a specific purpose in mind for Government members, for the six cabinet officers, who were on the Council. It prevented overlapping and it provided for an agreement on what action should be taken. The various war organizations, from the Food Administration to the War Industries Board, practically all had their inception in the deliberations of the Council of National Defense and its Advisory Commission, and when they were agreed upon, the six cabinet officers usually agreed to them and more often than not, I think practically always, the seven civilians agreed also. There was much discussion in some cases but there was an agreement that a particular piece of machinery, the Priorities Board, for instance, was needed; that a price fixing committee was needed. A War Industries Board was needed later. We evolved the thing as we went along as rapidly, I think, as it was needed.

I do not think there was any hold up in the preparation of the country for war due to the lack of industrial efficiency or lack of the handling of that end of the thing efficiently. I think the hold up came because of the lack of knowledge on the part of the Army of just what it needed. It is not wholly fair to criticise them because we did not ourselves know, as you may remember, whether we were going to send troops to Europe or how many we were going to send. That program changed almost over night. However, I think it is worth mentioning that it did seem to me they might have had a theoretical figure made up of what would be needed if we did send a million men, but they did not even have that. At any rate, I do not think with the work you are doing here now, compared with what was done then, that you need much more in the way of legislation now. The Council of National Defense legislation is there; it can be invoked any minute if needed, and you will have not only six cabinet officers but a group of presumably able and distinguished citizens

appointed who will have some standing with the public and with Congress and you will be able to move very rapidly from that point.

The Council of National Defense finally worked itself out of a job. Toward the end of the war there was not much of anything for it to do. As a matter of fact, I was heartily in favor of that; I thought that was the right thing to do and I would still be in favor of a similar procedure. That is, I would be in favor of setting up such definite controls through Congressional action as would be necessary; ultimately leaving the Council with relatively nothing to do. Of course if I were drawing the Council of National Defense legislation anew I could think of a lot of things different, some different representation of the cabinet men who are on it, etc., but it is often easier to take something that is than it is to get something else, and it is not so bad just as it stands.

You must remember that it was not until March, 1918, eleven months after we declared war, that the War Industries Board became an independent organization with authority. It carried on all that time without any authority except such as the President might give it if it got into a jam, such as threatening to invoke the law that permitted an industrial plant being taken over by the Government if they did not do what the Government wanted them to do. It seems to me that not enough attention has been paid to what happened between February, 1917, and early 1918. That is the period you are talking about in this Industrial Mobilization Plan. Most every one seems to take it for granted that the war began sometime in the early part of 1918 because that is when most of these organizations we are talking about got set up with authority. The period previous to that was a formative period. That is not so easy to be clear about, but I think it is by all odds the most important period and it will always be the most important period - that of getting a nation of one hundred and thirty million people on peace time basis converted over into waging war and waging war successfully. And, you do not want to overlook the morale end of it because, as you know, that is just as important as the materiel end of it. If you have bad morale at home it will not help you win the war. Part of the game is considering how you can hold and keep the enthusiasm of the people in this country, who I believe at the outset will do ten times more on a voluntary basis than they will do on a compulsory basis.

I guess that has more than covered my subject and I am sorry to have talked so long. Thank you very much.