THE INDUSTRIAL RELATIONS SECTION OF PRINCETON UNIVERSITY IN WORLD WAR II

A PERSONAL ACCOUNT

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BY

J. DOUGLAS BROWN

DIRECTOR OF THE INDUSTRIAL RELATIONS SECTION, 1926-1955;

DEAN OF THE FACULTY, 1946-1967, AND PROVOST, 1966-1967,

PRINCETON UNIVERSITY

INDUSTRIAL RELATIONS SECTION

Department of Economics

PRINCETON UNIVERSITY

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INDUSTRIAL RELATIONS SECTION
Department of Economics
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PREFACE

THE tested guidelines for the university consultant who seeks to contribute constructively to the development of public policy are (1) thorough and impartial analysis, (2) a willingness to express responsible judgments, and (3) a capacity for patient and persistent persuasion. A precious resource in following these guidelines is a research organization within a distinguished university which has not only a comprehensive and current coverage of the data to be analyzed, but also ready and confidential access to the diverse parties concerned in policy decisions. The access to current knowledge and ideas permits understanding judgments. The access to the makers of policy, as well as to those affected by it, adds relevance and feasibility to the policies proposed and helps to focus persuasion upon those responsible for action.

With the increasing complexity of problems in industrial relations in the 1930's it became necessary to employ a team approach to their solution. This need became all the more evident in 1940 as the threat of war required rapid changes in policy. With a team approach, a university research organization could develop an extensive documentary library, a specialized research staff, periodic conferences, field interviews, and a series of research reports to support face-to-face consultation with concise and relevant published reports and bibliographies. Fortunately, in the years since its founding in 1922, the Industrial Relations Section at Princeton University had developed such an approach.

The following brief history of the Section during the critical years from 1940 to 1945 recounts in an informal and personal way how such a team approach helped in the formulation of governmental and industrial policy on the manning of war production. Since the Director and other members of the Section staff served as the means

of communication between the Section at Princeton and responsible officials in Washington, their activities as government consultants are an essential part of the story. Their participation in relevant university research enhanced their ability to analyze problems, formulate policy, and present their proposals with conviction.

In the preparation of this brief history, the author has been greatly aided by the comprehensive files of the Industrial Relations Section and by the generous and highly effective assistance of Mrs. Dorothy M. Silvester, the Secretary of the Section. The account has been read by Richard A. Lester and Frederick H. Harbison who participated in many of the activities described. It is an unplanned coincidence that the publication of the report occurs just fifty years after the author became Director of the Section in June 1926.

J. DOUGLAS BROWN

Princeton, New Jersey

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I. THE INDUSTRIAL RELATIONS SECTION: A PIONEER INSTRUMENT FOR RELEVANT RESEARCH

It is in the nature of a university that the research carried on within its walls varies widely in respect to its relevancy to the immediate problems of the outside world. Mathematicians gain great satisfaction from developing elegant proofs of theorems of no known application. Archeologists spend years uncovering and identifying the art forms of ancient peoples. But it is the genius of the liberal university that it also encourages research in fields of learning where results can be immediately useful in advancing human welfare—if they are transmitted with precision and lucidity. It must be admitted that the general climate of university life favors, in most areas of learning, the satisfactions of isolation rather than a concern for relevancy to external applications. But in some areas and especially at some times, relevancy provides a great challenge for intensive study. The subject of this report, the manning of war production from 1940 to 1945, deals with such an area at such a time.

Research relevant to current problems in the area of human affairs faces many special difficulties which most university scholars have long avoided. The variables to be considered in the analysis of a problem of public or institutional policy are likely to be numerous and of widely varying influence. Often they cannot be nicely defined, and even more frequently they cannot be accurately quantified. The researcher ignores any variable at great risk, since it may unexpectedly become significant. Relevant research requires the accumulation of a large body of evidence which must be carefully evaluated in terms of accuracy, impartiality, and significance. With no easy proof at hand, judgment enters the process from the first

collection of data and remains through the whole process of study and conclusion. Further, to gain the evidence needed for the analysis of current policy issues, the researcher must have available specialized staff and library facilities in order to collect and organize a vast stream of materials not found in books. These include government documents, periodical articles, questionnaire returns, ephemeral memoranda, and pamphlets obtained only by direct inquiry. Most of all, the researcher must go to the source of first-hand information, experience and judgment and learn how to evaluate, on the ground, the reliability and significance of such evidence in building representative findings. In all this procedure, the researcher is blessed if he is a part of an ongoing organization which has developed, over the years, a wide range of cooperating individuals and organizations in key positions to provide continuing assistance.

The area of university research discussed in the following pages illustrates clearly the demanding requirements for relevant research in a field of study which has developed only in the last half-century. Industrial relations, as an aspect of human organization has, for better or for worse, existed since the beginning of time. Whenever or wherever people have developed organizations to get work done, some concept of human relationships pervade the activity, whether slavery, peonage, military command or cooperative service. With the coming of industrialization, industrial relations, as an art, was largely that of the individual leader. Only as corporations became large and perpetual did leaders become self-conscious enough about the art to seek its structuring into formal policies, programs, and specialized functions. It was then that the research scholar began to have something to seize upon for study and for the building of sound generalizations for the improvement of the art.

The Industrial Relations Section of Princeton University was established in 1922, very soon after a small number of American corporations began to consider industrial relations a specialized, structured element in corporate management. The Section was, at that time, a pioneer experiment among university research programs. So far as is known, the title of the Section was one of the first uses of the term "industrial relations." It helped materially in encouraging the term's acceptance. It was the intention of the founders to broaden the scope of the field studied to include *all* factors, conditions, problems and policies involved in the employment of human resources in organized production or service. It was not to be limited to any single academic discipline. Nor was the term "industrial relations" limited to activities within *private* enterprise but was assumed to cover the relations of governments and all other institutions with those people who constituted the working forces of a country. In the implementation of this wider interpretation of the Section's area of concern, the Section and its staff were heavily involved in the development of social security legislation at the federal and state levels and, later, as discussed in the following pages, in the development of the manpower and industrial relations policies of the federal government in the war period of 1940-45.

By the time of the outbreak of war in Europe in 1939, the Section had developed a combination of resources for relevant research in industrial relations policy which was unique among American universities. Its documentary reference library was extensive and thoroughly organized. Hazel Benjamin, the Librarian, was one of the best specialists in developing and organizing industrial relations material in the country. Companies and trade unions had long been generous in keeping the library up to date. Government and periodical material was widely covered. The

catalogue of the library was essentially a detailed bibliographical file on some six hundred sub-areas of industrial relations including hundreds of thousands of entries.

Of great help in building the library of the Section were the hundreds of key contacts that had been made over the years with industrial executives, trade union leaders, and government officials in the course of the parallel activities of the Section in research, in holding conferences, in consulting, and on field visits. Since 1926 the Section had produced a series of short studies of policy problems of interest to specialists in industrial relations. Beginning in 1931 it had held annual invitation conferences for senior industrial officers in highly representative companies. It had offered free consultation and reference material to all concerned through correspondence, visits to Princeton or staff visits away.

It was, from the first, the policy of the Section to provide for extensive staff travel to permit first-hand observation and discussion wherever these were useful. This policy extended not only to the Section's staff but to selected students working on theses in the field. This program of active interchange greatly increased the flow of information on current policies and experience and enhanced the knowledge and judgment of the Section's staff concerning both policies and the organizations and people developing and implementing those policies in industry, unions, and government.

Early in its experience in dealing with industry and governments in the study of industrial relations policy, it was learned that the most effective approach was to emphasize the Section as an organized entity performing the combined and mutually reinforcing activities of a documentary library, a research center, a conference and instructional facility, and a consulting service rather than as a livery stable of independent specialists. By so doing, the Section developed a personality of its own which en-

hawed the authority of its findings. Neither publications nor advice were considered the offerings of single individuals, but rather the findings of an organized team. The permanent endowment of the Section in 1930 helped greatly in affording an institutional image. No charge needed to be made for consultation, and reports were sent free to cooperating organizations.

The Section had its first experience in helping to meet a national emergency during the depression of the 1930's. Many reports were issued on problems of employment regularization, unemployment benefits and loans, dismissal compensation, spreading work, retraining, and relief. In 1930-31, as Director of the Section I was called to Washington for four months as a member of President Hoover's Emergency Committee for Employment. Using Section resources and contacts, I prepared for the Committee two widely distributed pamphlets on emergency methods of spreading employment. In 1933-34 I helped the Federal Coordinator of Transportation in developing programs for enhancing the security of railroad workers in the depression.

The Section had long specialized in programs for worker security. The studies made were of great help in the development of the federal social security legislation enacted in 1935. From September 1934 on through the following spring, I commuted to Washington during the planning, drafting, and Congressional consideration of this legislation. Again in 1937-38, I was chairman of the first Advisory Council on Social Security which fundamentally revised the original act. In all this time, much of this work in the study of problems and in the drafting of recommendations was done at the Section. When the report of the Advisory Council was ready in December 1938, the final draft was first printed at Princeton at Section expense to make sure that accurate copies would be immediately available for a large press release and interview.

These and other activities in the development of government policies in industrial relations prepared the Section and its staff for the kind of service needed in providing the government with relevant research and the machinery for obtaining up-to-date information in a time of urgency. Knowledge of the ways of dealing with government helped, but the essential ingredients were the resources and capacities of the Section as an ongoing organization. The following pages outline how the Section helped in the most serious emergency of all when the United States, in a period of months, had to mobilize its human resources and industrial strength to fight a great world war. For the Industrial Relations Section, it is a bit of its history. For the general record, it is hoped, the account will illustrate how university research can, if it is designed to be relevant, assist in the development of national policy, especially in times of emergency.

II. THE STIMULATION OF INTEREST IN MANPOWER MOBILIZATION, 1940-41

By the summer of 1939 the long series of aggressive moves by Hitler brought Europe closer and closer to all-out war. As Director of the Industrial Relations Section I had spent two months in Great Britain, Switzerland, Austria, Czechoslovakia, Germany, and Belgium in 1936 and had observed at first hand the mounting tensions which reflected Hitler's growing ambitions. After Hitler's occupation of Czechoslovakia, the critical issue became his intentions concerning Poland. It was generally agreed that Great Britain and France would declare war on Germany if Hitler invaded Poland. But this was believed to be too daring a challenge to the security of Russia. Few then imagined that Soviet Russia, a communist state, would join with Nazi Germany in dividing Poland between them.

Early on the morning of September 1, 1939, the Brown family had squeezed four children, two adults, and a summer's baggage into a car built for five and had left Nelson, New Hampshire, for Princeton. As the day progressed, we began to notice an air of excitement in the towns and villages along the way. We passed many people in serious conversation along the streets and outside of stores. It was not until we got to Morristown, New Jersey, and needed gas that we asked the service station attendant what had happened. "The Germans have invaded Poland!" World War II had started! France and England soon declared war on Germany.

That day, September 1, 1939, proved to be the turning point from peace to war for many millions of people throughout the world. There was an intervening period

of the "phony" war while Hitler got ready for his next thrust, but all hope of peaceful co-existence was gone. Some of us were convinced from the first that our national interest was joined with that of Great Britain and France and that we were most likely to be fighting on their side before true peace could come again. The next five years for the Industrial Relations Section and its Director, its Assistant Director, Helen Baker, its Librarian, Hazel Benjamin, its Secretary, Nellie Offutt, and its research and library staff were strenuous ones, because we were convinced that the effective mobilization of manpower for defense and war would be a critical factor in the final outcome. As the years passed, this conviction proved to be startlingly correct.

The shift to high gear in the Section's activity is best summarized in the opening paragraph of the Section's annual report for 1939-40, written in the summer of 1940.

> With the outbreak of the European War in September, 1939, it soon became apparent that the problems of industrial manpower, group relations, and social security in this country would be fundamentally affected regardless of our position as a neutral state. Production of munitions for France and England and for our own defense has, with increasing momentum, shifted American industry from a depressed, peace-time basis to an economy in which the effective use of the Nation's human resources is of paramount concern. As a part of a University long sensitive to national problems, the Industrial Relations Section has found itself faced with new and challenging tasks.

At the Section's ninth annual conference at the Graduate College, which began on September 11, 1939, the talk turned constantly to the impact of the war on American industry, despite the announced program of discussions of conventional issues in industrial relations. The membership of the conference included the senior industrial relations officers of a large proportion of the leading American

corporations which would be most involved in the defense program and the succeeding war effort, including those in oil, steel, motors, chemicals, electrical manufacturing, aircraft, communications, rubber, machinery, public utilities, and finance.

The purpose of the annual invitation conferences was to help company executives gain a broader perspective on economic and industrial relations issues and problems. The faculty of the conferences included leading academic, industrial, and government representatives. The 1939 sessions, occurring soon after war was declared in Europe, had unusual significance as a catalyst in stimulating further discussions in the executive offices of many leading corporations concerning the problems of manning for defense. They also helped greatly, when combined with previous conferences and the long-continued interchange in the Section's research program, to give the Section an almost unique capability as a clearing house of information and judgment on policies and experience during the mobilization effort.

As soon as the conference was over, the Section began the collection of all available material on industrial relations problems in a defense or war economy, covering past experience in the United States and current experience abroad. Contact was made with the proper authorities in the government and with other interested organizations. The Section's extensive resources on company, trade-union, and government policies and practices were screened. On the basis of this material, a comprehensive annotated bibliography on labor relations in a war economy was issued in December 1939 and distributed to a large number of industrial relations executives in key industries. It was revised and reissued in May 1940, and repeatedly thereafter. This seemed to be the fastest way to get leading corporations to start thinking about the problems of manning for defense after a long period of reduced

operations. Meanwhile the job was to acquire, analyze, and present new evidence on effective policies.

In the spring of 1939, Princeton University had granted me a sabbatical leave for the second term of 1939-40 to study industrial relations and social security programs in Europe. The Rockefeller Foundation had granted the necessary funds. Helen Baker, as Assistant Director, would be fully able to keep the Section moving ahead. With the outbreak of war, the cancellation of the trip abroad gave me free time to make an extensive field study of the problems of defense industries in the United States. An earlier commitment to assist Mr. C. J. Hicks in the preparation of his autobiography delayed the start of field work for a month. During February 1940, I was in Sarasota, Florida, working as rapidly as possible organizing Mr. Hicks' account of his leadership role in developing industrial relations policy in American corporations. The delay was fortuitous; when my field work began, it was done under the highest possible auspices, even though those auspices could not be divulged until long afterward.

In January 1940, Gil Winant, who was then Director of the International Labor Office in Geneva, came to Washington and had a conference with President Roosevelt. He discussed with him the problems the British were facing in the rapid conversion of industry to war production. He strongly urged that plans be initiated in the United States in anticipation of defense demands here. The particular areas which needed immediate attention were the manning of the rapid expansion in the production of airframes, air engines, machine tools, and steel.

It appears that in the course of Winant's discussion with President Roosevelt he recommended me as a person outside government but known by the President who might be asked to initiate a preliminary study on a highly confidential basis. I had worked with Winant when he was chairman of the Social Security Board, and he knew of

the extensive contacts of the Industrial Relations Section with the appropriate officers in the industries involved. He had attended one of our annual conferences. Both Winant and the President knew full well the need to avoid public knowledge of the study, since at that time any anticipation of American involvement in a European war would create apprehension.

Following his meeting with President Roosevelt, Winant asked me if I could make the proposed study for the President. I told him that I could, starting early in March, after fulfilling my commitment to help Mr. Hicks during February. Winant advised the White House that I would be available March 1 and would await word concerning an appointment with the President. In early March, not hearing from the White House, I wrote Winant in Geneva. His cabled answer was brief and to the point: "Understood you were to report personally Washington March first important." I wrote Miss Le Hand, the President's personal secretary. The result was an appointment for March 20.

When on that day I arrived at the front gate of the White House, I was immediately cleared and told to go to the portico entrance. There, a secretary told me that the President was in bed with a cold but that he wanted to see me upstairs in his bedroom. I was taken up to the family living room and, after a short wait, ushered into the bedroom. The President was in bed, propped up with several pillows, but apparently in good fettle. A great lover of conversation and an expert in drawing people out, Roosevelt, remembering my earlier activities in government, opened our talk with an idea he had picked up about South American social security programs. He soon got down to business, however, and told me that he wanted me, on my own and on an entirely confidential basis, to study the manning problems involved in a rapid expansion of the industries Winant had outlined as crucial

to the British war effort. I was not to make any contacts in government. As I found out later, there were only two officers in the defense establishment who could have helped me had I asked, and they were far down the line.

I had already made plans to go to the West Coast to visit the airframe plants concentrated there. The Section had contacts in most of the companies, and the officers I knew helped me to get interviews with others. On arriving in Southern California, I walked through miles of assembly lines and asked every question I could think of to determine how far company executives had come to grips with the problems of rapid expansion. The orders for planes from Great Britain and France were already piling up, but I stretched their imagination by a repeatedly tested formula, "What would you need to do in building your manpower to double present production?" "What would you need to do to double that again and also put half of your plants in the interior of the country, and not on the coast alone?"

The questions I asked related to categories of manning needed: executive, engineering, supervision, skilled trades, foreman, and rank-and-file. The usual answers were that they could probably double their production by building on their existing organization but that quadrupling, especially with distant plants, was out of sight. My job, I became convinced, was not only to get information but to raise sights and stimulate thinking on what then appeared to be almost impossible production goals. It is interesting in retrospect to compare my formula of setting up a test of the possibility of a four-times expansion with the appeal of President Roosevelt for 50,000 planes in a message to the War Production Board on the morning after Pearl Harbor twenty months later. It is true that the automobile companies, when converted, helped to meet a still greater demand.

Moving back East, I visited the companies which pro-

duced air engines and other essential equipment and materials, including machine tools and steel. Where companies were not directly exposed to insistent demands from Great Britain and France, it was harder to lift the sights of executives after a long drawn out depression. I asked Fred Harbison, who was then on the Section's staff, to help me under an oath of secrecy. I remember well a visit with the head of the Curtis-Wright Company in Hartford, Connecticut, when after a few minutes he was ready to throw us out because he was too busy to be bothered with silly questions. I could not even intimate for whom I was making the study.

Only one executive among the scores with whom I talked during the six-week period developed any suspicion that I was not acting merely as a university professor of industrial relations in quest of truth. He was John Stephens, the Vice President of the United States Steel Corporation, who had attended our conferences and knew me well. After a few minutes, he looked at me hard and asked, "Why are you asking all these damn fool questions?" I looked at *him* hard and suggested that I thought that they were questions that needed answering if France was beaten and England was then invaded by Hitler. He sensed that I meant more than I had said. He knew that I had been on many assignments in Washington over the years. His response was, "Let's get to work." Step by step we reviewed together the manning programs which would be needed for the United States Steel Corporation to expand steel operations rapidly and to reopen plant after plant then idle for lack of demand. The $64 question remained: What would be needed if both France and Great Britain fell and their plants were in German hands and we stood alone?

By early May 1940, after traveling thousands of miles in the United States and Canada, I was ready to report my findings to President Roosevelt. An appointment was

arranged for May 9, the day before the Germans invaded Holland. This time I was told to come to the office entrance of the White House. While I was waiting to go in to the President, I asked General Watson, the appointments secretary, how I could get a lot of points across to the President without any conversational detours. He said, "Start talking and don't let the Boss talk." When I went in, I talked a blue streak about the serious problems ahead. Roosevelt knew what I was doing and his eyes twinkled over his glasses. I am sure that he got my message that the problems of manning a rapid expansion in the airplane, steel, and machine tool industries needed the immediate attention of the government. The news the next day of the German attack on Holland underlined the message.

The notes for my oral report to President Roosevelt are still in the Section's files along with work sheets prepared by Helen Baker, the Assistant Director, based on Section material. The main thrust of my report was the need for both corporations and the government to develop quickly the organized capacity to expand executive and supervisory personnel, to recruit skilled labor, and to plan for the dilution of forces with less trained labor in bottleneck industries such as airframes, air engines, and machine tools. I discussed the need for improved wage and salary administration to adjust quickly to the need to move labor into such industries and to meet the rapid increase in the cost of living in defense centers. Also, I emphasized the importance of effective arbitration machinery to avoid stoppages where managements were resisting adjustment to change. I urged a positive policy in gaining union-management cooperation in the acceleration of defense production and the encouragement of active participation by labor in national and regional committees to make clear that building for defense was a joint national effort.

In Section correspondence with key governmental offi-

cers in the days following my survey, we brought out the sharp distinction between the then current problems of new or rapidly expanding industries like airframes, air engines, and airplane parts and accessories and of the machine-tool companies and those faced by industries like steel, which had large standby capacity and forces because of the recent depression. The aircraft industry, under the pressure of allied orders, was already stretched in terms of executive, supervisory, and skilled personnel. It was a new industry facing for the first time a massive demand. The machine-tool industry had always been subject to feast or famine, and the long depression had greatly depleted their force of highly skilled machinists. On the other hand, steel companies, accustomed to changing demand, had reserves in both plant and trained manpower sufficient for a considerable and rapid expansion of production. As it turned out later, the problems in steel were concentrated on the types of products needed in tanks and ships.

Among our recommendations for consideration by various government officials in the spring of 1940, based on Section contacts, were: the need for acceleration of the programs for technical education at the high-school level to provide an expanding pool of intelligent, adaptable skilled personnel; tax concessions to encourage the building of new and specialized facilities for war production; priority controls on the distribution of machine tools; and the accumulation of dismissal compensation funds in war-expanded industries against the time of cutbacks and layoffs. In the spring of 1940, few people imagined that the war in Europe would last five years. Skilled personnel were hesitant to lose their seniority rights in more stable industries.

Before the establishment of the Office of Production Management in January 1941, it was necessary to communicate with officials in the appropriate old-line depart-

ments according to the subject covered. An example of this rifle-shot method of giving advice at this time was a letter written to Commissioner Isador Lubin of the Department of Labor, dated April 27, 1940. It brought to his attention an excellent analysis of wage policy in time of war presented at a conference, which I had just attended in Canada, by a senior officer of the Dominion Government. The author, W. A. Mackintosh, a professor on leave from Queens University, had presented before a group of key industrial executives a comprehensive analysis of the problems of a war economy that were already faced by Canada. His statement of issues and discussion of policies is still an impressive document. Its transmission from a senior advisor to the Canadian government to a senior advisor to the United States government was made possible by the Section's established channels of communication in its special field. It was followed up by a conference with Lubin in Washington and further correspondence, since he was then a close advisor to President Roosevelt in respect to the policies covered.

In June 1940, the Industrial Relations Section issued a 47-page *Outline of Industrial Relations Policies in Defense Industries* prepared by Frederick Harbison, Helen Baker, and me. The report was widely circulated among governmental, industrial, and labor executives concerned with defense problems. The introduction to the report indicates the climate of urgency in which it was prepared.

> War abroad and defense at home have suddenly made "production" synonymous with "patriotism" in a large segment of American industry. The continued existence of the way of life which Americans call democracy will depend in large measure on the speed and effectiveness of our essential defense industries in attaining levels of mass production heretofore considered impossible. New concepts of organization, management techniques, standardization of products, streamlining procurement, and expansion of labor forces

> will be necessary. While engineering and financial problems will be complex, these problems will be overshadowed in difficulty by those of developing overnight greatly expanded staffs of supervisors, technicians, foremen and employees capable of converting raw material and blueprints at top speed into thousands of airplanes, tanks, guns and shells.

The "Outline" had sections on the expansion of management organization, including technical and supervisory personnel, recruitment of production workers, training of skilled and semiskilled workers, wages and hours of work, and employee-management cooperation in accelerated production. Each section, after a brief analysis, quoted statements of experience with the specific problem from the executives of many companies already in defense production. As was its long-standing policy, the Section built the report in large measure on first-hand material gained from field visits and correspondence. The extensive field survey for President Roosevelt supported the flow of information coming into the Section from a large number of cooperating companies.

My increasing involvement in the problems of manpower mobilization for defense was stimulated by a firm conviction that the United States was certain to become an ally of Great Britain in the defense of the free world against Nazi imperialism. After the disaster at Dunkirk, the urgency of recognizing our position became evident. For some years I had been an active member of the National Policy Committee, a group which met from time to time to discuss national and international issues. Quick to sense the true nature of the world situation, the leaders of the group circulated a statement calling upon the United States to declare that a state of war existed between our country and Germany. It was argued that our posture of defense already indicated our intent and recognized that Nazi Germany was the mortal enemy of our ideals, our institutions, and our way of life. Already con-

winced, I became one of the thirty signers of the statement, which appeared in the *New York Times* and the *Herald Tribune* on June 10, 1940, over our signatures. It is hard to understand now the displeasure our frankness aroused in many parts of the country. Americans hated to think that their country would become a participant in another world war.

In the summer of 1940 I continued to study the manning problems of defense industries throughout the country. A summary of the trips I made that year totals approximately 29,000 miles of travel with 35 nights spent on sleeping cars. Mr. Hicks had long schooled me on the principle that industrial relations was so imbued with intangible variables that we needed to get into the places where men worked and to *see* and talk to as many people as possible on site. The hundreds of impressions of plants and of people of all kinds and at all levels of responsibility served in good stead when, later, I was involved in the determination of government policy in the War Production Board and the War Department.

In September 1940 the Section held its tenth annual invitation conference at the Graduate College. For five days there was intensive discussion of industrial relations problems as affected by the defense program. The main conference was preceded by a five-day seminar for younger executives. The leaders of the conference sessions included government officials, industrial relations executives, and academic specialists who were involved in the various aspects of expediting the mobilization effort. The sessions provided an effective means of exchanging current, practical experience in such areas as recruiting, training, wage and salary administration, grievance procedures, union cooperation, and employee benefits, as well as an over-all view of the economic and political situation faced by the country. With a large number of the key defense industries represented by their chief industrial re-

lations executives, the discussions afforded a high degree of mutual reinforcement, not only on effective policies but also of purpose in accelerating the momentum of the mobilization effort.

During the fall and winter of 1940-41, the Section continued to gather materials and act as a clearinghouse of experience with the effective use of our human resources in national defense. It was our strategy to screen the increasing flow of published and documentary evidence from all possible sources, American and foreign, and issue a series of annotated bibliographies, while at the same time concentrating our own studies on problems not adequately covered by others. Some annotated bibliographies were printed and widely distributed because of their general interest. Others on more specific problems were mimeographed and sent on request.

In its efforts to focus the results of its studies on the government officials who could act upon its findings, the Section continued to correspond and consult with them. As a former adviser on social insurance to Secretary Morgenthau, I urged him to have a study made on depreciation allowances for newly constructed war plants. On July 25, 1940, the Secretary responded with a long analysis of the problem prepared by his staff. We also kept urging that provisions be made for dismissal-compensation funds for war workers. Secretary Perkins advised us that she was appointing a committee to study the labor problems of the post-defense economy. To keep up interest, I presented papers on dismissal compensation in a war economy before the Academy of Political Science and the American Association for Social Security and had copies sent to officials in Washington.

The Section also helped in the early stages of the development of on-the-job training of war workers. We provided Isador Lubin with the names of the best industrial relations officers in the field. When Chan Dooley of

Socony-Vacuum and Walter Dietz of Western Electric were chosen to head up the highly successful "Training within Industry" (T.W.I.) program, we helped them in various ways. The regular members of our annual conferences provided an able and tested pool of talent, and in September 1940 we forwarded to Dooley a carefully selected list of twenty-one candidates for assignments under the program. A conference of leaders in the program was subsequently held in Princeton.

During the fall of 1940, many of us who had been active in stimulating the American defense effort became increasingly discouraged by the slow response throughout the country. Princeton, as a center of research and higher education, developed a climate of deep anxiety. On December 13, 1940, thirty-four members of the faculties and administrations of Princeton University, the Institute for Advanced Study, the Rockefeller Institute for Medical Research, and the Princeton Theological Seminary sent a telegram to President Roosevelt. On December 16 it was reported on the front page of the *New York Times* with names of the signers. Again we were subject to censure by those who dreamed of peace.

The President
The White House
Washington, D.C.

We the undersigned residents of the community of Princeton, New Jersey, respectfully submit the following statement:

There is grave cause for alarm in the over-confidence which many Americans have shown in recent weeks not merely as regards the progress of our own rearmament, but also as concerns the course of military operations overseas. The truth of the matter is that American defense measures need to be expanded and accelerated and that, despite recent impressive victories, the situation of Britain and her allies is critical in many respects. The extent and speed of

American assistance during the next three months may be decisive in determining the outcome of the war. The tempo of our rearmament is altogether inadequate to the emergency and needs to be quickened. Industry and labor must be more effectively mobilized, "business as usual" must give way to the exigencies of the hour, and the American people must awake to the pressing necessity of speed and more speed, production and more production. We need planes, cargo ships, destroyers, speed boats, artillery, automatic rifles, anti-aircraft guns, and other implements of war. We need them in unlimited quantities and, above all, we need them soon. No effort short of the maximum should be tolerated.

In our judgment the necessary speed and volume of production will not be forthcoming unless we declare a state of emergency and enact legislation which will be equivalent to full industrial, military, and naval mobilization. This will involve war-time powers and far-reaching collaboration between government, industry and labor. If Germany is defeated, the need for the continuance of such measures will be negligible. If Germany wins, they will take the form of compulsory controls for a long future. The interests of the United States dictate that Germany shall not win. Only by an American effort without stint or limit can a German victory be prevented. It is imperative that we make that effort at whatever cost. Defense implies more than mere resistance to attack; it requires the building up of military forces adequate to defend American security in whatever way it may be threatened. We must seize and keep the initiative.

Should events require American naval assistance in keeping open the North Atlantic seaways, we must be ready to give it by reasserting the historic American principle of freedom of the seas. In any case, we must mobilize now and utilize our productive capacity to the utmost. Our effort must be comparable to that of 1917-1918; anything less is to hazard gravely the cause of national security as well as to disregard the stake which we, in common with other free peoples, have in an ordered world.

To make sure that the telegram to the President got the attention of the Cabinet officers most concerned, I sent copies personally to Secretaries Hull (State), Morgenthau (Treasury), Stimson (War), Knox (Navy), and Perkins (Labor).

Early in the winter of 1940-41, as a result of the many requests for basic information on the organization and functioning of personnel departments from companies building such departments for the first time, the Section undertook the preparation and distribution of a series of "Digests" for the particular use of rapidly expanding companies in defense industries. The Digests presented current best practice on specific personnel activities, condensed to an eight-page pamphlet for each activity with a bibliography covering additional sources. The separate pamphlets covered the organization of a personnel department, the employment division, the reorganization of hours schedules, job classification and evaluation, policies in wage adjustment, basic training, the selection and training of foremen, the upgrading of production workers, grievance procedures, selection procedures, methods of transmitting information to employees, fatigue and productivity, nutritional programs, medical services, and shift schedules for continuous operations.

The series of fifteen Digests, published from January 1941 to May 1943, met with such demand that several went to three and four printings. The style of the pamphlets was clear-cut, practical, and almost telegraphic condensation. Issues in respect to appropriate policy were stated bluntly, and constant reference was made without identification to current practice in various well-managed companies. By frequent subheadings and numbered summaries of considerations, the Digests were intended to be catalytic in stimulating thought and discussion rather than to provide cookbooks of generally applicable directions. The Section was fully cognizant of the complexity of con-

ditions. Where general principles were clear, however, it did not hesitate to present them as well-tested guidelines. It was the Section's policy to aim its publications at the senior executive who could determine policy. For this reason, great care was taken to digest a large amount of evidence into a few pages of clearly reasoned text. For those who wanted more details, an annotated bibliography appeared inside the cover page of each pamphlet.

With the rapid accumulation of defense orders, many plants accustomed to five-day eight-hour operation were forced to begin continuous, around-the-clock production. In industries like steel, oil, and chemicals, the nature of the process had long required multiple shifts of workers. Neither the managements nor the workers in plants accustomed to daytime activity had experience in scheduling, recruiting, or supervising multiple shifts. Early recognizing this problem, the Section made an intensive study of experience in selected cooperating companies. A preliminary summary of findings was issued in January 1941, and the final report, *Hours Administration as Influenced by the Defense Program,* was issued in May. Because of widespread demand, it went into two printings totaling 4,000 copies.

In the foreword of the final report, the interweaving of the themes of urgency and adaptability in surmounting the tough problems of industrial mobilization comes through clearly:

> The pressing need for rapid acceleration in our defense production was again emphasized by the President of the United States on May 2nd [1941]. It is now overwhelmingly evident that "business as usual" must be a forgotten concept and be replaced by the conviction that an all-out drive for defense production is vital to the survival of democracy. Such an all-out drive means that nothing short of operating schedules of twenty-four hours a day and seven days a week is "on target" for plants making essential products. No one

close to the problem of gearing man-power, machinery and materials to a 168-hour production schedule questions the difficulties that must be solved. No one cognizant of the ingenuity and effectiveness of the American people will doubt our ability to solve these difficulties once we are convinced of the necessity to do so.

The body of the report was intensely practical. It covered in detail the actual working schedules of representative companies, the problems they had faced, including the hours of shift changes, overtime and fatigue, the rotation of shifts, differential payments, shift assignments, the handling of supervisory and maintenance forces, the use of trainees, experience concerning office forces, and union attitudes, and closed with the best available references on both American and British experience. Although the report represented six months of teamwork in the collection of material, field interviews, and conferences, the final text was condensed into thirty-four pages. It was aimed at senior executives with little time for lengthy discussions.

After more than a year of intensive travel throughout the country, interlarded with periods of study, writing, and correspondence at Princeton focused on the problems of manpower mobilization, it was foolish to expect that the Director of the Section could avoid direct participation in the government's gearing up for defense. The future role of the United States was becoming all too clear. The needs of Great Britain for American production were becoming too vast, and our own mobilization efforts were steadily accelerating. In the latter part of April 1941, Isador Lubin, who had been deputy to Sidney Hillman in the Office of Production Management covering labor requirements and employment standards, was asked by President Roosevelt to move to the White House as his adviser on manpower problems. Lubin put pressure on me to replace him in OPM. After obtaining clearances at Princeton and completing my teaching duties, I started

work in Washington on May 12, 1941, on loan from Princeton on a dollar-a-year basis. The plan was that I work five days a week at OPM and return to Princeton for a two-day weekend to continue my supervisory responsibilities at the Industrial Relations Section.

While my job with the OPM and its successor, the War Production Board, was as strenuous as any I have ever experienced, the breaks on weekends greatly helped me to keep in contact with the broader flow of information and research available at the Section. Helen Baker was doing a valiant job of studying problems and trends. The Section's library was a constant help. In getting background for administrative decisions in Washington, it was far easier to ask the Section's staff to make a quick survey than to use the ponderous machinery of government agencies. In a very real sense, Princeton was lending the United States government the staff and resources of the Section at a very critical period in the mobilization effort.

III. THE BATTLE FOR CONVERSION TO WAR PRODUCTION, MAY 1941 TO JANUARY 1942

WHEN Isador Lubin left the Office of Production Management for his new duties in the White House, he left me a large, imposing corner office on the top floor of the new Social Security Building and the third of his three secretaries. The office had all the accoutrements of at least an Assistant Secretary. It soon became the office of six staff members, while I took over the room used by the receptionist. The secretary, Mary Malowski, became a strong right arm. She knew all the ways of getting things done in a rapidly growing governmental agency and had the courage, judgment, and dedication of a veteran.

It was agreed that I should set up a new unit in the Labor Division of OPM to be called the Priorities Branch. The title proved a good one, because it covered both policy and action affecting manpower mobilization. Our main thrust soon became the over-all strategy and tactics of shifting industry to war production, leaving the extensive and detailed field operations of training, labor relations, and employment statistics to other branches. What we needed was a staff of the ablest and most energetic labor economists who could be enticed to come to Washington to work long hours in the battle to shift millions of people from peacetime to wartime production, preferably where they were already working. Since the strategy would need to be applied industry by industry, we would require enough staff to be able to assign a labor economist responsible to the new Priorities Branch to advise each industry branch in the OPM.

My first move was to secure the help of Richard A.

Lester as Associate Chief of the Branch. Dick had gotten his Ph.D. at Princeton and had worked in the Section before moving to the University of Washington and later to Duke University. I reached him by phone at a beach resort and persuaded him to come to Washington immediately. My second appeal was to Frederick H. Harbison, who had been a Research Assistant at the Section. He had left Princeton the year before for the University of Chicago. He agreed to come. With this nucleus, we persuaded, by telephone, personal interview, or any other appropriate means, twenty-one other economists to join us by the time we were fully manned. One older man we wanted was on his way to the West Coast. I telephoned him at several stops en route, but after he left Chicago by train for San Francisco I gave up.

Our group was relatively young but full of enthusiasm for the job. We discussed our mission and policies constantly and presented a solid front in our negotiations with the rest of OPM. As academics, we were used to free-wheeling discussion of issues. We gained confidence by the mutual reinforcement of working out strategy among ourselves in a fast-paced seminar as soon as an issue arose in any particular industry. The result was that, as time passed, the Priorities Branch became noted within OPM as speaking with a single voice.

While we worked fast in setting up the Priorities Branch, the problems with which we had to deal mounted even faster. War production for France and Great Britain, augmented by mounting contracts by our own Armed Forces, had already created severe shortages in aluminum, copper, and other metals. Because the United States was heavily dependent upon crude rubber from the East Indies, we were highly vulnerable to the cutting off of these supplies. The most drastic effect of the war on American industry in May 1941 and for many months thereafter was the imposition of priority orders by the

OPM to divert scarce raw materials to defense production. Because of the serious effect of restricting the flow of aluminum, copper, and rubber upon employment in companies producing for the civilian market, Edward R. Stettinius, Jr., then Director of the Priorities Division, OPM, agreed to clear each new priority order with our Branch to make sure that the effects upon employment were fully considered.

Participation in the acts of government which created unemployment, on the one hand, and responsibility to plan for the effective use of manpower in war production, on the other, put our Branch in a tough but strategic position. We wanted to see war production sharply accelerated—much more keenly at that time than some of the leaders in the industrial branches of OPM who hoped that war production would not disturb their industries too severely. At the same time, we knew that manpower, especially as organized in the multi-layered structures of going concerns, would soon be vital to all-out production for defense. Strategic materials like aluminum, copper, and rubber were short then, but effectively administered labor forces would be short later. Our conclusion was first, that the priority orders for materials should be strengthened to avoid delay in military production. Second, it was our job to assure that, wherever the shortage of essential materials curtailed operations in civilian production, to the fullest extent possible, defense orders should be placed in such plants. We argued that it was far better, where feasible, to bring defense orders to the affected plant and community than to dissipate going concerns and have their employees scatter to new locations.

In retrospect, this policy for the best use of manpower—bringing the job to the man rather than the reverse—seems so reasonable that it is difficult to understand the early resistance to it on the part of the Armed Forces. The latter, for years, had been in the position of

a relatively small buyer in a large market. They were not accustomed to considering the impact of their demand on the total economy and preferred to deal with long-tested contractors. At the same time, manufacturers looked upon the curtailment of raw materials as a passing nuisance and upon a drastic changeover to war production as a costly business, full of risks and complications. The total impact of a long all-out war was not yet envisaged, at least as affecting one's own company. We, on the other hand, being neither military bureaucrats nor businessmen but rather academic economists with a deeply-felt mission, found the conclusion inescapable that *both* materials and organized units of manpower should be shifted to war production *and* that materials should move to the manpower. As labor economists, we had a profound appreciation of the resources and effectiveness of successful going concerns as compared with manpower as a statistic covering widely diverse workers in terms of location, skills, and experience.

To encourage the placement of defense contracts in plants and communities adversely affected by the cutting off of aluminum and other scarce materials under priority orders, our Branch initiated a plan for the authorization of a concession up to 15 per cent in the bids made by companies in affected communities seeking defense orders. We argued that shifting to war production involved heavy change-over costs; that the labor forces of such plants should be kept intact in expectation of rising needs for war production; and that the indirect costs of heavy unemployment, should layoffs occur, might be even greater than the allowance given on contract prices. In some highly specialized communities, it was estimated that costs in unemployment benefits and relief would be heavy and that thousands would be uprooted from their normal way of life.

As is often the case, when a 15 per cent allowance on

bids from centers of "priority unemployment" was approved, those who initiated the plan were given the job of operating it. We in the Priorities Branch knew that the Armed Services were watching us with jaundiced eyes. They had little use for a gadget invented by economists. Since, as Chief of the Branch, I became responsible for certifying the communities which could take advantage of the allowance, I decided to move cautiously.

The first case of serious priority unemployment developed in the early summer of 1941. The Bureau of Labor Statistics was providing us with current statistics. The Aluminum Goods Manufacturing Company of Manitowoc, Wisconsin, employed approximately 3,000 people in the production of aluminum household utensils. In April 1941 it used 350,000 pounds of aluminum. In July, its final allotment was 20,000 pounds. To be sure of our facts, a group of us representing the Armed Services and OPM went to Manitowoc in mid-July for a conference with the management. It was obviously a clear-cut case of extensive priority unemployment. The company had bid on two cartridge contracts but had lost out because of heavy change-over costs. After thorough study, I certified Manitowoc for the 15 per cent allowance.

We soon got an objection from a Navy admiral in charge of the procurement of submarines who had, it appeared, a contract with a shipbuilding plant in Manitowoc. We had visited the submarine contractor when in Manitowoc and had found he could use very few of the 3,000 aluminum workers, and then only after special training. The admiral, however, did not like the idea of a community-wide allowance on contracts and had sent a young lieutenant to investigate. Dick Lester and I decided that it was the moment of truth. We went to the admiral's office with our complete data. When we were through, the admiral said he would not question any of our certifications thereafter. The young lieutenant's command of labor economics was minimal.

During the period from September 1941 to February 1942 twenty-nine communities in twelve states were certified for allowances on bids for defense production because of priority unemployment. They ranged from Sanford, Maine, to Newton-Kellogg, Iowa. The North Central states from Ohio to Wisconsin, which had many small one-industry cities and towns, seemed to be most affected. By the end of 1941, it was estimated that the thirteen communities first certified for special consideration had received War and Navy contracts amounting to nearly $100 million and subcontracts exceeding an additional $10 million. After Pearl Harbor, under the First War Powers Act of December 18, 1941, the procurement agencies were given far greater freedom in placing orders, and the concept of using all available plants gained rapid acceptance. The flow of information on idle manpower and capacity which our Priorities Branch had helped to coordinate was greatly broadened. The Armed Forces had come to realize, with the declaration of a worldwide war, that they would need to depend upon a large segment of American productive capacity.

During the months before Pearl Harbor in 1941, many employers affected by the scarcity of materials came to OPM with their troubles. I kept on my desk a report on procurement contracts in World War I and could, from time to time with older companies, find the contracts they had had then. My argument with a maker of household cutlery, who could not get the metals he needed, that he should use his ingenuity in converting to defense work was much strengthened when I showed him that his company had produced large quantities of bayonets in 1918. Like all well-managed companies, such older firms were distressed by the danger of losing their key employees and having to start over after the war.

One day, Mr. Frazer, the head of Willys-Overland Company, came into my office virtually with tears in his eyes because his automobile plant faced a shutdown. The

rapidly tightening restrictions on essential materials and the absence of war contracts appropriate for a smaller automobile manufacturer threatened the operations of a 9,000-man enterprise. Fred Harbison, who was assigned to the automobile industry, had just heard that the War Department was about to award a large contract for Jeeps to Ford. We decided that Ford, as a giant operation, could be used for many more complicated items than Jeeps, while Willys-Overland was well fitted to produce a type of automobile already designed by the War Department for military use. We persuaded the War Department to shift one-half the Jeep contract to Willys-Overland in order to let the company prove it could handle this and more. When, after the war, Willys-Overland advertised that it was the pioneer manufacturer of the Jeep, it was amusing to remember that this was so because of the efforts of some academic labor economists seeking to make effective use of manpower in a going concern.

It was in the nature of the Priorities Branch that its members preserved their academic freedom to become involved in any problem faced by OPM to which economic analysis could be applied. With the shortage of copper, the price rose sharply. It developed that in times of higher prices the copper mines shifted their operations from low-cost veins to high-cost veins, conserving the former for times when competition was severe. In the war effort, all sources of copper were needed. Allen Buchanan, our man on metals, proposed a two-price system. For the normal level of production of a mining unit, a base price would be set. For all production in excess of such a level, a considerably higher price would be paid. This required a mining company to use both thick and thin veins. While the plan, when put into effect, stimulated production so far as pricing was a factor, it did not remove one of the stickiest problems faced by the government as the war

progressed, the shortage of copper miners. But this comes later in the story.

The proposal of a two-price system for copper production is but one of a host of examples of the diverse problems in which the Priorities Branch became involved. Until Pearl Harbor created a tremendous stimulus to convert American industry to war production, our small group of academic economists continued to press in every way possible for a more drastic shift from "business as usual" to virtually a wartime economy. Our thinking moved from the curtailment of civilian use of critical materials to the shifting of plant capacity, industry by industry, to war production, whether or not the industries could find substitute materials. As economists, we sought to shift industrial capacity to high-priority purposes, knowing that this was essential not only to speed up national defense but also to employ national manpower in all skills and locations more effectively in an all-out effort. We realized that there would be temporary layoffs during a conversion period but that, once converted, plants would have plenty of jobs for their labor forces.

The industry branches within OPM were largely manned by executives from the particular industry covered, although the chief was selected from another type of business. These executives looked upon an industrial corporation as a carefully developed mechanism to manufacture and sell a particular line of products or services in a competitive market. They knew that years had been spent building their sources of raw materials, improving efficiency in production, and gaining widespread use of their product. The disruption of a complex and delicate operation was a traumatic experience for them. In the period before Pearl Harbor, there was a natural inclination to question the need for drastic measures to stimulate conversion.

In their support of rigorous control of essential materials, the staff of the Priorities Branch found themselves at odds with some industry branches within OPM. It took sustained vigilance to make sure that loopholes did not appear in priority orders. Under less pressure than those in top positions in OPM who had wide connections in industry, we could dig in our heels and object to concessions. At the same time, we felt it our job to see that priority orders were administered fairly. Two examples will illustrate the many repercussions of a tightening control of materials.

Sidney Sufrin, our staff man for rubber, discovered that the reduced allocation of crude rubber for automobile tires had led larger tire companies with plants in both the North and the South to concentrate their reduced supply in their Southern plants, where wage rates were lower. This caused heavy layoffs in their Northern plants. It was our reasoning that government control of material should not be used to discriminate between labor groups or give an advantage to some companies over others. After securing approval within OPM, I had the job of announcing to a meeting of the presidents of the leading tire companies that, hereafter, the allocation of crude rubber would be by plant location. The only smile in the group was on the face of the president of a large company which had no Southern plants.

Since tire production was sharply reduced, it was necessary for the government to develop a system of priorities in the distribution of new tires. This was carefully arranged according to the degree of essentiality of each type of vehicle, with police, fire, and ambulance services at the top and less urgent services down the list. An officer of the Teamsters Union besieged us on behalf of milk drivers making house-to-house deliveries. Since we could not see why several trucks should deliver milk each morning on the same streets, we insisted that he had to prove to us

that milk wagons were more urgently needed than ambulances, or some other preferred category. We assumed that we were representing the American people in a war economy and that neither particular tire companies nor particular unions should gain special advantage.

While we maintained our neutral position between industry and labor, there was some feeling that labor was not fully represented in OPM, and especially in our Branch. Sidney Hillman, to whom we reported, had purposely given us a free hand in deciding issues that cut across the whole economy. He was, I believe, glad to be able to avoid issues that arose between particular industries or labor groups, especially those where strong unions existed. As a leader in the CIO, he was more susceptible to the criticism of the AF of L group of unions. There was some feeling among the latter that our Branch should employ some union officials to see that labor's interest was considered in our deliberations.

After much discussion, our staff decided that there was not much for a labor official on leave to do in our Branch. We also believed that, once with us, any appointee should be responsible to the government alone. We worked out the arrangement that any national union could ask us to appoint a person whom they selected to be a consultant for a day at a time at $50 a day, plus per diem expenses, to come to Washington to discuss any problem. We believed that we needed the advice of their *senior* officers, not that of a man who wanted a full-time job in government. William Green, the President of the AF of L, whom I had known for some years, invited me to come over to a meeting of their Executive Council to explain the arrangement. My explanation of what we were doing seemed to alleviate their concern, and they never took advantage of the arrangement. In many ways, labor leaders were more realistic about the problems of mobilization than big-city executives who had never been in a plant. They also had

more confidence in the impartiality of academic economists, especially when we fully explained the reasons for our decisions. They also knew that, with the building of the Armed Forces and mounting procurement contracts, there would be jobs for most workers as mobilization progressed.

The attitude of the old-line labor leader may be illustrated by a request made by Harry Bates, the president of the bricklayers national union, on a visit to my office. He explained that he was being criticized by his members because not a single brick was to be laid in the building of the vast Pentagon structure, then in progress. He understood the reasons why concrete was specified, but he hoped that somewhere there could be some work for his bricklayers. After Bates left, I telephoned my old friend Bill Somervel, of the Army Engineers, who was in charge of the building of the Pentagon, and asked him to find some place where brickwork could be fitted in. Understanding the symbolism involved and knowing Harry Bates, Somervel arranged that brick would be used to build the dividing walls in the underpasses through which automobiles and buses moved to discharge and pick up passengers. He also had brick laid in appropriate places between the walks and the curbs in the parking areas. Harry Bates was delighted. Mutual respect and understanding, I found, went a lot further than a retreat into bureaucratic rigidity.

Dealing with congressmen was far different from dealing with labor leaders or employers in the days before Pearl Harbor. A congressman represents a particular district and wants to impress the people back home with his influence in protecting them from the "o'erweaning power" of the bureaucrat. A plant in a congressman's district was shutting down or could not get a defense contract. He would find out why by a visit to OPM, and "straighten out those bumblers." Our job was to explain

patiently and fully why materials were short, why conversion to war production was necessary, and how to get help on contracts. We had to make the problems of a war economy understandable in Grand Rapids.

Our offices at the Priority Branch were crowded and busy from early morning to late in the evening. Arrangements had to be informal. The one sacred event on our schedule was the staff meeting, when all of us gathered to resolve issues and determine policy. The only room big enough for the meeting was Lubin's old office, which now contained six desks for staff members. At four o'clock one afternoon, it was time for our meeting. Dick Lester came into the room and announced in a loud voice that the room should be cleared. He did not notice that a visitor at Fred Harbison's desk was Congressman Engel from Michigan. As four o'clock came and went, Dick returned and repeated his directive that all visitors should leave. Reluctantly and with some irritation, the congressman left. Later, Harbison explained who he was. The next morning, the congressman complained to Hillman and demanded that Lester and Harbison come to his office on the Hill and apologize. When they arrived, they were kept waiting for some time and were then ushered into the congressman's office to apologize in front of several of his constituents. Our attitude toward politicians was not enhanced.

During this period, the activities of OPM were being investigated by several congressional committees. It was our policy in the Priorities Branch to invite the representatives of such committees to search our files or ask any questions so long as they did not interfere with the flow of work in progress. This seemed to satisfy all concerned. The Truman Committee was the most active. It was searching out wastes of government funds. They seemed to understand our program for certifying communities with priority unemployment for special consideration in

awarding defense contracts. It was in respect to an extra-curricular activity that I was called to appear before the Committee.

Sidney Hillman had assumed responsibility for appointing the members of a Board of Review to settle labor disputes arising in the vast program of building construction in which the government was engaged. The Board was composed of three members: a representative of government, Jim Mitchell of the War Department, who was later Secretary of Labor; a representative of labor, Richard J. Gray, Acting President of the AF of L Building Trades Department; and an impartial chairman. Hillman could not, at first, find an acceptable chairman and asked me to fill in temporarily. I reluctantly agreed. Our first case was a dispute between the electricians and the telephone workers on jurisdiction in the installation of large telephone cables. I do not remember our making any remarkable contribution to this perennial issue. Our second case was far more explosive, both in its development and in its outcome.

In 1941, John L. Lewis and his brother, Dennie, were desperately trying to expand their control of organized labor by recruiting building trades workers into a newly developed United Construction Workers (CIO), which was a part of an omnibus "District 50" of the United Mine Workers. In September the United Construction Workers announced that they had signed an agreement with the Currier Corporation of Detroit, a manufacturer of prefabricated houses, covering the construction of 300 houses for defense workers financed by the Federal Works Agency. The Currier Corporation was the low bidder for the contract for the houses and was awaiting approval of their bid by the Federal Works Administration. The Currier Corporation had long operated as a nonunion shop and had had serious labor troubles. For the AF of L trades in Detroit, the Currier-CIO agreement appeared to be a

collusive subterfuge to defeat organization by them. It had become evident that the award of the contract to Currier would make Detroit a battleground throughout the building industry, with the closing down of vitally needed defense construction.

Representatives of the AF of L came to the Board of Review to advise us of the situation. Already a man had been killed while picketing the Currier operation. All the evidence available indicated that a costly interruption in the defense effort in a key area would occur if a clever stratagem by a powerful labor leader to advance his special interests were to override the national interest in rapid mobilization. Since our Board had jurisdiction under an AF of L agreement with various defense agencies, we decided that, as a Board, we could take no formal action. But, as persons responsible for stabilizing labor relations in a national defense effort, we felt obliged to advise John M. Carmody, the Federal Works Administrator, of our knowledge and concern. Sidney Hillman also expressed his deep concern and advised Carmody not to approve the Currier bid.

The Currier case soon became a *cause celebre.* John L. Lewis was a caustic critic of Sidney Hillman and claimed he was a traitor to the CIO. Why should the government refuse a low bid for construction and waste government money? This was a ready-made issue for the Truman Committee, and Hugh A. Fulton, Chief Counsel for the Committee, made the most of it. The members of the Board of Review were called to testify before the Committee on October 22, 1941. We asked for a preliminary conference with Fulton to explain our reasons for alerting Carmody. Fulton listened, but seemed under pressure to make an example of people who wasted money to advance the defense effort. As we learned later, the target was not our Board but, rather, Sidney Hillman. He was suspected of having too much influence.

The hearings were held in a large, crowded room. John Lord O'Brien, General Counsel of OPM, sat with us. He was, as ever, a tower of strength. John L. Lewis and his brother were there. Rereading the ten pages of my printed testimony a third of a century later, I am satisfied that I made my position clear. I had come to Washington to help advance the defense effort. The Board had not taken jurisdiction in the Currier case. But, as persons long specializing in labor relations, we felt ourselves morally bound to pass on our knowledge and mature judgment to the appropriate officer of government concerned, as we were, in advancing the defense effort. From my previous experience in dealing with congressional committees, I had learned to avoid *obiter dicta* or departing from a simple, repeated statement of the facts. As a professor on loan to the government at a dollar a year, I did not need to let Committee members or their Counsel put words into my mouth.

The Truman Committee got little satisfaction in proving any conspiracy on our part to waste government funds. After we had finished our testimony, they spent long hours questioning Hillman, Dennie Lewis, and others, building up a hundred pages of printed testimony over a two-day period. I am still convinced that neither Truman nor his Committee realized that, in their cost-saving zeal, they had let John L. Lewis use them in an attempt to gain power in the labor movement and to undermine Hillman, even at the risk of a serious disruption of the defense effort. The Committee had also given help to the reactionary press, which could not understand that Hillman, as a great leader in the American labor movement, was dedicated to the mission of gaining labor's full support in the defense of America.

As the weeks passed in the summer and fall of 1941, the Priorities Branch and its Chief became more and more involved in a wide spectrum of efforts to stimulate war

production. As academic economists, we liked to try out new ideas. In Sidney Hillman, a lover of ideas who also had an intense urge to convert ideas into action, we found a sympathetic leader. Hillman was a unique combination of a genuine intellectual, an introspective and idealistic philosopher, and a vigorous and shrewd negotiator in advancing the condition of working people. Born in Lithuania in 1887 into a family which had for generations produced rabbis known for their piety and good works, he had come to America in 1907. His outstanding leadership in building the Amalgamated Clothing Workers had established his position as one of the most creative labor statesmen in America. A pronounced Yiddish accent often led people who did not sense the brilliant mind and deep insights which lay behind his spoken words to underestimate the force of his reasoning. I had many opportunities to see him in action.

President Roosevelt had early recognized Hillman's rare qualities as a labor leader who understood and loyally supported the President's step-by-step efforts to assure national security in a critical time. As a master politician, Roosevelt also knew that dynamic leaders accumulated enemies, not only among their natural opponents but also among less able or disinterested leaders in the same cause. To strengthen the concept that the defense effort required the partnership of industry and labor, the OPM was headed by Knudsen, an outstanding industrialist, as Director General, and Hillman, an outstanding labor leader, as Associate Director General. Despite Hillman's deep conviction that the national interest came first, many industrial executives objected to giving a labor leader a key position in government. But even more serious, as time passed, was the carping criticism of disaffected labor leaders like John L. Lewis who were jealous of Hillman's influence and disturbed by his independence in deciding issues on the basis of national rather than labor interests.

Before Pearl Harbor there was still much jockeying to preserve parochial advantage. Those who saw that war was inevitable were likely to irritate those indulging in wishful thinking, whether they were industrialists or labor leaders.

With his responsibilities as Associate Director General of OPM and his constant efforts to ensure labor's support for the defense effort, Hillman increasingly delegated to our Branch the economic problems of mobilizing manpower. As independent economists we could argue with both industrialists and labor leaders with an air of impartiality. Hillman gave us his support *en bloc* without going into the details. He asked me to attend the daily staff meetings in Knudsen's office as representing the Labor Division, while he sat as Associate Director General.

It was in such a staff meeting that I had an argument with Knudsen on the functions of our Branch. Knudsen seemed to have no clear conception of our staff function to make sure that all manpower aspects were fully considered in any decisions by an industry branch. We held that an economist from our Branch assigned to an industry branch was obligated to follow the general policy of our Branch in order to assure vigor and consistency. At the same time, he was obligated to study the special problems of the particular industry and to interpret policy intelligently. Knudsen claimed that an industry branch chief had the right to fire our representative if the latter did not agree with what the industry branch wanted to do. I replied that our representative was like a comptroller or an industrial relations officer implementing corporation-wide policy in a branch plant. The only officer who could fire him was the executive at headquarters who had hired him and who determined the policies he applied. If the industry branch chief found one of our people unpleasant, he could ask for a change. However, the new man would follow the same policies as his predecessor or we would

be the one to fire him. The Priorities Branch had trained itself to speak with one voice. Knudsen was a genius at producing automobiles, but organizational structure and operations were not his forte.

By September 1941 it was the firm conviction of our staff in the Priorities Branch that it was impossible to meet the demands of the defense effort without a more drastic conversion of the automobile industry from civilian cars to high-priority military equipment. Leon Henderson in OPA and his staff strongly agreed. Not only was the automobile industry a massive industrial resource, but it had the great advantages of effective engineering staffs, dynamic administrators, trained personnel, and widespread channels for subcontracting. The big obstacles were the profitability of existing operations and the impact of conversion on employment. Who could be more sensitive to these obstacles than a president on leave from General Motors and a president of a leading CIO national union? I can remember Leon Henderson and others of us pleading with Hillman to order a sharper curtailment of production of civilian cars in an evening session at Hillman's apartment. The pressure continued to mount. We wanted to see a more complete curtailment to create capacity for defense, not merely to save materials. James S. Adams, the executive vice-president of Palmolive-Peet, who was the industry branch chief covering automotive production, agreed with us. He and I arranged a conference with Knudsen and Hillman without any other staff people present. Adams made a fervent speech on the need for the full industrial capacity of the auto industry in the defense effort. I followed with a strong plea for the skilled manpower involved. Finally, Knudsen and Hillman both nodded their heads. The tide was turning in the battle for conversion!

The shift from civilian to military production in the automobile industry set in motion the complex activities

of engineering design, retooling, changing plant layouts, building flows of materials and parts, and negotiating contracts. Once new goals were established, the pace and effectiveness of the motor industry in shifting from passenger cars to a wide range of military equipment, from tanks to airplanes, provided an outstanding exhibition of the drive, ingenuity, and effectiveness of American industry in the strategic and tactical planning of mass production.

But, meanwhile, layoffs mounted. The problem of taking care of employees laid off while the change-over took place was outside the usual province of industrial engineers. The Labor Division, under Hillman's leadership, had worked out a plan for transferring workers from civilian to defense production with an appropriate safeguarding of their seniority rights. An effort to provide spe cial unemployment benefits to cover layoffs incurred by the conversion of the automobile industry ran into many difficulties in respect to jurisdictions, coverage, and administration. State unemployment insurance systems were already in operation. The problem of differentiating between normal layoffs and those caused by temporary shutdowns for conversion was difficult to solve in both drafting of legislation and practical administration. Fortunately, the great increase in defense orders and the speed of conversion after Pearl Harbor greatly shortened the period of extensive unemployment.

While it lasted, however, the effects of layoffs in the centers of automobile production were acute and disturbing. As usual, complaints funnelled into OPM. One particular complaint got attention at the highest levels. When I returned from one of our innumerable meetings one day, my secretary, Mary Malowski, told me that Mr. Knudsen wanted to see me right away. I rushed to Knudsen's office and found him in a tizzy. "What are we doing about unemployment in Detroit?" he asked. I explained what was

being planned and he seemed to calm down. When I got back to my office, Mary Malowski reported that Mr. Hillman wanted to see me immediately. On arriving somewhat breathless at Hillman's office, he asked in an urgent voice, "What are we doing about unemployment in Detroit?" Again I gave a full explanation of our efforts. It was not until later that I learned that Eleanor Roosevelt had visited Detroit and, on her return, had rushed over to OPM to express her views with considerable force.

While I was working with Hillman, the most intelligent and interesting labor leader coming to OPM with ideas was Walter Reuther of the United Auto Workers. While deeply concerned with the protection of his union members, he had the imagination to understand the larger problems in the conversion of the American economy to a war footing. He had high regard for the capacity of his industry but did not accept the traditions of the executive establishment in Detroit. As full conversion became imminent, the UAW leaders proposed to Hillman that the oversight of the automobile industry in a war effort should be in the hands of a tripartite board with equal membership of industry and labor representatives and with a government representative as chairman. Some of Hillman's advisers thought this was a good idea. I opposed it from the first on the grounds that it was entirely inconsistent with American concepts of law and government in dealing with private enterprise and that it had all the radical implications and weaknesses of the Italian corporative state envisaged by Mussolini. It was one time when my academic studies and teaching gave me ammunition to shoot down a half-baked but appealing idea by reference to analogies unknown to my opponents.

When one is a cog in the vast machinery of government, it is a marked advantage to have friends in other departments and branches to whom one can appeal for advice and help without going through bureaucratic channels.

Ten years' consulting experience in Washington, many conferences at Princeton and elsewhere, and long service at the Industrial Relations Section had provided me with a considerable number of informal consultants in wartime Washington. Reciprocally, a willingness had developed on the part of some to ask my advice. Friendly advisers were scattered not only throughout OPM but in the Departments of Labor, War, and Treasury, and in various agencies like OPA and the Social Security Administration. One day, out of the blue, I found that two senior officials in the Navy Department would welcome some words of wisdom from a labor economist.

Ralph Bard, the Assistant Secretary of the Navy, a good Princetonian, called to ask if I would have dinner that evening with Jim Forrestal (another Princetonian) and him on Forrestal's official yacht. I gladly accepted. Bard called for me in his limousine to go to the Navy Yard, where we were piped aboard the yacht. Soon, Forrestal arrived with a senior Admiral, and they were piped aboard. A very nice dinner was laid out for the four of us on a table on the afterdeck. After some preliminaries, Forrestal and Bard began asking questions about my ideas on industrial relations and especially on ways of handling the more restive members of a labor force. To what extent were there real Communists among American workers, and how did one handle questionable characters without alienating the great majority? At first, I wondered why Forrestal and Bard had become so keenly interested in what was a very special problem compared with the larger issues in manpower mobilization. It suddenly dawned on me that they had arranged the preceptorial for the education of the Admiral. It turned out that, as commander of the Bremerton Navy Yard, he had gone overboard in his fear of Communist infiltration and had so stiffened up security and vigilance that he had created a climate which impaired morale. As soon as I discovered my role,

I became eloquent and persuasive in my discussion of tested experience, with my eyes on Forrestal and Bard and my mind on the reactions of the Admiral. I earned my dinner and later saw Bard on many occasions, since manpower was within his jurisdiction. Forrestal, soon promoted to Secretary, moved into higher circles. I found, as time passed, that the Navy Secretariat was full of Princetonians, while the War Department had many Yalies.

As the fall of 1941 passed, the problems of OPM mounted. In the drive for curtailment of civilian production and its replacement by defense orders, the lines of battle were forming, with President Roosevelt and persons not affiliated with either industry or labor on one side and those sensitive to profits and jobs on the other. Within OPM there were many persons scattered through the organization who believed, as we did in the Priorities Branch, that all-out war was inevitable. They understood our views as economists and tended to differentiate between us and the Labor Division as a whole. Leon Henderson, Joe Weiner, and others in OPA were pushing for rapid conversion. It was becoming clear that the symbolism of having an industrialist and a labor leader as co-directors in a mobilization effort was losing its appeal. The Armed Services were psychologically inclined to question any form of organization which did not have a clear-cut hierarchy under a single chief executive. Meanwhile, Knudsen's great capacity as an industrial engineer did not offset his lack of understanding of governmental administration. The great contributions of Hillman in gaining labor support in the defense effort did not overcome the prejudice in some quarters that he was a labor leader on leave and not an independent governmental official.

Some progress was being made in curtailing the manufacture of products using materials in short supply, such as refrigerators and farm machinery. In the latter case, the reduction proposed turned out to be too severe, as

America took on the task of supplying foodstuffs for our allies. One small industry was a favorite target of the Priorities Branch—the manufacturing of pinball machines. The amount of scarce materials used was not our primary reason for zeal. Nor was it the wasted time and money involved in using the product. Rather, the building of pinball machines used highly skilled electricians who were then in short supply. They were needed in building many types of military equipment, from airplanes to gun controls. The pinball industry was well entrenched, however, and resisted our efforts effectively.

The great turning point in the battle for conversion came on Sunday, December 7, 1941. The Japanese militarists did more at Pearl Harbor in a few minutes to make enthusiasts for mobilization than the persistent advance of Hitler's armies had done in two years. War came to America with a bang!

I had gone to Princeton for the weekend of December 6 and 7 under my standing arrangement with the University. I was listening to a symphony concert on the radio on Sunday afternoon when an announcer broke in with the first reports of the Japanese attack. Back in Washington the next day for Knudsen's usual early morning staff meeting, I found the air full of nervous tension, like on a ship in a great storm. President Roosevelt had given Knudsen a directive for the massive production of planes, ships, guns, and other military items. It was Knudsen's immediate reaction to ask the top officers of OPM present whether the President's list of requirements could be met. Batt, Nelson, Harrison, and others went through the motions of giving appropriate answers covering their areas of concern. When Knudsen asked me whether we could develop the manpower to do the job, I said I did not know, but that it reminded me of the story of the cow that climbed a tree. When they asked her how she did it, she said she had to. My Lincolnesque response somewhat

startled Knudsen, but amused the others present. They knew that they had been talking through their hats. When I met Knudsen months later in the Pentagon, he remembered my parable and matched it with one of his own.

Not only did OPM go into high gear after Pearl Harbor, but plans began to take final form for a reorganization of the agency. I can remember clearly a crowded meeting in the "Snow Room" of the Social Security Building, so named because of a large mural of a snowy landscape, when Knudsen met with the top leaders of the automotive industry and told each corporation what contracts it should take on. With the curtailment of civilian production a cold reality, there was a strong appetite for war production.

But meanwhile the pressure to replace Knudsen with a single chief executive responsible for war production was gaining strength. It was a reflection of my position as an independent academic, and not a representative of labor, that I was invited to a quiet dinner at the Shoreham where a small group of influential executives discussed how Knudsen could be eased out gracefully. After many suggestions, someone came up with the idea that Roosevelt should make him a high-level army officer with the function of stimulating production in war industry. A few days later, the announcement was made that Knudsen had been appointed a three-star general. Donald Nelson would be the head of a newly established War Production Board.

The future of Sidney Hillman during the drastic changes following the outbreak of war became increasingly uncertain. With the shift to a War Production Board, on January 25 he became Director of the Labor Division of WPB. But the critical question became, what was to be the function of the Labor Division? Hillman believed that the task of manning war production was so much a part of its total effort that the WPB should retain authority over manpower policy. He also believed that he was

best fitted to be the person in charge of manpower. But Nelson, facing tremendous responsibilities for production and sensing the special difficulties of dealing with a multitude of labor situations, apparently was not anxious to include manpower mobilization under his jurisdiction. It is probable, also, that he had questions in his mind concerning the advisability of putting a labor leader, no matter how able and dedicated, into a position fraught with conflicts of interest in the wartime integration of the efforts of government, industry, and labor. For Nelson, the issue had come to a head: Were manpower policies in time of war to be determined by an impartial governmental agency after consultation, or by negotiation between the parties concerned? The position of government had suddenly shifted from that of an impartial arbitrator in private disputes to that of a sovereign state conducting a vast military enterprise.

The issue Nelson faced at the highest level suddenly came home to me as Chief of the Priorities Branch, Labor Division. Hillman, as Associate Director General of OPM, had given our Branch wide discretion in handling sticky issues affecting various unions. We tended to hew to the line on policies and not to make politic exceptions to avoid disturbing a climate of cooperation. We were economists, not skillful negotiators, giving a bit here and there to gain a larger objective. As the going got tougher, the difference between our approach and that of Hillman, a negotiator par *excellence,* became more evident. The showdown came in an area which had always been touchy, the rubber industry.

In late January 1942, Sidney Sufrin, our staff man on rubber, reported to me that he was having trouble convincing the Rubber Workers Union that an exception they wanted could not be made. He sensed that they had gone to Hillman and received assurances which we were unwilling to give. I decided that I should clear up the matter

with Hillman. It was a friendly but definitive discussion. I told Hillman that I had deeply appreciated his confidence in our Branch in delegating responsibility in applying manpower policy, but that it was his decision whether, under the changed conditions of a war effort, he wanted to continue such delegation. If not, I felt it best for him to let me resign so that he could work out another arrangement. For two days, Hillman insisted that I should continue, but realizing the problems he faced, I phoned President Dodds of Princeton University that I was returning to Princeton full-time as of February 1. Throughout, Hillman and I remained good friends. When I was in the hospital later that spring, he sent me a large bunch of red roses.

During February and March 1942, the issue of where manpower policy in war production would be determined remained in doubt. Hillman proposed a National Manpower Board, preferably within WPB. Nelson's reluctance to ask for additional responsibilities led Roosevelt on April 18, after much delay, to assign manpower to a War Manpower Commission under Paul V. McNutt. Whatever the justification of the decision, it was a serious blow to Hillman. It also meant that others took over the core function of the Priorities Branch in shifting manpower to war production. The pioneer days were over and a new leadership took charge.

I had hardly gotten back to Princeton when Sidney J. Weinberg, one of Donald Nelson's most influential advisers, called President Dodds to ask that I return to Washington to serve on the newly established Planning Committee of WPB, which was to be, and became, a nerve center of economic analysis and policy development in the Board. It was a hard and delicate decision for me. To leave Hillman on a specific issue of policy in dealing with organized labor and then to reappear on Nelson's immediate staff for entirely different reasons a few days later

would be hard for Hillman to understand. I have always found that loyalty is a primary concern in the labor movement. My decision is best explained by my letter to Nelson dated February 3, 1942.

Mr. Donald M. Nelson, Chairman
War Production Board
Social Security Building
Washington, D.C.

Dear Mr. Nelson:

Mr. Weinberg phoned President Dodds yesterday concerning my return to Washington to serve on the Planning Committee of the War Production Board. President Dodds felt that I should make my own decision in the matter and I have striven valiantly to decide the wisest course.

My contribution in the prosecution of the war is that of studying the problems ahead; that is, observing developments in the field of labor economics at first hand and in available reports, watching for problems, and suggesting measures for their solution. In the nine months with O.P.M., I was able to make worthwhile suggestions from time to time only because I had had two years of intensive study and field work on war industrial relations problems to draw upon. Right now my knowledge of experience in the field and my resources of worthwhile thinking have been worn thin. I need to get out into non-Washington "reality" and to do some thorough-going analysis of the economic situation six months or a year ahead.

With this in mind, I am convinced that I should resume my work as Director of the Industrial Relations Section at Princeton rather than remain in Washington. The Section here has developed wide contacts in both industry and labor over the years and is able to obtain a great deal of information and advice on a confidential basis. Also there is the opportunity for thorough analysis of both American and foreign experience in the prosecution of the war. We have been providing our findings currently to a large number of

companies, labor unions, and governmental departments, including the O.P.M. Working from Princeton, I feel that I can help materially in enhancing the value of our findings and suggestions to you and to others in positions of responsibility.

As a sample of the thing I have in mind I have enclosed a very tentative, preliminary summary of experience as to weekly hours of work. There is increasing evidence that forty-eight hours per week is the maximum for sustained optimum production per worker.

The work with the Planning Committee would be most challenging. It is a great temptation to be near the focus of planning in a great national effort. After the most painful self-evaluation, I am convinced that I need a thorough reconditioning before I wear out the intellectual seat of my pants. It is not a question of helping to the utmost, it is a question of how best to help.

With highest regards,

Yours sincerely,
J. Douglas Brown

It was nice to be wanted at the center of operations, but I still believe I made the right decision. I had found that ideas do better when their author is not around. It was far more effective to have access to a responsible chief executive as an independent consultant, with freedom for thorough observation and study, than to become a part of a ponderous bureaucracy, even though near the top. After my reply to Nelson, it was much easier to refuse an invitation to join Leon Henderson's staff in the Division of Civilian Supply, WPB.

IV. THE CRUCIAL YEAR, 1942

In retrospect, it is clear that the critical period in World War II in terms of logistical support of the Armed Forces was the year following Pearl Harbor. It was then that America's tremendous capacity to produce facilities, military equipment, airplanes, ships, tanks, ammunition, and supplies went into high gear. The central thrust was the organizational capacity, engineering skill, managerial leadership, and competent workmanship demonstrated by thousands of American companies, large and small. The task of the government was to direct this thrust to the proper end products, and to guide, counsel, and support the efforts of industrial executives who were in immediate charge of production. The target had become the winning of the war. It was still necessary to assure that the total economy and the health and welfare of the civilian population were sustained as the continuing base, both material and psychological, for a massive war effort.

By shifting my center of operations back to Princeton as Director of the Industrial Relations Section, I gained a degree of flexibility and mobility which would have been impossible as a full-time official in Washington. With the unique contacts the Section had developed over many years, it was possible to learn of manpower problems in their early stages and to find out quickly which companies had made the most progress in solving those problems. The key advantages were the Section's knowledge of the style and effectiveness of particular companies, a tested judgment of the ability and foresight of the executives determining company policy, and a long-standing climate of free and friendly interchange of information and ideas built upon visits, conferences, and correspondence.

A valuable by-product of returning to the Section at

Princeton University was that, in correspondence and conferences with government officials, I did not face the problems of hierarchy and protocol in clearing ideas or recommendations. The freedom to make proposals to cabinet members or others in key positions in Washington that is reflected in the Section's correspondence files during the war period is still somewhat startling. The interesting aspect is that the proposals were acknowledged and commented upon with very few exceptions. The Section was a long-established university research center. Its independence and impartiality were assumed.

An example of the kind of advice the Section could provide to key officials in government is an *aide memoire* sent to James Knowlson, Director of Industry Operations, and to Robert Nathan, Chairman of the Planning Board, War Production Board, based on a conference with them in March 1942, a month after I had left WPB and had had a chance to check conditions by direct contact with cooperating companies and key executives.

MEMORANDUM ON RECOMMENDATIONS MADE AT CONFERENCE ON MARCH 9, 1942

1. The program of curtailment of non-essential production should be sharply accelerated not only to release more productive facilities but *particularly* to release more qualified executives, engineers, supervisors and skilled labor for war industries. Acute shortages of experienced supervisory personnel are already delaying the expansion of operations in many war plants. War industries are in some cases required to lower hiring standards materially to obtain sufficient labor, while competent, experienced men are being held in non-essential employment nearby.

2. Wherever possible, continuing civilian production should be concentrated in a few plants rather than spread thin over many plants. Only by such concentration will the release of executive, supervisory, and other key personnel

be in proportion to the curtailment on non-essential production.

3. Permission to use up inventories delays release of key personnel for war work either in the same plant or elsewhere.

4. Many companies in war production are working their people excessive hours. There is strong support among industrial executives for the 8-hour, 6-day schedule as the best per employee in terms of sustained productivity, attendance, and morale. Experience with hours beyond 60 and with the seven-day week are particularly unfavorable in lowered efficiency, declining morale and increased absenteeism. To avoid a lowered *pace* of production in the next two or three months in plants now working their people excessive hours, the government *must exert pressure,* plant by plant, to assure the hiring and training of additional men, more shifts, and the shortening of hours per worker. This must be done even over the objection of workers desiring high overtime earnings.

5. The training program of the government should be *greatly* expanded. All companies employing men in strategic skills whether on war or civilian production should be *required* to provide up-grading training. The time is past when the government can permit the tempo of its training program to be determined by the attitude of particular employers. The training of women should be pushed. Employers, generally, are underestimating their needs. Civilian industry must become an important training ground for war industry.

6. The effectiveness of particular managements in war production varies widely. Consulting teams of experienced executives should be formed immediately to visit and study laggard plants under the joint auspices of the W.P.B., Army, and Navy. Recommendations should be made after several days of study and discussion in the plant and not after cursory visits with the chief executive.

7. More drastic action by W.P.B. would enhance rather than lower public morale. The public is *not* complacent. They want to be *told* what to do. The best public opinion research shows that the people are now ahead of Washington.

J. DOUGLAS BROWN
March 13, 1942

In sending the memorandum, I told Knowlson and Nathan that I was leaving the next week for a swing through the West Coast aircraft plants and a conference at Stanford University to learn all I could concerning the factors limiting productivity in the aircraft and shipbuilding industries concentrated on the Coast. I indicated that on my return I would report my findings to them in Washington.

The memorandum to Knowlson and Nathan summarized briefly several problems to which the Section was then giving special attention. Our evidence indicated a wide variation in the effectiveness of plant managements in meeting wartime conditions. Earlier, we had sent a memorandum on a "Plan for Improvement of Management in Laggard Defense Plants" to Bill Harrison, the Director of Production in WPB. In early March, we sent a copy of that memorandum to Bill Somervel, who had been put in command of the Services of Supply in the War Department. It outlined a program of visiting teams of specialists, with the full prestige of the Army, Navy, and WPB behind them, who would spend several days in the plants. The essential idea was to use able and experienced executives from leading companies as catalysts to coach companies with less experience. It was a wartime application of the principle of cross-fertilization of ideas and know-how which we had applied in the Section's conferences, field work, and reports. General Somervel appreciated our efforts and asked General Young, his director of

procurement, to study the plan and take what action he deemed necessary.

As early as January 1942 we had become concerned that an increasing number of companies, when taking on war contracts, would increase the weekly work schedules of their employees beyond those which could be sustained for long periods without accumulating fatigue, absenteeism, and loss of quality. It seemed patriotic to work long hours, and at overtime rates earnings rose sharply. Helen Baker had begun a quick survey of executive opinion which provided such valuable results that, during late January and February 1942, the survey was expanded to cover 140 companies employing approximately 2 million workers. The group included 16 steel companies, 15 in shipbuilding and heavy machinery, 14 in aircraft and automobiles, 8 in small arms and ammunition, and 20 in light machinery, tool, and instrument production. The returns were excellent and most significant. While the range of hours worked spread from 36 to 84, there was a strong consensus that excessive hours caused many problems. More than five times as many companies favored a forty-eight hour week as optimum for the longer pull than any other schedule.

Preliminary summaries of our findings were sent to kev people in Washington. They showed keen interest. Our 28-page report, *Optimum Hours of Work in War Production,* was rushed to completion and through the press. By mid-March 1942 we had sent copies to Secretaries Perkins, Patterson, and Forrestal, to General Somervel, to Harrison and others in WPB, to a wide range of officials in government, as well as to the thousand or more companies cooperating with the Section in its research. Our print order was for 3,500 copies. The Director of the Division of Labor Standards of the Department of Labor wrote that the Department was intensely interested in the study and was printing a digest in their next issue of *Labor Standards,*

which had a very wide circulation. He believed that this would be an effective means of getting our findings to both labor and management throughout the country. He fervently agreed with the opening sentence of the introduction of our report: "The acute need for the greatest possible production of war materials gives national significance to the question: What is the maximum number of hours per day or week an individual can work and maintain his highest efficiency?"

The Section's report on optimum hours led to much correspondence with officials in Washington. Comments were received from Forrestal, Somervel, Harrison, and those assigned to deal with manning problems in the various departments. The Department of Labor, which was particularly concerned, set up plans for a conference of representatives of the national organizations concerned with industrial relations to meet on April 14, 1942. I was asked to chair the meeting.

As the pressure for accelerated war production increased in the spring and early summer of 1942, the problem of optimum hours became more and more acute. On June 24, a meeting of an interdepartmental "Committee on Optimum Hours" was held at the Department of Labor. Representatives were present from the Departments of War, Navy, Commerce, and Labor and from the War Manpower Commission, the War Production Board, the Maritime Commission, and the Public Health Service. I represented the War Department. The minutes of the conference indicate a thorough discussion. It was agreed that a check list, prepared by the Industrial Relations Section and covering a range of considerations which should influence the determination of hours schedules, should be put into final form for circulation to employers. The check list was to be accompanied by a kit of materials which would explain how to measure accident and turnover rates. A statement of principles was to be pre-

pared and cleared with the departmental representatives before transmission.

A draft of the recommendations now in the Section's files states that one day of rest for the individual, approximately every seven days, should be the universal and invariable rule. There should be a thirty-minute meal period. Daily and weekly hours should be re-examined to assure those schedules which would maintain maximum output over a long war period. The consequences of excessive hours were outlined. Uniformity of hours schedules in the same labor market were recommended to avoid pirating and turnover. It was stated that there was a widespread and increasing agreement that the eight-hour day and the forty-eight hour week approximated the best working schedule for sustained efficiency. Plants with longer work schedules were urged to analyze their situation in respect to output, absenteeism, accidents, illness, and fatigue. They should re-examine the possibilities of training additional workers in order to lessen the need for excessive overtime during the long pull ahead. The Committee met on July 9 to clear the statement.

Following the issuance of the Section's report on optimum hours in mid-March, I visited war plants on the West Coast. While in Washington on my return, I had a talk with General Somervel in the War Department. He urged me to become a consultant to the Department on manpower problems. To avoid losing the advantages of being based at Princeton and the freedom such a status afforded, it was arranged that General Somervel would ask President Dodds for a part-time loan of my services. The schedule was set at two days a week. While my commuting schedule was somewhat flexible, the chance to operate at both the research end at Princeton and the consulting end in Washington proved mutually reinforcing, although somewhat strenuous.

In the War Department, my assignment was to work

directly with Goldthwaite Dorr, one of the two Special Assistants to the Secretary of War. We soon moved from the old War Department building on Constitution Avenue to the Pentagon, where Mr. Dorr and I shared a big office directly over the Secretary's suite. Mr. Dorr was an old friend of Secretary Stimson and with Harvey Bundy, the other Special Assistant, handled a wide range of problems which involved cooperation with other branches of government, both federal and state, as well as overall interactions with the public generally. Mr. Don's emphasis was on manpower problems. This required close relations with General Somervel and Jim Mitchell, the Director of Civilian Personnel, as well as with GI and G3 which covered military personnel and training. We were essentially trouble shooters with the prestige afforded by direct attachment to the Secretary's office. Our activities during the period from 1942 to 1945 were highly varied and will be discussed later.

My visits in war industry communities during the early spring of 1942 and my correspondence with industrial relations executives increasingly convinced me that the sharply increased earnings of skilled workers in war production were becoming a serious economic factor. The problem, as I saw it then, is best stated in the following excerpts from a letter I wrote to Secretary Morgenthau dated February 17, 1942. I had been a personal consultant to Morgenthau on social security matters during 1938-39 and had discussed issues with him informally on weekly visits. I had sat in on his morning seminars with his staff and consultants.

> Over the months I have become increasingly convinced that the industrial relations situation in 1942 in war industries will be determined to a larger extent by the *fiscal* policy of the government than by any other single factor. It will be most difficult to hold back the pressure for sharp increases in wage rates if the unbalance between expanding

money incomes and shrinking civilian production starts a spiral of rising costs of living. The American labor movement now has far stronger bargaining power than in the last war and the division in its ranks will probably encourage a spirit of rivalry in seeking to offset cost of living changes.

While disturbing to national unity and to productive efficiency, such bargaining pressures would be unlikely to assure a satisfactory position of relative security to the members of most national unions. Meanwhile, to retain the support of their memberships, the national union officers would be forced to risk the increasing antagonism of the general public against the use of pressure tactics in time of war.

To avoid such disturbance to the war program, it seems necessary to apply immediately a vigorous program of taxes and savings in order to hold down the general price level. I believe that the rank and file of the wage earners of the country are ready to *accept* a vigorous tax program. But they or their leaders cannot be expected to *ask* for such a program.

It is my belief, after study of both the fiscal and industrial relations aspects of the problem, that the tax program should include, in addition to revised corporate and other taxes, a payroll or withholding tax on all employed persons, a part to be treated as an income tax, and a part to be treated as a deposit to the account of the individual taxpayer, returnable at the close of the war. I am convinced that we have come to the time to introduce compulsory savings. Yet we cannot promise to return all of the large sums we must take from wage earners to finance a long and costly war.

I have read with keen interest your comments on the democratic nature of voluntary savings. Voluntary habits of thrift are vital to a democratic way of life. I do not believe, however, that it is democratic to ask some wage earners to reduce sharply the living standards of their families in order to finance a war while other wage earners, ignoring the

request, use their full earnings to expand the buying pressure which raises prices for all. Would it not be more democratic to require every wage earner to contribute a fair basic share both in taxes and in loans and *then* encourage voluntary additions?

Most wage earners *do* want to help. But family men particularly have a difficult job in telling how far they should go in cutting expenditures for food, clothing, education, etc. for their children. At heart, the great majority would like to have their share determined by the government, not as a counsel of perfection in voluntary saving, but as an amount automatically deducted from their pay. This attitude parallels closely that shown in the case of company pension and insurance plans, trade union assessments, and in many similar programs in which wage earners participate.

Acknowledging my letter, Morgenthau indicated that my recommendations would receive careful study in connection with the current revision of taxes. Knowing Morgenthau's distaste for sudden changes, I sent a copy of the letter to Leon Henderson and found that he had been pressing for compulsory savings to help prevent rising prices. I also wrote Secretaries Perkins, Patterson, Forrestal, and General Somervel, Bill Harrison and Bob Nathan. To them, I emphasized the danger that excessive earnings would lead to increased absenteeism and a lowered pace of production. I followed up with a letter to Daniel Bell, the Undersecretary of the Treasury, citing a discussion with Jack Viner, a trusted adviser to the Treasury, on the advantages of annuity bonds as a means of absorbing excess earnings. I registered my concerns with Roy Blough, the Director of Tax Research in the Treasury. I strongly doubted the effectiveness of general income taxes or voluntary purchase of war savings certificates to do the job.

It is, of course, difficult to assess the effect of our repeated warnings on the unfortunate consequence of ex-

cess earnings on both work incentives and prices. With most policy issues faced in a time of sudden change, those who are led by caution prefer to rely upon the individual initiatives of the millions to solve the problem. Their argument is that there is no time to determine all the variables. If compulsion is used, the net effect in some situations may be adverse. For example, very high earnings may be necessary to attract workers to distant shipbuilding and aircraft centers where living conditions are both costly and unsatisfactory. On the other hand, high earnings because of long hours in a plant where one has worked for years may cause absenteeism. The cure in that case may be to train more people and cut back weekly hours to forty-eight. In retrospect, I am less sure now than in 1942 that a compulsory savings program was the right prescription. Perhaps the intense drive which was put into motion for the purchase of war savings certificates through payroll deductions did the job as well as possible without interfering with the massive migration of workers required in some industries and in some areas of the country. The social pressure to authorize deductions for savings certificates to finance the war, in many places, stopped just short of compulsion.

One of the most effective operations in developing expanded labor forces for war industry was the "Training within Industry" program established under OPM and WPB by Chan Dooley of what is now Mobil Oil Corporation and Walter Dietz of the Western Electric Company. Because Dooley and Dietz were charter members of the annual conferences of the Industrial Relations Section and drew heavily for their staff on other industrial relations executives cooperating with the Section, the Section was in close touch with the program during its early stages. The Section helped with the arrangements for a "District Training Specialist Conference" at Princeton in June 1942. The week-long sessions were conducted by the leaders in

the national program. The powers of proliferation of the TWI program on a voluntary basis by executives loaned by progressive companies was phenomenal. It showed what two highly able and dedicated leaders, Dooley and Dietz, supported by hundreds of professionally-minded men in the newly developed field of industrial relations, could do with but minimal governmental direction and overhead.

It had become evident by the fall of 1941 that a very important reservoir of additional workers for war production would be women. The Armed Forces were drawing off men from the civilian labor force at a steadily increasing rate. The British were moving women into war plants and many supporting and defense services with marked success. At the Section, Helen Baker was unusually fitted to study the problem by both research training and earlier experience as a personnel officer in a large department store. In October 1941 she had initiated a study of the employment of women in sixty-two companies, including both those normally using women and those employing them for the first time. A preliminary report was issued in February 1942.

With conditions changing rapidly, it seemed best to recheck the experience of the sixty-two companies and to study all other available material on the employment of women in war work in the United States and Great Britain. Helen Baker pressed hard to complete the report. It was published in May 1942, with the title *Women in War Industries.* The eighty-two-page report covered selection and placement, induction and training, hours of work, wage rates and wage policies, health and safety, and problems outside the plan. A thirteen-page selected, annotated bibliography provided the reader with more extensive treatment of each of the major topics, drawing heavily on British reports. The print order was for 4,000 copies.

The immediate distribution of the report to government

officials, cooperating companies, and the general press led to block orders and much correspondence. As the employment of women increased during 1942 and 1943, Helen Baker's advice was sought more and more by the specialists in the War Department. She reviewed a policy statement prepared for use by Army liaison officers issued in the early fall of 1942. She helped plan working conferences of government specialists and industrial executives in preparation for a major use of women workers in rapidly expanding war industries.

Meanwhile, during 1942, the Industrial Relations Section continued to issue a series of selected, annoted bibliographies on a range of acute problems in war industry. Besides repeated supplements to the general bibliography commenced before Pearl Harbor, special bibliographies were distributed on employment tests, the feeding of war workers, and medical services. Inquiries were answered with typewritten or mimeographed memoranda and bibliographies. Altogether, print orders for publications for 1942 totaled 34,500. While a great many were sent free to governmental officials and cooperating companies, charges for block and individual orders produced enough to pay for printing. The annual September conference was canceled because the Army had taken over the Graduate College. It would have been difficult to find time to plan the sessions or to make sure that key officials and executives could come to Princeton to lead them. Without the conference, all of us at the Section had more time to handle a mounting load of work as a clearinghouse of information and as consultants on specific problems.

Compared with the activities of the Section, my work as a consultant in the War Department is difficult to record. One never knew what problem would arise the next day. There were several persistent problems such as overcoming shortages of manpower in specific industries, setting optimum hours of work, preventing Selective Service

from crippling highly essential enterprises by drafting key personnel, deciding on the use of enlisted personnel for urgent civilian functions, making sure that War Department contractors followed reasonable policies concerning manpower utilization, and preventing overcontracting to hasten fulfillment of deliveries at the expense of wasted manpower.

The variety of problems can be illustrated by a particular manpower emergency. The Quartermaster General called our office in desperation: Would the Secretary of War get the Governor of Connecticut off his back and permit a number of small textile companies to allow women to work night shifts despite the restrictions of state laws and the adverse opinion of his Department of Labor? He explained the urgent need for the product. We called the Governor on behalf of the Secretary of War without going into details, but impressing on him that it was in the national interest in the war effort to make an exception in the particular situation. He agreed to do so. The explanation we did not give the Governor was that the plants were making millions of yards of sandfly netting for the North African campaign, which was to begin in November. The Quartermaster General had spread out over many smaller plants the orders for the massive quantity needed to avoid tipping off German Intelligence agents.

Mr. Dorr and I also handled manpower problems which cut across the different branches of the Armed Services and which were referred to the Office of the Secretary. A problem of this sort led to my first confrontation with the newly developing women's services of the Armed Forces. The West Coast airframe plants were turning more and more to women to expand their operations. Meanwhile, the WACS, the WAVES, and the Marine and Coast Guard units began recruiting drives outside the airframe plants because of the concentration of able-bodied young women

passing in and out. The aircraft managements complained to the War Department: Did we want women recruits more than we wanted planes? A high-level conference led to a decision to order the women's services to play down recruiting in aircraft centers. As the youngest member of the interdepartmental conference group, I was assigned the job of implementing the decision in as diplomatic a manner as possible.

The commanding officers of the four women's services were invited to a meeting in our office. I assured the four women of the high regard of the Secretaries of War and Navy for the contribution of their commands to the winning of the war. But we faced a desperate need to increase aircraft production. Would they therefore, until further notice, suspend their recruiting drives in designated aircraft centers? Captain MacAfee of the WAVES was very understanding. Colonel Hobby of the WAGS said nothing and appeared insulted. The others agreed. I was later congratulating myself on a delicate mission accomplished when Bill Somervel phoned to ask what I had said to Colonel Hobby. She had stormed into Somervel as her commanding officer, saying that a civilian named Brown had told her not to recruit women for *military* service because of work they were doing in aircraft plants. My explanation of the joint-service agreement quickly satisfied Somervel, but he said that we had to calm down Hobby. We agreed to invite her to lunch in the Secretary's dining room next day.

At lunch, after some general conversation, Somervel said, "Doug, what are you doing to my gals?" Since Hobby assumed that Generals carried more weight than Secretaries (or their representatives), she expected me to fold up in the face of a superior force. After my earnest explanation of the problem and the decision which had been reached, Somervel gradually appeared to see the reasonableness of our request. He turned to Hobby and said,

"Colonel, we can certainly go along with that!" Hobby looked glum but offered no objection. I think she had begun to sense that Somervel and I were putting on a prearranged act and that, somehow, I had more influence than my clothes suggested.

An important function of our office was to represent the War Department on the War Manpower Commission. In August, Undersecretary Patterson asked me to serve as Doris alternate at the weekly meetings of the Commission, attending all meetings with him or in his place to be sure that the War Department's concerns were presented. Later, the Undersecretary assumed membership on the Commission and I served as his alternate in the same way. The Chairman of the WMC was Paul McNutt, who made an imposing impression until one discovered that his command of manpower problems and policy was limited. He depended heavily on his staff and did not have the keenness of insight which I had found in Hillman or in the extremely able men I had come to know in the War Department. Neither Dorr nor Patterson were impressed by McNutt, but it was important to help the WMC develop an effective manpower program.

As the months passed in 1942 and 1943, it became ever clearer that the War Department and the WMC were two entirely different kinds of governmental organizations. The War Department had strong leadership and was accustomed to making clear-cut decisions with the full expectation that they would be implemented. The WMC was essentially a committee with a chairman more accustomed to deliberation than to making hard decisions. The War Department commanded respect not only on its military side, where long tradition enforced obedience to orders, but also on its procurement side because it had, through its billions of dollars in contracts, a powerful influence on American industry. Newly established, the WMC had to negotiate acceptance of its directives, since

it had neither millions of men nor billions of dollars under its control. In sum, it could be said that the Armed Services tended to assume the role of directing the war effort, both military and economic, while the WMC scurried about developing various programs of support. A national service act might have made a big difference, but many of us had come to believe that neither the WMC nor the country was ready for such a compulsory form of manpower control.

An interesting comparison of the operations of the War Department and the WMC emerged in the handling of the growing shortage of copper miners as war production mounted. General Somervel pleaded with the WMC to arrange for the importation of Mexicans to fill the vacuum. The request led to a mess of complications. Frustrated, the War Department ordered a screening out of copper miners in military training camps and sent 5,000 back to the mines on furlough. The operation was not entirely successful, however, because many of those sent drifted back to their military units. They had found soldiering a lot easier than hard-rock mining in places like Butte, Montana.

The many issues arising in the meetings of the WMC can be examined in the official records. They were often concerned with the detailed application of the policies already discussed. One particular problem warrants noting, since it illustrates the wide range of variables which affect policy in manning a great military force. It concerned the drafting of blacks in the South.

The War Department needed a far larger flow of draftees to fill out its land armies than the Navy needed to man its ships. Where Southern blacks were qualified by the minimum of education or skill needed to become combat soldiers, the War Department had developed the policy of assigning them as individuals to integrated units. Because of the limited schooling of blacks in some South-

em states, the Army became flooded with blacks who were not qualified for combat units without special preparation. It was politically inexpedient to use illiterate blacks in labor battalions on highly needed work such as railroad track maintenance. The War Department's problem in absorbing illiterate blacks was aggravated by the Navy's tradition of using blacks aboard ship only as stewards and not as seamen. Repeatedly in the WMC meetings we who represented the War Department insisted that the Navy change its personnel policies and take their share of draftees regardless of color. The governors of some of the Southern states were strenuously objecting to the disproportionate number of whites in draft calls. It was truly a problem for the WMC to solve. Only gradually did the Navy see the light.

As time passed, Mr. Dorr and I were increasingly disturbed by the lack of understanding of the military profession concerning national manpower policy in a major war. Secretary Stimson authorized me to visit West Point and discuss the need for coverage of the problems of a war economy in the curriculum of the Academy. I had an interesting two days with the Academic Board discussing the broadened role of the military in the assurance of adequate support by the total economy. The Army was learning fast that it had to reach back to the sources of production whether of tanks, guns, ball bearings, or copper. The Air Force, led by combat pilots, liked to leave to others the down-to-earth problems of accelerating plane production.

As a part of the immediate staff of the Secretary of War, Mr. Dorr and I had the advantage of a direct approach to the General Staff on problems concerned with combat personnel, and to General Somervel and his staff on problems concerned with the Services of Supply. Where difficulties arose in respect to procurement, we dealt with Undersecretary Patterson and with Jim Mitch-

ell, the Director of Civilian Personnel. It required an adjustment of one's art of presentation of ideas or recommendations according to the background of the person consulted. The generals in charge of G1 and G3 were imbued with military tradition and tended to discount the importance of nonmilitary factors in difficult situations. They were more used to dictating orders than to weighing many variables—economic, political, or psychological. The easiest way to get them to act was to mention that the Navy was about to move on the problem.

On the other hand, General Somervel and Undersecretary Patterson had quick and wide-ranging minds. My worry with Bill Somervel was that he might accept a recommendation without forcing me to prove my case. He was the fastest-thinking executive with whom I have ever dealt. I found, however, that if he had doubts he would say, "See Clay!" This meant a thoroughgoing discussion with General Lucius Clay, Somervel's deputy, who was not only an extremely able executive, but also an incisive critic of new ideas. Patterson, as an outstanding lawyer, was a blend of Somervel and Clay. His tremendous dedication to his wide-ranging mission and his insight into both military and civilian problems and approaches made him an ideal person with whom to weigh issues of policy. Patterson had no patience for half-measures or soft concessions to expediency.

One of the persistent problems in the development of large military forces is the best use of manpower of diverse levels of educational aptitude or attainment. I was particularly interested in learning about the relative effectiveness as officers of college graduates with ROTC training. We had received excellent reports on the effectiveness of ROTC graduates under the miserable conditions of combat on Attu and Kiska off the Alaska coast. Mr. Dorr and I and others became concerned whether the Army was wasting a very valuable source of officer material for a

long war by absorbing far too many younger college-level volunteers and draftees into the ranks of combat units, already formed, at the expense of an inadequate supply of officer material later on.

Studies of both British and German experience in World War I and World War II, thus far, had shown that a serious error had been made in using up officer material too fast in the earlier stages of combat. Young men qualified for leadership tended to join the Armed Forces early in a war, and the units first formed had more such personnel than there were positions in which their talents could be fully used. Later in the war, as units were formed largely of drafted personnel, the men who should lead them at the lower- and middle-commissioned ranks were already overseas serving as noncommissioned officers, if they were not already casualties.

To meet this problem, a major project began to take shape. American colleges were suffering from a lack of students. The War Department and the Navy Department needed to hold back a reserve of officer manpower. Would it not be possible to use the half-empty colleges as places where a sufficient reserve of selected potential officers could continue their education under military auspices and discipline until they were needed for specific officer training? The concept took shape rapidly. With the Army's great capacity for effective operations, the plan was soon implemented. Colonel Beukema, one of the ablest professors at West Point, was put in charge of planning the educational aspects of the program, which was given the name of the Army Specialized Training Program. Dorr and I were much involved in the original planning, but, as with most large enterprises, the administrators soon took over. As far as I was concerned, it was for the best, since in early November I became a casualty rather than a consultant.

On a weekend in early November 1942, I returned

home to Princeton in what seemed to be a normal state of weariness. Not feeling well, I stayed in bed Sunday morning. In the afternoon, I first fell unconscious and then became wildly delirious. Soon three doctors arrived, my older brother, the University medical director, and our family physician. The War Department sent down one of its top specialists from New York. The diagnosis was spinal meningitis. I was closing out a crucial year in a critical state. Unconscious for two days, it was the newly discovered Sulfa treatment that saved my life. For three weeks in the hospital and a month of convalescence, I was out of action. It seemed a peculiar coincidence that I had served for several weeks as a wardmaster of a spinal meningitis ward in France in the American Expeditionary Forces in 1917, just twenty-five years before.

V. SUSTAINING THE MOMENTUM, 1943

In January 1943, when I reassumed my split assignment with the War Department in Washington and the Industrial Relations Section at Princeton, I sensed a pervasive change in the kind of problems arising in the manning of the war effort. By the winter of 1942-43 the building of the administrative machinery to create a large fighting force and to produce the materiel to support it was nearing completion. The Armed Forces were doing a highly effective job in mobilizing and training millions of men and women. The Navy had recovered the initiative in the battles of the Coral Sea and Midway. The North African Campaign had tested the logistics and effectiveness of the Army. American industry had demonstrated its creative capacity in converting its operations to military production: negotiating contracts, designing new processes, constructing plants, manning them, and establishing vast flows of supplies and equipment to fill mounting requirements. With the logistical machinery in high gear, the job was to make sure that momentum could be sustained for a war of unknown duration and that there could be rapid adjustment to changing requirements or to unexpected bottlenecks. While economy in the use of all resources was essential, that in the use of manpower was vital.

It had become increasingly apparent that the Armed Forces, as the dispensers of contracts, were in a strategic position to assure the effective and economical use of manpower in war production. Various other agencies of the government, including the Department of Labor and the War Manpower Commission, sought to encourage sound manpower policies, but their influence was lessened because they were not involved in the letting of contracts and in the flow of production within a specific plant. The military officers assigned to expediting fulfillment of contracts were constant visitors in war plants. They consulted

with managements on all aspects of production. They represented an arm of government which could give or deny further contracts, question costs and inefficient operations, and expedite action by other government agencies when needed. Therefore, their suggestions for improvements in personnel and manning practices were more influential because they represented not alone the government, but the agency that financed the operation and used the product. In sum, the uniformed officers assigned to plants or areas could gain the role of consultants to management and not remain as representatives of outside regulatory or general service agencies.

Realizing both the opportunity and responsibility to oversee the effective use of manpower by its contractors, the War Department proceeded to build a staff of officers able to assist both its own procurement branches and their contractors on manpower problems. Jim Mitchell, the Director of Civilian Personnel under General Somervel, was assigned the job of building the program. Most of those appointed had had experience in industrial relations in larger companies. They were leavened by several of the labor economists formerly with the Priorities Branch of the Labor Division, WPB, who had had intensive experience in dealing with manpower problems during the period of conversion. Conferences were held in various parts of the country to discuss successful policies and practices, to consider specific problems and their solutions, and to determine how best to stimulate War Department contractors to use manpower effectively and economically under the conditions of a mounting war effort. Deeply convinced that such conferences were needed as a quick means of influencing industrial managements, it was a source of satisfaction to help Mitchell and his staff in planning them.

As the War Department moved into high gear in assisting its contractors on problems of manpower and labor

utilization, there was a pressing need for up-to-date information on successful experience in dealing with the wide spectrum of arising problems. Since the Industrial Relations Section had been acting as a clearinghouse on just such information since 1940, its publications were a valuable resource both in helping prepare liaison officers for their assignments and in providing them with concise, specialized reports to reinforce their oral advice and counsel to industrial executives. Thousands of copies of available reports were purchased by the Armed Services. Since I was both consultant to those in charge in the War Department and Director of the Section, it was possible to initiate studies on new problems as soon as the need for them became apparent.

The Section's most significant publication in 1943 grew out of such a need. The title of the report was *Maximum Utilization of Employed Manpower: A Check List of Company Practice.* It was prepared by the Director and the Assistant Director of the Section with the help of Dean Kenneth **H.** Condit of the School of Engineering at Princeton. It ran forty-six pages with a separately printed checklist of four pages. The report outlined the various causes of impaired productivity. The checklist paralleled the report and presented carefully designed questions to which an executive or supervisor could indicate one of three alternative responses. A check under "A" indicated "I consider present status on this point satisfactory"; under "B," "Improvement is needed, and plans are being discussed"; and under "C," "Improvement is needed, I recommend that some action be taken." Because of large and repeated orders from the War Department and other agencies, 17,000 copies of the report and checklist were printed.

The Foreword of the report explained its purpose.

> The following document is frankly an experiment. It has grown out of many conferences with industrial executives

and government officials on methods of assisting war industries in their efforts to assure maximum utilization of a declining labor supply. The conclusion was early reached that efficient labor utilization is the product of so many factors involved in both general and personnel management that a research report on the subject would be a volume of prodigious size. Further, it became increasingly clear that the remedies for most causes of under-utilization of employed labor are already available in the experience of American industry, and that the present need was for searching self-diagnosis to determine which remedies should be applied.

For these reasons, this document has taken the form of an outline listing in blunt terms a wide range of symptoms or ailments which are likely to accompany or cause under-utilization. Stated negatively, the main headings may appear discouraging. But the outline is intended to raise questions which are better raised and answered than overlooked in the welter of present-day problems. Fortunately for the state of mind of both the reader and the writer, most of the subheadings in the document outline positive steps, drawn from widespread company experience, which have proved successful remedies for the particular symptom or ailment. Space has permitted but few constructive suggestions, however, and for this reason a detailed bibliography is appended.

The main sections of the report dealt with losses in manpower potential due to managerial conditions, reduced productivity due to instability of work force, reduced productivity due to ineffective labor management, and reduced productivity due to subjective factors affecting the individual employee, both in plant and out of plant. A seven-page selected bibliography and a list of Section reports were included.

Maximum Utilization of Employed Manpower was a far cry from a conventional research report. It had condensed within it a distillation of findings, past and cur-

rent, on a wide range of problems. Further, by employing an approach of self-analysis, it avoided an air of dogmatism and encouraged concern and action. The checklist provided an agenda for liaison officers visiting plants. It was an experiment in interactive teaching when distributed among company executives.

As the war progressed, the need for more and larger aircraft seemed to increase at a geometric progression. This placed a great strain on the major aircraft companies on the West Coast as well as on the suppliers of engines and equipment throughout the country. The aircraft companies had expanded rapidly from a relatively small base and their managements did not have the mature experience of those in the older industries such as automobiles, chemicals, oil, and steel. It was also true that the Air Forces were combat-oriented and preferred to leave the servicing of contractors, once a design was determined, to the Army side of the War Department. As problems of manpower and its effective use mounted, the servicing of the aircraft industry became a hot issue within the War Department.

The crisis came when Undersecretary Patterson, who was legally responsible for the procurement functions of the entire War Department, called a meeting in his office of the higher command of the Air Forces. With several of us concerned with manpower problems sitting in, Patterson laid down the law that hereafter the Air Forces must build their own staff to provide effective liaison with their contractors. The Air Force moved rapidly to develop an experienced group of officers for in-plant advisory service on manpower supply and utilization problems.

The problems of the aircraft industry came to a head in the summer of 1943. The Boeing plant in Seattle had critical contracts and was falling seriously behind. Word came through that they were short 9,000 employees and had many industrial relations problems. Patterson called in

Jim Mitchell and me and told us that we had his entire support to go out to Seattle and do anything necessary to bring Boeing up to full production. He said that, if necessary, we could quietly pass the word that all other War Department contracts in Seattle would be curtailed unless Boeing got enough manpower.

In planning our attack on the problems at Boeing, Jim and I decided that it would be best to make a quick study of the aircraft plants in Los Angeles and San Diego in order to gain ideas and background for a thorough review of Boeing. With the help of the managements of Lockheed, Douglas, and Consolidated, we went through acres of assembly areas and discussed problems with those who dealt with them first-hand. It was a profitable experience. Our next stop was San Francisco to review the Kaiser shipbuilding operation at Richmond. There had been complaints that, in order to turn out ships rapidly, Kaiser was piling on manpower beyond the point of optimum effectiveness. In one of the hulls due for early launching, the crowd of skilled craftsmen and helpers was reminiscent of Times Square at rush hour. The Kaiser operations fell under the jurisdiction of the Maritime Commission, however, and we could not make a case that they were adversely affecting Boeing.

Arriving in Seattle, we set up shop in a downtown hotel in order to be able to meet with the War Department personnel already assigned to Boeing and also to keep in close touch with key people in Washington. Before making our presence known as direct representatives of Undersecretary Patterson, Jim and I thought it best to make an unofficial visit to the plant with a locally assigned liaison officer. Even before asking any questions of management, many unsatisfactory conditions were obvious: (1) the riveting floors were excessively noisy, (2) parking areas were inadequate and badly paved, (3) transportation for employees was bad, (4) eating facilities were in-

adequate, and (5) morale was poor. We picked up other leads for our discussions with the management which would open up even more serious shortcomings. Some would involve basic and costly changes.

In commencing our conferences with the Boeing management, we emphasized a cooperative approach: the War Department wanted to help them in every way within its power to meet their production schedule. To cut down the noise in the riveting areas, we proposed the elimination of the blast walls which had been installed by the Army Engineer Corps at the time of the Japanese attempt to land in Alaska, as a means of controlling bomb damage. If this suggestion was agreeable to the management, we would phone the Pentagon to have this done immediately. We believed that this would help cut down turnover, especially that of women workers, who complained bitterly about the noise reverberating from the walls.

We expressed our concern about the inadequate parking areas and offered to ask the Army Engineer Corps to help build additional areas immediately. We realized that many Boeing workers had to commute long distances, day and night, using their own cars.

We found, in discussing the matter with the Boeing management, that the reason for the bad situation in local transportation for employees was the shortage of buses in Seattle. The bus company claimed that it had to use its good buses on the runs down the steep hills to the Bremerton ferry to take care of the thousands of Navy Yard workers. The Boeing run was on the flat so that old reclaimed buses could be used. The company realized that the buses broke down frequently, were often delayed, and were an object of ridicule. Our countermove was to arrange through the Pentagon to have twenty new buses out of a shipment of forty en route to Los Angeles diverted to Seattle with the specification that they would be used on routes bringing workers to Boeing.

We strongly urged the immediate improvement of eating facilities with all the help the War Department could give in expediting the shipment of equipment. With many women workers drawn from their homes, both the women and their menfolk needed good meals at the plant on all shifts to make employment at Boeing attractive. Under wartime conditions, with round-the-clock operations, normal domestic arrangements were no longer viable. Morale was a complex matter, affected by any kind of inconvenience or hardship.

As discussions proceeded and more information was obtained, we got into Boeing's basic shortcomings in labor management. Jim and I decided that there was a critical need for leadership in this aspect of the business. There had been too much concern for the views of Dave Beck, the local labor boss. Company officers had permitted themselves to be tied up with elaborate procedures on grievances and safety administration. They were so much concerned with engineering that industrial relations was passive and mechanistic. We strongly recommended that a new vice president for industrial relations be brought in. We nominated a highly effective man from the East whom Jim and I knew well. The company took up the matter with Gordon Rentschler, then President of the National City Bank in New York, an important financial factor in Boeing. When Rentschler, a Princeton trustee, called me from New York, he was easily convinced that a change was necessary and the new man should be persuaded to come out to Seattle as soon as possible.

A basic need at Boeing was an improved pay scale. This we recommended. Since the War Department was paying the bills, higher pay was not too hard for Boeing to take. A somewhat more complicated matter was to increase the flow of manpower from the less industrial regions of the country to offset the growing shortage of labor in the Seattle area. It would be unfortunate if better wages and

working conditions at Boeing merely shifted shortages to other Seattle contractors. We asked the Boeing management what kind of workers they wanted. They strongly preferred those from the agricultural areas stretching from Minnesota west across the Dakotas and Montana. We arranged through Undersecretary Patterson to insist that the War Manpower Commission accelerate transfers from these states to Boeing. They had previously been sending people from the deep South, probably because they were easier to recruit and move.

After the many physical, managerial, and economic changes for the solution of Boeing's manpower problems were in train, Jim and I attempted to do what we could to create a psychological climate favorable to the recognition of Boeing as a key employer in the war effort. We discovered that the Air Forces had exhibited the famous "Memphis Belle," a B17 bomber built at Boeing, in many cities throughout the country for patriotic purposes but had failed to bring it to Seattle. It had just been retired in San Diego. Through Pentagon channels we got the Air Force to reassemble the crew, bring the plane to Seattle, and get all the publicity it could that the famous plane was coming home for public view. We also got the Air Force to supply movies of B17's in action to Seattle theaters and arrange for free tickets for Boeing workers and their families to attend such showings.

Our most subtle psychological gambit produced unexpected results. Based on Undersecretary Patterson's briefing for our assignment, we quietly let it be known that the War Department was so concerned to get Boeing up to full production that it would begin cutting back on other contracts in the Seattle area if sufficient manpower could not be obtained. In their anxiety, other employers apparently arranged for advertisements to be put in the local newspapers urging people to seek employment at Boeing.

In another indirect approach to get people to work for Boeing we were sunk without a trace. We had heard that the Bremerton Navy Yard had 4,000 men working on landing barges for later use in the Pacific campaign. Believing that B29's for Europe were more urgently needed than landing barges for a later stage in the Pacific phase of the war, we decided to try to convince the Admiral in charge at Bremerton to temper his demand for labor in order to permit Boeing to gain momentum.

When Jim and I arrived by ferry at Bremerton and were ushered into the Admiral's office, we sensed that we were strangers in a far land. As emissaries of the Undersecretary of War, we were treated with respect but without any assumption that our status carried more weight than that of other civilians in government. We stated our case—the urgency of getting an accelerated flow of B29's for the Air Force. The Admiral's answer was firm and not without some justification. The 4,000 men working on landing barges were a standby force kept ready to swarm on short notice aboard all types of naval vessels coming into Bremerton for urgent battle repairs and improved anti-aircraft armament. When ships bound for Bremerton were still many miles at sea, planes were sent out to photograph battle damage and deck layout. Equipment, materials, and skilled men were assembled to start repairs as soon as the ship docked. An important new development was the need for far more anti-aircraft gun emplacements throughout each ship to knock down Kamikaze planes before they could get close enough to cause serious damage. Since the arrival of ships could not be neatly scheduled and yet time out of service was critical, it seemed best to keep a sufficient force on standby assignment building landing barges. This used their skills in preparing the types of craft which the Army would need later in large numbers. There was not much for us to do but wish our sister service well in its endeavors.

When Jim and I flew back to Washington to report to Undersecretary Patterson, we had a feeling that we had done all we could to get Boeing moving to full production. The urgency of our mission became even more evident as the war moved on. The B29 bomber became a vital weapon. Its last war assignment was to carry the nuclear bombs which brought about the surrender of Japan.

In helping to get Boeing up to full production of B29 bombers, Jim Mitchell and I had, without knowing it, made a very peripheral contribution to a massive but highly secret program in which the War Department had become deeply involved—the atomic bomb. While cleared for dealing with top-secret information, it was my policy to avoid seeking to know any more about military plans or strategy than was relevant to problems of manpower in either military or industrial terms. Serving as alternate to Undersecretary Patterson, the War Department member of the War Manpower Commission, I attended the weekly meetings of the Commission whether he was present or not. Patterson was not impressed by McNutt and, as an energetic leader, he was often restless during the extended or irrelevant discussions which McNutt failed to control. Before a meeting of the Commission when Patterson would be absent, I was told to advise McNutt privately after the others had left that the War Department strongly urged him to insure that a project with the code name of "Manhattan District" received the highest priority possible in obtaining all the manpower it needed. I did not tell McNutt that it concerned vast and urgent efforts to produce an atomic bomb because I did not know what it was myself. All I knew was that it was of great importance and, as time passed, that it involved highly scientific personnel and operations.

As military operations expanded and a larger and larger flow of materiel was required, the pressure upon American industry and resources was by no means uniform. The

great need for more and larger aircraft, more tanks and ships, and improved rail transportation resulted in bottlenecks in production and specific shortages of manpower. It was difficult to anticipate just where shortages would occur since a final product or service needed by the military usually required a wide range of subsidiary parts, supplies, and primary resources as well as a full gamut of more or less skilled manpower to produce it. Under normal conditions with sufficient lead time, the subsidiary flows of essential materials, parts, and services become adjusted to the demand for the final product or service. In war time, bottlenecks were bound to develop when demand rose more rapidly than such adjustments could be made.

A typical bottleneck situation developed in the manufacture of ball bearings. At the same time that our strategic air forces were concentrating their bombing attacks on the German ball-bearing plants, American ball-bearing factories were failing to meet military needs. Largely located in the Connecticut Valley, the managements of the plants appeared to be slow in adjusting to new demands. The supply of specially qualified labor was inadequate. A shortage of ball bearings, if not remedied quickly, could affect a wide range of military items.

Another problem arose in foundries throughout the country. With many jobs available at higher wages, foundry workers were leaving the arduous and disagreeable work in foundries. Replacements were not easily obtained. The same shift from lower- to higher-paid jobs occurred on the railroads. Section hands, needed more than ever to maintain the Western trunk lines with the heavy movement of materiel to the West Coast, were leaving their jobs for better-paying jobs in nearby industrial centers. The copper mines of Montana were still short of experienced men accustomed to the tough and uncomfortable work in deep mines. Each problem area required special

treatment. The War Department was called upon to serve as the stimulus to catalyze remedial action by other federal agencies. In some cases it could use its own resources or authority, but it was limited in the use of military personnel for what were essentially civilian activities.

A persistent and frustrating problem was that of persuading the Selective Service Administration under General Hershey that in some cases the war effort would be advanced by *not* drafting men whose special skills or experience made them more valuable in industry than in the Armed Services. Selective Service procedures were highly decentralized under state and local boards, which were more sensitive to popular appeals for equity in sacrifice than to the claims of employers or the War Department for deferment of particular individuals who were highly essential to war production. To a local draft board made up of dedicated but ill-informed men and women, a young man without family and physically fit should be sent off to become a private in the Army even though he was a supervisor in a ball-bearing plant, a nuclear physicist, or a copper miner. Since quotas were local, the deferment of such young persons became a cause of bitter complaint in communities where older men or those with dependents would need to be drafted to offset such deferments. The problem was particularly acute in Selective Service areas with a number of strategic enterprises.

A vivid illustration of our problem in dealing with Selective Service developed in the manning of the Air Force research center at Langley Field, Virginia. To test out new or revised designs of fighter planes, it was necessary to make exact models of the planes, which would undergo elaborate examination of their behavior in air tunnels. Those in charge had found, in building up a staff of expert model builders, that young men in their late teens or early twenties who had developed the demanding skill of making plane models as a hobby were their prime

and almost exclusive source of manpower. But, time after time, the local Selective Service Board would draft the young model builder just when he had become expert. Conditions got so bad that the Langley Field Command reported that eight test pilots had been killed because, owing to the shortage of model builders, new designs had not been sufficiently tested as models in the air tunnels. Our office, on behalf of the Secretary of War, had beseeched General Hershey to direct the local and state boards to stop drafting model builders. In arguing with Hershey, we repeatedly got explanations of his limited authority and of his difficulty in correcting the situation in the face of the lack of appreciation of the problem on the part of citizen board members.

In such situations, our final step was to have the employer of the highly essential individual report to the War Department his name and special contribution. As soon as possible after his induction, the individual would be discharged on the grounds of superior national interest and sent back to the employer. It took a bit of doing in an army of millions to find the man and get orders through the various levels of command for his release. A complication in the process was that the War Department's procedure for release of critically needed persons had not been established by the Navy. The rather pious position of the Navy that no other duty was more essential than serving in the Navy was somewhat tainted by the practice of Navy yard commanders to make sure that any critically needed civilian facing induction would choose service in the Army, so that an appeal could be made to the War Department for his immediate release. I well remember the meeting of the Joint Army-Navy Personnel Board when General White, Army G-1, complained about the subterfuge. The Admiral chairing the meeting that day appeared to be ignorant of the practice but, on ask-

ing his colleagues if such a thing ever happened, was told with some embarrassment that it was "not unusual."

With the mounting pressure on manpower for both the Armed Services and war industry, the employment of women expanded rapidly. Helen Baker's report on *Women in War Industries,* published in May 1942, and described earlier, continued to be widely used by the War Department liaison officers. But, to find additional workers, many plants began to take advantage of part-time workers. These were often women who could not leave home for a full day's work. In June 1943 the Section published a further report, *The Use of Part-Time Workers in the War Effort* by Baker and Friedman. This forty-eight page study covered the use and possible extension of programs for part-time employment; recruitment and selection of such workers; induction and training; hours of work; wage rates and benefits; and conclusions on advantages, problems, and successful procedures. The last chapter summarized in nine pages of numbered propositions and supporting explanation the whole gamut of issues facing an employer embarking on the employment of part-time workers. The report was based upon returns from a large number of American companies and on British experience.

The reports of the Industrial Relations Section on utilization of manpower and on part-time workers were but a part of the work being done at Princeton in the mid-war period. In the academic year 1942-43, 22,000 publications were distributed to a carefully checked list of cooperating companies, government and trade union officers, scholars, librarians, and other professional persons, as well as sold on specific order. Proceeds from sales were more than sufficient to pay all printing and distribution costs. Instruction of undergraduates continued under accelerated arrangements. To lessen the burden of correspondence,

companies were encouraged to come to Princeton for information. The Librarian of the Section, Hazel Benjamin, was serving as a consultant in the selection of current publications for the London Library of the British Division of the Office of War Information and also as Chairman of the Committee of the Special Libraries Association, compiling sources of data on labor, employment, and wages. The Assistant Director, Helen Baker, despite heavy administrative and research responsibilities, was serving on the Planning Council of the Personnel Division of the American Management Association in its work with war industries. I was serving as Chairman of the Federal Advisory Council on Employment Security and of the Committee on Labor Market Research of the Social Science Research Council. Even in the midst of the war, it was necessary to keep in touch with the thinking of professional leaders outside of Princeton.

VI. THE SHIFT IN EMPHASIS TO POSTWAR ADJUSTMENTS, 1944-45

It had long been the policy of the Industrial Relations Section to concentrate its research and publications upon problems in its field which lay ahead rather than upon historical studies of past developments. With but a small, closely-knit professional staff and with excellent and extensive sources of information on current thinking in industry and government, the Section had a great comparative advantage in dealing with ideas and plans as compared to large accumulations of statistical evidence. Further, the qualitative analysis of new policies to meet new situations fitted nicely into the pattern of consultation, conferences, sustained intercommunication, and field visits which differentiated the Section from most other research agencies. Interest in attacking new problems before they became acute was not only the predisposition of the Director, but also of the other members of the Section's staff.

It was, therefore, understandable that early in 1944 the Section shifted its main emphasis from the mobilization of manpower for military production to preparations for the difficult readjustments involved in the transfer of manpower to normal, peacetime employment. Despite the fact that the D-day invasion of France did not come until June 1944, the major policies in respect to manning both the military forces and supporting industry were largely established. The continuing tasks were still difficult and demanding, but they were more in the province of administration than in policy development. In such administrative activity, effective line officers were far more useful than economic consultants. It was time for the latter to move on.

It proved easier to shift sights at Princeton than to with-

draw from activities in Washington. Planning for postwar demobilization still seemed far off to those in the War Department responsible for directing and supporting massive armed forces. In November 1943, at my suggestion, Bob Patterson had relieved me of the assignment of attending the weekly meetings of the War Manpower Commission as his alternate and had given the job to Jim Mitchell as head of the Industrial Personnel Division of the Army Service Forces. On the decreasing number of days in the office shared with Goldthwaite Dorr on Secretary Stimson's immediate staff, the issues which arose were mainly old issues arising in new circumstances.

The higher secretariat of the War Department never seemed to set aside their early belief that national service legislation to assure the adequate manning of war industry should parallel selective service legislation to assure the adequate manning of the Armed Forces. In retrospect, I believe that their predisposition for national service legislation grew out of their sense of equity. The civilian leaders in the War Department, including Stimson, Patterson, McCloy, Lovett, and Dorr, were lawyers, distinguished lawyers, with a deep regard for rights and obligations. They tended to emphasize what men *should* do more than what one, in a complex society, could *encourage* them to do without compulsion. Shortages of manpower in specific industries arising in 1944 and early 1945 caused the leadership of the War Department to renew its appeal for national service.

As the only labor economist on the Secretary of War's immediate staff, I felt that it was necessary on repeated occasions to express my opposition to the general consensus on national service legislation. The best summary of my arguments appear in a letter I wrote to Goldthwaite Dorr on February 1, 1945, after some months of face-to-face discussion:

> I am still deeply concerned in the question whether the War Department is correct in pushing so hard for national

> service legislation. There is a danger, I feel, that there will be a net loss rather than a net gain at this stage in applying compulsion to the whole area of employment in war industry. The productivity of labor within war plants is so tremendously important that I would hate to see it impaired in an effort to gain greater control over two or three hundred thousand persons for movement into specific vacancies. The assignment of a worker to a job is only the first step in securing production. From there on employment must be in fact a condition of mutual acceptance, else efficiency both on the part of the man placed and of his fellow workers may be seriously impaired. The atmosphere of compulsion may affect productivity adversely in far more places than where compulsion is exercised. American wage earners are very sensitive on this point and I believe that the trade unions and employers are correctly reflecting their attitude in questioning the advisability of compulsory service at this time. The word I get from Great Britain is not encouraging. I feel that we have done a better job than they have because, among other factors, we have not had compulsory service.
>
> It comes back again to the question of whether we are striving for equity as between individuals or whether we want increased production. National service legislation may give us the feeling that we have evened out sacrifice but we may have reduced productivity sufficiently to make the total sacrifice the greater. When it comes to the matter of productivity, I do hope that both the military and the secretariat at the War Department will give credence to the long experience and understanding of industrialists and trade union leaders. Among the wiser heads it is, I believe, definitely a conviction that the War Department will not get what it wants by national service. I have an increasing conviction that many employers are using shortage of manpower as a cover for other reasons for delayed deliveries.

Rather than national service as a means of controlling turnover in war plants, I urged that the working conditions in such plants be improved. Many employees had worked under pressure since 1942 without opportunity to offset accumulated fatigue by vacations or long weekends.

While earnings had been high, the need for rest was physical and psychological. As early as October 1944 I answered an inquiry from the staff director of a Congressional committee to the effect that vacations should be resumed:

> In my judgment, the pace of war production can be best sustained at this time by encouraging all employers on war work to resume a normal vacation policy. A great many war workers are tired, tense, and uncertain. Both quality and pace of work is apt to be affected and absenteeism and turnover increased if people are not given a chance to get away from the routine they have been following. Overtime pay has encouraged many people to work longer and harder than is best for them. This is probably more true of women than of men and more true of older persons, particularly women, than of younger persons.
>
> As the war progresses, we must look more and more to the annual production of the total labor force available and less to the daily production of a given plant. The conservation of our labor force both in terms of effectiveness and of numbers actually at work becomes increasingly important, cutbacks notwithstanding. The provision of vacations is important in maintaining the year-round effectiveness of labor just as the one day of rest in seven is necessary to maintain effectiveness in the shorter run.

As the European war came to its climax after D-day, the major concern of many temporary employees in war industry became their prospects for future employment as the war wound down. The lead time required early in the war from the letting of contracts to the delivery of materiel was greatly shortened as American industry adapted itself to military needs and specifications. This was particularly true for standard items which could be mass produced. With the filling of the pipelines and with greatly increased productive capacity available, it was to be expected that cutbacks would come when military forces

approached their peak. This was not true, however, with some major items such as aircraft, tanks, and ships, where heavy losses and changing specifications required a sustained flow of replacements. The result was that in some areas employees in plants facing cutbacks were laid off, while other plants were still short of manpower. It was not easy to transfer workers of diverse skills from plant to plant. The occurrence of layoffs in a community caused anxiety even among workers not likely to be affected for many months to come.

It was my position at the Pentagon that, since anxiety about future employment was bound to come, the job was to lessen its effects by improving working conditions in the plants which *would* continue to be under pressure and, at the same time, to plan as effectively as possible for a smooth transition from war to peacetime conditions in the distribution of *all* productive manpower. The restlessness caused by fatigue, staleness, and anxiety concerning the future could not be controlled by directives from Washington. It arose in men's minds and would affect their work even if the government required them to stay on a particular job. The best way to improve a psychological climate was to reduce the factors causing it. Fatigue and staleness could be offset by providing time for rest and recreation. To lessen anxiety concerning future employment, both for the temporary employee in war industry and the temporary member of the Armed Forces, the government should not only develop and test plans for the transition period but publicize the fact that such plans existed.

There was always the tendency in government to use arithmetic rather than an understanding of human psychology in the solution of problems affecting manpower. A consensus had been gained early in the war that six eight-hour days were the most for which workers could be employed in war industry with sustained effectiveness.

With shortages occurring in several spot situations in 1944, pressure developed to raise hours in some plants to six ten-hour days and thus obtain, it was argued, five-sixths as much productive effort with two-thirds the manpower. Fortunately, the War Department countered this overemphasis upon arithmetic by urging its contractors to study *all* aspects of the problem of effective utilization of labor. Information on experience elsewhere and consultation by liaison officers were available to them. They should then determine what arrangement of hours and shifts was appropriate to the particular conditions which existed in their plant and community. The placing of hours worked within the context of a general industrial relations approach indicated that the widespread distribution by the War Department of the Section's report on the *Maximum Utilization of Employed Manpower* had had some influence within the Pentagon.

By 1944 the War Department had built a sufficient staff of officers with industrial relations and manpower experience to handle recurrent problems on the basis of policies already hammered out. It had become evident that printed reports were effective in reinforcing these policies by bringing into focus the widespread experience upon which the policies were based. What was now needed were reports upon which policies for solving the problems of postwar readjustments could be based. The War Department was still too deeply concerned with the successful completion of a two-continent war to be the best place to study postwar readjustments. Most of the material for such a study would need come from industry and other branches of government. The Industrial Relations Section at Princeton was well prepared to collect and analyze information and experience on postwar adjustments, since many of its cooperating companies were already deeply concerned about the problems ahead.

The last in the long series of Section reports dealing

with wartime problems was prepared in the latter part of 1943 and published in February 1944. Its title, *Employee Counseling: A Survey of a New Development in Personnel Relations,* indicated that it was a product of wartime conditions. The employment of millions of women in the war effort had been a special concern of Helen Baker, the Assistant Director. There was already some evidence that the proportion of women in the labor force would permanently be greater after the war than before. It seemed desirable not only to collect and evaluate plans for helping women and other new employees to adjust to work in war industry while the war continued, but also to determine how far this new industrial relations activity would be justified under peacetime conditions.

The report on employee counseling covered the growth and aims of counseling both before and during the war, the duties of counselors, the place of a counseling program in company organization, the development of a counseling staff, and the factors to be considered by an employer in deciding whether to set up a program. The text of the report ran fifty-nine pages, with five additional pages of selected references. More than 10,000 copies were distributed, including quantity orders from various government agencies.

The general conclusions of the report were that, despite the contribution of such programs under wartime conditions when millions of women and other workers new to industrial employment needed help, managements generally would return after the war to the policy that effective supervision incorporated the function of counseling to the extent normally needed or justified. It was suggested that wartime experiments might put greater emphasis upon human relations throughout management and supervision but that counseling as a specialized activity might become a community service with which an employer could cooperate.

The first problem the Section studied in the planning of the transition from war to peace was one of the most troublesome. As Director I was involved in discussions in Washington and believed that the Section could help. There had developed an unfortunate confusion of the concepts of "seniority" and "security" on the part of officials with little understanding of the history and consequences of rigidly enforced seniority rules. General Hershey, interpreting the Selective Service Act in a manner he believed to be favorable to veterans, developed a notion of "absolute seniority" which went far beyond the concept of relative rights based upon accumulated service which had grown up in industry. It was questionable whether the veteran group as a whole under Hershey's interpretation would gain as much in security as the wage earners they displaced would lose. His position was challenged by industry and increasingly by the War Department and other agencies which were concerned with a smooth transition. Not only should there be proper recognition of the rights of employees with accumulated service with a company or while on military leave from a company but relative competency must be given weight if industry were to be efficient and provide the greatest possible number of jobs.

Since Frederick Harbison had made a study of seniority policies which the Section had published in 1941, he seemed to be the logical person to supplement that study by a new report on "Seniority Problems during Demobilization and Reconversion." His findings were published in August 1944 in a twenty-nine page report of which over 5,000 were distributed.

By November 1944 the Section had completed a comprehensive study of the problems which lay ahead for American industry when many millions of men and women would return to their normal peacetime occupations. The report then issued was intended to serve company executives already engaged in planning postwar ad-

justments in manning and the many others who were postponing too long the consideration of the host of basic issues that were bound to arise. Helen Baker had, over many months, carried the major responsibility for the study, with the help of George Baldwin, a World War II veteran. To define its content clearly, the report bore the lengthy title, *The Readjustment of Manpower in Industry during the Transition from War to Peace:* An *Analysis of Policies and Programs.* The text was proportionately long, covering 112 pages, with a detailed table of contents running four pages. The findings were based primarily upon the experience of eighty-eight representative companies, obtained by correspondence and field interviews. It is true that the companies selected for study were those which had cooperated with the Section for many years and which, in most cases, had well-developed industrial relations departments. The purpose of the Section was to marshal the best thinking available, not to measure across-the-board progress.

The Foreword of the report sought to state as clearly and vigorously as possible the challenge American industrial leadership faced in planning and implementing a smooth transition to peace—for the sake of the long-run health of their companies as well as of the country in general:

> The reallocation of the manpower of America from the tasks of war to those of peace may well prove to be the most challenging problem of personnel administration which the industry of this country has ever faced. Unlike the building of temporary wartime forces, employment and reemployment as the war ends will affect both men and management for many years to come. Mistakes will be less excused by the demand for speed and may become long continuing costs to the company rather than short-run items under government contracts. Unlike the housewife and many others who turned to industry in the war period, the veteran

will be seeking a permanent job in which he can use his capacities to best advantage. While the men returning from the armed services will, taken as a whole, constitute the finest body of manpower the world has ever seen, many will come back with handicaps in body and mind that only the most careful placement will compensate.

The successful solution of this difficult problem will arise from sustained and intelligent planning, stimulated but not confused by the emotions of a demobilization period. We will be engaged in the task long after the first flush of patriotic fervor has subsided. The reemployment of veterans in peacetime industry will be accomplished only if industry can operate effectively, profitably, and continuously. To do this, three great groups of workers must again be merged into an integrated team;—the men and women who stayed put in our plants, offices, stores and utilities, the returning veterans, and the workers who moved to temporary war jobs. Total war has required the contribution of all three groups. Total and lasting victory, if this means the continuance and enhancement of the American way of life and the assurance of a stable world economy, will likewise require the services of all three groups.

The report was divided into three major parts: the organization and extent of company planning for postwar manpower readjustments, transitional adjustments in the present labor force, and the employment and reemployment of veterans. As would be expected, the most important determinant of the extent of company-wide planning was found to be the personal interest of the chief executive. In other cases, the initiative had been taken by the chief personnel officer. The study indicated again the key role of individual leadership in American industry in the face of new conditions and change. Staff studies could analyze detailed issues in policies and programs, but the decision to attack the total problem was that of leadership. This seemed to be a further justification of the Section's policy of aiming its reports primarily at senior executives,

but of providing sufficient material to help those to whom the chief executive delegated the responsibility for the planning and implementation of policy. The whole problem of postwar readjustment was a test of the maturity of company management. Companies which entered the war with effective planning and coordination of policies were not overwhelmed by the need to sustain the pace of war production while, at the same time, preparing for contract terminations. It was the Section's job to transfer ideas and techniques from companies which took change in their stride to those which had mushroomed during the war.

The wide range of problems covered in the report can be suggested by some of the section headings: policies in regard to key personnel, reduction of hours of work, planning of layoffs, and downgrading of production workers. The problems of the employment and reemployment of veterans were covered in detail, including the sticky issues of seniority, induction procedures for returning veterans, and the placement of handicapped veterans. A checklist of major items of policy was included. Throughout, citations of company policies already determined were given as illustrations of possible directives. No selected references were included in the report, since a 26-page bibliography had been issued in June 1944. The latter was expanded into a 45-page selected, annotated bibliography issued in March 1945. Altogether, over 8,000 copies of the report and the two bibliographies were distributed in 1944 and 1945.

With this major report on postwar manpower readjustments, the Industrial Relations Section shifted its research programs to the continuing problems of labor relations in time of peace. From 1940 to 1945, the Section had published approximately 135,000 copies of twenty or more reports and annotated bibliographies directly related to wartime problems. The distribution of these publications was focused on responsible participants in the war effort,

including company executives, government officials, and trade union officers. The response to the Section's contribution to policy formation in meeting many kinds of problems could be illustrated by numerous communications, but it seems sufficient to include a letter from Robert P. Patterson, Undersecretary of War, who was as close to the center of responsibility for the effective logistical support of the war effort as anyone in Washington.

WAR DEPARTMENT
OFFICE OF THE UNDER SECRETARY
Washington, D.C.

June 26, 1944

Mr. Harold W. Dodds
President
Princeton University
Princeton, New Jersey

Dear Mr. Dodds:

I have been particularly interested in the manpower and labor aspects of the production program because of the tremendous importance of that single factor.

Recently, in reviewing the developments along this front with members of my staff who are concerned in this phase of the operation, both with regard to the internal personnel management of the military establishment and the industrial relations of the immediate contractors and suppliers of the War Department, I was struck by the almost unanimous opinion that their efforts were greatly aided by publications issuing from your University, particularly, from the Industrial Relations Section of the Department of Economics and Social Institutions. In both these phases of our industrial relations activity, the pamphlet "Maximum Utilization of Manpower" has received wide distribution and has been of inestimable value. Within our own installations, two items in particular, "Use of Part Time Workers in the War Effort," and "Employee Counselling," have been of great aid in shaping the thinking of personnel administration.

I would like, therefore, to express to you the gratitude of the War Department for the contribution made by your University to its production effort through this series of publications.

Sincerely,

Robert P. Patterson
Under Secretary of War

In September 1944 the Section resumed its long series of fall conferences at the Graduate College which had been interrupted in 1942 and 1943 because of War Department use of the college buildings. The regular five-day "Conference Course" for senior industrial relations executives was preceded by a smaller "Seminar Course" for younger officers held during the previous week. The Seminar was limited to twenty-five registrants in order to encourage free discussion. The faculty of the Seminar included university professors from Chicago, Columbia, Duke, Michigan, and Princeton, senior executives from seven companies, the research director of the American Federation of Labor, and the labor editor of *Business Week*. The subjects discussed included the economics of industrial relations, group relations, and personnel administration. It provided the members of the Seminar with an intensive grounding for a professional career in industrial relations under the guidance of outstanding leaders in the field, both academic and industrial.

The main "Conference Course," the twelfth in a series which commenced in 1931, was centered on the problems of readjustment from war to peace. In the nineteen sessions, the major issues in reconversion and in planning for the future were thoroughly discussed under the leadership of the best men available throughout the country. From the universities, there were Sumner Slichter of Harvard, Leo Wolman of Columbia, William Haber of Michigan, Canby Balderston of Pennsylvania, Harry Shulman of

Yale Law School, and Ed Witte of Wisconsin. From industry, the faculty included G. 0. Andrews of DuPont, Cy Ching of U.S. Rubber, Orlo Crissey and Dr. Selby of General Motors, R. H. Daisley of Eaton Manufacturing, Walter Dietz of Western Electric, Chan Dooley of Socony-Vacuum, Tim Graham of Goodrich, Troy Wakefield of International Harvester, and Bill Winans of Union Carbide. Others who led sessions were Ralph Bard, Undersecretary of the Navy; Arthur Bunker, Deputy Executive Vice Chairman, War Production Board; General Hershey, Director, Selective Service System; Ordway Tead of Harpers, and Walter Couper of the Industrial Relations Counselors. To represent the point of view of organized labor, Emil Rieve, General President of the Textile Workers and Vice President of the Congress of Industrial Organizations, spoke to the Conference. Those invited to attend the Conference were the senior industrial relations executives of companies cooperating in the year-round work of the Section. Altogether, the Conference group represented 127 companies employing over four million workers.

Coming at a time of critical change in company planning, the 1944 sessions were as lively and rewarding as those in any previous conference. With many participants returning to the Graduate College after three years of strenuous involvement in the war effort, the Conference was a pleasant and rewarding reunion of men responsible for industrial relations policy in major American companies. As in previous years, the Graduate College provided a quiet academic environment apart from the pressures of company offices or Washington. The discussions encouraged the free interchange of experience and a mutual critique of ideas and policies made possible by closed informal sessions. As time passed, it was rewarding to learn of the impact of the Conference on company policies. The academic participants profited by exposure to free-wheeling questioning by those for whom industrial relations

was a practical art. The Industrial Relations Section gained new insights in its study of the problems of postwar readjustments. A valuable by-product was the reinforcement of the rapport between the Section and its cooperating companies.

The shift in emphasis from wartime to postwar problems in the Section's activities in 1944 was not only in the areas of research, publications, consulting, and conferences. For many years, the Section had been operating on the income from a $360,000 endowment provided by John D. Rockefeller, Jr., and John D. Rockefeller III. Princeton University had paid the Director's salary and furnished makeshift working space in the old Pyne Library. It now seems impossible that a small staff in crowded quarters could have accomplished as much as it did in the war years. In 1944 it had become clear that the operations of the Section had outstripped its available budget and facilities. Relief from the latter restraint was in prospect, since the University was already planning a new library building. It behooved the Section to put in its bid for enlarged quarters in the new structure. But even more pressing was the job of at least doubling the Section's endowment.

The Section was fortunate in having built up an active cooperative relationship with many of the largest and best-managed companies in the country. In discussions with Harold Dodds, the President of the University, and John D. Rockefeller III, it was agreed that the Section should ask the companies which had for two decades been helped by the Section to provide the additional endowment funds. Because of the need to avoid dependence on current financing in an area fraught with diverse views, it was decided to seek endowment grants only, with the schedule of amounts requested of each company carefully related to its size and use of the Section's services. Also, to maintain balance, the leading national unions

with which the Section had cooperated for many years would be asked to provide appropriate endowment grants.

After a careful study of the best prospects and the preparation of a full statement of the Section's purposes and activities, the campaign for additional endowment went into operation in May 1944. During the following year, over $300,000 was obtained from 36 companies. Continuing the campaign in low gear thereafter, the Section had, by 1952, received $528,000 from 79 corporations and eight national unions as well as an additional gift of $60,000 from John D. Rockefeller III. By then the Section's endowment had reached $1 million. Invested in the University's equity investment pool over many years, the present market value of the endowment is now approximately $5 million.

For me as Director of the Industrial Relations Section, 1945, the final year of World War II, was a crowded time. Although trips to Washington were sharply reduced, correspondence continued with former colleagues in the War Department, the War Manpower Commission, the Department of Labor, and elsewhere. The activities of the Section in both research and fund raising required much attention, along with resumed teaching assignments. In April, the Trustees of the University decided that the Section did not require all my time and appointed me Dean of the Faculty, effective July 1946. Meanwhile, I was to understudy Dean Root, who would then retire, and also help plan the conferences which would open Princeton's Bicentennial Year.

Following V-E Day on May 4, 1945, my last job for the War Department was to help plan a "Senior Officers Staff Course on European Affairs," which was held at Princeton throughout the summer to prepare a group of twenty-eight full colonels for responsible posts in military government. V-J Day came September 2, 1945, just six years and one day after the Germans invaded Poland. It had been

a long war! For both the Section and its Director, it had been a strenuous but exciting period. To make university research an effective resource in the winning of a war had been a deeply rewarding experience.

VII. CONCLUSIONS THIRTY YEARS LATER

WHEN, after thirty years, one reviews an intense and fast-moving experience in making university research a useful resource in the determination of national policy, several conclusions become clear. Such conclusions must, of course, be related to the general area of policy involved, in this case, policy in respect to the use, enhancement, motivation, and security of the human resources of the country. It is an area where a host of variables must be resolved into judgment and where wise anticipation of human response is more critical than abstract analysis. The following conclusions are tentative because conditions are bound to change over time. They may, however, be useful premises for discussion of the relations of universities with governments and other organizations active in the area.

1. The most precious attribute of university research in assisting in the determination of policy is the freedom of the members of a university research unit to preserve their independence. In a field in which big government, big industry, and big unions promote conformity within their own organizations and exercise powerful persuasion upon those who would influence policy, independence is a critical source of strength.

2. With independence and an earned reputation for seeking truth rather than support for a predetermined position, a university research unit can develop sources of information, opinion, and advice beyond those available to either government bureaucracies or other parties of interest.

3. To develop such sources, a university research unit must build two-way channels of intercommunication by providing information as well as receiving it and by expressing judgments as well as seeking advice both within the national academic community and with the outside world.

4. To be effective in aiding governments, corporations, or trade unions in policy determination, a university research unit cannot retreat into the academic tradition of scholarly reports or treatises, but must interpret findings in the language of those who can apply them. Written reports should be lucid and concise. Oral discussions should employ the best arts of exposition.

5. In the broad field of human relations, there is no substitute for first-hand exposure to the people, the places, and the conditions involved in any issue. Extensive field study and discussion with interested persons are necessary to understanding the complex attitudes and responses which must be recognized in effective policy.

6. Since policies affecting people involve many variables, it is necessary to be inclusive rather than exclusive in the process of weighing the elements which should be considered in coming to a decision. An aid in that process is the interchange of views among a research group rather than dependence upon a single expert, no matter how experienced.

7. Unlike that of the single professor working alone, the product of a university research unit is a part of the flow of findings which are supported by the reputation of the unit for quality and integrity. For this reason, the development of findings should involve group consultation.

8. The communication of judgments reached by a university research unit is greatly enhanced by a continuing interchange with the leaders who can implement such judgments. No matter how wise the judgment, its impact on government, corporations, or trade union officials is affected by mutual respect and understanding between the leader and the university representative. For this reason, repeated visits, attendance at conferences, and cor-

respondence are valuable supports in building channels between the university and those it seeks to assist.

9. The field of industrial relations is too broad to be encompassed in a single academic discipline. An advantage of a research unit within a university is that it can draw upon talent and ideas throughout the whole spectrum of related fields. A policy issue does not fall neatly into economics but may involve insights from the whole body of social studies.

10. A final conclusion: debate concerning the function of university research will never end. For some scholars, the discovery of truth is an end in itself. For others, equally dedicated, truth in some fields is too precious to be permitted to remain within libraries. For them, the implementation of our slowly expanding wisdom concerning how people can best work together is the final goal of their search for truth. It is the genius of the modern university that it supports diverse talents and diverse purposes.

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