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Economic Recovery Following Disaster: A Selected, Annotated Bibliography

Geraldine Petty, Lilita Dzirkals, Margaret Krahenbuhl



A Report prepared for

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

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Collects and abstracts literature describing reconstruction efforts following major peacetime and wartime disasters, with emphasis on recovery from war-produced generalized disaster in highly industrialized societies, particularly since 1939. Soviet reconstruction literature is analyzed, and abstracts of both Russian- and English-language materials are presented. Another section deals with German and Austrian recovery experiences following World War II, and includes abstracts of both German- and English-language sources. Material on Belgium, Europe, France, Japan, The Netherlands, Poland, and the United Kingdom is also cited. Literature on a hypothetical disaster (nuclear attack) and on natural disaster is examined, as well as general works and behavioral studies related to various types of disaster. ~~Author~~ Index. (BG)

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PREFACE

This selected, annotated bibliography of literature describing reconstruction efforts following major peacetime and wartime disasters was developed under contract with the Defense Advanced Research Projects Agency. The bulk of the Rand study was devoted to locating and abstracting the source materials described in the report. A modest effort was made to identify major themes emerging from the disaster and recovery situations, with special attention given to the Soviet Union, Austria, and Germany.

This material should be of value to U.S. government agencies responsible for force employment options, civil defense, industrial preparedness, general economic recovery plans, and disaster assistance operations.

The authors are individually responsible for various sections of the report. Geraldine Petty organized the report and compiled and produced most of the abstracts (other than those of the Russian- and German-language material), including the expanded abstract of publications by the United Nations Relief and Rehabilitation Administration describing the Polish food situation. Lilita Dzirka wrote the introductory essay on the Soviet Union and abstracted the Russian-language material. Margaret Krahenbuhl wrote the introductory essay on Austria and Germany and reviewed and abstracted the German-language literature.

The authors received helpful information and direction from, among others, James Buchanan of the Defense Civil Preparedness Agency, Charles Fritz of the National Academy of Sciences, Ugo Morelli of the Federal Disaster Assistance Agency, James Pettee of the Federal Preparedness Agency, Abner Sachs of Science Applications, Inc., and Jack Hirshleifer of the University of California at Los Angeles.

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I. INTRODUCTION

In selecting the titles and areas to receive special attention in this bibliography, major emphasis was placed on recovery from war-produced generalized disaster in highly industrialized societies, particularly since 1939. Thus, Sec. II represents the core of the report, beginning with an analytical study of Soviet recovery literature, followed by abstracts of both Russian- and English-language materials. Second, recovery studies on Austria and Germany are examined, together with abstracts of pertinent titles. Next, we abstracted, but did not analyze, publications on the following areas: Belgium, Europe, France, Japan, The Netherlands, Poland, and the United Kingdom.

Among the above, Poland stands apart as primarily an agricultural country. In this case, we have included an expanded abstract of United Nations Relief and Rehabilitation Administration (UNRRA) reports on Poland that illustrate a classic case of the destruction of a traditional food supply system in a society only a little above the subsistence level and of the role of external assistance in this context.

Section III presents abstracts on a hypothetical disaster (nuclear attack); Sec. IV, on natural disaster; and Sec. V, on disaster-related behavioral studies and general works on the subject of societies experiencing abnormal stress.

Only a modest effort has been made to identify major themes emerging from the disaster and recovery situations. Recurring themes include the importance of such unpredictable events as unusually cold winters and drought; the second-order effects of hunger on economic activity; the handicaps peculiar to democratic regimes in coping with inflation; and the effects on the economic development of the receiving nations of monitoring requirements attached to outside aid.

It is clear from the literature that the Soviets in recent years have concentrated on recovery lessons learned from their postwar experience. This is of particular interest because the West has turned from World War II experience to hypothetical war studies. In contrast

with the Soviet Union, the other countries surveyed did not yield references to similar assessments of postwar recovery activities. In 1973 a German writer stated that he had found very little of a comprehensive nature on economic recovery during the period between 1945 and 1948 in the German literature.

It should be stressed that this bibliography was not intended to be exhaustive. The normal time and money constraints did not allow coverage of periodicals in the section on Germany, nor of economic journals in the section on the USSR.

The bibliographic resources explored include relevant studies published by The Rand Corporation, computerized listings provided by the Defense Documentation Center (DDC), the catalogs and holdings at the University Research Library of the University of California at Los Angeles (UCLA), the Rand library, the Hoover Institution on War, Revolution, and Peace at Stanford University, the Army Library in the Pentagon, and the private collection of Professor Jack Hirshleifer of UCLA, who is the author of several studies of recovery following disaster.

We have indicated at the end of some of the citations the DDC acquisition number (AD number), notes on the availability of the publication in the Army Library in the Pentagon, or the letters "NTIS" for studies that can be obtained from the Department of Commerce's National Technical Information Service.

II. WAR-PRODUCED DISASTER: HISTORICAL

A. UNION OF SOVIET SOCIALIST REPUBLICS

1. War Recovery Studies in the USSR

This section extracts information on recovery policies from Soviet literature on industrial and agricultural recovery during and after World War II. The bibliography itself (pp. 26-46) also includes some of the major and most recent literature on economic recovery following the 1917 revolution and the ensuing civil war.

Although limited to historical literature, the bibliography provides an informative sample of publicly available Soviet views on the subject of economic recovery. Soviet comment in economics journals, on civil defense, or on natural disasters very likely contains additional relevant material.

The summary material here presented discusses the extent to which the Soviets appear to understand the requirements of successful recovery, and notes some Soviet writings indicating that particular lessons of the past have been incorporated into current Soviet economic planning.

GENERAL SURVEY OF SOVIET RECONSTRUCTION LITERATURE

Substantial Soviet reports exist on both industrial and agricultural reconstruction. The latter particularly examine reconstitution of kolkhoz or cooperative farm production, while the industrial literature focuses on the reconstruction of important heavy industry complexes, such as the central and southern coal, electric power, and metallurgy regions (Donets Basin, Stalingrad, etc.). An extensive body of literature deals with the problem of industrial labor force supply, surveying the effectiveness of the different procedures resorted to, first to secure the necessary numbers of workers and then to create the skills needed for heavy industry. Several works examine the problem of food supply for the urban populace during World War II and the post-Revolutionary period. Port and transport reconstruction as well

as financing and financial management of major recovery efforts have also been examined. One large volume reports on the massive relocation of industrial and agricultural equipment and manpower undertaken in July 1941 and continuing through October 1942.

Almost all of the works listed in this bibliography have been published since 1960. Soviet literature dealing with various aspects of World War II recovery has appeared throughout the postwar period, but Soviet scholars now frankly appraise the earlier works as being of limited scope and relatively low quality. Recent Soviet works on recovery have attempted to correct some of the deficiencies characterizing their earlier open research, namely:

- Earlier unavailability of official statistics on the World War II recovery effort in recaptured territories is now redressed by researchers' access to central government records.
- Attempts are made at a critical and factually substantiated reexamination of long-held official views on the efficacy of certain aspects of World War II recovery policies, particularly in agricultural reconstruction and ferrous metallurgy.
- A newly published analysis of the industrial recovery "process" on a national scale depicts distinct recovery stages, characterized by correspondingly different policies, in both the wartime and postwar periods.
- There are recent signs of interest in post-Revolutionary recovery (namely, works on the reconstruction of the Donets Basin and the ferrous metallurgy industry of the Urals in the early 1920s), which has been cited as an instructive comparison to the World War II recovery program in light of the basic differences in recovery policy.
- It has been recommended that a similar comparative look be taken at reconstruction processes in capitalist systems; however, no such Soviet works were uncovered. Also, Soviet claims that they applied lessons learned from their past recovery experience when assisting North Korea and North Vietnam in industrial reconstruction have apparently not been elaborated in published accounts.

PAST LESSONS AND CURRENT PLANNING

The persistence of Soviet research interest in World War II recovery contrasts with the apparent waning of Western effort in this field, as indicated by the minimal output of Western literature on World War II recovery since the end of the 1950s.

It is true that Soviet research in this field as in others had to await the removal of the more extreme Stalin-era barriers to academic investigation. For one, the impact of the wartime destruction was far from fully acknowledged in the propaganda-saturated encomia of the regime, glorifying its wartime and postwar achievements. For the first time, in 1961 Khrushchev publicly acknowledged that the population losses of the Soviets in World War II amounted to 20 million people, or one-tenth of the Soviet population on the eve of the war. This far exceeded the earlier estimates, such as the 7 million mentioned in an early postwar speech by Stalin. The release of data and the resulting broadened realization of what the war had done to the USSR in real terms likely account for much of the motivation underlying the Soviet effort of retrospective reevaluation of their recovery experience. At the same time, it appears that their continuing and increasingly sophisticated research on recovery is not due merely to academic interest. It is stimulated also by a practical interest in providing historical perspectives on problems pertinent to current defense policy planning in its broader, political-economic aspects. Thus, the policy currently pursued in structuring the national economy of the USSR appears to be motivated by an awareness of the lessons regarding economic recovery and wartime societal viability gained in the near-catastrophic ordeal of World War II. This is most notable in the development of new territorial-industrial complexes in the East, the North, and Soviet Central Asia. Here, Soviet plans call for an admittedly costly integrated development of these regional complexes of energy and heavy industries in a way that would ensure horizontal integration as well as stable agricultural and skilled manpower supplies.* Some Western analysts

* See "Basic Guidelines for the Development of the USSR National Economy in 1976-1980," adopted by the 25th CPSU Congress and published in *Pravda*, March 7, 1976; Academician N. Nekrasov, Chairman of the

have already argued that the regional delimitation of Soviet economic development regions is best explained by military rather than economic considerations.*

Gosplan and USSR Academy of Sciences figures have proposed establishing a new branch of economic science, "regional economics," which would specifically focus on the "siting strategy of national-economic structures." Such proposals call for developing a theoretical framework for current and projected regional economic development and a cadre of specially trained experts in modern cybernetics to implement these policies. The novel aspect of the "new" economics branch is said to be its future-oriented and comprehensive approach to the national economy as a whole, particularly the "strategic regionalization" of economic structures, which may not necessarily be based on the presence of local sources of raw materials but would use the expanded opportunities afforded by modern transport and technology. A metallurgy plant in the Vologda province north of Moscow is cited as an example. Such decisions are said to be a departure from the existing reliance in planning on economic geography studies, which project economic possibilities on the basis of resources inherent in the region.† It would be the province of the new science of regional economics to elaborate the theoretical aspects of a coordinated process of "the planned and centralized siting of production forces on the scale of

Council for Studies of the Productive Forces under the USSR State Planning Committee (Gosplan), "Key Projects: Changing the Map of Industry," *Soviet Life*, No. 9, September 1976, pp. 6-8; and "Eastern Regions of the USSR in the Tenth Five-Year Plan," *Problemy Dal'nego Vostoka*, No. 1, 1976, pp. 3-19, translated in JPRS L/5959, *Problems of the Far East*, No. 1, 1976, pp. 1-20.

* See the paper by Vsevolod Holubnychy in Andrew F. Burghardt (ed.), *Development Regions in the Soviet Union, Eastern Europe, and Canada*, Frederick A. Praeger, Inc., New York, 1975.

† See the policy-level review and recommendation of Academician N. Nekrasov's book, *Regional'naiia ekonomika (teoriia, problemy, metody)* [Regional Economy: Theory, Problems, and Methods], "Ekonomika," Moscow, 1975, by Academician A. Rumiantsev in *Kommunist*, No. 1, January 1976, pp. 48-52. See also the report on a Moscow conference on improving the coordination of branch and territorial aspects of national-economic management in *Planovoe khoziaistvo*, No. 11, November 1975, pp. 152-154, abstracted in *The Current Digest of the Soviet Press*, Vol. XXVIII, No. 23, p. 17.

the entire country and the plan-defined development of the economy and culture of economic regions." The proposal was aired and endorsed by the CPSU Central Committee journal *Kommunist*, which claimed that it was approved by prominent Soviet academicians and planning institute experts.*

The new thrusts of Soviet economic strategy reflect a number of key lessons highlighted in Soviet accounts of their economic viability and recovery during World War II. Above all, the development of new economic regions and territorial-production complexes dispersed throughout the country would permit the Soviets to avoid the dual difficulty besetting them in World War II: the concentration of production and population centers in the western USSR and the absence of established infrastructures elsewhere permitting the operation of evacuated industrial plants. Although much of the Soviet production capacity was salvaged and dispersed by means of evacuation to the East in the first stages of the German-Soviet war, it still could not promptly resume production because the recipient locations did not have the necessary infrastructures to accommodate the new capacity, that is, energy, transport, resources, auxiliary industries, manpower, food supply, and housing for plant as well as labor. The established hinterland production potential was strained to the limit with war production orders, leaving no ready production reserve to supply the industrial equipment needed to sustain the reconstruction effort in the regained territories. Needs for basic industrial production machinery could be met only with difficulty and considerable delay, and in some key sectors led to a critical dependence on foreign imports. The relocated production capacity depended on the labor force evacuated along with it. This left few reserves of experienced labor that could be assigned to the reconstruction and resumption of industrial production in the regained western territories. The resultant shortage of skilled labor for industrial construction and production at times seriously hampered the reconstruction effort.

* See the editorial report on readers' responses to the Nekrasov and Rumiantsev proposals in *Kommunist*, No. 10, July 1976, pp. 60-64.

To a considerable extent, the problem of assuring a skilled labor pool throughout the country is addressed by the mass-scale training program carried on by the All-Union Voluntary Society for Assisting Army, Air Force, and Navy (DOSAAF). Besides military training of youths, this organization, estimated to have a membership of 80 million persons, also trains people in "technical professions that have military significance." These have included "drivers, electrical engineers, radio and telegraph operators, landing craft operators, pilots, motorcyclists, machine operators, and welders."*

MAJOR HISTORICAL WORKS ON RECOVERY

This discussion and the annotations to the bibliography entries can indicate only sketchily the data and analysis supplied by the Soviet literature. The material has lacunae typical of Soviet writings. It eschews discussion of central aspects of the problem directly related to current defense planning; that is, the literature does not evaluate Soviet practices of hardening industrial potential, relocating it underground, etc. But it nevertheless supplies original information useful for forming assessments of Soviet strategic strengths and vulnerabilities.

The following summary presents some conclusions regarding Soviet World War II *intrawar* industrial recovery that are advanced in the comprehensive 1973 volume on Soviet industrial recovery during 1942-1950 by Iu. A. Prikhod'ko. Notably more sophisticated than earlier Soviet works, the Prikhod'ko study divides the Soviet wartime recovery process into distinct successive stages according to the scope and rates of recovery. The changing military, strategic, and economic situation of the USSR constitutes the determinative variable, defining the availability of resources and hence, the reconstruction opportunities and policies of the different periods.

As is to be expected, the Soviet author lauds the Soviet recovery achievement, claiming that its scope and rates of recuperation are unsurpassed in world history, which, if true, could possibly have some

*"Vospityvat' patriotov" [Training Patriots], *Kommunist Tadzhikistana*, July 18, 1976. See also Herbert Goldhamer, *The Soviet Soldier*, Crane, Russak & Company, New York, 1975, pp. 56-57.

general implications for morale and attitudes toward recovery. Overall, the author presents a comprehensive and reasonably analytical account of the historical Soviet experience, basing it on extensive research and statistical data obtained from government archives. Frequently, he relies on statistical illustrations to cryptically communicate to the reader contentious but salient points that he apparently was too cautious to elaborate on in detail, yet considered indispensable for an evaluation of the full implications of the recovery experience. This cautious striving for objectivity is reflected in his handling of such ideologically sensitive issues as the role of external assistance at key periods of Soviet recovery and the persistent difficulties that plagued the reconstruction of key heavy industry branches due to the continual neglect of food and light industry at all stages of the recovery process.

The Prikhod'ko study refrains from relating the lessons of historical experience to possible future contingencies. Its formal claims for practical present-day relevance identify only:

the cadre of experienced builders formed during these years, capable of solving the most complex technical tasks, finding bold engineering solutions and overcoming difficulties arising from the lack or shortage of different equipment and materials. . . . Novel technological methods . . . industrialization of construction . . . new materials and various substitutes. . . .

Additionally it notes that the lessons of the World War II experience were used by Soviet specialists assisting the economic reconstruction of North Korea and North Vietnam in the 1950s and 1960s.

The usefulness of this particular Prikhod'ko study for current Soviet planning, however, goes beyond these meager claims because of its comprehensive concept of industrial recovery, and its careful delineation of the economic, social, and organizational factors that either assisted or impeded successful recovery from the major disaster that World War II inflicted on the Soviet Union.

For a Western reader, the study serves to indicate the extent to which the Soviets appreciate the complex of elements necessary for viable recovery. The major elements it depicts as crucial are corroborated by

other substantive Soviet works on intrawar industrial recovery. It can be assumed that this coincidence of emphasis identifies modern Soviet perceptions of the critical key variables in recovery.

Thus, Prikhod'ko's depiction of the evacuation of Soviet industry and manpower to the hinterlands as providing an unsatisfactory base for recovery mirrors the conclusions of the 1966 volume on the evacuation, *Eshelony idut na vostok*. The urgent recovery problem of the availability of skilled industrial labor highlighted in Prikhod'ko is reflected in the relatively high proportion of works on the problem of obtaining and training industrial labor cadre found in Soviet materials on recovery. The wartime priorities of energy and heavy industries are reflected in the preoccupation of the Soviet literature with the recovery history of the coal, electric power, and ferrous metallurgy complexes of the Donets Basin and Stalingrad (Emchenko, 1961; Liushin, 1963; Pavlov, 1967; *Dneprovskie ogni*, 1976; also Kurdiunova, 1976, in the 1920s section of this bibliography, p. 45), heavy industry in general (Mavrodi, 1962; Khavin, 1963; Seniavskii and Khlusov, 1965), and ferrous metallurgy in particular (Kazantsev, 1976; also Golubtsev, 1975, in the 1920s section).

The Prikhod'ko study describes the grim wartime shortages of food and housing that hampered reconstruction work. Two volumes examine in relative detail Soviet wartime measures to ensure the necessary provisions for urban populations (Cherniavskii, 1964; Liubimov, 1968), and two recent articles deal with the experience of the Revolutionary period (Pol'skii, 1974; Strizhkov, 1974). The works of I. M. Volkov (1967, 1972) and Iu. V. Arutiunian (1963) contain detailed and forceful criticisms of the neglect and abuse of Soviet agriculture during wartime and postwar recovery, demonstrating that the policy of concentrating exclusively on the reconstruction of heavy industry branches caused recurrent setbacks in the recovery programs.

EXTENT OF DAMAGE AND RECOVERY RATES

The majority of the Soviet studies focus on industrial reconstruction in the territories that had undergone German occupation and the frontline regions subjected to direct war action. These included Moscow,

Leningrad, and the cities of the central industrial region. Together, these areas contributed 70 percent of the USSR's prewar gross industrial output. The direct economic loss incurred in German-occupied areas is estimated as two-thirds of the value of their national wealth or total capital stock. (According to Soviet estimates, the total loss suffered by the Soviet Union in World War II amounted to 30 percent of its total national wealth.) While the total population of the regained territories was diminished by 37 percent, the labor force was reduced by 83 percent.

Upon regaining the territories, the Soviet reconstruction program had to start from a production base that had been drastically ravaged by the combined disasters of war action, Soviet dismantling and evacuation of industrial plants to the eastern hinterlands, and planned destruction by the German occupiers. In the territories that the Soviets had regained by April 1943, only 19 percent of the prewar industrial plants were operational, and only 24 percent of the labor force was still in the area. In late 1943, when the Donets Basin was recaptured, the total capacity of the Ukraine's electric power installations amounted to 0.4 percent of the prewar capacity; its cast iron, steel, rolled metals, and coal output was almost zero. Machine-building was nil. This extensive damage was due to the planned, systematic destruction of industrial potential by the occupying Germans. Reconstruction efforts were assumed immediately, and it is claimed that successfully reconstructed plants were soon active in supplying the needs of the front. Even in 1943, the industry of the regained territories in general is deemed to have been an "important part of the war economy," which was probably true in a relative sense, because the Soviet war economy at that time was still far from adequate for the war effort. The production capacity of the eastern regions did not start to meet the needs of the military until the end of 1943, and in the meantime any supplies from the reconstructed plants in the regained territories could have been of critical importance.*

* In 1942, Soviet gross industrial production was 77 percent of 1940, and this included war production, which now dominated the key branches of industry. For example, the share of war production in the

An approximate idea of Soviet wartime industrial recovery rates can be obtained from the statistics and tables provided in the Prikhod'ko study. The tables are not presented in a systematic fashion but do afford comparisons between the gross outputs of key industrial branches in the regained territories in 1940 and at different wartime periods. Statistics in the text often supply good overall indications of recovery progress. Thus, in December 1944, when the Soviet wartime reconstruction effort was in full swing and all Soviet territory had been recaptured, the gross industrial production of the regained territories amounted to 21 percent of its 1940 level, with the gross production of its aircraft industry "averaging" 26 percent of the 1940 level during 1944. Most of the recovery gains were made in 1944: Gross industrial output (regained territories) in 1944 is valued at 8.3 billion rubles compared with 2.7 billion rubles in 1943. At the end of the war, the reconstructed electric power installations supplied 31.1 percent of the prewar capacity. In June 1945, the daily production of the coal mines of the Donets Basin was 39 percent of the prewar output. By October 1945 the capacity of the Ukraine's machine-building plants amounted to 44 percent of the prewar level. The production capacity of the Ukraine's light industry is said to have been restored to 30 percent of its prewar level by the end of the war.

Overall, during the war years 1942-1945, the Soviets claim to have reinstated 30 percent of all destroyed production capacity. The "prolonged and difficult work of recreating workers' collectives" resulted in returning the industrial labor force to 47.7 percent of its 1940 level. In the Ukraine, it reached 50 percent, with the republic's construction work force at 161 percent of the prewar level. The special attention given to reinstating production in this key industrial republic is reflected in the rapid recovery rate of its labor force. While in 1943, the total working population of the Ukraine was 3 percent of the 1940 level, in 1944 it had risen to 53 percent, and in 1945 to 70 percent.

electro-technical industry was 24 percent in 1940, but had risen to 75 percent in 1942; while the production of rolled ferrous metals in 1942 had decreased 58.8 percent from the 1940 level, the share consumed by the war industry had increased from 14 to 70 percent. It was not until 1944 that Soviet gross industrial output first exceeded its prewar level.

ENDORSEMENT OF RECOVERY PRIORITIES AND THE ROLE OF
INDUSTRIAL IMPORTS DURING WORLD WAR II

The wartime reconstruction programs concentrated on rebuilding heavy industry and transport. During the entire wartime period, 19.7 billion rubles were allocated to industrial reconstruction, of which only 1.263 billion went to the food industry. Total industrial recovery allocations far exceeded those for transport, which totaled 9 billion rubles. Investment in agriculture totaled a disproportionately low 4.1 billion rubles. In 1943, when the Soviets had already regained parts of the German-occupied territories, the disparities of investment were even more pronounced. Over 85 percent of the total allocations for industrial recovery that year went to coal, ferrous metallurgy, military, and electric power industries; that is, of 1.4 billion rubles, these industrial branches received 1.2 billion, while light and food industries were allocated about 200 million rubles. However, the latter allocation was largely spent on the forced reconstruction of local plants producing construction materials.

Reinstating the damaged energy sources was of necessity the first reconstruction priority in local as well as regional projects. Coal and electric power had to be restored to meet the urgent needs of the war effort and transport, and also to make possible any further reconstruction. The historical parallel of 1917 is pointedly recalled, when coal shortages or "energy crises" threatened the USSR with economic catastrophe. By the end of 1941, the energy shortage in the coal-reliant industry and transport of the central USSR was extremely acute, since the occupied and damaged Donets and Moscow coal basins had supplied nine-tenths of the region's energy needs. Eastern coal basins were unable to fill the gap, because their output barely met the requirements of the Urals and Siberian industrial complexes. Moreover, east-west transport arteries were overloaded with military cargo.

To reconstruct the energy industry, supplies of its specialized equipment and machinery had to be secured first. Prikhod'ko's account trenchantly dramatizes the critical difficulties that plagued Soviet intrawar recovery because of the lack of production potential in the interior for energy industry equipment. Located primarily in the south, the Soviet mining machinery industry had been severely damaged by war

and occupation. Yet, determined reconstruction effort restored the South's production of mining equipment to 83.7 percent of its prewar level by July 1945. The major intermediate solutions were imported and Lend Lease supplies of mining machinery and conversion of other heavy machine-building plants to mining equipment production. Heavy equipment for electric power installations, such as turbines, generators, and boilers, had to be reconstructed largely by relying on make-shift repairs initially and novel repair techniques subsequently. Entire units or parts were simply requisitioned from installations elsewhere in the USSR. Starting with the second half of 1944, imports from abroad supplied equipment that was not produced in the USSR, or only "in insignificant quantities." For instance, by May 1, 1944, Soviet imports of electric motors from Great Britain amounted to almost 50 percent of their own production in the first half of 1944.

The ferrous metallurgy industry of the South remained a constant top reconstruction priority and, in fact, received "special attention" as "the branch largely determining the development rates of the war industry as well as the national economy as a whole." From almost the very beginning of the war, reconstruction of the ferrous metallurgy industry occupied a central place in the concerns of the Soviet government because of its vital importance for the war effort. Special government orders as early as May 1942 directed experts from the USSR Academy of Sciences and the Coal Ministry to begin detailed plans for the reconstruction of the Donbass ferrous metallurgy industry and its support industries: coal, coking, and electric power. (Donbass was regained from the Germans in September 1943.) From the start, military representatives were actively involved in the management and supply of its reconstruction. The priority emphasis on the industry was carried over into the postwar recovery period. In November 1944, a special decree of the State Defense Committee ordered nationwide assistance to "comprehensive forcing of the reconstruction work on ferrous metallurgy plants in the South" as a "matter of first-rank state importance." Research interest in the recovery of ferrous metallurgy remains high even at present, as indicated by the 1975 and 1976 studies examining ferrous metallurgy reconstruction in the post-Revolutionary period and

the 1976 critique (Kazantsev) of Prikhod'ko's account as insufficient and overly sanguine regarding the recuperation progress of the industry.

Chemical industry plants also received prompt attention in reconstruction because of their importance in the production of explosives. In 1945, chemical industry production in the regained territories was restored to 23 percent of its prewar level.

It is asserted that machine-building is correctly termed the "core of industry" and that

Its production is needed always and by all, especially in wartime. Therefore, it was natural to strive to do everything possible to set up the speediest output of that production which at any given moment was most needed by the front and the rear of the country, and not just simply start up the leading plants.

Reconstruction of the machine-building industry of the European USSR had to start from an almost totally demolished base because its plants had generally been fully dismantled and evacuated to the East to become part of the war industry. An expedient solution was conversion of plant production; for example, locomotive-building plants were converted to the production of metallurgy and mining equipment. Exception was made to a very strict policy by permitting reevacuation of machinery and equipment for metallurgy and heavy machine-building industries; this started as early as 1943. Again, the detrimental aspects of evacuation are noted: The repeated transit caused damage and loss of parts of the heavy, complex stock; because of its specialized nature, most of this equipment had not been used in the eastern sites.

The Prikhod'ko studies clearly indicate that machinery import played a vital role in the wartime recovery of the machine-building industry. In 1943, the once-important machine-building industry of the Ukraine did not produce a single metal-cutting tool. In 1940, the territories to be occupied by the Germans had produced 12,423 of these, accounting for 21.2 percent of the total national production of metal-cutting tools. However, import and Lend Lease more than made up for the loss of the Soviets' own production; in 1944, the Soviets obtained through these sources 18,600 machine tools, or 48 percent of their own

production. Altogether, 44,600 machine tools were obtained from abroad during the war.

Although it is claimed that "all" machine-building plants of the heavy and coal-mining industries had reinstated operations by the end of the war, the production figures supplied for selected segments indicate a very meager rate of production recovery. The production of some of these segments, particularly machinery for the energy industries, was temporarily replaced by imports from the West. There is no such explicit indication in the case of metallurgy equipment, and the statistics provided in the study indicate a very low rate of production recovery.

The 1940 output of machinery and equipment for the metallurgy industry by the German-occupied industrial centers of the Ukraine and western Russia had represented 72.5 percent of its total national output and totaled 17,400 tons. In 1944, the output of metallurgy equipment in the regained territories totaled 1847 tons, or 20 percent of the national output at the time. The total wartime production of metallurgy equipment in the regained territories was 2400 tons.*

Low production in the machine-building industry is partially explained by the fact that much of its capacity was converted to repairs of military ordnance.

Transport recovery was another priority area where imports played a significant role. The statistics provided in the Soviet sources indicate that rolling stock was replenished largely by imports. By

* Prikhod'ko indicates a high *postwar* recuperation rate in the production of metallurgy equipment. In 1946, its production in the regained territories totaled 14,500 tons or 43.8 percent of the national production at the time. This is represented as 107 percent of the 1940 production and 176 percent of the 1945 production in these regions. It should be pointed out, however, that Prikhod'ko's figures are flawed either by typographical error, miscalculation, or use of obsolescent data. The 1940 figure is represented in the table on p. 72 as 17.4 *million* tons of equipment; even correcting this to *thousands* of tons does not reconcile the figure with the claim on p. 181 that the 1946 production of 14,500 tons represented 107 percent of the prewar level. Here, one has to recall again the criticism of Prikhod'ko in Kazantsev (1976) for exaggerating the recovery rate of ferrous metallurgy. In fairness, it should also be pointed out that Prikhod'ko derives the 1940 calculations from government archive materials and the 1946 figures from various open sources.

the end of the war, the Soviets had restored 76 percent of all damaged railroad track. Lend Lease and imports supplied locomotives and rolling stock in relatively large numbers during the war: 1860 and 11,300, respectively.* By comparison, in 1940, the regained territories had produced 106 locomotives (11.5 percent of the national production). The diversion of some locomotive plants to heavy machine-building was noted above. It appears that, when necessary, road building was quickly done by mobilizing the local population by the thousands for round-the-clock work. Import of vehicles was substantial: 401,400 trucks* were obtained from abroad, of which a large share was assigned to the regained territories.

A number of works listed in the bibliography deal specifically with transport (Edlinskii, 1963; Golushko, 1976; Kumanev, 1965; Liushin, 1963; Nesterova and Medvedeva 1976). The suggestion in *Eshelony idut na vostok* (1966) that study be made of the role of automotive and air transport in the 1941-1942 evacuation quite likely is prompted by current interests rather than rich past experience.

Uniformly throughout the Soviet literature, the supply of skilled industrial and construction labor figures as almost the paramount requirement for recovery. To recreate the dispersed and decimated labor force was a "lengthy and difficult" task, and every aspect of it appears to have been examined in great detail, especially various labor draft and training practices and, above all, the versatile use of the national youth organization, Komsomol.

MAIN PROBLEMS ENCOUNTERED IN RECOVERY

The Soviet studies reviewed offer concrete detail on a host of problems that generally plagued Soviet wartime recovery efforts. Some of these are outlined briefly below.

The availability of construction crews, both in numbers and, more important, by industrial specialization, determined whether meaningful reconstruction could be undertaken at all and on what scale. It was not until mid-1943 that some construction crews could be transferred

*The Prihod'ko text does not make it clear whether these figures are for 1944 alone or for the entire wartime period.

from the East, where they had been setting up defense plants. Even then in Stalingrad alone there was a reported shortage of construction labor of 36,000 workers. Military construction engineer units were often called in for initial reconstruction of rail and electric power installations.

Until the end of the war, lack of construction materials precluded reconstruction of many industrial plants. Obtaining financing and resources to implement the high-investment reconstruction plans decreed by the state was a constant problem, requiring such solutions as *shestvo* (patronage or sponsorship by plants elsewhere in the country, which included material assistance) and national fund-raising campaigns.

Because war production was taking up nearly all operating industrial capacity, possibilities for obtaining civilian heavy industrial equipment for plants under construction were extremely limited. The 30 percent share of civilian equipment in the 1945 heavy industry production plan is assessed as insufficient. There was no rear or reserve industry that could be engaged for this purpose, because eastern industry did not meet even the military's needs until the end of 1943.

Food and light industries were almost totally neglected in allocations for reconstruction, and it is noted that, together with oil products, provisions constituted almost 50 percent of all Lend Lease supplies received.

As noted, skilled industrial labor remained scarce throughout wartime recovery. In 1944, reconstruction efforts in the Ukraine threatened to come to a halt because of the lack of labor: In Kiev and Kharkov, industrial labor was only 5 percent and 9 percent of the 1940 level, respectively. While masses of women and youth were commandeered into factory and mine work, their productivity was low; even where mechanized equipment could be obtained in significant amounts, factories could not approximate normal production rates. Various on-the-job training methods perceptibly increased the productivity of youthful workers, but maintaining the requisite morale and discipline of this labor force is said to have required a massive propaganda effort. Tens of thousands of party and local government cadre had to be sent into the regained territories undergoing recovery to sustain

the productivity of the labor force. The skilled industrial labor force that had been evacuated to the East along with the dismantled factories could be retrieved only with difficulty and with the intervention of the highest state authorities, because the industries operating in the East used every excuse to refuse giving up any of their skilled workers. Eventually, exemption from military draft had to be declared for priority reconstruction areas, such as the Donets Basin.

PARTICULAR MEASURES THAT FACILITATED RECOVERY EFFORT
AND THE VIEWS REGARDING IMPORTS

A number of specific practical measures^{*} are highlighted as especially helpful to implement prompt and efficient reconstruction.

A major one is timely reconstruction planning to produce plans that accord with the priority needs of the war economy as well as the longer-range projections for production and modernization of the industrial plant to be reconstructed. Timely preparations are also necessary to ensure procurement of the necessary management cadre and equipment. During World War II, rosters of Soviet management teams to be sent to the reconstruction sites were prepared in advance under the active control of the Party's Central Committee. In Stalingrad province, the management team sent in at the end of 1943 numbered 100 people. The centralized control exercised by the Party's Central Committee and the State Planning Committee over key management and chief engineer positions made it possible to order the reevacuation of such individuals from industries in the interior. Specialized training for this cadre was important. Courses for recovery construction specialists were instituted in April 1944, with the initial literature appearing in 1943-1944.

Both planning and the actual reconstruction were facilitated when design plans of installations and industrial plant complexes had been salvaged. However, the sheer bulk of these documents caused problems

^{*}We note in passing that the recovery literature renders the customary generous tribute to the advantages of the Soviet socialist system, which afforded centralized control over all national economic resources by the State Defense Committee (GKO).

with transport and storage, and in most cases they were simply left behind.

Some improvised solutions to the dire shortage of industrial machinery and equipment for the plants under reconstruction are also noted in the literature. These included government-decreed wartime stockpiling of industrial equipment to be available for the foreseeable reconstruction program in the regained territories. A national census of all idle and uninstalled industrial equipment was completed by the Central Statistical Administration in November 1943, and the data were used in assigning equipment for plants under reconstruction. Presumably, transport problems as well as resistance by the proprietor plants precluded the full use of these resources. By May 1, 1944, less than one-tenth of this equipment had been sent to the regained territories. Another solution was to convert major machine-building plants to the production of scarce machinery most needed at the time.

The Soviets acknowledge that imported and Lend Lease supplies of industrial machinery and equipment were substantial and critical for reinstating the machine-building industries of the regained territories. Two basic conclusions regarding imports recur in the literature:

1. Wartime imports did provide supplies of scarce equipment and materials that were critical both for sustaining the war effort and for creating the foundations for reconstruction.
2. Imports represented only a small part of Soviet gross industrial product. At the same time they engendered a dependency on foreign suppliers who then could control delivery times, costs, and the very availability of critical supplies. This aspect is elaborated more forcefully in Prikhod'ko's 1973 account of postwar reconstruction, where he asserts that U.S. cancellation of Lend Lease as well as its successful pressure on Great Britain and also neutral countries, like Sweden, to stop exports to the USSR, required serious revision of Soviet plans for economic recovery and development.

According to the Soviets, imports of equipment first became significant in the period between the fall of 1943 (after the decisive defeat of the German forces at Kursk) and October 1944 (when the Soviets regained all their occupied territories). The United States, Great Britain, and Canada supplied scarce energy, machine-tool, mining, and construction equipment, which was assigned to the major plants of the defense, coal, machine-building, and "certain other" industries. It is noted that imports supplied a very limited number of plants and, moreover, arrived with great delays. The "negative aspects connected with import," including "frequent" refusal to deliver "necessary equipment," are frequently referred to when discussing the increase in imports at the end of 1944. The United States in particular is singled out for its refusal to deliver (under Lend Lease) equipment needed for the reconstruction of synthetic fiber plants. The effort to depict imports as having constituted only a small percentage of Soviet gross industrial product, although they were most critical for recovery, could be interpreted as retrospective criticism of overall Soviet production planning. It is cryptically noted that the bulk of imports consisted of armament, strategic materials (among wartime imports were 517,500 tons of nonferrous metals), and provisions.

Warning that imported equipment can create a costly (in terms of foreign exchange and time) technological dependency on foreign specialists and parts suppliers would appear to be the purpose of writings that portray Western firms in the role of extortionists, deliberately procrastinating whenever the Soviets tried to secure foreign expertise or parts supplies.

Among practical measures for coping with the labor problem, the multifold functions of the national youth organization, Komosol, are particularly noted. This organization quickly recruited and delivered large contingents of youths for work at the reconstruction sites. Its members also scouted the country in search of needed machinery and parts, and served as controllers in industrial plants charged with production for the reconstruction effort. Effective labor training programs evolved during the war, constituting in aggregate a "system of labor reserves" that relied on trade schools and on-the-job training.

The importance of novel techniques that permitted radical savings in labor, skills, and time in reconstructing industrial installations is also underscored in the literature.

SOME GENERAL OBSERVATIONS ON RECOVERY

The *periodization* of Soviet wartime industrial reconstruction presented in the works of Prikhod'ko is of substantial interest. It attempts to define the principal parameters of what is possible and what should be done in view of constraints of damage and resource availability that characterize the distinct periods. In effect, four models for wartime industrial recovery policies are provided:

1. For the extreme situation when successful enemy surprise attack and extensive damage preclude recovery assistance by other regions of the country, or major reconstruction is infeasible because of expected further damage.
2. For a military and economic situation permitting limited, nationally assisted capital reconstruction of damaged industrial potential.
3. For a situation where extensive capital reconstruction of damaged industrial potential is possible because of availability of resources, including imports, and where long-term recovery planning for the entire affected territory is feasible.
4. For a situation where the approaching successful outcome of the war permits full-scale capital reconstruction of damaged industrial potential that incorporates industrial modernization and reconversion to the projected peacetime needs.

Additional general Soviet perceptions regarding recovery are of further interest. The importance of prompt, even though severely constrained recovery effort for sustaining popular morale and belief in victory is noted. The need to ensure that the war economy has a reserve capacity for the production of equipment needed in reconstruction is highlighted throughout. The Soviet literature stresses that

they relied on their own experts, workers, and financing for the reconstruction effort. There are also the practical observations that efforts to prevent or limit damage to installations by the enemy paid off in hastening recovery; that combining reconstruction with modernization not only afforded more efficient production but was cost-effective in the long run; and that the early war experience of makeshift reconstruction disclosed unsuspected potentials for quick experimental and surrogate solutions of labor and material shortages.

The organizational aspects of recovery management are particularly well delineated in Prikhod'ko (1973). Besides depicting the involvement of the State Defense Committee, the account provides many insights on problems relating to establishing an effective working-level division of authority over reconstruction programs among such major contenders as the ministries, the Party, the State Planning Committee, and the military. The latter's apparently forceful assertion of managerial authority over the industries in the heavily industrialized South is depicted in some detail. There is also useful discussion of the various institutional involvements in recovery planning.

CONCLUSION

The retrospective Soviet literature presented in this bibliography supplies abundant material, both factual and evaluative, regarding Soviet views on various aspects of economic recovery. That much of the literature has been published in recent years suggests that the World War II experience is of current Soviet policy interest. Additional research in areas not covered in the present effort--for instance, Soviet comment on their current civil defense program or developments in their national economic planning--could further illuminate actual Soviet preparedness and capability for recovery from major disaster. It would also provide a useful indication of the extent and consistency with which perceived lessons of the past recovery experience are relied on in ensuring against modern war contingencies.

The historical literature attests to the deep Soviet awareness that in World War II they underwent a disaster of staggering human and economic proportions. By their estimate, one-third of the USSR's total

capital stock was destroyed, with the destruction doubly that in the German-occupied territories, which before the war had produced well over half of the USSR's gross industrial output. Twenty million Soviet people perished in the war, or one-tenth of the prewar population. The difficult process of recovery taught many lessons, which appear to have since been carefully considered. The proposition that recovery was accomplished essentially by their own efforts serves indoctrination goals, but serious studies acknowledge the importance of assistance obtained by various means from external sources. Some of the Soviet comment indicating their perceptions as to the possibilities and limitations of both autarkic and externally assisted recovery efforts has been noted.

It appears that lessons of World War II recovery affect current Soviet planning. This can be seen in their efforts to disperse production and labor resources throughout the vast territory of the USSR, exemplified by current regional and new area economic planning that stresses horizontal integration of hinterland industrial complexes and their auxiliary resource bases. The Soviets have demonstrated a willingness to incur considerable costs in creating new communities for the relocated population that constitutes the labor force of such industrial complexes, situated away from heavily populated urban centers. Another manifestation of past lessons heeded is the comprehensive civil defense program with its stress on protection of the labor force. One should also note the extensive training in industrial trades of pre-draft age youths carried out under the DOSAAF program, in addition to its purely military training responsibilities.

An analysis of the conclusions advanced in the historical Soviet literature on recovery could provide useful indicators for evaluating the strategic significance of current Soviet political-economic activity. Additionally, while Soviet experience reflects the political and economic peculiarities of their social system, by virtue of the magnitude of both damage and recovery it can supply insights of general validity for an understanding of the economic and social aspects of survival and recovery of a major industrial state after extensive and intelligently focused war damage. Similarly, an understanding of Soviet perceptions

of the critical variables in recovery could be informative for estimating potential Soviet actions aimed at impairing the recovery capability of their adversaries.

2. Abstracts

RUSSIAN LANGUAGE MATERIALS

Economic Recovery in the USSR during and after World War II

Aniskov, V. T., "Sovetskoe krestianstvo v period Velikoi Otechestvennoi voiny (Nekotorye itogi i zadachi izucheniia)" [Soviet Peasantry during the Great Patriotic War: Some Conclusions and Research Tasks], *Istoriia SSSR*, No. 2, March-April 1975, pp. 155-169.

A critical review of recent Soviet literature on the peasantry during the war. Many references are cited but none dealing especially with reconstruction. In his enumeration of the necessary future directions of research, the author urges the study of Soviet peasantry during wartime and postwar reconstruction.

Antonov, G. B., "'Zaporozhstal'" [The Steelworks of Zaporozhe], *Voprosy istorii* [Problems of History], No. 10, October 1976, pp. 101-109.

Includes a politically interesting account of the postwar reconstruction of the Zaporozhe steelworks in the Ukraine (pp. 102-105). The managerial roles of L. I. Brezhnev, at the time First Secretary of the Zaporozhe province party committee, and V. E. Dymshits, currently deputy chairman of the USSR Council of Ministers, receive prominent mention.

Arutiunian, Iu. V., *Sovetskoe krest'ianstvo v gody Velikoi Otechestvennoi voiny* [Soviet Peasantry during the Great Patriotic War], Izd-vo Akad. Nauk SSSR, Moscow, 1963. A revised second edition was published by "Nauka," Moscow, in 1970, 460 pp.

The first substantive and documented Soviet study of the Soviet countryside and kolkhoz peasantry during the war. Using recently released statistical data, the study examines the effects of war damage on agricultural production and the rural population. It argues that agricultural production decreased critically during the war because of mistaken policies, such as treating agriculture as the reserve for the development of other branches of the economy. The policy of halting machinery supplies and production of agricultural equipment at the start of the war is also blamed for the drop in production. (This policy was reversed to some degree in 1943 and 1944.) Published by the USSR Academy of Sciences, the work aroused controversy because of the strong criticisms it leveled against specific bunglings of "bureaucratic planning" in the reconstruction of agriculture. Some of these criticisms were toned down in the second edition. The work emphasizes the need for objective analysis of wartime agriculture because of its "practical importance" for developing social and economic policies and educating cadre.

Belov, I. I., et al. (comp.), *Vozrozhdennyi iz ruin: sbornik dokumentov i materialov o vosstanovlenii i razvitii g. Smolenska 1943-1962 godov* [Reborn from the Ruins: A Collection of Documents and Materials on the Reconstruction and Development of the City of Smolensk, 1943-1962], P. E. Bogdanov (ed.), Smolenskoe knizhnoe izd-vo, Smolensk, 1963.

Supplies an extensive collection of documents, presented in chronological order, on every aspect of municipal reconstruction, including various statistics. The documents are taken from the RSFSR Central State Archives, the Smolensk oblast party archives, and the Smolensk oblast state archives.

Bor'ba partii za vosstanovlenie i razvitie sotsialisticheskogo narodnogo khoziaistva v poslevoennyi period (1945-1953 gody) [The Party's Struggle for the Reconstruction and Development of the Socialist National Economy in the Postwar Period, 1945-1953], "Moskovskii rabochii," Moscow, 1963.

A study aid for workers' courses in the party history. Included is a paper recapitulating the overall Soviet postwar and reconstruction effort and a paper describing the Moscow region party organizations' management of economic development between 1945 and 1953.

Buzyrev, V., *Vosstanovitel'nye raboty i ikh finansirovanie* [Reconstruction Effort and Its Financing], Prof. M. I. Bogolepov (ed.), Gosfinizdat, Moscow, 1945, 118 pp.

Examines the financial aspect of reconstruction, with particular attention given to the organization of Soviet construction industry and the banking system. Soviet long-term investment banks are depicted as having a strong controlling role in ensuring the optimal use of reconstruction funds. With the impending postwar reconstruction in mind, the work offers concrete suggestions for cost economies as well as denotes key problems affecting the costs of the wartime reconstruction effort.

Cherniavskii, U. G., *Voina i prodovol'stvie: snabzhenie gorodskogo naseleniia v Velikuiu Otechestvennuiu voinu (1941-1945 gg.)* [War and the Food Supply: Supplying the Urban Population during the Great Patriotic War, 1941-1945], "Nauka," Moscow, 1964.

As noted in the introduction, one of the first substantive Soviet studies of the important problem of the population's food supply during wartime. The study discusses the extent of food supply loss occasioned by enemy occupation of the important agricultural regions of the country and the measures taken to restore a viable food supply. A separate chapter discusses wartime food rationing policies, and another analyzes the dynamics of the food supply of the urban population between 1942 and 1944, including comparisons with the initial period of the war and an evaluation of the various sources of urban food supplies, such as government supplies, kolkhoz trade, and private gardens.

Chuguntseva, N. A., "K voprosu vosstanovleniia promyshlennosti i transporta na Kubani (fevral' 1943--mai 1945 gg.)" [On the Question of Reconstructing Industry and Transport along the Kuban' (February 1943-May 1945)], in *Nekotorye voprosy istorii sotsialisticheskogo stroitel'stva (po materialam Severnogo Kavkaza)* [Certain Problems of the History of Socialist Construction, Based on Materials from the North Caucasus], Krasnodarskoe knizhnoe izd-vo, Krasnodar, 1974, pp. 276-294.

Published by the CPSU History Department of the Krasnodar Polytechnical Institute. The author denotes the Krasnodar Territory as having been one of the most important links in the country's military economy. The German occupation left only 11.6 percent of the previously operating industrial plants in the Territory, which was regained in 1943. It is claimed that in 1944 the Territory had basically concluded work on the reconstruction of industry and transport. Detailed description is provided on acquiring and training the needed labor force. The work also contains information on the measures taken by the central party and government organs to ensure effective centralized planning of the industrial as well as agricultural and extraction industry reconstruction.

Dneprovskie ogni [Fire Glows on the Dnieper], by a group of authors, Politizdat Ukrainy, Kiev, 1976; reviewed by V. Pokrovov in *Partiinaiia zhizn'* [Party Life], No. 14, July 1976, pp. 77-80.

A collection of eyewitness accounts on the postwar reconstruction of the Zaporozhe industrial complex featuring laudatory reports of the local leadership at the time: the first secretary of Zaporozhe oblast and city party committees L. I. Brezhnev (today General Secretary, CPSU) and the second secretary of the oblast party committee A. I. Kirilenko (today Politburo member, CPSU). The preface by the present first secretary of the oblast notes that the postwar reconstruction of the Zaporozhe industrial complex has not been adequately studied and that the region was a focal point in the Soviet economic development program at the time. Major facilities, such as the huge Dnieper hydroelectric installation, steel and metallurgy works, and machine-building industries, were located here.

Donchenko, V. N., "Demobilizatsiia Sovetskoi Armii i reshenie problemy kadrov v pervye poslevoennye gody" [Demobilization of the Soviet Army and Solving the Cadre Problem in the First Postwar Years], *Istoriia SSSR*, No. 3, May-June 1970, pp. 96-102.

Presents statistics showing the important increments to the Soviet labor force, and management and party cadre provided by the early demobilizations. The article provides the outline of the government's policies and priorities regarding the area and work assignments of the demobilized troops.

Edlinskii, S. F., *Baltiiskii transportnyi flot v Velikoi Otechestvennoi voine Sovetskogo Soiuza 1941-1945 gg.* [The Baltic Transport Fleet in the Great Patriotic War of the Soviet Union, 1941-1945], Mordtransport, Moscow, 1963.

-----, *Kaspiiskii transportnyi flot v Velikoi Otechestvennoi voine Sovetskogo Soiuza 1941-1945 gg.* [The Caspian Transport Fleet in the Great Patriotic War of the Soviet Union 1941-1945], Mortransport, Moscow, 1963.

Not available at the time of compilation. Together with a work on the Northern Transport Fleet by the same author, these volumes are cited in Mutovkin and Selianichev (1967) as analyses of wartime maritime transport of military and civilian cargoes, as well as accounts of the reconstruction of port economy in the regained territories.

Emchenko, Grigorii Ia., *Gody surovyykh izpytaniy: iz istorii partiinykh organizatsii Donbassa v period Velikoi Otechestvennoi voiny (iiun' 1941-1945 gg.)* [Years of Bitter Trials: From the History of Donets Basin Party Organizations during the Great Patriotic War, June 1941-1945], Luganskoe oblastnoe izd-vo, Lugansk, 1961, 203 pp., bibliog.

Written by a member of the Luganskoe party organization during the war. Chapter III (pp. 125-195) describes the party's work in reconstituting the economic and political infrastructure in the Ukrainian part of the Donets Basin, the country's principal coal-producing area, after the expulsion of the Germans in September 1943. The account is valuable for its detailed description of the procedures developed by the Soviet and Ukrainian Communist Party Central Committees to ensure ready reserves of "experienced and reliable leaders" who could be immediately placed in charge of the local reconstruction effort.

Eshelony idut na vostok: sbornik statei i vospominanii iz istorii perebazirovaniia proizvoditel'nykh sil v SSSR v 1941-1942 gg. [Echelons Move to the East: Collection of Essays and Memoirs from the History of Rebasing the Production Forces of the USSR, 1941-1942], chief editor Iu. A. Poliakov, "Nauka," Moscow, 1966, 262 pp.

A collection of 17 papers, arising from a conference in 1962, that describe the mass relocation of population, industrial plants, agricultural inventory, and stockpiles from the western regions of the USSR to the East during the initial period of the war following the German invasion of the USSR. The study seeks to illuminate key aspects of the simultaneous tasks of evacuation and relocation, as well as the prompt assumption of production for the front. The editors note the need for additional in-depth study of the history of the evacuation that would address such problems as the reevacuation, the siting of rebased industries in the East and the creation of the necessary production infrastructures, and the role of automotive and air transport in evacuation.

Ezhov, Viktor Anatol'evich, *Rabochie Leningrada v bor'be za vosstanovlenie goroda (1944-1945 gg.)* [Leningrad's Workers in the Struggle To Reconstruct the City, 1944-1945], Izd-vo Leningradskogo univ-ta, Leningrad, 1961, 105 pp.

Focuses largely on the Leningrad experience in training and motivating its labor force for the reconstruction effort. The account depicts the damage inflicted on the city by German shelling and air attacks, including the destruction of the public water and sanitation systems. The author recommends the "rich experience" of Leningrad's recovery and notes that the city's industrial capacity first reached its prewar level in 1949. In 1945, the gross industrial production of Leningrad attained 30 percent of the 1940 level.

Ezhov, Viktor Anatol'evich, *Rabochie Leningrada v poslevoennye gody (1946-1950)* [The Workers of Leningrad in the Postwar Years, 1946-1950], Leningrad, 1968.

Not available at the time of compilation. The title is cited in Vakser (1976).

Ezhov, Viktor Anatol'evich, "Rabochii klass--vedushchaia sila vosstanovleniia i razvitiia narodnogo khoziaistva v poslevoennyi period (1946-1955 gg.)" [The Working Class, Leading Force of the Reconstruction and Development of the National Economy during the Postwar Period, 1946-1955], in *Iz istorii Velikoi Oktiabr'skoi sotsialisticheskoi revoliutsii i sotsialisticheskogo stroitel'stva SSSR* [From the History of the Great October Socialist Revolution and the Socialist Construction of the USSR], Izd-vo Leningradskogo univ-ta, Leningrad, 1967.

Not available at the time of compilation. The title is cited in Vakser (1976).

Gelovani, A., Colonel General of Engineering Troops, Deputy Minister of Defense, USSR, "General armii A. N. Komarovskii (K 70-letiiu so dnia rozhdeniia)" [Army General A. N. Komarovskii: On the 70th Anniversary of His Birth], *Voенно-istoricheskii zhurnal* [Military History Journal], No. 5, May 1976, pp. 125-128.

A short biography of the late General Komarovskii that extols his contributions to major civilian and military industrial construction projects. During the war, the General, as the commander of a construction engineers army, was in charge of constructing the Chelyabinsk metallurgy (steel) plant. Beginning in May 1944, he was Chief of the Main Administration of Industrial Construction, in charge of building ferrous metallurgy, aluminum, and alcohol hydrolysis complexes in the Urals. After the war, he supervised the reconstruction of an important canal and the building of a major chemical complex and town in Siberia. Subsequently, his administration was in charge of atomic industry construction.

Gladkov, I. A. (ed.), *Sovetskaia ekonomika v period Velikoi Otechestvennoi voiny 1941-1945 gg.* [Soviet Economy during the Great Patriotic War, 1941-1945], "Nauka," Moscow, 1970.

Published under the aegis of the Economics Institute of the USSR Academy of Sciences. It is surprising that this comprehensive volume offers only cursory discussion of industrial reconstruction during the war. It does have a chapter on the reconstruction of agriculture in the regained territories and the agricultural situation prevailing by the end of the war. There is also a chapter on trade and the provisioning of the populace during wartime.

Golushko, I., Colonel General, "Tyl Vooruzhennykh Sil v operatsiakh tret'ego perioda voyny" [The Rear Services of the Armed Forces in the Operations of the War's Third Period (1944-May 1945)], *Voenno-istoricheskii zhurnal* [Military History Journal], No. 2, February 1976, pp. 34-41.

A description of the Rear Services' assistance to civilian economy in the regained territories. These activities included laying in coal and peat stocks, transporting cotton and grain supplies, constructing industrial plants, producing arms and provisions, and participating in agricultural reconstruction and housing construction. It is pointed out that army auto transport carried over 21 million tons of various cargoes for the economy during the period.

Griaznov, L. P., et al. (eds.), *Podvig trudovogo Urala* [The Feat of the Laboring Urals], Sredne-Ural'skoe kn. izd-vo, Sverdlovsk, 1965, 293 pp.

An anthology prepared by the Sverdlovsk oblast party *aktiv* containing 33 papers of wartime accounts by the oblast's workers, kolkhozniks, and scholars. They describe the methods and achievements of the wartime mobilization of the economic resources of the Urals. There are also accounts of the postwar economic effort, including one describing aspects of decisionmaking regarding the postwar production assortment of a major Urals machinery plant--Uralmashzavod (to continue production of tanks and self-propelled artillery).

Gvozdev, B. I., "Chislennost' rabocheho klassa SSSR v pervye poslevoennyye gody (1945-1948)" [Size of the USSR Working Class in the First Postwar Years, 1945-1948], *Istoriia SSSR*, No. 4, July-August 1971, pp. 111-120.

A statistical article that discusses the effects of the war and the postwar changes on the USSR's industrial and construction labor force by regions and by different industries. Based on archive materials of the Central Statistical Administration, the article includes seven tables on industrial manpower changes during and after the war.

Istoriia Velikoi Otechestvennoi voiny Sovetskogo Soiuza 1941-1945 [History of the Great Patriotic War of the Soviet Union, 1941-1945], Vol. 4, Voenizdat, Moscow, 1962; Vol. 5, Voenizdat, Moscow, 1963.

Presents the major outlines of the economic situation and the reconstruction effort in 1944 (Vol. 4, Chap. 19). Volume 5 (pp. 401-408) describes economic reconstruction in the regained territories.

Kazantsev, B. N., "Istoriografiia poslevoennogo vosstanovleniia i razvitiia chernoi metallurgii SSSR (1946-1970 gg.)" [Historiography of the Postwar Reconstruction and Development of USSR's Ferrous Metallurgy, 1946-1970], in V. A. Ezhov and V. A. Ovsiankin (eds.), *Rabochii klass SSSR na sovremennom etape* [The Working Class of the USSR at the Present Stage], Izd-vo Leningradskogo univta, Leningrad, 1976, pp. 137-142.

A review that supplies numerous references on the subject as well as comments on their scholarly value. The reconstruction of the ferrous metallurgy industry has received much attention in the research community from the first postwar years on. However, there is as yet no comprehensive study of the industry's development during 1946-1950. Serious study is needed as well of the postwar history of the industry's labor force. The reviewer notes the substantive discussion of the industry's reconstruction in Prikhod'ko (1973), but disputes the author's assertion that this reconstruction was fully accomplished by 1950 and claims that war-damaged plants were not fully restored until 1951.

Khavin, A. F., "Novyi moshchnyi pod'em tiazheloi promyshlennosti SSSR v 1946-1950 gg." [The New Powerful Upsurge of the USSR's Heavy Industry during 1946-1950], *Istoriia SSSR*, No. 1, January-February 1963, pp. 22-47.

As stated, this article attempts to remedy the absence in Soviet literature of solid, data-supported accounts of the Fourth Five-Year Plan for postwar reconstruction; in particular, of the Plan's targets for heavy industry and their actual implementation. Critical imbalances in the development of key heavy industry branches existing at the end of the war are indicated. Labor policies during the period are covered cursorily. The article rejects Western arguments that Soviet reconstruction involved only military-related industry and claims that it represented a determined transition to modernized industry. It describes at length the problems inherent in this transition, lists the measures taken to overcome resource and administrative difficulties, and defines the problems inherent in the transition from wartime to peace economy.

Kiselev, V. I., "Vossozhdanie rabochikh kadrov Donbassa v gody Velikoi Otechestvennoi voiny (1943-1945)" [Reconstitution of the Labor Force of the Donets Basin during the Great Patriotic War], *Istoriia SSSR*, No. 4, July-August 1975, pp. 111-119.

No specialized work, according to the author, has as yet been published that examines substantively the problems of forming and training the labor force of the regained territories during the course of the war. He confines his study to the experience of the Donets and Volgograd oblasts. Reconstruction of these critical areas of Soviet coal and iron production was a priority task after their recapture in September 1943. Statistics illustrate the various measures taken to supply and train the labor force for the areas. Workers and specialists were mobilized from other areas; army recruits, women, and especially youths

were employed widely. In some Donbass industries youths constituted 80 percent of the labor force. Statistics are also used to show the progress of industrial recovery. Throughout, references are primarily to Soviet archival materials, but some useful published titles are also cited.

Kiselev, V. I., "Vsenarodnaia pomoshch v vosstanovlenii Donbassa v 1943-1945 gg." [The Nationwide Assistance to the Reconstruction of the Donets Basin, 1943-1945], in A. V. Mitrofanova et al. (eds.), *Rabochii klass i industrial'noe razvitie SSSR* [The Working Class and the Industrial Development of the USSR], "Nauka," Moscow, 1975, pp. 379-388.

States that in 1944 almost 30 percent of the total USSR budget for capital investment was allocated for economic reconstruction in the war-torn regions. In 1945, this share increased to almost 50 percent. These funds were used primarily to reinstate the transport and the coal and metallurgy industry in the Donets Basin. The author describes the various ways in which additional resources--material, labor, and financial--were supplied by other parts of the country for the wartime Donets Basin reconstruction effort. He supplies a number of references on the subject from provincial publications and periodicals.

Kravchenko, G. S., *Voennaia ekonomika SSSR 1941-1945* [The War Economy of the USSR, 1941-1945], Voenizdat, Moscow, 1963. The second edition, revised and enlarged, was published under the title *Ekonomika SSSR v gody Velikoi Otechestvennoi voiny* [USSR Economy in the Years of the Great Patriotic War], "Ekonomika," Moscow, 1970, 389 pp.

Provides information regarding the priorities followed in reconstructing various branches of the Soviet economy between July 1942 and September 1945 (1st ed., Part 3, passim).

Kriuchkov, M. T., "Izmenenie chislennosti i sostava rabochikh Urala v 1945-1958 gg." [Changes in the Quantity and Composition of Urals Workers, 1945-1958], in A. V. Mitrofanova et al. (eds.), *Rabochii klass i industrial'noe razvitie SSSR* [The Working Class and the Industrial Development of the USSR], "Nauka," Moscow, 1975, pp. 364-371.

Depicts the major changes in the industrial labor force of the Urals occasioned by the national reconstruction effort and the transition from war to peacetime industrial production. The various changes are illustrated by statistics.

Kudlai, A. S., "Bratskaia pomoshch narodov SSSR v vosstanovlenii narodnogo khoziaistva Ukrainy posle Velikoi Otechestvennoi voiny" [The Fraternal Aid of the Peoples of the USSR in Reconstructing the National Economy of the Ukraine after the Great Patriotic War], *Voprosy istorii* [Problems of History], No. 7, July 1965, pp. 21-30.

A succinct description of the extent of war damage in the Ukraine. A generous assortment of statistical data illustrates the various ways in which other parts of the country assisted in the reconstruction of the republic's economy, which was begun promptly when the territory was recaptured in October 1944.

Kumanev, G. A., *Sovetskie zheleznodorozhniki v gody Velikoi Otechestvennoi voiny* [Soviet Railroad Workers in the Years of the Great Patriotic War], "Transport," Moscow, 1965.

Not available at the time of compilation. The title is cited in Mutovkin and Selianichev (1967) as an extensive, statistically documented account of rail transport problems and solutions during the war, including those occasioned by the mass evacuation of resources from the western regions, the critical loss of almost 50 percent of rail communications, and fuel and manpower shortages.

Kumanev, G. A., *Velikaia Otechestvennaia voina Sovetskogo Soiuza (1941-1945): bibliografiia sovetskoi istoricheskoi literatury za 1946-1959 gg.* [The Great Patriotic War of the Soviet Union, 1941-1945: A Bibliography of Soviet Historical Literature from 1946 to 1959], Moscow, 1960.

Referenced in Arutiunian (1963), who notes that pages 95-102 list 94 works on agriculture and the peasantry during the war, of which 12 are devoted to agricultural reconstruction. According to Arutiunian, the works are "completely unsatisfactory" and contain "hackneyed and incorrect concepts" claiming that the reconstruction of agriculture was implemented successfully. *Eshelony idut na vostok* (see p. 29) notes that the bibliography references a number of works that supply abundant data on the reinstallation of evacuated industrial plant and wartime industrial development in the western regions. The volume was prepared by the History Institute of the USSR Academy of Sciences.

Kupreeva, A. P., "Pomoshch' bratskikh respublik v vozrozhdenii narodnogo khoziaistva Belorussii (sentiabr' 1943 g.-1945 g.)" [Assistance by Other Republics in the Reconstruction of the National Economy of Belorussia, September 1943-1945], *Istoriia SSSR*, No. 5, 1976, pp. 137-147.

Includes an assortment of statistical data depicting the types and quantity of assistance-in-kind received by Belorussia from other Soviet republics. The article also supplies references to Soviet regional publications dealing with wartime inter-republic assistance.

Kushnir, A. G., "Izmeneniia v administrativno-territorial'nom delenii SSSR v gody Velikoi Otechestvennoi voiny" [Changes in the Administrative-Territorial Subdivisions of the USSR during the Great Patriotic War], *Istoriia SSSR*, No. 1, January-February 1975, pp. 128-131.

States that the wartime administrative-territorial changes illustrate an important aspect of the economic management activity of the Soviet state, but that until now the question has not been researched. The

need for effective management of the economic reconstruction of the regained territories was one of the major reasons for the administrative-territorial changes. By January 1, 1946, the USSR had 124 oblasts, compared with 96 on January 1, 1941.

Kuzeev, R. G., and E. K. Minibaev, "Sovetskii rabochii klass v Velikoi Otechestvennoi voine (obzor literatury)" [The Soviet Working Class during the Great Patriotic War: A Review of Literature], *Istoriia SSSR*, No. 5, September-October 1975, pp. 161-170.

Provides references to numerous Soviet books and articles dealing with the management of labor resources during the war. Works devoted specifically to labor during wartime and postwar reconstruction, however, are few (p. 166). The review notes the lack of works dealing with specialized aspects, such as the working class and the evacuation of industry, the role of labor draft in providing the needed industrial labor force, and eliminating the labor turnover problem. Only one specialized study exists on the experience of supplying the basic needs of the labor force during the war (A. V. Liubimov, *Torgovlia i snabzhenie v gody Velikoi Otechestvennoi voiny*, Moscow, 1968).

Liubimov, A. V., *Torgovlia i snabzhenie v gody Velikoi Otechestvennoi voiny* [Trade and Supply during the Great Patriotic War], "Ekonomika," Moscow, 1968, 231 pp.

A study of the wartime supply of the civilian population written by a former USSR Minister of Trade (1939-1948) and with a foreword by Anastas Mikoyan, wartime deputy chairman of the Council of People's Commissars. The work is recommended for the use of Soviet economists in analyzing the effectiveness of the civilian supply system during the war and immediately afterward. Covered in detail are the Soviet rationing system and the principles governing its distribution norms and also the variety of measures employed to reinstitute trade and concomitant production in the regained territories.

Liushin, Stepan Pavlovich, *Trudovoi podvig volgogradtsev: istoricheskii ocherk vosstanovleniia i razvitiia goroda-geroia, 1943-1962* [The Labor Feat of the Volgogradgers: Historical Essay on the Reconstruction and Development of the Hero City, 1943-1962], Volgogradskoe kn. izd-vo, Volgograd, 1963, 225 pp.

An informative and well-organized account that relies on Volgograd (Stalingrad) oblast party and state archives. Parts I and II describe the wartime and postwar industrial and urban reconstruction efforts. Although wartime reconstruction could utilize the Moscow and Donets coal basin and Leningrad recovery experience, this experience had not yet been generalized; moreover, recovery problems in the Stalingrad area were of a different nature and scale and required novel solutions. The account also describes urgent economic and social problems, the immediate solution of which constituted a precondition for the assumption of reconstruction; these included reinstating the transport and

power systems. The account stresses that the most important factor in industrial reconstruction is the correct choice of the main links of the reconstruction effort.

Marchenko, I. E., *Trudovoi podvig rabocheho klassa Belorusskoi SSR (1943-1950 gg.)* [The Labor Feat of the Working Class of the Belorussian SSR, 1943-1950], "Nauka i tekhnika," Minsk, 1977, 248 pp.

A description of the reconstruction of Belorussia's industry and the reconstruction of its severely depleted labor force. The study relies primarily on various Belorussian archival sources. Considerable attention is devoted to transport recovery. The work was referenced as a 1968 doctoral dissertation in Kuzev and Minibaev (1975, p. 166).

Margolina, E., *Narodnoe khoziaistvo SSSR v gody Velikoi Otechestvennoi voiny: bibliograficheskii ukazatel' knizhnoi i zhurnal'noi literatury na russkom iazyke (1941-1968 gg.)* [The National Economy of the USSR during the Years of the Great Patriotic War: A Bibliographical List of Books and Journal Articles in Russian, 1941-1968], "Nauka," Moscow, 1971, 460 pp.

Not available for annotation at the time of compilation.

Mavrodi, Valentin I., *Kommunisty Donbassa v bor'be za vosstanovlenie tiazheloi promyshlennosti v gody Velikoi Otechestvennoi voiny (1943-1945 gg.)* [Communists of the Donets Basin in the Struggle To Reconstruct Heavy Industry during the Great Patriotic War, 1943-1945], Izd-vo Moskovskogo Universiteta, Moscow, 1962, 62 pp.

Focuses on the role of local party organizations in the reconstruction of the coal and heavy industry branches in the important Donets Basin subsequent to the German occupation. The CPSU Central Committee and the government defined the basic directions of reconstruction, with immediate priority placed on coal, mining equipment, metallurgy, coking chemicals, machine-building, and power industries. The assistance of other regions is noted, which included supplying labor. During the first half of 1944, 45 percent of the labor force in the metallurgy industry of the Donets oblast was made up of minors of both sexes.

Mints, L. E., "Nekotorye voprosy metodologii podshcheta poter' narodnogo khoziaistva v resul'tate vtoroi mirovoi voiny" [Some Methodological Problems in Calculating the National Economy Losses Incurred as a Result of World War II] in *Uchenye zapiski po statistike* [Scientific Papers on Statistics], Vol. 15, Moscow, 1968, pp. 140-165.

Written by a member of the "Extraordinary State Commission for Ascertaining and Investigating Crimes of the German Fascist Invaders," established in November 1942. The paper is a revised version of the author's report to the Commission in late 1942, dealing with war damage assessment methodology. It also describes the organization and operations of the Commission.

Mitrofanova, Avgusta V., *Rabochii klass Sovetskogo Soiuza v pervyi period Velikoi Otechestvennoi voiny (1941-1942 gg.)* [The Working Class of the Soviet Union in the Initial Period of the Great Patriotic War, 1941-1942], Moscow, 1960.

Not available at the time of compilation. Another source notes that the work contains a lengthy chapter (pp. 84-150) on the evacuation and reinstallation of industrial plants.

Mitrofanova, Avgusta V., *Rabochii klass SSSR v gody Velikoi Otechestvennoi voiny* [USSR Working Class during the Years of the Great Patriotic War], "Nauka," Moscow, 1971, 575 pp.

A discussion of industrial reconstruction (Chap. IX) and the quantitative and qualitative changes in the labor force and aspects of training and welfare (Chaps. X-XII).

Moiseenko, N. P., "Kommunisty v avangarde vosstanovleniia zavoda 'Zaporozhstal'" [Communists in the Vanguard of the Reconstruction of the Zaporozhe Steelworks] in *Kommunisticheskaia partiia--organizator osvobodzheniia Sovetskoi Ukrainy ot fashistskikh zakhvatchikov* [The Communist Party--Organizer of the Liberation of Soviet Ukraine from the Fascist Invaders], Kiev, 1975.

Not available at the time of compilation. The title is cited in Antonov (1976).

Morekhina, Galina G., *Rabochii klass--frontu: podvig rabocheho klassa SSSR v gody Velikoi Otechestvennoi voiny, 1941-1945* [The Working Class for the Front: The Feat of the USSR Working Class during the Great Patriotic War, 1941-1945], Sotsekgiz, Moscow, 1962, 479 pp.

Not available at the time of compilation. Another source notes that the work contains a chapter on "The Evacuation of Production Plants to the East and Their Reconstruction at the New Sites."

Morekhina, Galina G., "Vosstanovlenie narodnogo khoziaistva Sovetskogo Soiuza na osvobodzhennoi territorii v period Velikoi Otechestvennoi voiny" [Reconstruction of the Soviet Union's National Economy in the Liberated Territory during the Great Patriotic War], *Voprosy istorii* [Problems of History], No. 8, August 1961, pp. 41-60.

An early attempt to review Soviet wartime recovery on a national scale, with the main focus on industry. The paper supplies many references to earlier Soviet works on recovery, but its documentation is derived from government archive sources.

Mutovkin, N. S., and A. K. Selianichev, "Velikaia Otechestvennaia voina v sovetskoi istoriografii" [The Great Patriotic War in Soviet Historiography], in M. E. Naidenov et al. (eds.), *Ocherki po istoriografii sovetskogo obshchestva* [Essays on the Historiography of Soviet Society], Izd-vo Moskovskogo univ-ta, Moscow, 1967, pp. 178-206.

A survey and critique of Soviet works on various aspects of the World War II experience. The authors list a number of wartime publications dealing with aspects of Soviet wartime economy (p. 182), and also list and evaluate postwar Soviet works on wartime economy, including reconstruction (pp. 198-202).

Nekrasova, I. M., *Razvitie elektrifikatsii SSSR (40-60e gody)* [Electrification Development of the USSR, 1940s to 1960s], "Nauka," Moscow, 1974. Reviewed by E. D. Kozochkina in *Istoriia SSSR*, No. 4, July-August 1975, pp. 182-183.

States that Nekrasova's work discusses the complex tasks of early postwar development of the electrical energy base of the European part of the USSR and describes, in particular, the Soviet planning organs' activity in defining the guidelines for postwar development of electrical power. The last chapter deals with the interrelationships between electrification and the location of industrial complexes, urban development, and development of formerly nonindustrialized areas.

Nesterova, L. V., and S. D. Medvedeva, "Zheleznodorozhniki SSSR v 1946-1973 gg. (istoriografiia voprosa)" [USSR Railroad Workers in 1946-1973: Historiography of the Problem], in V. A. Ezhov and V. A. Ovsiankin (eds.), *Rabochii klass SSSR na sovremennom etape* [The Working Class of the USSR at the Present Stage], Izd-vo Leningradskogo univ-ta, Leningrad, 1976, pp. 84-92.

Contends that research interest in railroad developments during the postwar years 1946-1950 has arisen only in recent years, accompanying the general increase in attention to the previously neglected postwar period. This review focuses on the available literature, including doctoral dissertations, dealing with railroad labor force developments at the time.

O neotlozhnykh merakh po vosstanovleniiu khoziaistva v raionakh, osvobodennykh ot nemetskoii okkupatsii [On Immediate Measures in the Economic Reconstruction of Regions Liberated from the German Occupation], Gospolitizdat, Moscow, 1943.

A law promulgated jointly by the USSR Council of People's Commissars and the Central Committee of the Communist Party (VKP/b), defining tasks and procedures for resuming agricultural production and construction of housing and railroads. The work includes details on agricultural tribute to the state from the various labor force segments.

Pavlov, Vladimir I., *KPSS v bor'be za vosstanovlenie i razvitie narodnogo khoziaistva v poslevoennyi period, 1946-1952 gg.: po materialam Nizhnego Povolzha* [CPSU in the Struggle for Reconstruction and Development of National Economy in the Postwar Period, 1946-1952: Based on Materials from the Lower Volga Basin], Izd-vo Saratovskogo universiteta, Saratov, 1967, 66 pp.

A concise description of the main aspects of party organs' leadership of the industrial reconstruction in the large Lower Volga region that included Stalingrad. It provides the basic economic indicators of the extent of the 1943-1945 wartime reconstruction and outlines the region's reconstruction program of the 1946-1950 Five-Year-Plan. There is an informative description of the organizational measures for supplying and training the needed industrial labor force, including the responsibilities of the local party organizations in receiving and placing demobilized troops.

Poliakov, O. V., "Do uchasti radians'kikh voyniv u vidbudovi narodnogo gospodarstva URSR v 1943-1944 rr." [On the Participation of Soviet Troops in the Reconstruction of the National Economy of the Ukrainian Soviet Socialist Republic in 1943-1944], *Ukrainskii istoricheskii zhurnal*, No. 5, 1971, pp. 88-93.

An article, written in Ukrainian, describing the participation of Soviet military units in industrial and agricultural reconstruction efforts in the Ukraine in 1943 and 1944. The documentation is almost entirely from various Ukrainian party archive sources.

Prikhod'ko, Iu. A., "Etapy vosstanovleniia promyshlennosti v raionakh SSSR, osvobozhdennykh ot nemetsko-fashistskoi okkupatsii" [Stages of Industrial Reconstruction in Regions of the USSR Liberated from the German-Fascist Occupation], *Voprosy istorii* [Problems of History], No. 5, May 1969, pp. 25-36.

A discussion by a principal Soviet analyst of the postwar industrial reconstruction of the characteristics of its three major stages between July 1945 and 1950. The article relies on state archive materials. It supplies several references to books dealing substantively with reconstruction in the Ukraine and Belorussia.

Prikhod'ko, Iu. A., *Vosstanovlenie industrii, 1942-1950* [Industrial Reconstruction, 1942-1950], "Mysl'," Moscow, 1973, 290 pp.

The major published analysis of the Soviets' World War II industrial recovery. Abundantly documented from Soviet government archive sources, principally Gosplan documents, and published works, the author examines in separate sections the wartime and postwar reconstruction process. The study focuses on defining the essential features of the different stages of intrawar as well as postwar reconstruction and the specifics of its implementation in different economic regions and industries. The preface urges additional research of the distinctive characteristics of reconstruction by area and industry, and its comparison with post-revolutionary reconstruction and, especially, with analogous processes in capitalist countries. A 30-page section of notes contains numerous bibliographic entries.

Prikhod'ko, Iu. A., "Vosstanovlenie promyshlennosti v osvobozhdennykh ot nemetsko-fashistskoi okkupatsii raionakh SSSR (1942-1945 gg.)" [Reconstruction of Industry in USSR Regions Liberated from the German Fascist Occupation, 1942-1945], *Istoriia SSSR*, No. 6, November-December 1968, pp. 9-24.

The author's stated purpose is to provide a more comprehensive picture and, importantly, to elucidate the dynamics of the reconstruction process. The author's prefatory comment notes that Soviet articles and academic dissertations on the subject have been largely limited to enumerating the concrete achievements of industrial reconstruction in particular localities. The footnotes supply numerous references to published Soviet works, dissertations, and archival materials. The article distinguishes the differing guiding principles and priorities of the reconstruction effort during various periods. It also describes the developments of administrative, planning, and supply organizations for the wartime reconstruction of the regained territories.

Sabirzianov, G. S., *Po zakonam druzhby i bratstva. Vzaimopomoshch narodov SSSR v kul'turnom stroitel'stve v gody Velikoi Otechestvennoi voiny i poslevoennogo vosstanovleniia narodnogo khoziaistva (1941-1950 gg.)* [By the Laws of Friendship and Brotherhood: The Mutual Assistance of the Peoples of the USSR in Cultural Development during the Great Patriotic War and the Postwar Reconstruction of the National Economy, 1941-1950], Tatarskoe kn. izd-vo, Kazan', 1974. Reviewed by L. Usmanov in *Istoriia SSSR*, No. 3, May-June 1975, pp. 196-198.

An examination of the wartime and postwar measures taken by the Soviets to develop, maintain, and control the education, science, culture, and mass media establishments in the non-Russian republics. The work also evaluates these measures from the standpoint of their effectiveness in drawing closer the different ethnic groups. The reviewer recommends the book as a serious and original study.

Savel'ev, Vasilii M., *Sovetskaia intelligentsiia v Velikoi Otechestvennoi voine* [The Soviet Intelligentsia during the Great Patriotic War], "Mysl'," Moscow, 1974.

Not available at the time of compilation.

Seniavskii, S. L., and M. I. Khlusov, "Industrial'nye kadry SSSR v 1946-1955 godakh" [The USSR Industrial Cadre, 1946-1955], *Voprosy istorii* [Problems of History], No. 9, September 1965, pp. 29-45.

Decrying the absence of works on the postwar industrial cadre (defined as the industrial labor force and personnel in construction, transport, and communications), the authors review the manpower losses incurred during the war and the subsequent measures taken to rebuild the industrial labor force. Richly documented from official archival sources, the article also supplies references to existing Soviet works that have examined the subject but in the limited framework of major localities and industrial branches.

Skachkov, I. M., *Vosstanovlenie sel'skogo khoziaistva v osvobozhdennom raione: Mozhaiskii raion Moskovskoi oblasti* [Agricultural Reconstruction in a Liberated District: The Mozhaiskii District in Moscow Province), OGIZ-Sel'khozgiz, Moscow, 1942, 29pp.

A short, inspirational pamphlet by a secretary of the Mozhaiskii city party committee that describes the first steps of rebuilding the agricultural segment of an economically diversified region after three months of German occupation. He depicts an extensive effort to train women and teenagers for farm work: in 1942 these constituted the main farm labor force in the area.

Sovetskii tyl v Velikoi Otechestvennoi voine: sbornik statei [Soviet Rear in the Great Patriotic War: A Collection of Papers], P. N. Pospelov (ed.), "Mysl'," Moscow, 1974.

Not available at the time of compilation.

Tamarchenko, M. L., *Sovetskie finansy v period Velikoi Otechestvennoi voiny* [Soviet Finances during the Great Patriotic War], Moscow, 1967.

Not available at the time of compilation.

Tiurina, A. P., *Formirovanie kadrov spetsialistov i organizatorov kolkhoznogo proizvodstva, 1946-1958 gg.* [Forming the Specialist and Manager Cadre of Kolkhoz Production, 1946-1958], "Nauka," Moscow, 1973.

Examines the various ways in which Soviet agriculture was supplied with agricultural specialists and managers during the postwar reconstruction period and subsequently. The book discusses the efforts of agricultural educational institutions and the difficulties plaguing them, the administrative and fiscal measures of the central government, and the mobilization of specialists and administrators from the cities for work in kolkhoz production.

Topuzlu, G. N., "Pomoshch bratskikh soiuzykh respublik v vosstanovlenii sel'skogo khoziaistva Moldavii v 1944-1947 godakh" [The Assistance of Other Republics to the Agricultural Reconstruction of Moldavia, 1944-1947], *Istoriia SSSR*, No. 6, November-December 1975, pp. 94-103.

Reconstruction in Moldavia after the Soviet takeover in 1944 was combined with collectivization. The article lists earlier Soviet references, which focused on the socialization of Moldavian agriculture. Utilizing "new" archive materials, the article provides statistics on farm equipment, supplies, and credits supplied to the newly formed Moldavian kolkhozes by central and local Soviet agencies outside the republic. The chief form of Soviet assistance was in providing financing for reconstruction work.

Uskov, F. F., "Uchastie narodov SSSR v vosstanovlenii khoziaistva raionov, postradavshikh ot nemetsko-fashistskoi okkupatsii" [The Participation of the Peoples of the USSR in the Economic Reconstruction of Regions Subjected to German Fascist Occupation], *Istoriia SSSR*, No. 4, July-August 1960, pp. 93-101.

Describes the forms and the extent of the material assistance supplied primarily by the eastern regions of the USSR to the wartime and early postwar reconstruction of the regained territories. The article is rich in various statistics and provides references to published works.

Vakser, A. Z., "Nekotorye voprosy istoriografii industrial'nogo razvitiia SSSR v poslevoennyi period" [Some Problems of the Historiography of the USSR's Industrial Development in the Postwar Period], in V. A. Ezhov and V. A. Ovsiankin (eds.), *Rabochii klass SSSR na sovremennom etape* [The Working Class of the USSR at the Present Stage], Izd-vo Leningradskogo univ-ta, Leningrad, 1976, pp. 92-102.

The author claims that Prikhod'ko (1973) is the only comprehensive work on industrial reconstruction on a national scale. He provides 13 references to other works, dealing with organizational, labor force, and interregional assistance aspects of reconstruction in individual regions and localities (p. 96).

Volkov, I. M., "Kolkhoznaia derevnia v pervyi poslevoennyi god" [The Kolkhoz Countryside in the First Postwar Year], *Voprosy istorii* [Problems of History], No. 1, January 1966, pp. 15-32.

Discusses the drastic depletion of the rural labor force by the end of the war and the reliance on women as the main work force, assisted by children, the elderly, and the infirm.

Volkov, I. M. (ed.), *Razvitie sel'skogo khoziaistva SSSR v poslevoennye gody 1946-1970: sbornik statei* [Postwar Development of USSR Agriculture, 1946-1970: Collected Papers], Moscow, 1972, 383 pp.

Not available at the time of compilation.

Volkov, I. M., "Sel'skoe khoziaistvo i kolkhoznoe krest'ianstvo pervykh poslevoennykh let v sovetskoj istoricheskoi literature" [Agriculture and Kolkhoz Peasantry of the Early Postwar Years in Soviet Historical Literature], in M. E. Naidenov et al. (eds.), *Ocherki po istoriografii sovetskogo obshchestva* [Essays on the Historiography of Soviet Society], Izd-vo Moskovskogo univ-ta, Moscow, 1967, pp. 215-237.

A critical review of the literature, which terms the years 1946-1953 "the most unresearched period" in the historiography of Soviet agriculture. It notes also that a critical analysis of the existing literature is vital for future research of the question, but that such has not yet been done, except fragmentarily by a few authors. The review notes that false assertions about increased agricultural production during

and after the war continued to appear in print as late as the mid-1960s. "Objective portrayal" of the postwar reconstruction and development of agriculture is the "most important task" of researchers. The reviewer also criticizes the tendency among more recent but unnamed authors to dismiss entirely the importance of the agricultural recovery experience, apparently because it was tainted by Stalinism. The numerous references supplied include a number devoted exclusively to agricultural recovery.

Volkov, I. M., *Trudovoi podvig sovetskogo krestianstva v poslevoennye gody: kolkhozy SSSR v 1946-1950 godakh* [The Labor Feat of Soviet Peasantry in the Postwar Years: USSR Kolkhozes, 1946-1950], "Mysl'," Moscow, 1972, 293 pp.

An in-depth analysis of the postwar reconstruction of Soviet agriculture. Its main conclusion is that the organizational form of agricultural cooperatives, or kolkhozes, combining collective and subsidiary private farming, effectively proved its advantages both in wartime and during reconstruction. Although the study is ambivalent regarding the correctness of the government's reconstruction policy that gave top priority to forced development of heavy industry and defense with minimal funding allocations for the debilitated agricultural base, it also provides a critical analysis of agricultural policies within such a framework, pointing out adverse effects that could have been avoided by different yet compatible policies. It conclusively demonstrates the interdependence of industrial reconstruction and the level of agricultural production. Lamenting the lack of adequate published statistics on agriculture in the early postwar period, the study relies on official archives to supply some of the essential basic indicators. This thoroughly documented work also provides many references to open Soviet publications relating to agricultural reconstruction during the period.

Voznesenskii, N. A., *Voennaia ekonomika SSSR v period Otechestvennoi voiny* [The War Economy of the USSR during the Patriotic War], Gospolitizdat, Moscow, 1947. Available also in an English translation entitled *Soviet Economy during the Second World War*, International Publishers, New York, 1949.

Written by the wartime chairman of the State Planning Commission (Gosplan), this book contains a special section on Soviet economic reconstruction during the war, following the 1943 party-state decrees that initiated the reconstruction program.

Zakon o piatiletnem plane vosstanovleniia i razvitiia narodnogo khoziaistva SSSR na 1946-1950 gg. [The Five-Year Plan for the Reconstruction and Development of the National Economy of the USSR for 1946-1950], Moscow, 1946. Also available in an English translation entitled *The Great Stalin Five-Year Plan for the Restoration and Development of the National Economy of the USSR for 1946-1950*, Embassy of the USSR, Washington, D.C., 1946.

Supplies the text of the law on the postwar Five-Year Plan and commentaries on the main industrial branches covered in the plan. The plan places priority on the restoration and development of heavy industry and rail transportation as the preconditions for swift and effective recovery of the national economy. Calling for a 48 percent increase in industrial output over the prewar year of 1940, it defines iron and steel production as the key factors in the rehabilitation and development of the economy. Concrete production goals are set for each industry and each republic.

Economic Recovery in the USSR in the 1920s

Blinov, S. I., "Vosstanovlenie narodnogo khoziaistva strany (1921-1925 gg.) v sovetskoi istoriografii" [Reconstruction of the Country's National Economy from 1921-1925 in Soviet Historiography], in M. E. Naidenov et al. (eds.), *Ocherki po istoriografii sovetskogo obshchestva* [Essays on the Historiography of Soviet Society], Izd-vo Moskovskogo univ-ta, Moscow, 1967, pp. 74-103.

Examines the major literature from three periods in the historiography on economic reconstruction in the New Economic Policy era (essentially pre-Stalin, Stalin, and post-Stalin). As the fundamental, comprehensive work on the subject, the review singles out *Sovetskoe narodnoe khoziaistvo v 1921-1925 gg.* [Soviet National Economy in 1921-1925], published in 1960 by the USSR Academy of Sciences. This work concluded that Soviet industry had basically recovered by the end of the reconstruction period, but did not have the capacity for priority development of heavy industry, leaving this to be attained in subsequent years.

Golubtsov, V. S., *Chernaia metallurgia Urala v pervye gody sovetskoi vlasti (1917-1923 gg.)* [Ferrous Metallurgy in the Urals in the First Years of Soviet Power, 1917-1923], Izd. MGU, Moscow, 1975, 230 pp.

A detailed and extensively documented history of the ferrous metallurgy industry of the Urals during the Revolutionary and Civil War periods and the subsequent recovery and development programs. The experience of coping with the economic and administrative disruptions brought about by these upheavals is described in detail, with special attention paid to production planning within the industry and to labor policies. The Introduction presents a survey of the existing Soviet literature on the subject.

Gromakov, A. (Lt. Col.), "Deiatel'nost' Kommunisticheskoi partii po razvitiu oboronnoi promyshlennosti (1921-1925 gg.)" [The Activity of the Communist Party To Develop the Defense Industry, 1921-1925], *Voenno-istoricheskii zhurnal* [Military History Journal], No. 10, October 1975, pp. 84-89.

Outlines the measures taken by the Soviets in the early 1920s to implement priority development of those heavy industry branches deemed critical for the country's defense effort. The article provides a number

of Soviet references for the 1918-1920 period. References relating to particulars for the subsequent period, however, are to Soviet archival materials.

Kurdiumova, E. A., *Donbass na pod"eme, 1921-1925 gg.* [The Donets Basin on the Rise, 1921-1925], Z. G. Likholobova (ed.), "Donbass," Donetsk, 1976, 143 pp.

Not available at the time of compilation.

Latnikov, V. (Lt. Col.), "Razvitie sovetskoi voenno-ekonomicheskoi mysli v 20-e gody" [The Development of Soviet Military-Economic Thought in the 1920s], *Voenno-istoricheskii zhurnal* [Military History Journal], No. 1, January 1976, pp. 103-109.

Sets forth the basic arguments of Soviet military leaders in the 1920s regarding the country's economic organization for war. The major problems were to ensure Soviet economic self-sufficiency, to develop its weak economic and technological base, and to plan an industrial development that would best serve wartime needs. References to Soviet works of the period are supplied. The article notes the influence of theoretical propositions of the time on subsequent Soviet economic preparations for the war, and recommends the study and evaluation of these works in the development of modern Soviet military-economic thinking.

Pol'skii, M. P., "K istorii organizatsii prodovol'stvennogo snabzheniia naseleniia v pervye gody Sovetskoi vlasti: obshchestvennoe pitanie v 1917-1920 gody" [Toward a History of the Organization of Provisioning the Populace in the First Years of Soviet Power: Public Kitchens in 1917-1920], *Istoriia SSSR*, No. 6, November-December 1974, pp. 149-162.

Points out that the public kitchen as a socialist form of consumption has been examined in several works of Soviet economists, but that almost no historical research has been done on its development and importance as the means for solving the food problem of urban populations during the early (War Communism) years of the Soviet state. Various statistics give the number of public kitchen establishments in Soviet cities, the number of adults and children served, and calorie counts, as well as summary descriptions of administrative problems.

Sovetskoe narodnoe khoziaistvo v 1921-1925 gg. [Soviet National Economy, 1921-1925], I. A. Gladkov (ed.), Izd-vo Akademii Nauk SSSR, Moscow, 1960, 560 pp.

A classic Soviet analysis of the post-revolutionary New Economic Policy period, which combined economic reconstruction and the imposition of socialist controls. Chapters cover the reconstruction of industrial production, agriculture, and transport; trade (including foreign trade); monetary and fiscal policies; and improvement of living standards during the reconstruction period.

Strizhkov, Iu. K., *Prodovol'stvennye otriady v gody grazhdanskoi voiny i inostrannoi interventsii, 1917-1921 gg.* [The Provisions Detachments in the Years of the Civil War and Foreign Intervention, 1917-1921], "Nauka," Moscow, 1973. Reviewed by M. I. Davydov in *Istoriia SSSR*, No. 6. November-December 1974, pp. 199-201.

Evaluates the organizational aspects and the economic and political usefulness of the provisions detachments, one Bolshevik solution to the acute food supply problem in the cities during the chaotic early years of the regime. The primary mission of these detachments was to go out into the countryside and secure supplies of grain from recalcitrant farmers. The book clearly does not dwell on the violent aspect of this enterprise. The review comments on Strizhkov's argument that the provisions detachments, composed of workers and soldiers and subordinated to the All-Union Trade Union Council, were necessary because of the swiftness with which unions could mobilize masses of workers for actions in the countryside. This comment appears in the context of countering an argument that the "provisions army" of the People's Commissariat for Provisions should have been strengthened instead.

ENGLISH LANGUAGE MATERIALS

Gouré, Leon, *Civil Defense in the Soviet Union*, University of California Press, Berkeley and Los Angeles, 1962, 207 pp.

Describes the doctrine and actual program of Soviet civil defense, and relates both doctrine and program to underlying Soviet attitudes and beliefs concerning international conflict and the nature of possible future wars. The then-available evidence regarding the Soviet civil defense program is viewed in the context of Russia's political and administrative systems and decisionmaking processes. Covered in detail are the organization of Soviet civil defense; the compulsory national training program; means for protection against chemical, bacteriological, and radiological warfare; types and availability of shelters; warning systems and evacuations; preattack measures; and plans for postattack operations and recovery.

Gouré, Leon, *Soviet Civil Defense Revisited, 1966-1969*, The Rand Corporation, RM-6113-PR, Santa Monica, Calif., November 1969, 111 pp.

Initiated in the 1950s and upgraded in 1961, the Soviet civil defense program has increased in scope and intensity since 1966. The system is considered vital to the maintenance of crucial military, industrial, and political capabilities in the event of a nuclear attack. Because of economic constraints, special shelters have been built only for those workers engaged in critical national services. The remainder of the population will be protected mainly by means of evacuation and dispersal to preselected safety zones. Because the program relies heavily on several days' warning of attack and is primarily concerned with protecting certain population elements, the Soviet leaders might be very sensitive to economic damage strikes against their cities. This seems to be borne out by their increasing concern with recovery

operations for industrial, utilities, and transportation facilities. In any case, this survey leaves no doubt that Soviet leaders are continuing to invest heavily in civil defense.

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Gouré, Leon, *War Survival in Soviet Strategy: USSR Civil Defense*, Foreword by Ambassador Foy D. Kohler, University of Miami Center for Advanced International Studies, Washington, D.C., 1976, 218 pp. (Reviewed by Dr. Joseph Thach, Jr., in *The Friday Review of Defense Literature*, October 22, 1976.)

Updates Dr. Gouré's earlier work on the subject. Thach's review indicates that the author again stresses the vital importance Soviet leaders have attached to civil defense. Efforts in this area are intended to ensure that the USSR will survive and function efficiently during and after an all-out nuclear war. Gouré's contention is that Soviet civil defense is "the largest and most comprehensive war-survival program in the world today."

Jasny, Naum, *Soviet Industrialization 1928-1952*, University of Chicago Press, Chicago, Ill., 1961.

Contains descriptions of various aspects of the implementation of Soviet postwar recovery.

Jones, Robert H., *The Roads to Russia: United States Lend-Lease to the Soviet Union*, University of Oklahoma Press, Norman, Okla., 1969, xix, 326 pp.

Based on an extensive search of published official and unofficial sources (American, British, and Russian) and of unpublished documentary material from relevant sources open to scholars. The valuable contribution of American lend-lease to the Russian victory was not publicized in the Soviet Union, although at the Teheran Conference in 1943 Stalin said, "Without American production the war would have been lost." The depreciation of lend-lease became the official Soviet propaganda line toward the end of the war when victory seemed certain. The dollar amount of lend-lease shipments between 1941 and 1945 is estimated at \$10 billion. This includes millions of tons of foodstuffs of vital importance at a time when the Germans controlled the old Russian agricultural lands. Tables on deliveries and a chronology and bibliography are included in the appendixes. Another work on the same subject (not available for annotation at the time of compilation) is George C. Herring, Jr., *Aid to Russia 1941-1946*, Columbia University Press, New York, 1973, xxi, 365 pp.

MacDuffie, Marshall, *The Red Carpet, 10,000 Miles through Russia on a Visa from Khrushchev*, W. W. Norton, Inc., New York, 1955, xiv, 330 pp.

An account of one man's travels and impressions. The author first met Khrushchev in 1946 when Khrushchev was Prime Minister of the Ukraine and MacDuffie was head of the UNRRA Mission there. In 1953, on learning of Khrushchev's rise to national power, MacDuffie requested and was granted a visa to revisit the Soviet Union. He spent 65 days there from mid-October to late December 1953. His trip took him through the eight republics, which at that time had over 90 percent of the population. MacDuffie speculates that he was granted the visa as an experiment to elicit a non-Communist's impressions and that, because he had seen the devastated Soviet Union in 1946, the Soviets believed that he would assess its 1953 condition as a vast improvement.

Nimitz, Nancy, *Soviet Government Grain Procurements, Dispositions, and Stocks, 1940, 1945-1963*, The Rand Corporation, RM-4127-PR, Santa Monica, Calif., 1964, xi, 113 pp.

Deals with that portion of the Soviet grain output that is delivered to the government (up to one-half of the annual output). The study presents estimates of the allocation of government grain resources among current domestic uses, exports, and stockpiling, in 1940 and all postwar years. The estimates, derived from the open literature available at the beginning of October 1964, consider data on output of grain products, grain storage capacity, rail shipments of grain, human consumption of grain, and the foods likely to be substituted for it in periods of austerity or abundance (potatoes and livestock products).

AD 608 609

Nove, Alec, *An Economic History of the U.S.S.R.*, Allen Lane, The Penguin Press, London, 1969, 416 pp.

Chapters entitled "The Great Patriotic War" and "Recovery and Reaction" in this compact survey are of particular interest.

Salisbury, Harrison E., *The 900 Days: The Siege of Leningrad*, Harper & Row, New York, 1969, xi, 635 pp.

Describes events and conditions in Leningrad, besieged by the Germans from September 1941 to January 1944. Salisbury arrived in the city in January 1944 shortly after the siege was lifted and spent 25 postwar years assembling materials. He talked to survivors and examined Russian archives and secret records after they were made available following Stalin's death. The work contains descriptions and discussions of the role of Stalin's political police during the war and of the many blunders of the Russian military. In February 1942 in the worst days of the blockade, architects were set to work making plans for what came to be called the Renaissance of Leningrad. However, because of politics, Leningrad was the last great Russian city to be restored after World War II.

Supron, L. F., and F. P. Zverev, *Medical and Civil Defense in Total War*, Ministry of Health of the Belorussian SSR, translated from the Russian

and published by Israel Program for Scientific Translations, Jerusalem, 1961, 406 pp.

Based on the stenographic notes of the 1955-1958 lecture course of the Belorussian Institute of Advanced Training for Physicians and published according to an agreement with the U.S. National Science Foundation and the Department of Health, Education, and Welfare. A note indicates that this edition was available from the Office of Technical Services, U.S. Department of Commerce.

Pentagon Army Library

B. AUSTRIA AND GERMANY

1. Recovery in Austria and Germany Following World War II

What follows is a descriptive foretaste of selected sources dealing with economic aspects of Austrian and German reconstruction after World War II, which have been abstracted for the wider bibliographical effort on recovery after disaster. This essay is not a theoretically rigorous analysis of Austrian and German recovery per se. The scope of the research did not call for--and resource constraints prohibited--this level of effort. Regrettably, periodical literature had to be excluded, with minor exceptions. Most of the German material deals with the western zones, although a few items pertaining to the Soviet zone were included.

A greater number of sources were uncovered that dealt with Austria than with Germany. Such disproportionate representation may reflect a bias in the library collections surveyed, or more likely, a dearth of German economic materials from the immediate postwar period, when, unlike Austria, Germany had no central government to collect and integrate statistical data. Germany was more profoundly affected by zonal divisions than was Austria; disputes between occupying powers inhibited the sharing of such economic data as were available.

We deal first with the sources themselves, especially the primary materials. Themes found to recur in the sources are highlighted to offer the reader some concrete examples of actual recovery problems and their effect on the restoration of normal economic activity. Next, we describe the reforms of 1948 and the European Recovery Program. Finally, we discuss two dominant themes in the literature--occupation policies and foreign assistance--as well as some others mentioned less frequently.

SOURCES DEALING WITH GERMANY

Two bibliographies head the list of German sources: one in German, *Schrifttum zum Marshall plan und zur wirtschaftlichen Integration Europas* (1953), compiled by Adolf Wittkowski (included in the abstracts under the heading "Europe"), and the other in English, *Bibliography of*

German Studies, 1945-1971, compiled by Gisela Hirsch. The source in German gives a comprehensive list of primary and secondary materials dealing with Marshall Plan aid to Europe and with all aspects of the process of European economic integration. A separate section deals with economic aid to Germany. This work should be of special assistance to those interested in primary materials, such as laws and regulations governing Marshall Plan aid and its distribution, reports by various agencies on aspects of aid, and listings of newspapers and periodicals containing items about the European Recovery Program and European integration. The Hirsch bibliography is a more general compilation of sources on Germany but does contain a separate section on Germany under Allied occupation.

An unusual reference available from the Hoover Library is a declassified 1944 report issued by the U.S. Office of Strategic Services (OSS) entitled "Control over Distribution of Industrial Material and Products in Germany." This report examines methods developed by Albert Speer, German Minister for Armaments and War Production after 1942, to promote efficient production and distribution of industrial materials and products. It gives special attention to economic controls and the centralized allocation system. After the war, the Allies chose to continue many of the Nazi-instituted controls over production and allocation as well as prices and wages.

Armaments Minister Speer's autobiography, *Inside the Third Reich* (1970), includes complementary material to this OSS report. The work discusses Speer's efforts to reorganize the economy and his ministry for more efficient war production after he was named to the post by Hitler in 1942. The primary emphasis is on political and personal recollections, but a fairly clear picture emerges of German economic conditions during the final years of the war.

Germany under Direct Controls by Nicholas Balabkins (1964) deals with British and American economic policies in postwar Germany, and their effect on German industrial recovery. Balabkins is particularly critical of the White-Morgenthau Plan for the pastoralization of Germany that initially formed the basis for U.S. postwar policy. He argues that tight economic controls imposed by Allied authorities--including a continuation of the Nazi-imposed price freeze, embargoes

on raw material imports, and production restrictions--contributed to industrial deterioration, the breakdown of the monetary system, and affected agricultural production as well, leading to a disastrous food shortage. In his opinion these controls were "an integral part of the Allied policy of industrial disarmament of Germany" (p. 211) and crippled German recovery.

In a concise article entitled "Prices, Money and the Distribution of Goods in Postwar Germany" (1949), Horst Mendershausen describes the development of the German economy before the currency reform of 1948, focusing particularly on irregular methods used by citizens and businesses to cope with Allied restrictions and controls. Jack Hirschleifer's *Disaster and Recovery: A Historical Survey* (1963) contains a chapter entitled "Germany's Recovery from Collapse: 1945-1948," which also deals with the negative effects of Allied economic policies on industrial recovery. After examining alternative explanations for the slow German industrial recovery, Hirschleifer concludes that the policy of "repressed inflation" was the primary factor distorting economic behavior and delaying growth.

Wilhelm Hasenack, in *Bilanz der Démontage* (1951), like Balabkins, looks critically at the Allied policies of dismantling German capital assets to be used as reparations, confiscating and destroying other industrial equipment, and restricting production of materials considered to have war potential.

The relationship of a strong German economy to a healthy European economy is the primary focus of Albert Wissler's *Wirtschaftseinheit Europa* (1949). Through production and trade statistics, Wissler traces the growing economic interdependence of key European countries from about 1930. By the time war started, specialization in production had already taken place; self-sufficiency in food and raw materials had been abandoned by individual countries in favor of the active exchange of manufactured goods for needed primary goods or foodstuffs. Wissler recommended that the Allies recognize the economic interdependencies already established among European states--although disrupted by the war--and adopt an "integrated approach" to European economic recovery.

In a much less substantial but complementary work, "Der europäische Longterm Plan und die amerikanische Politik" (1949) (included in the

abstracts under the heading "Europe"), Fritz Baade uses some specific examples to show how low German production damaged the economies of other European countries formerly dependent on German suppliers for sophisticated industrial products. He too argues that an integrated long-term European economic development plan would have been superior to the bilateral approach followed.

In a more recent study (1975), economist Werner Abelshauser takes a second look at German economic activity between 1945 and 1948 and reaches conclusions differing in some respects from sources that attribute German recovery wholly to fiscal reform and Marshall Plan aid. In *Wirtschaft in Westdeutschland 1945-1948*, he argues that in spite of war damage and social disorganization, German economic recovery began soon after order had been reestablished. Significant progress was masked by setbacks caused by the severe winter in 1946-1947; and production statistics significantly understated actual performance before the 1948 currency reforms and overstated the case thereafter. Using detailed economic statistics, Abelshauser argues that the opening of world trade, the removal of import restrictions on raw material and consumer goods, and the reversal of the dismantling policy exerted a very positive effect on German economic recovery, and that the unusually low levels of economic activity immediately before the currency reform and the onset of Marshall Plan aid exaggerated their effect.

Two official sources provide excellent data on the activities and goals of the European Recovery Program in Germany. The first is a Joint Report of the U.S. and U.K. Military Governors (Nos. 1-4, September and December 1948, March and June 1949). The second was issued by the U.S. Economic Cooperation Administration, as a Country Study for West Germany's European Recovery Program (1949). Both provide large quantities of statistical data, insights into policy goals and means, and analyses of factors affecting economic behavior in postwar Germany. In contrast with earlier Allied policy statements, these publications reflect the positive, activist policy that slowly began to supersede Morgenthau Plan policies in late 1946 and that was directed toward speeding German and European industrial self-sufficiency and encouraging the economic integration of Western European nations. The ERP Country Study is an especially valuable reference, clearly analyzing major obstacles hindering recovery and carefully describing exactly

how Marshall Plan aid was to be allotted so as to help overcome these obstacles. It includes separate treatment for the Bizone (an agreement for the merger of U.S. and U.K. zones was signed in December 1946) and the French sector, which joined the Bizone with the currency reform of mid-1948.

Decision in Germany by Lucius Clay (1950) is a valuable memoir that provides a detailed perspective of postwar German recovery through 1949 by the U.S. military governor. A British view is offered by W. Friedmann in *The Allied Military Government of Germany* (1947). This work stresses the relationship between the occupying powers and attendant political implications. Eugene Davidson's *The Death and Life of Germany* (1959) takes a critical (and often dramatic) look at Allied actions in Germany, including related political factors, and follows developments in economic recovery through 1955.

Among the items reviewed that included material on Soviet-occupied East Germany, four were selected for special mention. One, *Der Deutsche Zweijahrplan für 1949-1950*, seems to be an effort by the governing Socialist Unity Party of East Germany to offset the propaganda effect of Marshall Plan aid for the western zones. Another, *SBZ von 1945-1954*, was issued by the West German government, and chronologically documents Soviet acts in the eastern zone during the period indicated. An article by Peter Netti entitled "German Reparations in the Soviet Empire" (1950) looks at the extent of Soviet seizure of German capital assets as war booty and reparations, as well as the evolution of Soviet policy toward the extraction of benefits from East Germany. Finally, *Wirtschaftsprobleme der Besatzungszonen*, put out by the German Institute for Economic Research (1948), is an excellent collection of articles on all the zones, including the Soviet; the articles illustrate how zonal divisions furthered the disintegration of the German national economy after the war. The three articles on the Soviet sector deal with the organization of agriculture, industry, and trade.

SOURCES ON AUSTRIA

Publications of the Austrian Institute for Economic Research, directed by Franz Nemschak, dominate references to Austrian postwar recovery. Written in two series, "Sonderhefte" (Special Issues) and

"Vorträge und Aufsätze" (Lectures and Articles), they cover important aspects of economic activity from the end of World War II through the end of Soviet occupation in 1955. The eight special issues include two studies of Austrian domestic energy development, two overviews of economic activity for 1947-1948 and 1949, a piece on the housing situation in Vienna, a study of the productivity of Austrian industry, and a review of the paper industry. The lectures and articles series emphasize currency and fiscal problems and recommend specific economic policies to help restore economic stability by encouraging domestic savings and investment. The capstone of the series is *Zehn Jahre österreichische Wirtschaft 1945-1955*, also available in English as *Ten Years of Austrian Economic Development, 1945-1955*, issued by the Association of Austrian Industrialists, Vienna, 1955. It summarizes recovery efforts and acknowledges the importance of foreign assistance. One of the purposes of this publication appears to have been to encourage foreign investment and commerce with Austria. Many of the Institute's publications can be found at the Hoover Institution Library, Palo Alto, California,

A unique source worth special mention is *Wien baut auf*, by Hans Riemer (Vienna Rebuilds, 1947) which details the situation in Vienna at war's end (the capital held over 2 million of the country's 7 million people). Topics covered include population structure, public health, occupational structure, diet, and housing availability. The primary focus is on the municipal administration's efforts to meet urgent short-term needs for food, housing, utilities, medical care, burial facilities, and rubble clearing, and long-term needs for land-use planning, municipal construction, and the maintenance of aesthetic standards. Investment priorities for scarce resources are noted. An appendix entitled "Cutting through Red Tape" advises citizens how to resolve immediate problems such as removing debris, getting a window replaced, finding clothes, bicycles, furniture, etc. Vienna's skilled administrators from the pre-war period apparently served the city well during the postwar reconstruction effort. Younger administrators who had held office under the Nazi regime were forbidden to do so after the war.

A secondary source that proved to be exceptionally detailed is *The Rebirth of Austria* (1953) by Richard Hiscocks. An examination of

political, economic and social factors of the Austrian recovery, the book covers foreign assistance, inter-Allied relations, and fiscal policy. An extensive bibliography includes references to primary materials in German. In discussing the effect of Marshall Plan aid on Austrian recovery, Hiscocks asserts that long-term economic needs were quite often sacrificed in favor of shoring up short-term economic weaknesses. He maintains that gigantic industrial complexes left unfinished by the Germans were given the largest share of foreign assistance, even though their location was economically irrational from the point of view of transportation and raw materials supply and they would require a disproportionate share of available capital, skilled manpower, and raw materials when completed. By contrast, medium and small enterprises employing equally large aggregate numbers tended to be neglected.

Particularly useful official reports were "A Country Study for Austria" (1949), prepared by the U.S. Economic Cooperation Administration (similar to the one noted previously for Germany); and *The Rehabilitation of Austria, 1945-1947* (1948), a series of four volumes (of which nos. 2 and 3 were available), prepared by the U.S. Allied Commission for Austria. The ECA publication recapitulates the Austrian economic situation and discusses the war's impact on the government's efforts to reconstruct the economy. Government programs are evaluated, including the ECA view of how foreign assistance might best assist the Austrians in achieving long-term economic self-sufficiency. The need for domestic investment capital is stressed. *The Rehabilitation of Austria* contains graphs, charts, maps, and statistical tables, and sums up economic, political, and social aspects of Austria's 1945-1947 situation in considerable detail.

Although numerous references pertaining to Austrian and German postwar recovery efforts could not be included here, the sources reviewed illustrate the types of materials available; some, as noted in the abstracts, include bibliographies that may guide the interested reader to other specialized source material.

SELECTED RECOVERY ISSUES

As the sources were explored, certain issues tended to recur.

Three were selected that seemed to have especially significant implications for the resumption of normal industrial production and economic activity--the food problem, policies of the occupying powers, and foreign assistance. A separate section highlights the Marshall Plan and 1948 currency reforms. Where appropriate, references are made to works abstracted in this report.

Background Note

Recall that German forces marched into Austria in 1938, established a Nazi regime controlled by Germany, and proceeded to integrate the Austrian economy with the German. By the end of the war, German economic interests had inextricably permeated Austrian industry. For this reason, and also because many Austrians had cooperated with Nazi authorities and an Austrian army had fought alongside the Germans in the war, the Allies initially decided that war reparations would be extracted from Austria as well as Germany. However, acknowledging the active Austrian resistance that had operated effectively in the Tyrol, and other mitigating factors, the Allies ultimately decided that Austria was to be regarded as a "liberated" rather than a defeated country, and would be permitted to maintain a native federal government elected democratically. But a policy of "denazification" and confiscation of "German property" was to be followed there as well as in Germany. The overriding Allied policy objective--preventing the reconstruction of a German war machine--was not so wholeheartedly applied to Austria with its small population (7 million) and old-fashioned industrial structure. (Germany's population was about 60 million overall, 45 million of which lived in the western zones.) Disputes between occupying powers were less debilitating to Austria's recovery efforts than to Germany's.

German economic policy governed both countries during the seven years following the Anschluss of 1938 and oriented Austrian industrial development to suit German needs. The economy was highly regulated, wage and price controls were instituted, and subsidies established to ensure deliveries of food to markets. Based as it was on this rigid system of centralized controls, the Austrian-German economic structure collapsed completely with the Nazi defeat. As the Allies entered from

East and West, the two German-speaking countries suffered severe economic and political disorganization leading to looting in the urban areas and brigandage in the rural:

Both cities and countryside returned to savagery. As in the period after the Thirty Years War, when wolves roamed the streets of what had been thriving villages, now again wild creatures invaded once-cultivated places. There was the wild pig plague, as the Germans called it. These animals had prospered since farmers were not allowed to have rifles or shotguns and there was no adequate defense against their depredations. In herds of fifty or sixty, the pigs uprooted potato and other crops, and did great damage despite efforts to fence off fields and farmers arming themselves with bows and arrows. [Davidson, p. 137.]

The primary eastern zones of both countries had been "liberated" by Soviet forces, while the United States, Britain, and France occupied the western regions; both countries had suffered extensive damage to industrialized regions and urban areas, and Austria's prime agricultural lands taken by the Soviets had been the scene of heavy fighting.

After a semblance of civil order was restored to both Austria and Germany, the occupation authorities set about implementing their existing plans for reconstruction, which had been largely decided on before war's end. Many of these plans proved unworkable.

General Obstacles to Recovery

The Economic Cooperation Administration in its 1948 German Country Study outlines seven major obstacles to economic recovery in Germany (this list is in most respects applicable to Austria as well): (1) food shortages; (2) coal and fuel shortages; (3) consumer goods shortages; (4) raw materials shortages; (5) housing scarcity; (6) transportation breakdown; and (7) fiscal imbalance--the volume of currency in circulation was huge, while only a miniscule quantity of goods was available for purchase.

According to various sources, a number of factors delayed resolution of these problems: (1) the Allied policy of pastoralizing Germany--including reparations, dismantling, seizure of external assets

and attendant uncertainty generated by dismantling, and delay of fiscal reform; (2) occupation costs; (3) rigid control of foreign trade; (4) social and political disorganization; (5) the denazification policy, which excluded many experienced businessmen and administrators from all but manual labor positions; (6) decartelization, which broke up large economic enterprises; (7) market disruption; and (8) economic policy of repressed inflation. (See Balabkins, Davidson, Hiscocks, Hirschleifer, et al.)

Food

The acute shortage of food was the most critical obstacle for reconstruction in both Austria and Germany. Neither country had been self-sufficient in foodstuffs before the war, and in both countries the Soviets occupied agriculturally important regions, notably for grain, potato, and sugar production. Food from the Soviet-occupied sectors was diverted for use by the occupier. Before the war, Germany had paid for food imports with exports of manufactured goods, while Austria had relied on foreign exchange earned from the tourist trade and transit traffic. These funds were no longer available.

Urban areas, which had sustained the bulk of war damage,^{*} were particularly hard hit by food shortages, a condition acutely aggravated by the influx of refugees from the East--some 5000 to 10,000 per day in Germany, a total of 8 million by the end of 1946, and about half a million in Austria.

The Joint Report of U.S. and U.K. military governors for Germany states:

Warfare ended in Germany with food stocks at an abnormally low level, owing to normal seasonal factors plus the disruption of the last months of fighting. Moreover, the

* In Germany early figures indicated that 20 percent of the population--residents in the largest cities--had suffered 60 percent of the total destruction in terms of volume of rubble per resident. (Arndt, 1947.)

world shortage of food and the continued utilization of shipping to fight the Pacific War forced the cutting of relief supply allocations to bare survival levels. These circumstances, together with the collapse of the Reich Government, which had previously directed German food supply down to the smallest political subdivision, broke down all German controls over the inadequate supplies in hand and in prospect.

The passage relates the initial Allied response:

This situation dictated a single overriding objective: establishment of rigid controls over the collection and distribution of all foods to prevent the mass starvation, disease, and civil unrest that would endanger the objectives of the occupation and the safety of the Occupying Forces. Military Government Food Teams were quickly deployed to all localities to determine local stocks and delivery prospects. Central programs were established in each zone to equalize food distribution. World food shortages were so acute, however, that imports for the U.S. zone of occupation in April-June 1946 fell to about 50,000 tons per month, forcing reductions in the ration in both zones. Equivalent shortfalls occurred in the U.K. Zone. Thus, in the first phase, roughly the first year of the Occupation, the only permanent gains were: the reestablishment of controls over available supplies; the beginnings of implementation of food production plans; and the fuller understanding both by military governments and home governments of the magnitude of the task. [September 1948 Report, No. 1, p. 25.]

Rations during that first year of occupation were cut to dangerously low levels by occupying authorities--in the U.K. zone to 1040 calories per day per person, in the U.S. zone to 1275, and less in the French zone (Davidson, p. 135). Lucius Clay reported that only 950 calories per day were actually delivered in the U.S. zone (p. 264). The situation improved somewhat after the 1946 harvest, but the severe winter of 1946-1947 and the drought of summer 1947 brought additional hardships. One source comments:

The (German) situation was far worse than in any other European country, and the brunt of the hunger and its secondary effects were borne by the old and the young and those who were too poor to buy what food there was.

"Germany," Hoover said, "had sunk to a level not known in the Western world for a hundred years." Famine edema was appearing among children and adolescents and among adults, too; there were 10,000 cases in Hamburg alone. [Davidson, p. 157.]

The Austrians, too, were suffering from food shortages--at one point 80 percent of the country's food was being supplied through some sort of foreign assistance. Vienna, already home to 30 percent of the country's population and serving as the collection point for refugees, was especially hard hit. As an administrative and financial center and provider of services, Vienna had depended on other parts of the country for food. It was known as "the hungriest city in Europe" between May and August 1945, before the Allies set up joint control in place of an ill-prepared Soviet administration. (U.S. Allied Commission, Austria, *The Rehabilitation of Austria*, Vol. 2, p. 24.)

Both Germany and Austria suffered from a lack of transport facilities to ship food and other necessities to needy areas. Railroad cars, tracks, and bridges had suffered extensive damage. Many operable cars and locomotives were seized by occupying countries as reparations; the Soviets and French in particular engaged in these practices in an effort to recoup war losses. Cars that were used to ship trade goods to other countries frequently were not returned. Longer routes due to damaged tracks and bridges led to greater fuel consumption in a time of fuel shortages, further hindering efficient distribution of the food that was available.

Short-term measures taken by the occupying authorities to deal with the food shortage included rationing and central control of food distribution; supplying seed grains; opening up fertilizer plants (which had been closed because as chemical producers they were considered potentially war-related) and farm equipment plants; reducing the number of grain-consuming animals; and increasing the planting of direct food crops. Thousands of railroad cars were brought from the United States to Germany, and those locally available were repaired on a priority basis. These actions produced somewhat greater calorie values for the population, although the diet lacked meat and eggs and other high-protein foods.

Long-term remedies aimed at increasing the overall productivity of land and farm labor included land reform--distribution of acreage taken from very large farming units, and exchange of village plots to consolidate holdings; improvements in crop patterns; and a general modernization in farming practices. But little progress was made until the favorable growing season of 1948. In the meantime, imports of food meant the difference between survival and starvation for urban residents of Germany and Austria.

The food shortage had profound repercussions in the industrial economy of Austria and Germany. Unable to survive on the rations available, city dwellers had to spend a significant amount of time trekking to the countryside: "It was far more rewarding to go out into the countryside to trade clothing or pieces of furniture or jewelry to the farmers for food than to work at a daily job, even at coal-mining, for which special benefits were given in the form of increased ration allowances" (Davidson, p. 134). Those without goods to trade could only exchange their labor for food, which had two obvious results: It diverted manpower resources from production lines and diverted food from the centralized distribution process. Farmers could benefit more by bartering their harvest than by receiving worthless currency at market. Food delivery quotas set by the Allies were infrequently met. These consequences were in addition to the low level of labor productivity of an undernourished work force.

Even had their health permitted, factory workers had little incentive to raise productivity for money wages that could buy little more than a minimum food ration. Consumer goods were in short supply and Allied authorities would not subsidize their import. Businesses that could pay compensation in the form of consumer goods and/or a hot meal a day had an advantage over those that could not. Companies therefore took to bartering with each other for consumer goods that could be used to compensate workers.

Another consequence of the dire food shortage was that businesses maintained full work forces even though operating at a fraction of pre-war production. The policy that only workers who could show proof of employment were eligible for extra food rations provided incentive for

workers to stay on. This arrangement permitted businesses to hold onto their skilled workers while they waited for the day when production could be expanded. Skilled workers were difficult to find due to war deaths and the prisoner-of-war status of the more recently trained. As a result of this practice, employment figures for the immediate postwar period fail to reveal the actual extent of unemployment and underemployment.

Thus the food shortages of the three immediate postwar years fed a vicious cycle of low productivity and economic stagnation in both Austria and Germany. Another factor that contributed to the cycle and that has been only touched on here was the inadequate supply of energy. Germany's rich coal resources were heavily diverted to meet the needs of victorious or liberated countries (at less than a half of market prices), and more than half of Austria's eastern oil supply was seized by the Soviets, leaving the western provinces short of oil. Austria's newly developed hydroelectric resources had been tied into a German power net. Poland, a traditional source of coal for Austria, was selling this fuel at exorbitant prices. Thus, when the severely cold winter of 1946-1947 struck, nearly all production in both countries ground to a halt from December to February. The hiatus was euphemistically called a "fuel and energy holiday."

Aside from the burden of hunger and related considerations, several sources cite what might be termed policy factors as explanations for the very slow economic recovery in Austria and especially in Germany.

Policy Factors

The Allies were guided by the general goals decided on at Yalta in February 1945, further developed at Potsdam in July 1945, and set forth explicitly by the U.S. Joint Chiefs of Staff directive 1067 (JCS/1067). Occupation authorities retained many aspects of the highly controlled economic structure instituted by the departed Nazi regime. By maintaining the existing system of controls in Germany, the Allies could closely manage economic activity in order to prevent the rebuilding of industries with war potential; to extract reparations in the form of coal, capital assets, and forced labor with which countries who had

suffered Nazi war damage were to be compensated; and to regulate foreign trade.

JCS/1067 specifically prohibited military authorities from "taking any steps to rehabilitate or maintain the German economy except to maximize agricultural production" (Clay, p. 18). Only fiscal measures deemed essential to restrain inflation were permitted.

An initial decision was whether or not to implement a currency reform. In Austria, where a federal government was able to form and pursue the nation's collective interests, a partial currency reform was instituted in 1945, at the time the German and Austrian currencies were separated. The value of the new schilling was set, and 60 percent of currency in savings accounts was blocked to reduce the swollen quantity of currency in circulation. Thereafter, reforms were carried out piecemeal. By contrast, occupation authorities in Germany could not agree to reduce currency circulation and unify the currency, relying instead on direct economic controls to contain inflationary tendencies. Ceiling prices were set on major commodities and food in production. Together with restrictions on imports of raw materials and consumer goods, and limitations on production of war-related items, the repressed inflation policy made the first 2 to 3 years of German rebuilding a negative lesson in how to promote industrial recovery.

Like individuals, businesses were affected by the lack of incentive to increase productivity as well as the shortage of raw materials. The price freeze reduced profit margins, in some cases completely eliminating them. Uncertainty about if and when fiscal reform would come created a climate of business conservatism. Managers put off increasing production and hoarded raw materials, avoiding the accumulation of money capital so that losses from possible currency reform measures would be minimized.

The trekking and bartering carried on by individuals in their efforts to survive had its parallel in the behavior of businesses in the practice called "compensation trading." One observer describes a typical transaction:

"Everybody knows that to get cement you must offer coal," said the city fathers of Stuttgart, and they bought liquor

brewed in the surrounding countryside, shipped it to the French zone in exchange for cigarettes, shipped the cigarettes to a Ruhr mine and swapped them for coal, brought the coal back to a cement plant in Württemberg, and thus got the cement for reconstruction work. [Mendershausen, p. 656.]

The law-abiding Germans, loath to enter into illegal "black market" arrangements, computed the equivalent quantities of goods at legal or near-legal prices. Some adjustments were made for the inappropriateness of the frozen price structure:

For instance, the going rate for the widespread bilateral exchange of cement for coal was one ton of coal for one ton of cement. At legal prices, one ton of coal was the equivalent of one half ton of cement. The balance due the cement producer at legal prices would usually be settled in money. This was for bookkeeping purposes chiefly. [Mendershausen, p. 657.]

The practice apparently flourished in the Soviet zone as well, where it is reported,

a big chemical plant . . . was known to have a detailed list showing the exchange equivalencies of a hundredweight of fertilizer in terms of coal, flour, potatoes and other goods, for the benefit of its customers. [Mendershausen, p. 657.]

Various sources indicate that nearly 50 percent or more of all business transactions were handled through compensation trading or some other form of bilateral exchange. The time and energy required to locate the right partners for these complex transactions further reduced the levels of efficiency and the effort that could be devoted to economic recovery per se. This primitivization of the German, and to some extent the Austrian, economy provided a survival mechanism for businesses and individuals in an environment where money had lost its significance, and raw materials, food, consumer and capital goods were scarce.

Products manufactured under the rigid price ceilings often did not bring enough revenue to cover cost of production. One result was that manufacturers tried to get around the price controls by turning to the production of "new" goods--items that had not been produced at the time controls were imposed, and that consequently had no set price ceilings: ashtrays, fancy lamps, dolls, chandeliers, candlesticks, etc. Thus items with relatively little utility were turned to as alternatives to pails, plates, cups, and basic necessities whose production showed a loss, and energy, raw materials, labor, and capital were diverted from activity that would have better promoted economic recovery.

Because goods and raw materials were scarce and money plentiful, many companies that were allocated supplies of raw materials or semi-finished products would hoard them or sell them on the black market rather than use them in production at a loss. This practice was made possible by the allocation system instituted in the Western zones which was "production oriented" (Balabkins, p. 149). Quotas of fuel and raw materials were allotted on the basis of production potential rather than actual production or sales.

In mid-1947 a revised system based on actual sales performance was instituted; but by that time Allied recovery policy was becoming more positive, and indications were that currency reform might be implemented and reduce the amount of cash in circulation. Thus businesses preferred to hoard large stocks of finished goods and raw materials whose value would be solidly maintained after the reforms.

Several reasons lay behind the Allied decision to take a new approach to German economic recovery. First, ongoing costs for stopgap relief efforts were too much to bear--the United States and Britain were paying more than \$600 million a year to occupy Germany (Davidson, p. 160); second, the realization had set in that all of Europe was affected by the German economy and could not recover without healthy German industrial production; third, difficulties with the Soviet Union deepened, and the Western Allies became resigned to the need to proceed with currency reform and unification of their zones in view of Soviet intransigence; and finally, the policy of reparations extraction had to

be reversed because the United States often ended up paying for capital assets to replace those taken for reparations by other occupying states.

REFORMS OF 1948 AND THE EUROPEAN RECOVERY PROGRAM

In 1948 the Western Allies decided to go ahead with currency reform without the Soviet Union, whose leaders were asking unacceptable concessions in return for their cooperation. In Germany, about 90 percent of the money supply was withdrawn from circulation. Taxes were generally lowered, and a uniform exchange rate between the new Deutschmark and the dollar was fixed. This latter measure was particularly needed to replace the many different conversion rates used to link German prices to foreign prices in foreign trade transactions (Mendershausen, 1949).

The all-comprehensive controls on prices, rationing, and allocation were withdrawn, triggering an orgy of buying as hoarded goods appeared for sale. Prices began to climb steadily upward. The reestablishment of normal markets proceeded, with some retrogression at times in certain areas. But substantial recovery of the overall economy after the mid-1948 reforms is indicated by an increase in the bizonal index of industrial production of 53 percent between June and December 1948, from 51 to 78 percent of 1936 production levels (Mendershausen).

Long-Term Recovery and the Marshall Plan

Although it suffered extensive damage during the war, the German industrial plant was essentially modern and the work force skilled and disciplined. Moreover, sufficient industrial expansion had taken place during the war to nearly compensate for plants destroyed. The potential for economic growth was there to be unleashed after restrictions on imports of raw materials and the uncertainties created by dismantling and postponement of currency reforms were removed.

By contrast, Austria's industrial plant was somewhat limited and obsolete before the German occupation. Although the Germans began construction of modern heavy industry in Austria during the war, this had

been heavily bombed.* The lumber and paper industry--a crucial earner of foreign exchange--and the mining industries still used inefficient methods and obsolete equipment. Moreover, while German export markets remained essentially intact in Western Europe, traditional Austrian markets had disappeared behind the Iron Curtain. Austria appears to have had further to go than Germany in establishing a healthy economy.

European Recovery Program aid was vital to the restoration and modernization of Austrian industry, especially by providing long-term investment capital for rebuilding and modernizing the industrial plant, and by encouraging the development of trade between Austria and Western countries. Another benefit was the stabilization of the Austrian financial structure: ERP funds were used to offset trade deficits and soften the impact of currency reform measures.

ERP assistance was provided in three ways: (1) through direct annual grants of dollars to cover the import of essential goods (primarily from the Western hemisphere, but also of urgently needed raw materials such as hard coal from Poland); (2) through indirect aid in the form of drawing rights that allowed Austria to import goods from European countries with which she had trade imbalances with payment collected from the United States; and (3) through the use of counterpart funds, whereby goods imported into Austria with the use of ERP dollars were paid for in Austrian schillings, which were then deposited in a special account of the Austrian National Bank to be used for long-term investment projects.

The criteria applied to sectors to determine the kind and amount of aid to be given and the effect of ERP aid on these various sectors in achieving the long-term goal of economic recovery are discussed in Richard Hiscock's *The Rebirth of Austria*, Nemschak's *Ten Years of Austrian Recovery*, and the *ERP Country Study for Austria*.

The ERP aid program contained provisions for monitoring and involved sizable administrative costs. To minimize these costs and maximize benefits, certain principles were followed in determining where assistance should be given.

* For example, the German-built city of Wiener Neustadt, housing a huge Messerschmidt plant, had been reduced in population from 45,000 to 860.

First, no American dollars were to be invested in the Soviet zone.

Second, large size was a positive factor because sizable industries could be more efficiently monitored and controlled. Nationalized industries operated under state control were therefore likely recipients.

Third, product exportability was considered. Because of hard currency shortages, many countries were limiting imports; Austrian exports therefore had to be geared to world market needs.

Fourth, heavy industrial plants begun by the Germans were to be completed and assisted to operate. Although built with German national interests in mind from the point of view of location, capital supply, labor supply, energy consumption, and raw materials availability, they had several attractive attributes for investment purposes. Most were in the U.S. zone of occupation, had been nationalized, produced goods in great demand, had modern layouts and equipment, would respond to a large capital investment, and employed a large labor force.

Impact of ERP Aid on Sectors of the Austrian Economy

Agriculture. ERP agricultural goals were modest. Efforts centered around increasing the supply of farm equipment and feed grains, and encouraging the use of fertilizers. Problems arose from the small size of farms, peasant resistance to new methods, and declining labor supply. Capital outlay alone could not solve these problems. (Even after ERP, fertilizer and feed grains remained in short supply.) The black market in food products did end, however, and food prices gradually adjusted upward.

Forestry. Only time could restore Austria's lumber resources, but ERP helped by financing the modernization of primitive methods of lumbering and milling, and the paper and wood industry responded well. Prewar wood product exports had made up 10 percent of export value; by 1951, this figure reached 17 percent.

Heavy Industry. Iron and steel alone took 50 percent of counterpart funds during 1949-1950. Unfinished plants were completed, damage was repaired, dismantled facilities were in many cases replaced, and

retooling for peacetime production was undertaken. Heavy industry was responsive to this assistance; aluminum, for example, became an important export item.

Consumer Goods. Consumer goods industries such as textiles and small crafts, which had been the foundation of Austrian exports before the war, were neglected in postwar recovery efforts, although they employed nearly as much of the work force as did heavier industry. Many of these industries were too small or not sufficiently export-oriented to receive ERP funds.

Fuel and Power. Investment in the energy sector paid rich dividends in Austria. Hydroelectric power potential was developed--and absorbed most of the investment in this sector. The efficiency and productivity of coal mining efforts were considerably improved through ERP aid. The 1951 coal production level was 48 percent above 1937. Steam power plants were constructed to supplement hydroelectric facilities. Some hydroelectric power was exported to Germany, and thus earned needed foreign exchange.

Railroads. The railroads constituted the greatest single economic enterprise in Austria, and a crucial medium for earning foreign exchange. Railroad recovery was initially hindered by severe overemployment. Consequently, unneeded workers were pensioned off, with the result that inactive workers outnumbered active for a time and required one-third of the total railroad budget.

ERP aid repaired bridges and tracks, replaced cars and locomotives, and extended line electrification, reducing the need for coal. Progress was slow, but by the end of 1949 most of the war damage had been repaired and much electrification completed.

Tourism. In 1936-1937, earnings from the tourist industry had covered 80 percent of Austria's foreign exchange deficit. But after the war, money for touring was not available, facilities no longer existed, food for tourists could not be spared, and zonal divisions made travel inconvenient. ERP provided separate food rations for tourists, simplified procedures for crossing zones, and provided counterpart funds for the construction of hotels, ski lifts, cable railways, and tourist offices. Still, improvement was slow. In 1951-1952, tourist revenues offset only 19 percent of the foreign trade deficit.

Foreign Trade. We have already noted that ERP funds covered trade imbalances, and ERP funding policies encouraged new markets and exportable goods. The value of Austrian exports increased from 26 percent of the 1937 level in 1947 to 110 percent of the 1937 level in 1951. (Imports jumped from 24 to 87 percent during the same period.) But the production of traditional Austrian exports valued because of their quality and craftsmanship lagged, and the effect of this economic weakness was felt in 1951-1952 during a stagnant period marked by an increase in unemployment.

Final Currency Reform and the Establishment of a Healthy Austrian Economy

Unlike the German case, where currency reform was imposed by occupation authorities who were not so vulnerable to domestic political reaction, the Austrian coalition government had been reluctant to jeopardize political support by initiating complete currency reform. Thus the period of recovery had been marked by cycles of high inflation, leveled temporarily with partial currency reform and wage-price agreements, followed by renewed inflation. A final currency reform in 1952, however, completed the harnessing of inflationary forces from the war and its aftermath.

Under an agreement in 1955 the Soviet Union pledged to withdraw from occupation of eastern Austria. Although the Soviets extracted sizable deliveries of oil over the following 10 years in return, Austria regained control over her own oil fields and the industrial and agricultural resources of her eastern sector. The economic base of the country had not only been restored but modernized and expanded.

FINAL OBSERVATIONS

Much of the material surveyed relates to one of two dominant themes: (1) the economic implications of occupation policies; and (2) the role of foreign assistance in, first, assuring survival and, second, promoting industrial recovery. Certain other issues are only touched on in the literature but deserve mention: expansion of industrial production during wartime; use of third-country territory as a supplementary

industrial and resource base; and political conflicts connected with the recovery process.

Occupation Policies

Postwar Austria and Germany were defeated, occupied, and segmented countries. If any recovery plans had been drawn up by the Nazis, these disappeared with the fallen regimes. Recovery plans and procedures were decided on by foreign governments, not by the local governments as in the Soviet Union. Thus sources on recovery efforts between 1945 and 1948 are perhaps more instructive on the question of how economic reconstruction might be limited and channeled in an adversary country to suit the goals of the victorious power than on the broader question of how to promote postwar recovery. The literature pays particular attention to procedures such as dismantling, controls on industrial production, occupational restrictions, zonal division, controls on raw materials, inhibiting fiscal policies, and trade restrictions.

Additional work along these lines might include a closer examination of the Morgenthau Plan, its goals, and how and why it had to be modified. An interesting question is the feasibility of pinpointing and controlling those industries considered vital to a future war effort in a way compatible with the reconstruction of a viable economy.

Foreign Assistance

The role of foreign assistance in facilitating and shaping recovery is a second theme that received substantial attention in the sources. Many facets of this topic are touched on: The nature of foreign aid, its allocation and distribution during the time when the survival of large populations was at stake, and its role in reconstructing a viable economy comprise some of the larger issues.

For both Austria and Germany, food from foreign sources proved the difference between survival and mass starvation. We have seen how the food problem was related to many other aspects of the economy. Distribution of food supplies required attention to transport facilities. Production of food required activity in chemical plants for fertilizer and vehicle production plants for tractors and trucks--two war-related industries that were heavily restricted.

Urban survival problems would be especially interesting to explore further. The literature describes how restoration of basic utilities, handling of rubble clearing, burial, health and sanitation, housing reconstruction, and refugee problems were handled through the cooperation of foreign and local officials.

Although there is general agreement in the sources that funds from the European Recovery Program were vital to the recovery of the Austrian economy, differing views are offered with respect to Germany. Some writers emphasize the removal of inhibiting restrictions on German economic activity as largely responsible for the German "economic miracle." Others stress Marshall Plan aid. The question of further interest is not who is right, but rather what is the most appropriate role for foreign assistance given the varying levels of surviving infrastructure and work force capabilities.

The sources raise several other issues related to foreign assistance that merit additional study. One is the utilization of a reconstruction period to improve and modernize an old-fashioned industrial base. Both Austria and Germany emerged from reconstruction stronger industrially than before the war. Once survival had been assured and a positive climate for foreign aid established, planners seized the opportunity to modernize and expand for the future, not simply rebuild. It might be useful to explore comparatively the industrial infrastructure of both countries before the war and after recovery.

Priorities set by the ERP exerted an important influence on the economic development of receiver states. In Austria, for example, heavy industry was emphasized at the expense of light industry and traditional crafts that employed equally large numbers of workers. The allocation of ERP aid was partially determined by monitoring requirements built in by Congress. We have noted how those recipients who were easiest to monitor received preference--for example, large nationally owned firms located in the U.S. sector. Moreover, since ERP included a number of states, priority was assigned to manufacturers of exportable products, those needed by other countries for their recovery efforts. This policy, which exacted certain social costs in Austria in the form of unemployment in small business sectors, had a profound effect on subsequent economic development.

Intrawar Industrial Expansion

A further point of interest is the program of industrial expansion undertaken by the Reich under wartime conditions. The OSS document referred to earlier in this section makes substantial reference to the expansion program, and Speer's memoirs also touch on the subject. In addition, Terence Jackson's work on German wartime industrial controls is very much to the point. More data may be available. In this case intrawar industrial expansion may have contributed to long-term economic recovery. How priorities were assigned in this expansion and reorganization program and what procedures and administrative apparatus were used to implement it are possible subjects for further examination.

Backup Resource Bases

To supplement their own war effort, the Germans used the conquered territory of Austria as a resource base and industrial backup. Austria provided energy from hydroelectric power and war materiel to take some load from the German economy. The basic concept bears elaboration, and could include the development of its hinterlands by a large country, as well as various arrangements whereby a third country would provide needed supplies to a combatant.

Political Conflict during Reconstruction

Whether their interests are political, bureaucratic, or economic (sectoral, industrial), groups with differing demands and priorities interact during the recovery process to decide how scarce resources are to be allocated. The political process by which these conflicts are dealt with demands attention. Our sources touched on the regional differences in Austria that created friction--between rural residents and the Viennese, for example, and between the mountainous Tyrol with its tradition of provincial identity and eastern sectors of the country. The strong and astute leadership of elder statesmen who came forth to take part in the postwar government played a vital role in preventing the nation's fragmentation.

To a certain extent, similar conflicts arose in Germany--for example, between the Länder. The Land officials stressed local interests above the federal, according to the reports of ERP and American military

officials. These examples illustrate the danger of fragmentation to a state after a disaster has removed or severely handicapped the central governing mechanism. Stresses may fracture the body politic along regional or ethnic lines in countries where sizable minorities exist.

Conflict between functional interest groups may not represent a threat of regional fragmentation, but may well pose obstacles to recovery progress. We have already mentioned the dispute in Austria between those who favored the development of heavy industry and those who wanted to stress light and craft-oriented industry. The question was debated as to what priority agriculture would receive. In Germany, proponents of the coal and steel industry argued for a greater share of scarce raw materials from Allied authorities.

In a democratic country, the government may hesitate to take needed steps with high social costs for fear of falling from power. In Austria, opposition to thoroughgoing currency reform postponed decisive measures for years in favor of a series of partial steps. In a nondemocratic state, bureaucratic or sectoral interests can still be expected to differ over priorities for scarce resource distribution. An understanding of the historical compromises and conflicts in Austria and Germany during recovery may well be transferable to other situations where resources are scarce, such as in newly industrializing states.

CONCLUSIONS

To draw general conclusions from a partial survey such as this one has many pitfalls. As noted, periodical literature was not systematically covered, library collections surveyed were limited in number, and focus was restricted to two West European countries--Austria and West Germany. Nevertheless, an interesting hypothesis that emerges from this effort merits further investigation: Beyond calls for greater economic cooperation between European allies and general discussions of the significance of foreign assistance for postwar recovery, surprisingly little attention has been given to summing up the reconstruction experience to provide guidelines for future economic planning for agricultural reserves, locating strategic industry, civil defense, and the like.

Some support for this hypothesis is found in the 1975 book by Werner Abelshauser, *Wirtschaft in Westdeutschland 1945-1948*. This doctoral dissertation was written under the guidance of Mathias Manz, the author of a groundbreaking work on the postwar economic history of the French zone of occupation. After conducting a bibliographical search for materials, Abelshauser concludes: "The monographic economic-historical literature of this time (1945-1948) dealing with Germany is as yet decidedly meager. In contrast to the political history of the occupation period, which since the end of the 1960s has attracted increasing research attention, there are only a few studies on the economic history of this period which are based upon a foundation of the economic-political realities of that time" (p. 9). He cites Manz's book as the foremost work dealing with the French zone* and the works by Balabkins† and Gustav W. Harmssen on dismantling and reparations‡ as the most important research efforts on the economic history of the U.S. and British occupied zones of Germany.

Because Abelshauser's search had slightly different objectives than ours, it may be argued that his conclusion does not directly support our hypothesis. In response, it can be pointed out that without basic research into the behavior of the nation's economy during the crucial postwar period, policymakers have little to work with even were the relevance of this period for present economic planning to be recognized. We have encountered no evidence that such a recognition has occurred, although our sources may not be the best ones for testing that hypothesis. Certainly, further investigation is in order for verification or invalidation.

If contemporary Germans and other West Europeans have in fact not concerned themselves with mining their postwar experience for possible

* *Stagnation und Aufschwung in der französischen Besatzungszone von 1945 bis 1948* [Stagnation and Upturn in the French Zone of Occupation from 1945 to 1948], University of Mannheim, 1968.

† *Germany under Direct Controls*, reviewed above.

‡ *Reparationen, Sozialprodukt, Lebensstandard, Versuch einer Wirtschaftsbilanz* [Reparations, Social Product, Standard of Living, Search for an Economic Balance], Vols. 1-4, Bremen, 1947-1948; and *Am Abend der Demontage, Sechs Jahre Reparationspolitik* [The Twilight of Dismantling, Six Years of Reparations Policy], Bremen, 1951; neither of these works was available for review.

economic relevance, as the Soviets have begun doing, we must ask why. Three plausible explanations suggest themselves: To delve back into the period may have been too emotionally repugnant for the generation that experienced the war and its aftermath; to examine closely day-to-day economic realities under the occupation of nations currently their closest allies may have been politically sensitive for the Germans in particular; and to explore the postwar recovery experience may not have seemed relevant to current defense perspectives. Other explanations are no doubt equally plausible. The point here is that perhaps it is time to raise the issue of planning for economic recovery after war-related disaster; in doing so, implicit assumptions about defensive strengths and vulnerabilities may be brought to light that need to be reexamined in the context of present political and economic conditions.

2. Abstracts

AUSTRIA

Ausch, Karl, *Die Neue Wirtschaft im neuen Österreich* [The New Economy in New Austria], 2d ed., Foreword by Stefan Wirlandner, Verlag der Wiener Volksbuchhandlung, Vienna, 1947, 24 pp.

An Austrian Socialist Party (ASP) critique of postwar government policy. This pamphlet, occasionally polemic in tone, contains recommendations for actions aimed at widening government involvement in economic recovery.

The author, a member of the ASP stationed in London, cautions the Austrian Volkspartei (the conservative People's Party) about playing class politics, and reminds its leaders that the Socialists have a legitimate role to play in recovery planning. Austria, Ausch says, should follow the paths of other Southern European countries in instituting a planned economy, with the state in dominant control of major industries such as mining, oil production, energy, metals, chemicals, electricity, and finance. The creation of a Ministry of the Economy is suggested, with a general staff designated to act in economic matters parallel to military staff organization. Ausch also recommends closer ties with Communist countries because of their planned economies.

An appendix includes tables showing numbers of farm animals before and after the war, with losses indicated; war damage to Austrian farming in lower Austria; housing damage; and damage to industry in Vienna and lower Austria. No sources are cited, but Soviet occupation authorities may have provided some of the data.

Creditanstalt Bankverein, Vienna, "Features of Austrian Reconstruction, 1945-1952" (in English), *Wirtschaftsberichte* [Economic Reports], Special Edition, Vol. 5, No. 18, Vienna, May 1953, 15 pp.

A brief but informative discussion of Austria's postwar recovery viewed from a point in time (1952) offering a summary perspective. The role of banks, chambers of commerce, and other financial service institutions that were able to reconstitute themselves quickly after the war is emphasized. The natural resources available after the war are surveyed, and the basic economic features of the recovery effort are reviewed. Investment in key survival industries, such as building materials and food industries, is cited as an important banking contribution. Other factors aiding recovery were international aid from Marshall Plan sources, and, later, growing European economic cooperation after Marshall aid ended. Austrian banking interests also made credits available for investment in industrial production and promoted a commercial policy based on developing new export markets for Austrian goods.

A statistical appendix deals with Austria's economy and foreign trade, currency, and credit position for the period from about 1948 to 1952. Figures on foreign trade, countries constituting primary export markets and import suppliers, production figures for export

industries, energy production, steel and iron production, timber, paper, textiles, etc., are included.

Heissenberger, Franz, *The Economic Reconstruction of Austria, 1945-1952, A Report on Postwar Developments*, Library of Congress Reference Department, European Affairs Division, Washington, D.C., 1953, xii, 153 pp.

A short survey of past Austrian thinking, teaching, and research in the field of economics and a detailed analytical description of the economic recovery of Austria during the years 1945-1952. Heissenberger, a Foreign Consultant to the Library of Congress, stresses the primary importance of reconstruction of the financial establishment--credit, banking, currency, etc.--"for the sake of simply existing." Tables present data on the balance of payments from 1948 to 1951 and the development of the most important raw material prices for 1939, 1945, and 1950-1952.

Hiscocks, Richard, *The Rebirth of Austria*, Geoffrey Cumberledge, Oxford University Press, London, 1953, 263 pp., bibliog.

Includes chapters on the legacy of the Anschluss and the war, UNRRA and foreign relief, Marshall aid and economic recovery, and Russian obstruction. From February 1946 to October 1949, Hiscocks worked as British Council Representative in Austria. Austria was a unique case among the 17 countries (16 Committee of European Economic Cooperation countries and Western Germany) participating in the European Recovery Program (Marshall Plan) in that it possessed a government of its own while being occupied by the four Allied powers.

Hudeczek, Karl, *Die österreichische Volkswirtschaft und ihr Wiederaufbau* [The Austrian Political Economy and Its Reconstruction], Springer Verlag, Vienna, 1946, vi, 229 pp.

A comprehensive description of the reconstruction of the Austrian national economy after World War II, using for comparison the situation in 1937. There are many statistical tables, which cover such topics as population and occupation by regions, agricultural and forestry land use, crops cultivated, industrial production, energy resources and production, and finance and trade. In some cases, however, the postwar statistics were not available and only the 1937 figures are shown. Some tables compare Austria's situation with other European countries.

The author, who wrote his first book on the Austrian economy in 1921, is primarily concerned with the outlook for long-term economic stabilization, based on adequate industrial infrastructure and the reliable supply of raw materials and food. He argues that the pre-war policy of pursuing self-sufficiency is inappropriate for Austria. The country was never self-sufficient in foodstuffs, and less capable than before of achieving this goal in the postwar world. Consequently, the building of trade relations with other European countries is of crucial importance in Austrian recovery. The establishment of a healthy balance of payments is suggested as a parallel goal.

The author stresses Austria's need to cooperate with international sources of economic assistance. He argues that public and private elements of Austrian society must work together if the recovery effort is to succeed.

Migsch, Alfred, *Ein Volk Kämpft um sein Leben* [A People Fights for Its Life], Verlag der Wiener Volksbuchhandlung, Vienna, 1949, 80 pp.

Contains some potentially useful information about the problems of the country's postwar economy, although written from a political point of view (the author appears to be a spokesman for the Austrian Socialist Party). The focus is on ASP leadership in rebuilding the country after World War II.

In a chapter entitled "The Legacy of Hitler's War," the author discusses the ways in which the war changed the basic structure of Austria's economy, including financial and trading practices, because of the forced unification of the economies of Germany and Austria. Some statistics are cited, although not in tabular form. The extent of destruction is also noted, including dwellings and other property, as well as damage to the agricultural base. Human needs immediately after the war--including the refugee problem--are also described.

Austria's rebuilding efforts after the war are detailed. The author suggests that the government was often ineffective and paralyzed, its task complicated further by the inflexibility of the Allied powers. Underlying all its difficulties was a diversity of loyalties among the citizens of its different regions, with a consequent lack of a sense of national unity, and little willingness to cooperate and compromise on the task at hand. Because of its efforts in generating leadership in building national unity, the Socialist Party is presented here as the savior of the nation. (The Austrian Communists are singled out as saboteurs of these efforts.)

Nemschak, Franz, *Ten Years of Austrian Economic Development, 1945-1955*, Association of Austrian Industrialists, Vienna, 1955, 88 pp.

An overview of Austrian efforts to reconstruct the economy of the decade following World War II. The book was issued shortly after the signing of the Austrian State Treaty, which officially ended foreign occupation of the nation's territory. The author, director of the prestigious Austrian Institute for Economic Research, used the outstanding statistical resources at his disposal to illustrate a discussion of what he regards as the four phases of postwar recovery: the chaos and want of the 1945-1947 period; the period of rapid reconstruction accompanied by alternating cycles of inflation and stabilization, from 1948 to 1951; the tapering-off period following major currency reforms of 1952 lasting until 1953; and finally, the 1954-1955 attainment of new high levels of prosperity. Two points of particular focus are the development and distribution of the gross national product, and the growth in major segments of economic activity over the decade. Throughout the work, which was intended as a report to Austria's friends and trading partners abroad, the importance of foreign aid in the recovery effort is stressed.

A short separate section discusses the dimensions of that aid and how it was allocated.

In general, the work is the best concise summary of Austrian reconstruction, from an Austrian point of view, that has been reviewed.

Österreichisches Institut für Wirtschaftsforschung [Austrian Institute for Economic Research]. The following ten studies were among those published by the Institute:

Gedanken zur Neuordnung der österreichischen Währung: Untersuchung des Österreichischen Instituts für Wirtschaftsforschung in Zusammenarbeit mit den zuständigen Fachreferenten der Kammer für Handel, Gewerbe, Industrie, Geld- und Kreditwesen für Wien and Niederösterreich [Thoughts on the Reorganization of the Austrian Currency: Inquiry of the Austrian Institute for Economic Research in Cooperation with Qualified Experts of the Chambers for Commerce, Trade, Industry, Finance, and Credit for Vienna and Lower Austria], Vienna, 1945, 19 pp.

A careful assessment of the economic and financial situation of Austria after World War II, when Austrian officials were faced with the problem of reorganizing the entire currency system. (The German occupiers of the country had brought along their currency system and had fused the Austrian and German economies.) Specific proposals for currency reorganization are made, including establishing and fixing currency circulation, evaluating prospective currency requirements, and reducing the currency surplus. The problem of maintaining stable price and wage levels is also investigated.

Some figures on German and Austrian currency circulation from 1938 to 1944 are cited and presented graphically.

Nemschak, Franz, Hauptprobleme der österreichischen Wirtschaftspolitik [Principal Problems of Austrian Economic Policy], Lectures and Articles, No. 1, Vienna, 1947, 20 pp.

An examination of some crucial aspects of the Austrian economy, with special focus on questions of wages and prices. In this first of a long series of publications of the Institute, the author recognizes with gratitude the contribution of the four occupying powers toward relief efforts, but points out the heavy burdens on reconstruction efforts placed by demands for occupation costs and reparations involving "German property." In a theme echoed throughout his writings, Dr. Nemschak urges a return to normal market conditions under which Austria could once again build up favorable trade balances and increase production.

Originally presented as a lecture, the pamphlet incorporates statistical references within the text rather than in tabular form.

Nemschak, Franz, *Österreichs Weg aus der Bewirtschaftung zur Marktwirtschaft* [Austria's Road from Rationing to a Market Economy], Lectures and Articles, No. 3, Vienna, 1948, 24 pp.

A short work that moves from an analysis of current fiscal difficulties and attempted reforms to recommendations for policy measures to be taken by the Austrian government. Using statistical data liberally, the author argues that the then-current policy of managing the economy through price controls, accompanied by wage agreements, provided only stop-gap measures in dealing with fundamental economic problems. He recommends that attention should be given primarily to increasing real income and fiscal reform, with the long-range goal of integrating Austria into the world economy by restoring the functioning of market mechanisms domestically.

Nemschak, Franz, *Österreichs Wirtschaft im Übergang von der Stabilisierung zur Expansion* [The Austrian Economy in Transition from Stabilization to Expansion], Lectures and Articles, No. 6, Vienna, 1953, 26 pp.

A transcription of a speech made by Dr. Nemschak before the Austrian Association of Manufacturers shortly after a program of fiscal and currency reform measures had been implemented as the last in a series of measures aimed at economic stabilization after the war. The author reviews the recent reforms and their consequences--unemployment increased slightly and production dropped slightly immediately afterward. However, he expects that these short-term problems will be overcome after the transition period. As the positive effects of currency stabilization begin to be felt, and the European economic market improves, Austria's economy should attain a healthy rate of growth.

Nemschak, Franz, *Österreichs Wirtschaft nach dem Staatsvertrag* [Austria's Economy after the State Treaty], Lectures and Articles, No. 11, Vienna, 1955, 31 pp.

A transcription of a speech made by Dr. Nemschak before the Austrian Association of Manufacturers. He offers a long-range perspective on Austrian economic development in light of the State Treaty signed in 1955 that restored the nation's sovereignty after ten years of Allied occupation. He begins with a brief look at trends in the first Austrian Republic, 1918-1938, and outlines major developments during the occupation years.

A revealing chapter deals with the gains and losses for the nation as contained in the terms of the State Treaty: Austria must continue to deliver goods worth 650 million schillings to the Soviet Union annually for six more years and 1 million tons of crude oil annually for ten more years, amounting to a total loss without compensation of \$46 million annually for six years and \$19 million for four additional years.

To the Austrians, the benefits of political sovereignty and the regaining of control of the economic resources in the Soviet-occupied eastern zone--including rich agricultural, industrial,

and petroleum resources--far outweighed these losses. The Soviets had extracted millions of dollars of Austrian capital goods through transfer to the USSR and other eastern bloc countries, and had taken over major industrial enterprises in their zone as well.

The author examines the possibilities for future development of the economic product, possibilities for expansion, and suggests some problems that will need attention over the long term: the need to increase exports, keeping in mind the intimate relationship between investments and exports; the need to modernize financial and credit institutions, which were allowed to lag behind industrial production; and the problem of labor-management relations in a mixed economy.

Statistics are provided in the text.

Die Energiegrundlagen der österreichischen Wirtschaft [The Energy Base of the Austrian Economy], Special Issue No. 2, Vienna, 1946, 23 pp.

A thorough review of the development of Austria's power resources subsequent to 1918 and a projection of future energy needs and areas for possible expansion in the postwar recovery effort. The apparent purpose of the study is to make recommendations for economic planners.

Problem areas in developing energy resources are pinpointed, together with the need for a unified economy that can use power with maximum efficiency. Controversial questions with important future implications are examined, for example, the debate over financing electrification through domestic or foreign capital, the question of nationalization of the energy economy, and the appropriateness of long-term investments in the energy economy, with the era of atomic energy fast approaching.

A valuable appendix includes statistical tables and graphs showing the building of the energy economy, 1918-1945; the main sources of energy; existing and projected energy needs; aspects of the foreign energy market; and the productivity of power stations. Detailed maps show the location of existing and in-construction power stations as of 1946, and provide an overall view of the Austrian power net.

Special Issue No. 4 (see abstract on next page) is a follow-up discussion of the same subject.

Seidel, Hans, *Der Wiener Wohnungsbedarf und die Wohnbaufinanzierung* [The Need for Housing in Vienna, and the Financing of Housing Construction], Special Issue No. 3, Vienna, 1946, 32 pp.

A careful analysis of Vienna's housing supply and housing needs, along with suggested methods for financing the housing reconstruction effort. After setting the problem of housing supply within the larger context of overall economic policy, the author studies the historical development of the housing market in Vienna, beginning with the prewar period. An interesting exercise is the

reconstruction and projection of the city's housing supply and demand from 1939 to 1954 as it might logically have been in the absence of a major war. The author estimates actual current housing needs and draws conclusions about the impact of the war on the "normal" housing economy in Vienna. Current population trends are considered in figuring projections for the actual postwar housing market.

In the discussion on financing of construction, the question of foreign versus domestic capital utilization is considered, along with the issue of unified versus diverse financing methods. Existing laws governing war damage are explained, and suggestions made for adjusting financial reforms to deal with various housing problems. The question of financing the rebuilding of damaged rental housing is examined in detail.

Lienert, Josef, *Umstellung der Wirtschaft auf heimische Energiequellen* [Conversion of the Economy to Domestic Energy Sources], Special Issue No. 4, Vienna, 1947, 24 pp. (Follow-up of Special Issue No. 2).

A painstaking and detailed analysis of Austria's energy reserves--past and current costs for production and distribution; energy demands and their sources, with future projections; and the ability of Austria to meet projected energy needs. Written by an engineer, this publication was intended as a follow-on to the second special issue in this series entitled *Die Energiegrundlagen der österreichischen Wirtschaft* [The Energy Base of the Austrian Economy].

The question of financing new energy production facilities is examined, as well as the possibility for exporting certain kinds of energy to other European countries. The author is especially concerned about the development of hydroelectric power, and the problems posed by the considerable requirement for long-term capital investment to achieve the needed energy gains from this source.

Each topic is carefully analyzed and broken down into component parts, illustrated with tables and graphs. For example, energy demands are given for households, agriculture, business and industry, and transportation. Costs of production include fixed as well as variable costs. One table illustrates the comparative energy use of residences in various European countries in the prewar year of 1937. This is a useful work for anyone interested in the impact of war on a nation's energy resources and problems of reconstruction.

Gesamtschau der österreichischen Wirtschaft im Jahre 1947 [Overview of the Austrian Economy in 1947], Special Issue No. 5, Vienna, 1948, 52 pp.

A review of most major aspects of the Austrian economic situation in 1947, with references to advances made since 1946 and projections for 1948. Particular problem areas are noted and the effect of reform legislation traced.

The discussion covers currency and currency reform, the national budget, prices, wages and cost of living, food supply and rationing, agricultural production and husbandry, the energy economy, business productivity, population trends and the labor market, transportation, and foreign trade. Use of statistical tables and graphs is extensive.

Persistent problem areas include shortages, low production rates, imbalance of payments, dependence on foreign assistance, and inflation. The chapter on food supply discusses rationing procedures, with guidelines for providing food to nonbreadwinners, and gives a qualitative description of the food requirement. One table shows current black market prices for various items.

Die Produktivität der österreichischen Industrie [The Productivity of the Austrian Economy], Special Issue No. 6, Vienna, 1949, 36 pp.

A summary of the results of a 1947-1948 survey of production conditions in 91 selected Austrian industrial sectors with a total of 33,000 workers. Members of the Institute conducted the survey, in conjunction with the Union of Austrian Industries. Survey results are examined in the context of the overall development of productivity levels throughout the Austrian economy. Apparently intended to provide concrete and specific guidance to economic planners, the study's declared goal is to establish the extent and the causes of productivity reversals suffered by Austrian industry compared with 1937 levels, and to describe the relative importance of various single contributing factors.

Ways to increase production in certain key sectors are suggested, as well as short- and long-range possibilities for enhancing productivity through adjustments in currency, budgeting, trade policy, business organization, and manpower mobilization. Statistical tables give production indices for all major sectors.

Riemer, Hans, *Wien baut auf; zwei Jahre Wiederaufbau, nach amtlichen Berichten dargestellt* [Vienna Rebuilds: Two Years of Reconstruction, Recounted According to Official Reports], Verlag für Jugend und Volk, Vienna, 1947, 224 pp.

A factual report, potentially useful to other cities and nations, on questions of reconstruction, problems of living arrangements, land-use planning, municipal construction, and architecture which the city of Vienna had dealt with from 1945 to 1947. The author was Vienna's Press Chief. His well-written book, illustrated with photographs, maps, and tables, was published by the Municipal Construction Office of Vienna. It was written in cooperation with leading, internationally known, experts.

Statistical data, amassed by municipal officials after the war's end, cover many aspects of postwar Vienna, including information on immigration, population structure, public health, occupational structure, diet, income, sources, and nature of foreign aid received.

The work focuses primarily on the activities of the municipal government in reestablishing an administrative apparatus capable of offering the public services for both short-term necessities, such as food supply, water, and other utilities; housing and health needs; and long-term purposes, such as land-use planning, rebuilding marketing and transportation facilities, and restoring the city's cultural and architectural treasures. Attention is also given to what is termed "spiritual and cultural reconstruction," which includes restoration of schools, scientific institutions and facilities, cultural centers, and sports facilities, not to mention the planting of trees and plants.

A uniquely useful feature of this publication is an extensive appendix, "Cutting through Red Tape" (roughly translated), which advises citizens how to resolve certain common and very practical problems. For example, headings, which are listed in the form of questions, are: How can one get workers and equipment to remove debris? (Telephone numbers and addresses are listed.) How can one get windowglass for home or office? (According to the rules of allocation and rationing, homes with two small children under 10, severely ill family members, or people over 60 were given priority.) How can one find a home? get building materials? get water pipes repaired? dispose of wastes? acquire food ration coupons? find clothing? acquire a bicycle? home furnishing? get health services? or dispose of the dead?

Staatsdruckerei [State Printing Office], *Four Years of Reconstruction*, Vienna, 1949, 128 pp.

A description of conditions in Austria in 1945 and of Austria's progress toward recovery:

"In 1945 Austria was unreal and hard to grasp. . . . In Vienna, degraded by the Nazis to the title of 'Provincial Capital,' people lived underground. They left their air raid shelters timidly, gradually, although the battle was long over. . . . By the time of the German surrender Austria's spiritual resurrection was complete. However, there was no food, no raw materials, no transport, no political representation, no civil service staff or executive machinery, no finances."

As early as July 1, 1947, an allocation of U.S. Congressional aid was granted Austria to cover the period before the Marshall Plan began to operate. The allocation was \$54 million for food, \$22 million for coal, \$13 million for agricultural requirements, and \$2 million for public health. From the time fighting ceased until the end of 1948, foreign aid to Austria amounted to \$537.6 million.

There are statistics on reconstruction measures and their consequences for living quarters, public health, industry, and trade ("improvisations, often of a hazardous nature, made it possible to maintain the factories and start work"); mining and fuel production, etc.

Stahl, C. R., "The European Recovery Programme and the Austrian Economy," *South African Journal of Economics*, Vol. 20, December 1952, pp. 399-404.

Among other statistics, this article contains a table on the allocation of Marshall aid to the different sections of the Austrian economy.

United States Allied Commission for Austria, *The Rehabilitation of Austria: 1945-1947*, Vols. II, 232 pp., and III, 160 pp., 1948.

Two volumes comprising the economic section of a four-volume series that details the Austrian condition in the immediate postwar years and the steps taken during this period to restore the country's economic viability. Volume II covers historical background, agriculture, forestry, mining, industries, power, trade, housing and labor situations; Vol. III covers finance, banking, currency, insurance, transport, communications, and reparations. The focus is not strictly on the activities of Allied authorities--although these are included where appropriate--but on analyses of developments in each of the sectors mentioned above. The use of maps, graphs, and tables is outstanding. Statistics are included for all zones, including the Soviet.

Volume II contains a 120-page statistical Annex with figures on industrial and agricultural production, demographic data aid figures, etc. The documentation for 1946-1947 is very complete. (The chaos of 1945 made data collection impossible that year.)

Pentagon Army Library (Vols. II and III)

U.S. Economic Cooperation Administration, European Recovery Program, *Austria, Country Study*, U.S. Government Printing Office, Washington, D.C., February 1949, 63 pp.

A compact pamphlet containing a careful analysis of Austria's postwar condition, with emphasis on economic factors. It describes the Austrian government's efforts to rebuild the nation's political and economic structure and notes the obstacles encountered--the zonal divisions with the Russians controlling a large portion of economic resources, unsettled questions of "German property" for reparations purposes, lack of control by Austria of various facilities and indigenous resources, high costs of occupation, and the half-million displaced persons dependent on the state for support. Austria's biggest asset is seen as her cohesive social organization, which has allowed the two major parties to agree on basic issues and subordinate parochial conflicts to national issues.

The role of European Recovery Program funds in Austrian recovery is a major focus of the work, which examines various sectors of the economy and recipients of aid. Austria's own plan for using ERP funds is evaluated, its goals outlined, and the difficulties that will probably be encountered in meeting these goals noted. Possible solutions to these problems are suggested.

The work concludes that "It would appear that any improvement in the level of food consumption ought to await considerable further progress toward the goal of a self-supporting economy."

GERMANY

Abelshauer, Werner, *Wirtschaft in Westdeutschland, 1945-1948* [The West German Economy, 1945-1948], *Rekonstruktion und Wachstumsbedingungen in der amerikanischen und britischen Zone* [Reconstruction and Restrictions on Growth in the American and British Zones], Deutsche Verlags-Anstalt, Stuttgart, 1975, 178 pp., bibliog.

Originally written as a doctoral dissertation, this study examines some often-cited assumptions about West German economic recovery and reviews historical statistics and data gathered from government archives. Perhaps the most significant conclusion reached by the author is that, contrary to what most sources assert, West German economic recovery began soon after the war's end, with two setbacks brought about by the transport crisis during the harsh winter of 1946-1947 and by maneuvering in anticipation of the currency reform of June 1948. The importance of both the currency reform and Marshall Plan aid has been overemphasized, the author concludes, partly because statistical data on levels of production before the currency reform significantly underestimate actual production figures (by as much as 25 percent) and overestimate production levels after the reform. Moreover, the opening up of world trade and progress toward European economic integration were vital factors in German economic recovery along with foreign aid.

This "revisionist" treatment of German postwar recovery should be read as a counterpart to conventional treatments written shortly after the war.

Arndt, Martin, *Wiederaufbau und Bauwirtschaft--Wiederaufbau zerstörter Städte* [Reconstruction and the Building Industry--Reconstruction of Destroyed Cities], H. Cobet Verlag, Frankfurt am Main, 1947, 37 pp.

Remarks made by Arndt on the topic "Reconstruction and Disposal of Debris from the Point of View of the Building Industry," January 27, 1947, at a meeting of the Chambers of Commerce and Industry. The author, who was chairman of the board of Philipp Holtzmann Construction Company, describes the results of his research into the actual extent of war damage suffered by Germany's major cities. Apparently one of the first scientific descriptions of the reconstruction task presented to the German public after the war, the pamphlet outlines basic requirements for the rebuilding task, in terms of numbers of workers, materials, and equipment, and assesses the availability of each. Tables show the area and population of the major cities, based on 1938 statistics, with a breakdown showing the degree of damage in cubic meters per resident. (Heavy damage was considered to be 16 cubic meters per resident; medium damage, 10 m³/resident; light damage, 5 m³/resident; and nearly undamaged, 1 m³/resident.) The author notes that the larger cities received the greatest destruction--20 percent of the population suffered 60 percent of the total destruction.

He concludes that the task at hand far exceeds the capacity of private companies, and would require cooperative efforts between local, regional, and national governmental groups, economic organizations, and labor unions.

Aubert, Louis F., et al., *Contrôle de l'Allemagne* [Control of Germany], M. Rivière, Paris, 1949, 144 pp.

Studies prepared by the Royal Institute of International Affairs, Le Centre d'Etudes de Politique Etrangère, the Council on Foreign Relations, and the Netherlands' Institute for International Affairs for a conference on "Some Aspects of the German Problem," held in Holland in October 1947 and April 1948.

Backer, John H., *Priming the German Economy: American Occupational Policies, 1945-1948*, Duke University Press, Durham, N.C., 1971, 212 pp.

Written from the viewpoint of one who observed the reconstruction of the German economy from a "working level" in the American Military Government. The author describes the book as "primarily concerned with the onerous responsibility of the American Military Government to prevent the starvation of several millions of Germans." Various chapters discuss the drafting of occupational policies, the problem of reparations, measures taken to prevent "disease and unrest," and the US/UK Joint Export Import Agency.

Balabkins, Nicholas, *Germany under Direct Controls: Economic Aspects of Industrial Disarmament, 1945-1948*, Rutgers University Press, New Brunswick, N.J., 1964, 265 pp.

Primarily concerned with the effects of the tight economic controls imposed on Germany by the Allies, specifically in the American and British zones. No effort is made to extend the discussion to either the Soviet or French zones of occupation.

The currency reform of June 1948, accompanied by sweeping economic reforms, was the beginning of Germany's rapid economic upsurge. Before that reconstruction, however, the Allied powers concentrated on reversing the economic and political bases of the Third Reich. Industrial dismantling, sweeping decentralization, demilitarization, and denazification were some of the more specific policy objectives; these were all designed to prevent Germany from waging future wars.

There is a lengthy bibliography in the form of End Notes.

Pentagon Army Library

Bidwell, Percy W. (ed.), *Germany's Contribution to European Economic Life*, M. Rivière, Paris, 1949, 147 pp.

Four papers that deal with Allied policy on economic reconstruction in the western zones of Germany: Percy W. Bidwell, "The European Recovery Program, Its Nature and Purposes"; Tadeusz Lychowski, "Le Problème de priorité dans la reconstruction des pays dévastés d'Europe"; J. Van Helmont, "L'Allemagne et la restauration économique de l'Europe"; and R. G. Hawtrey, "Germany's Part in European Economic Life."

Bundesministerium für Gesamtdeutsche Fragen, *SBZ von 1945 bis 1954* [The Soviet Zone of Occupation from 1945 to 1954], Bonn, 1956, 361 pp., plus maps and diagrams.

Presents a chronology of important Soviet actions governing the eastern zone of Germany under occupation from 1945 to 1954, compiled by the West German Ministry for All-German Questions. Many details are given, even day-by-day events.

Caidin, Martin, *The Night Hamburg Died*, Ballantine Books, Inc., New York, 1960. (Also published in a Four Square 158-page paperback edition by The New English Library Limited, London, 1966.)

Describes the ten-day bombardment of Hamburg (July 24-August 3, 1943) and its consequences. Caidin, a consultant on civil defense and a writer on military-science subjects, examined official German and Allied sources and conducted many interviews.

Clay, Lucius D., *Decision in Germany*, Doubleday & Company, Inc., Garden City, N.Y., 1950, 522 pp.

Recounts the author's four years in Germany as deputy military governor and military governor following World War II. See particularly the discussions of economic reconstruction (pp. 185-226); the restoration of law and order (pp. 245-262); and food and health problems (pp. 263-280).

Pentagon Army Library

Cordt, Heinrich, *Der Wiederaufbau: eine soziale Gemeinschaftsaufgabe--Betrachtungen Vorschläge, Berechnungen und Entwürfe zum Wiederaufbau-problem* [Reconstruction: A Social Communal Task--Reflections, Proposals, Assessments, and Projections Regarding the Reconstruction Problem], J. Volk Verlag, Aachen, Germany, 1947, 127 pp.

Analysis of the problem of reconstruction of damaged and destroyed housing in Germany. The author, a construction engineer, is concerned not only with the physical aspects of reconstruction, such as possible methods of financing the task, but also focuses on the social aspects of the problem, such as the importance of community cooperation. Reconstruction is discussed in separate chapters with reference to morality, democracy, authority, private initiative, society, social credit, and social indebtedness. The author concludes with his 33 theses of reconstruction. A few tables are included. The author's emphasis is on the role of private investment in the rebuilding process.

Davidson, Eugene, *The Death and Life of Germany*, Alfred A. Knopf, Inc., New York, 1959, 422 pp.

Based on varied sources of information, including accounts by Germans from all sections of the country and from all occupations. The author gives statistics to help explain Germany's amazing rate of recovery:

"West Germany lost through strikes from 1949 to 1954 an average of only 103 man-hours per thousand employed; this compared with an average between 1952 and 1954 of 151 for the United Kingdom, 1244 for France, and 1515 for the United States" (p. 383). The bibliography lists many German publications.

Deutsches Institut für Wirtschaftsforschung [German Institute for Economic Research], *Wirtschaftsprobleme der Besatzungs-zonen* [Economic Problems of the Occupation Zones], Duncker & Humblot, Berlin, 1948, 288 pp.

A collection of twelve articles dealing with the economic consequences of zonal divisions for postwar Germany. Each article treats a different facet of the problem, as indicated by its title: General Economic Character of the Zones; Agricultural Structure and Food Supply Potential of the Zones; Labor Markets in the Occupied Zones; Intra-Germany Economic Relationships; Zones and Foreign Trade; Expenditures for the Occupied Powers, Public Budgets and Social Product in Individual Zones (extensive data from the Survey Office are included in this article, comparing the zones' prewar production levels); Economic Planning in the Bizone (U.S. and British zones); The Economy of the French Zone; The Organization of Agriculture in the Soviet Zone; Organization of Industry in the Soviet Zone; Organization of Trade in the Soviet Zone; and Problems of Berlin's Economy.

An underlying theme is the shift in great power policy goals in postwar Europe when cold war divisions emerged to perpetuate a divided Germany.

Friedmann, W., *The Allied Military Government of Germany*, Stevens & Sons, Ltd., London, 1947, x, 362 pp.

Written by a professor of public law at the University of Melbourne who served in the military government of Germany for two years beginning in May 1945. His career led him from headquarters and fieldwork in the Legal and Economic Divisions of SHAEF (Supreme Headquarters Allied Expeditionary Force) to an assignment as adviser on German economic administration to the American Military Government, and, from there, to the direction of the German Organization Branch of the Economic Subcommittee in the British Control Commission (later merged with the British-U.S. Bipartite Economic Control Group). Some of the subjects covered, by chapter title, are Political Reconstruction, Social Reconstruction, and The Economic Problem. Various official documents are reproduced in the appendixes.

Pentagon Army Library

Gimbel, John, *The American Occupation of Germany: Politics and the Military, 1945-1949*, Stanford University Press, Stanford, Calif., 1968, 335 pp.

A study of the implementation of American policies during the postwar occupation of Germany, and their effect on Germans at the time. The author states that "In addition to suggesting a continuity in American interests underlying the course of the U.S. occupation, this study provides new insights into the role of France in postwar Germany and especially into the impact of French policy on American policy and practice." The work is based on extensive War/Army Department and military government records and on German materials and concentrates on that period to 1949 for which primary sources are available. A Note on Sources describes the location and accessibility of the primary sources.

Pentagon Army Library

Hasenack, Wilhelm, *Bilanz der Démontage. Nachkriegsmethoden internationaler Industriepolitik und ihr Einfluss auf die Zukunft der europäischen Wirtschaft* [Balance Sheet of Démontage (Dismantling): Postwar Methods of International Industrial Policy and Its Influence on the Future of European Economy], Vandenhoeck & Ruprecht, Göttingen, (West) Germany, 1951, 45 pp.

Examines the effect of the post-World War II dismantling of major German industry on the prospects for general recovery of the European economy. The author, a professor of management sciences at the University of Göttingen, presents a moral, legal, and political evaluation of the Allies' dismantling policy and its motivations, as well as an economic assessment of the damage done to German production capacity through legal and illegal acts of confiscation and destruction of industrial equipment and, indirectly, through restrictions placed on production.

An overall assessment--a balance sheet--of the damage done by the dismantling policy concludes the study.

Hastings, James J., *Die Akten des Office of Military Government for Germany (U.S.)* [The Documents of OMGUS], *Vierteljahrshefte für Zeitgeschichte* [Quarterly Periodical for Current History], Special Issue, No. 1, Stuttgart, 1976, 101 pp.

Categorizes and classifies documents held in the U.S. National Archives that were issued by the U.S. Military Government for Germany during the years of Allied occupation after World War II. Documents are grouped into the following sections: the organization of OMGUS; the nature and order of the documents; means of location and access; categories of OMGUS-administrative documents, including inter-Allied arrangements; publications issued by various OMGUS offices: executive, economics and finance, information affairs, regional, and special services; and other assets in the National Archives on the Army of Occupation in Germany, including military and civil documents. This is a guide for the researcher interested in investigating the written record of the U.S. military presence in Germany after the war.

Heller, Walter W., "Tax and Monetary Reform in Occupied Germany," *National Tax Journal*, Vol. II, No. 3, September 1949, pp. 215-231.

The author, who was associate professor of economics at the University of Minnesota at the time of writing, served with the U.S. Office of Military Government in Germany (OMGUS) from September 1947 to September 1948, first as Chief Consultant on Taxation, then as Chief of Internal Finance in the Office of the Finance Adviser. He describes the monetary reform in occupied Germany, which began on June 20, 1948, as a "notable 'controlled experiment' in economics--a drastic monetary reform marked by the substitution of the new Deutsche mark for the old Reichsmark, and the scaling down of money and money claims to a small fraction of their previous levels. . . . Coupled with Marshall Plan imports, a good harvest, tax reform, and the removal of many direct controls, it touched off an expansion which carried the index of industrial production in the Bizone from 51 percent of the 1936 level in June 1948, to 80 percent in January and 87 percent in May 1949."

Hirsch, Gisela (comp.), *Bibliography of German Studies, 1945-1971*, Institute of German Studies, Indiana University Press, Bloomington, Ind., 1972, 603 pp.

Lists selected publications held by the Indiana University Library on the Federal Republic of Germany, the German Democratic Republic, and Germany under Allied occupation. It includes publications from both East and West Germany, West Europe, and the United States, and Slavic publications, as well as a miscellaneous category of "other foreign" items. Also listed are relevant government publications and German newspapers. Among the many aspects of German life during this period that are covered are history, politics, economics, social change, education, foreign relations, and communications. The work includes author, title, and subject indexes and bibliographical listings.

Jackson, Terence G., Jr., *German Wartime Industrial Controls: An Analogy to Recovery from Nuclear Attack*, Stanford Research Institute, Menlo Park, Calif., October 1967, 128 pp.

Examines German economic planning in World War II for inferences that would be useful in planning for the recovery of a modern industrial nation after a nuclear war. The period 1934-1958 is surveyed to establish the relevance of German history to civil defense planning. A narrative history is developed, treating (1) the industrial-government structure of Germany in 1939, (2) the efforts made in 1942 to convert this structure to effective war production, and (3) the reaction of the leadership to stresses that brought about collapse in 1945.

The author's primary sources include the microfilm collection of captured German records held by the National Archives and reports on the interrogation of Albert Speer and members of his Ministry for Armament and War Production produced by the Technical Branch of the Field Information Agency (FIAT) of the Allied Army of Occupation. These numbered reports are available, according to the study, at the National Archives, World War II Division, in Alexandria, Virginia.

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Kaldor, Nicholas, "The German War Economy," *Review of Economic Studies*, Vol. 13, No. 1, 1945-1946, pp. 33-52.

Information acquired by the author in the course of his work for the U.S. Strategic Bombing Survey in Germany in the summer of 1945. Among the twelve statistical tables are "Annual Deliveries of Machine Tools in Germany, 1938-44," "Mobilisation of Man-Power in Great Britain and Germany, 1939-43," and "Comparison of Output of Particular Classes of Armaments, Germany and the United Kingdom, 1940-44."

Kindleberger, Charles P., "Germany and the Economic Recovery of Europe," *Proceedings of the Academy of Political Science*, Vol. XXIII, No. 3, May 1949, pp. 68-81.

The author, an Associate Professor of Economics at the Massachusetts Institute of Technology at the time of writing, lists the principal reasons why American foreign policy was concerned with the recovery of Germany. Two of these reasons are discussed in detail: the importance of Germany's recovery as a weapon in the cold war and the contribution German recovery would make to the stability of the Atlantic nations. On the interdependence of European countries, the author writes: "While Germany depends on Eastern Europe for its bread and potatoes, Western Europe needs Germany as a market for its butter and fresh fruit and vegetables."

Klein, Burton H., *Germany's Economic Preparations for War*, Harvard University Press, Cambridge, Mass., 1959, xi, 272 pp.

Examines the validity of the widely held belief that for six years before 1939 the Nazi government concentrated Germany's resources on preparation for war and that the economy from 1939 on was fully mobilized for the war effort. In the Summary and Conclusions of Part Two (p. 235), Dr. Klein writes: "The general picture of the German war economy emerging from this study is not that of a nation geared to total war. It is rather that of an economy initially mobilized for fighting relatively small and localized wars, and subsequently responding to the pressure of military events only after they had become harsh facts. Thus, in the autumn of 1939 Germany's preparations in steel, oil, and other important materials were far from adequate for a sustained effort against the major powers. Her levels of civilian output were still very comfortable. Her total output of munitions was not impressively larger than Britain's. . . . The peak of her war effort was not reached until mid-1944, and was reached only after her defeat was a foregone conclusion."

Pentagon Army Library

Lutz, F. A., "The German Currency Reform and the Revival of the German Economy," *Economica*, May 1949, pp. 122-142.

Considers the currency reform of June 20, 1948, the technique involved, and the effects. Lutz begins his article with a brief description of the barter system into which the German economy deteriorated following

the collapse in 1945. He concludes with an analysis in which he states that the highest priority for the input of the new capital should be an expansion of the export industries.

Magnus, Kurt, *One Million Tons of War Material for Peace: The History of STEG* [Staatliche Erfassungs-Gesellschaft für Öffentliches Gut], R. Pflaum, München, 1954, 291 pp.

Recounts the history of the German corporation STEG (Staatliche Erfassungs-Gesellschaft für Öffentliches Gut) set up in 1946 to sort and process remaining German military stocks and put usable components and materials into the German civil economy. STEG also handled disposal of ammunition and the distribution of some American military surplus. The narrative illustrates the problems of "reconverting" under difficult postwar conditions, and the use of military equipment and supply stocks to compensate for shortages in production.

Mendershausen, Horst, "Prices, Money and the Distribution of Goods in Postwar Germany," *American Economic Review*, Vol. 39, 1949, pp. 646-672.

Reviews developments in the German economy from 1945 to 1948, that is, from war's end through the important currency reform. The author served as Assistant Chief of Price Control with the U.S. Military Government of Germany during 1947-1948. The effects of the policy of "suppressed inflation" continued from Nazi times by the Allied Control Authority are dealt with in detail. This policy affected the availability of goods, the black and gray markets, return to bartering, and the widespread practice of compensation trading in industry. The Monetary Reform that took place in mid-summer 1948 had a revolutionary effect on the German economy, according to the author, by restoring German currency to its proper role as a medium of exchange. However, the decontrol effort had side effects, such as the creation of sharp inequalities between different socioeconomic classes. Overall, the reforms had a marked positive influence on economic performance. The author expresses concern, however, over the political recovery of the German community from the traumatic war experience in light of the new social problems it confronts.

Mendershausen, Horst, *Two Postwar Recoveries of the German Economy*, North-Holland Publishing Co., Amsterdam, 1955, 130 pp.

Compares German economic recovery following the two world wars, the first period from 1919 to 1928 and the second from 1946 to 1953. Dr. Mendershausen defines recovery as a sequence of (1) readjustment to the postwar setting and (2) fresh deployment of the economy. The dividing lines between the two phases are drawn at the times of monetary reform: 1923 and 1948.

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Nettl, John Peter, *The Eastern Zone and Soviet Policy in Germany, 1945-1950*, Oxford University Press, London, 1951, xix, 324 pp.

Considers three interconnected problems: Soviet policy, the postwar German problem, and the internal situation in the eastern zone. Economic developments, with special emphasis on Russian reparations, are given an important place in the discussion. Included are chapters entitled "The Economic Revival 1945-6" and "Soviet Reparations Policy."

Nettl, Peter, "German Reparations in the Soviet Empire," *Foreign Affairs*, Vol. 29, 1950-1951, pp. 300-307.

Documents the substance and procedure of Soviet seizure of German factories, equipment, and other capital assets after World War II. Writing at a time when the "cold war" was intensifying, the author asserts that the Western powers selected reparations with an eye to preventing the development of another German war machine, while the Soviets' explicitly stated policy was to take maximum equipment up to \$10 billion.

The various phases of Soviet thinking as to how best to extract the value from their zone of Germany (after the Allies shut off Soviet extractions from the western zones) are described--from removing equipment through massive and somewhat disorganized efforts to haul it back to the Soviet Union to instituting Soviet coownership of East German plants, which would produce goods useful to the Soviet economy. In providing their own form of foreign aid in this manner, the Soviets managed to remove from their zone nearly one-third of the "total value of movable industrial capacity in the Soviet zone" that existed in 1939.

Reparations took the form of investment goods (destined for Soviet industrial producers), consumer goods (to be exported for foreign exchange), and forced labor.

The author emphasizes the high priority given by Soviet policy to gaining these reparations, even at the expense of alienating the East Germans and the Western Allies.

Neumann, Franz L., "Soviet Policy in Germany," *The Annals of the American Academy of Political and Social Science*, Vol. CCLXIII, 1949, pp. 165-179.

A visiting professor of government at Columbia University at the time of writing, Dr. Neumann had served as special assistant in the European Research Divisions of the Department of State from 1945 to 1947 and of the Office of Strategic Services from 1943 to 1945. From 1927 to 1933 he was a member of the Berlin Bar, counsel to German trade unions, and lecturer in the German School of Politics. He states that the economic and political situation in the Soviet zone had steadily deteriorated as contrasted with the upswing in the western zones. "Economic incentives for more and more intense work do not exist, and no amount of propaganda . . . and of coercive measures can compensate for them."

Office of Military Government for Germany (U.S.) (OMGUS) and Control Commission for Germany (British Element), *The European Recovery Program, US/UK Occupied Areas of Germany 1 April 1948-30 September 1948*, Joint Report of the United States and United Kingdom Military Governors, No. 1, September 1948, No. 2, December 1948, No. 3, March 1949, No. 4, June 1949.

Gives a general exposition of the state of the bizonal economy when the European Recovery Program began to operate in April 1948, set against the immediate background of postwar conditions and of developments between the summer of 1945 and the summer of 1948. Future intentions and prospects are described, and short summaries are given of the two annual programs already submitted to the Organization for European Economic Cooperation. Also explained is the Four-Year Long-Term Program establishing policies by which it was hoped the Bizonal Area would attain viability by 1952-1953. The reports contain many tables with statistics, for example, on coal consumption, total freight traffic carried, tonnage handled through ports, and railway rolling stock repair output.

Office of Military Government for Germany, U.S. Zone, Economics Division, *A Year of Potsdam, The German Economy since the Surrender*, Arthur Settel (ed.), lithographed by the Office of Adjutant General, OMGUS, 1946, 217 pp.

Surveys economic progress from July 1945 through July 1946. The Brigadier General who headed the Economics Division stresses in his introduction that the Potsdam agreement should be carried out in its entirety, particularly the provisions about allowing Germany to operate as an economic whole, or the agreement should be revised. There is a listing of economic milestones and a descriptive review of industry for the period. The survey is profusely illustrated with photographs.

Sarow, Friedrich, *Von der Kriegsproduktion zur Friedenswirtschaft. Deutschland und die Weltwirtschaft im Frühjahr, 1946* [From War Production to Peacetime Economy: Germany and the World Economy in Early 1946], Thüringer Volksverlag, Weimar, 1946, 79 pp.

Assesses Germany's war legacy in terms of what remained of the Reich's economic and financial structure that might be built upon, and suggests priority activities for the early period of reconstruction. Compiled soon after the end of the Second World War, this publication consists of a series of articles written by the author and published in various newspapers from autumn 1945 to early 1946. Consequently, the chapters are somewhat disjointed. The point of view is occasionally politically colored, although the leftist bias does not render the work a useless polemic. Statistical data are presented, although not in tabular form.

One chapter concerns the collapse and reconstruction of the German economy immediately after the war (1945-1946), covering such topics as the revival of industry, developments in fiscal management and problems with raw materials for heavy industry, given the loss of the coal and steel producing areas of the far west. Another examines the dual casualties of the devastation--the domestic economy and foreign trade--and encourages the collection of basic statistics so that intelligent efforts can be made to restore Germany's foreign trade. The need to win back the world's confidence through hard work and payment of reparations is also pointed out.

The most political segment of the work deals with the details of Allied control of the German economy. The Soviet Five-Year Plan is held up as a model for German development.

Schaffer, Gordon, *Russian Zone*, published for the Co-operative Press by G. Allen & Unwin, London, 1947, 192 pp.

Records the author's observations of the conditions found in the Soviet-occupied zone of Germany during a stay of ten weeks. Chapter 3, entitled "They Have a Plan," deals with the projected reconstruction of East Germany.

Schonke, Adolf (ed.), *Postwar Reconstruction in West Germany*, Annals of the American Academy of Political and Social Science, Philadelphia, November 1948, v, 250 pp.

The four sections of this special issue concern problems of law and government, economic life, social welfare, and religious and cultural institutions. The bibliography of political, legal, and economic journals covers German-language publications in these areas. The editor was a professor of law at the University of Freiburg in Breisgau, Germany.

Articles in the economic life section cover the subjects of the economic situation in Germany, the financial situation and currency reform in Germany, the state of German agriculture, transportation in postwar Germany, and German labor and trade unions.

Slusser, Robert (ed.), *Soviet Economic Policy in Postwar Germany: A Collection of Papers by Former Soviet Officials*, Research Program on the USSR, New York, 1953, xx, 184 pp.

Includes such titles as "Confiscation and Plunder by the Army of Occupation," "The Dismantling of German Industry," and "The Administration of Fuel Enterprises and Power." Other subjects include Soviet agricultural policy and the Saxony uranium mining operation. The editor provides an introduction, and a bibliography gives a number of references in German and Russian.

Speer, Albert, *Inside the Third Reich*, The Macmillan Company, New York, 1970, 596 pp.

The autobiography of Albert Speer, architect by training, whom Hitler named to the post of Minister for Armaments and Munitions in early 1942. Primarily a political and personal memoir, it begins with his childhood and carries through to the fall of the Third Reich when he fled the country. An epilogue contains some recollections of Speer's trial and imprisonment.

Speer provides details of personal relationships and political events within the German government during World War II. A primary theme is his continuing struggle with Nazi party political leaders who he felt were conspiring against efforts to consolidate and expand the war production effort. Speer discusses his reorganization efforts and other aspects of German economic performance.

Stolper, Gustav, *German Realities*, Reynal & Hitchcock, New York, 1948, 341 pp.

Written by a member of the Special Mission to survey world food needs and supplies, headed by Herbert Hoover. Various chapter headings of this book are descriptive of Germany's condition: "Biological Destruction," "Moral Destruction," "Material Destruction," "Country without Currency," and "Reparations." Appendixes provide excerpts from the Yalta Agreement, the Potsdam Agreement, Occupation Directive 1067/6, the Old Level of Industry Plan, the Third Hoover Report, the New Occupation Directive, and the Revised Level of Industry Plan.

U.S. Economic Cooperation Administration, *European Recovery Program [The Marshall Plan], Western Germany, Country Study*, Washington, D.C., February 1949.

Assesses the German economy in May 1945 as being in a state of almost complete collapse as a result of the complete disorganization of economic life and of political institutions. Industrial production was at a virtual standstill. Imports vital to maintaining the economy had ceased completely, except for a minimum of food supplies brought in by the United States and the United Kingdom to prevent actual starvation. In analyzing the progress made in economic recovery since May 1945, the report states: "In summary, it seems clear that both the Bizonia and the French zone are in urgent need of continued extraordinary aid during the fiscal year 1949/50. Without such aid their economies would collapse."

U.S. Office of Strategic Services, Research and Analysis Branch, "Control over Distribution of Industrial Material and Products in Germany," Publication No. 2106, Washington, D.C., 1944, iii, 68 pp. (typescript).

Examines the methods employed in wartime Germany (before July 1944) for controlling production and distribution of industrial materials and products. Undertaken as an intelligence-gathering task, this study essentially describes the operational methods, lines of authority, and regulations governing German production and distribution processes during the war. The roles of two key administrators--Speer, the Minister for Armaments and War Production and Commissioner-General for Armament Tasks and War Production under the Four-Year Plan, and Funk, the Minister for Economics--are discussed at length.

Included is an abundance of detail regarding specific agencies and organizations in charge of the allocation and production of materials and the control of distribution in a large number of product areas: coal, iron, steel, nonferrous metals metal goods, machinery, electricity, precision tools, optical equipment, building materials, mineral oils, chemicals, paper, leather, and textiles. A historical section reviews the evolution of the distribution system, beginning before the war and focusing on Speer's 1943 reforms, which led to a large-scale reorganization.

U.S. Strategic Bombing Survey, *Area Studies Division Report (European War)*, (E-31), 2d ed., Government Printing Office, Washington, D.C., January 1947, 24 pp., plus exhibits and appendix.

Measures the nature and extent of production losses imposed by area attacks. According to the Preface, the attacks on German cities did *not* reduce German war production enough to have a decisive effect on the war. A five-page appendix describes the "key point system" of determining the most profitable economic targets.

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Wallich, Henry C., *Mainsprings of the German Revival*, Yale University Press, New Haven, Conn., 1955, xi, 401 pp.

Focuses on the important causal factors rather than on attempting to present a complete historical record. The author, a professor of economics at Yale, views the German achievement not only as a recovery but also as a process of growth. A native of Berlin, he talked with many businessmen and economists, both in Germany and the United States. He states that had the East-West split not occurred, an easy guess would be that the united Allies would still (as of 1955) be sitting on top of a united Germany, holding her down politically and economically. Another development resulting from the East-West split was the Korea boom, which played a vital role in Germany's recovery. The final chapter, entitled "Allied Aid and Occupation Policy," states "without the positive contribution, particularly of the United States, the German recovery would have been agonizingly slow, its final outcome dubious and certain only the long years of hardship that the German people would have to endure."

Willis, Frank Roy, *The French in Germany, 1945-1949*, Stanford University Press, Stanford, Calif., 1962, viii, 308 pp.

Assesses the French occupation, stating in Chap. VII, "The Economic Policy of the Zone and the Interests of France": "In formulating an economic policy for the zone, the French authorities had two main aims: first, to balance the export-import budget of the zone so that no charge would fall to the French treasury; and second, to revive those industries whose production would be most useful to the French economy."

The import most needed by France's disastrous 1945 economy was coal. The whole of Europe, of course, suffered from an immense shortage of coal, the major source of power.

The author's overall assessment of the occupation is favorable because of the "surprising success of the French policy of encouraging the growth of understanding between the two countries."

Zink, Harold, *The United States in Germany, 1944-1955*, D. Van Nostrand Co., Inc., Princeton, N.J., 1957, x, 374 pp.

A well-balanced survey of the overall American experience in Germany during 1944-1955, taken from unpublished notes and on-the-spot memoranda. The author was the chief historian of the Office of the U.S. High Commissioner for Germany, 1950-1951. He had previously served as one of the authors of the Handbook for Military Government in Germany, as an officer of the Supreme Headquarters of the Allied Expeditionary Forces in Europe, and had acted as executive officer and later chief of the German government reorganization section of the Office of Political Affairs of the U.S. Group, Control Council for Germany.

In a chapter entitled "American Participation in Economic Reconstruction," Dr. Zink states that an early survey by the Foreign Economic Administration of the United States indicated that the huge amount of debris in industrial plants gave the impression that there was far greater damage to the basic structure than was the case.

C. OTHER AREAS--ABSTRACTS

1. BELGIUM

Ardenne, R. (pseud.), *German Exploitation of Belgium*, The Brookings Institution, Pamphlet No. 35, Washington, D.C., 1942, 65 pp.

An account drawn from official decrees, local publications, and personal information sources by a Belgian scholar with experience in administration and business in Belgium. The German economic policy of *beschlagnahm*t (confiscation) was a concomitant of blitzkrieg. Special economic units had been trained, headed by technicians and economists, "who had orders to advance with the fighting troops." Their role was to take over finished goods and raw materials and to detect all enterprises in occupied countries that could be of value to the German economy. The author states that the purpose of the pamphlet is to describe the economic regime of German occupation and to analyze the methods by which the occupying power attempted to reorganize the economic production of Belgium so as to make it contribute on a continuing basis to the support of Germany.

In 1940 and 1941, the railway system was one of the weakest points in the German economy. Rolling stock was consequently among the first items to be seized in conquered countries. In the middle of 1941 it was reported that of the 114,000 freight cars belonging to the Belgian railways only about 50,000 were left in Belgium. Among other subjects of interest described by the author are the monthly legal ration of food as of December 1941 and the drastic measures taken to control the exodus from the vitally important coal industry, including serious restrictions on the miners' freedom of movement.

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Pfeiffer, Gerhard, *Strukturwandlungen und Nachkriegsprobleme der Wirtschaft Belgiens* [Structural Changes and Postwar Problems of the Belgian Economy], Kieler Studien: Forschungsberichte des Institut für Weltwirtschaft an der Universität Kiel, 19 [Kiel Studies: Research Reports of the Institute for International Economy of the University of Keil, 19], Kiel, 1951, vi, 111 pp., statistical appendix, maps.

Begins with a comprehensive survey of the Belgian national economy after the war and a systematic examination of every major sector, including national resources, power production, metals, nonmetals, textiles, metal-working industries, agriculture, trade, and transportation. Aspects of population, such as social structure, size, and fluctuation, are also included. Many statistical tables provide data on these topics, some for prewar as well as postwar years. Data are drawn from United Nations and other official sources.

Next, postwar problems of the Belgian economy are examined, including national income, wages and prices, investments and capital formation, currency and finance policy, balance of payments, and foreign trade relations. Unlike most of the rest of Western Europe, Belgium's economic resurgence after the war depended not so much on the rebuilding of her own economic infrastructure (this was only slightly damaged in limited fighting during 1940 and 1944) but on the

revival of the country's traditional consumer goods markets in neighboring states. Not only was it possible for the country to resume normal production at an early date--fall 1944--but the labor force had actually increased slightly as a result of migration from African colonies; moreover, foreign exchange reserves that had been dispatched to the Congo for safekeeping during the fighting became available for use after the war, and the major port facilities of Antwerp were left largely intact. In addition to foreign markets, Belgium largely needed raw materials for processing industries and transport for food supplies to nutritionally weakened segments of the population.

Although the Belgians got off to a fast economic recovery, they were overtaken before 1950 by other West European states. The author explains that this slower pace was due to the inability of the other West Europeans to absorb Belgian consumer products and softwares, which were the primary prewar export items and generators of foreign exchange needed to purchase raw materials and "hardware" products on the world market.

Two factors are cited as constructive in the economic rebuilding task: the liberalization of West European foreign trade relations in the fall of 1949 and the offering of Marshall Plan aid. The case of Belgium illustrates the economic interdependence of West European economies.

2. EUROPE

Anderson, Graydon K., "Some Economic Inferences Drawn from the Record of the European Recovery Program," Ph.D. dissertation, University of Wisconsin, Madison, 1953, viii, 326 pp.

A review of the economic literature emerging from the debate over European recovery. The author tests empirically certain of the conflicting economic theories with reference to validity and applicability as these theories related to problems of European postwar recovery. The particular controversy investigated is the question of appropriate domestic economic policies with respect to internal financial stability. One of the author's conclusions is that "however desirable it might have been to regain internal stability and avoid inflation as a general proposition, the assignment of priority importance to such a goal, at the sacrifice of stimulating production, was . . . inappropriate *under the circumstances.*"

Baade, Fritz, *Der europäische Longterm Plan und die amerikanische Politik* [The European Long-Term Plan and American Policy], Kiel, 1949, 16 pp.

Text of a speech made by the author to the Third Congress of Labor Associations at the German Economic Research Institute in September 1949 in Munich. This work argues for an integrated approach to European economic recovery especially through Marshall Plan aid, and asserts that policy toward German economic recovery has adversely affected improvement for Europe as a whole.

To illustrate his case, the author compares natural resource and productivity statistics for West Germany and Great Britain. He finds that even though productivity factors, such as population and land acreage devoted to agriculture, for the two countries are roughly equivalent, the overall export level for Germany is far below that of Britain. Because of the interdependence of the Western European nations for needed export and import markets, this German problem affects other countries as well. The creation of an integrated long-term plan for European economic development is recommended in place of the fragmented, bilateral approach then in force.

Chardonnet, Jean, *Les Conséquences économiques de la guerre, 1939-1946*, Librairie Hachette, Paris, 1947, viii, 327 pp.

An analysis of wartime and postwar economies in which the author, an academic, uses statistics collected and published by Agence France-Presse beginning in October 1944. The table of contents indicates the scope of the study: "Changes in the Economy during the War, U.S., USSR, United Kingdom, Germany, British Empire"; "The Postwar Economy, U.S., USSR and United Kingdom." According to figures furnished by the Russian People's Commissariat for Coal, for example, in December 1945 the Soviet production of 200 million tons surpassed the 1940 level of 170 million tons.

The last section of the book examines international economic consequences: the emergence of the two economic and political giants, the United States and the USSR. Chardonnet, after describing the enormous industrialization the war accelerated, poses a final question in the last sentence of the conclusion: Did the Second World War carry in it the economic germs of a new war?

Clough, Shepard B., et al. (eds.), *Economic History of Europe: The Twentieth Century*, trans. by E. C. Black and L. L. Levy, Harper & Row, New York, 1968, xv, 384 pp.

A compilation of speeches, legislation, international agreements, and official inquiries that deal with important economic issues. For example, Chap. 41, "Postwar Economic Problems," provides the essential text of the *Report of the Committee of European Economic Cooperation, 1947*. The editors provide an introductory survey of the period and introductory paragraphs for each of the abridged documents included.

Committee of European Economic Cooperation, Vol. I, *General Report* (reproduced as Department of State Publication 2390 of European Series 28), Paris, 1947, 138 pp.

Volume II, *Technical Reports* (reproduced as Department of State Publication 2952 of European Series 29), Paris, 1947, 552 pp.

Contains general statements of the problems of European economic recovery, the plans of the European countries to meet these problems, and the assistance that these countries believe necessary from the United States and other non-European countries and agencies to restore their economic position (Vol. I). There are also summary statements of the position and prospects of the participating countries and Western Germany on specific areas: food and agriculture, energy resources, iron and steel, transportation, timber, and manpower, as well as international payments balances and the countries' general international financial situation.

Volume II presents reports of Technical Committees, Subcommittees, and Working Parties. The information is based on replies to questionnaires sent by the Committee to each of the governments of the participating countries and to the Commanders-in-Chief of the western zones of Germany.

Crowther, Geoffrey, *The Economic Reconstruction of Europe*, Claremont College for the Four Associated Colleges, Claremont, Calif., 1948, ix, 79 pp.

Three lectures delivered at a time when the Marshall Plan was under discussion in Congress: "The Vitality of Europe," "Freedom and Order in Europe," and "America and Europe." In the first two lectures Crowther, an editor of *The Economist* for a number of years, attempts to present to an American audience, impatient perhaps with delays in European recovery, a case for believing that Europe, or at least the

free, democratic countries of Western Europe, could rise again out of their difficulties. Crowther points out that, in calculating the effects of the war, the fact should not be overlooked that "for six years a civilization that must be kept moving to keep alive at all was compelled to stand still--no plants were renewed, buildings were not properly painted, or repaired."

Ellis, Howard S., and the Research Staff of the Council on Foreign Relations, *The Economics of Freedom*, Harper & Bros. for the Council on Foreign Relations, New York, 1950, 549 pp.

Detailed outline and description of the 1944-1949 recovery progress in the United Kingdom, Western Germany, France, and Italy from which the authors draw conclusions for future American policy. The chapters on individual countries describe in detail the economic situation at the end of the war, steps toward recovery and their effect, the 1949 status, and production, trade, and fiscal statistics.

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Grebler, Leo, "Continuity in the Rebuilding of Bombed Cities in Western Europe," *The American Journal of Sociology*, Vol. LXI, No. 5, March 1956, pp. 463-469.

Based on a study tour of 28 cities during the latter half of 1954. The author's abstract reads: "In the rebuilt cities in western Europe the whole pattern of urban reconstruction shows strong evidence of continuity and persistence. No case of abandonment is on record. The economic bases and growth patterns of cities have not changed significantly. With few exceptions, cities and towns have been rebuilt on the same site, and the new city centers occupy the same area as before the war. There are few massive land-use changes. No effort has been made to create a new urban pattern designed for protection against future war."

Hennessy, Josselyn, et al., *Economic Miracles*, Studies in the Resurgence of French, German, and Italian Economies since the Second World War, published for the Institute of Economic Affairs by Deutsch, London, 1964, xx, 228 pp.

Essays by three authors who examine the factors that aided recovery in France, Germany, and Italy, with some emphasis on comparisons with post-war Britain. Among the topics discussed are allocation of investment, tax and income policies, degree and effect of government controls, and the extent of state participation in major industry; key economic indicators are given.

Pentagon Army Library

Jackson, Terence G., Jr., *Postwar Monetary Reform in Severely Damaged Economies: Its Role in Recovery from Nuclear Attack*, Stanford Research Institute, Menlo Park, Calif., April 1969, ix, 166 pp.

A study of three examples of monetary reform in Europe following the second world war: two highly successful reforms conducted in Belgium in 1944 and Germany in 1948-1949 and a very unsuccessful program conducted in Hungary in 1945-1946, which is presented as indicative of the fiscal and monetary disaster that can attend unrealistic planning and administration of monetary reform. The German experience is considered in some detail, because conditions in the western zones during the military occupation in 1945-1948 bear a resemblance to conditions of physical destruction and social disruption that might be expected to follow a nuclear exchange.

There is a general bibliography, and Appendix D is a 4-page "Basic Bibliography for Post-Attack Monetary Reform Planners."

Joseph, J. J., "Trends in the Marshall Plan," *Science and Society*, Vol. 13, No. 1, Winter 1949, pp. 1-21.

Critical analysis of the Marshall Plan that points to "internal contradictions" in the Economic Cooperation Act, which the author states tended to "impede, rather than accelerate, European Recovery."

Kennan, George K., *Memoirs: 1925-1950*, Little, Brown and Company, Boston, 1967, 583 pp.

Includes a chapter on "The Marshall Plan" that is of particular interest for this bibliography. In structuring ideas for the European recovery program, Kennan says: "For the short term, we recommend a crash program for the immediate improvement of European coal production, designed to eliminate what appeared to us to be the most urgent and serious of bottlenecks in the economies of the Western European countries generally--namely, the supply of industrial fuel."

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Klopstock, Fred H., "Monetary Reform in Liberated Europe," *The American Economic Review*, September 1946, pp. 579-595.

Description by an economist of the Federal Reserve Bank of New York of the broad objectives of most postwar monetary reform schemes as an effort to exert a restraining influence on the public's expenditures, to force people to seek employment by making them dependent on current income instead of past savings, and to deprive the public of funds with which to purchase in black markets.

MacIsaac, David, *Strategic Bombing in World War Two: The Story of the United States Strategic Bombing Survey*, Garland Publishing, Inc., New York, 1976, 215 pp. (Reviewed by Maj. Gen. Haywood Hansell, Jr. in *Strategic Review*, Fall 1976.)

A "lucid, interesting, and comprehensive" book, the review states. General Hansell makes reference to a ten-volume set published by Garland, containing 31 of the most important reports of the survey as

edited by Colonel MacIsaac, an Assistant Professor of History at the Air Force Academy.

Mayne, Richard, *The Recovery of Europe: From Devastation to Unity*, Harper & Row, Publishers, New York, 1970, 375 pp.

Covers the political, economic, social, and cultural transformation of Western Europe following the devastation of World War II. Less than ten years after World War II, Western Europe had fully recovered its prewar levels of output; as of the date of writing it had three times its prewar wealth. The author was on the staff of the European Coal and Steel Community and worked with the European Economic Community. This study includes a lengthy bibliography.

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Organization for European Economic Cooperation, *Report on the Progress of Western European Recovery*, Paris, 1949, 109 pp.

Includes a comparison of the timing of Western European recovery after both World Wars. After the First World War it took Western Europe seven years to regain the 1913 level of industrial production. After the Second World War Western Europe had exceeded the 1938 level of industrial production by 1948. 1938 is described, however, as a year of moderate economic activity.

Among the industries included in the 25 statistical tables in the Appendix are coal (production, employment, and output per manshift), steel, metal production, rubber and textiles, hardwood and softwood production and consumption, tractor fleets, discount rates, and unemployment statistics.

Penrose, E. F., *Economic Planning for the Peace*, Princeton University Press, Princeton, N.J., 1953, 384 pp.

Traces the development of international economic planning for recovery through the early months of 1947. The introduction states that "this study seeks to determine how it was that, notwithstanding the warnings that might have been taken from the First World War, and the time, the energy, and the resources that were given to postwar planning, economic disaster came early in Germany and was narrowly averted in 1947 and 1948 in the rest of Europe." The author, who served as an economic adviser to Ambassador Winant in Great Britain during the war and early postwar years, concludes that the economists were much more successful in planning for the long-run than in planning for the short-run. He states that such limited and insufficient work as was done in the field of immediate postwar reconstruction was carried out by officials who had previously been occupied mainly with wartime supply matters.

Pirenne, Henri, *Economic and Social History of Medieval Europe*, Harcourt Brace and Company, New York, 1937, xii, 243 pp.

Includes a section on the "Catastrophies and Social Disturbances" that halted progress in the fourteenth century. Professor Pirenne, one of the most respected medievalists, also describes briefly some of the measures King Louis XI used to revive France's economy after the Hundred Years' War.

Price, Harry Bayard, *The Marshall Plan and Its Meaning*, Cornell University Press, Ithaca, N.Y., 1955, xv, 424 pp.

A history and critical evaluation of the Marshall Plan and associated programs in Asia that present the author's assessment of the immediate effectiveness of the operation. He attempts to gather lessons from the successes and failures of the 1948-1952 period that might be useful in the solution of continuing problems.

(Much of the material used in the preparation of this volume is in the Henry B. Price Collection in the George C. Marshall Research Foundation and Library, Lexington, Va.)

Pentagon Army Library

Royal Institute of International Affairs, *Documents on European Recovery and Defence, March 1947-April 1949*, London, 1949, vii, 150 pp.

A compilation of many of the basic official documents of European recovery and defense, including:

The Benelux Customs Convention, 5 September 1944

The Durkirk Treaty, 4 March 1947

The official U.S. summary of the Report of the Committee of European Economic Cooperation, 1947

Statute of the Council of Europe, London, 5 May 1949

Summers, Robert E. (comp.), *Economic Aid to Europe: The Marshall Plan*, The Reference Shelf, Vol. 20, No. 2, The H. W. Wilson Company, New York, 1948, 271 pp.

Excerpts from many publications concerning some of the interrelated problems and contingencies implicit in the subject of U.S. aid to Europe under the Marshall Plan. For example, a portion of the Harriman Committee's report entitled *Requirements versus Available Goods* (pp. 90-104) contains the following statement: "It is clear that this [European inland transport] is one of the most vital spots in the whole foreign aid program, since if Europe's transport system cannot carry a minimum load, imported commodities cannot be distributed, and it is useless to hope for a revival of the European economy. . . . Transportation requirements should be given top priority in the procurement of steel. Less essential users, such as shipbuilding, should take second place. Otherwise aid will not be effective."

Pentagon Army Library

United Nations Economic Commission for Europe, Research and Planning Division, *A Survey of the Economic Situation and Prospects of Europe*, U.S. Government Printing Office, Washington, D.C., March 30, 1948, 216 pp.

The Preface states that this overall view excludes the USSR because the available information concerning economic developments there could not be assimilated with the material relating to other European countries. However, a summary of the USSR's fourth Five-Year Plan is given separately in Appendix A, III, along with the economic plans of other European countries. The analysis does not go beyond the third quarter of 1947 because of the delays in the publication of statistical series in many European countries. John H. Williams in his *Foreign Affairs* article "The Task of Economic Recovery," July 1948 (pp. 616-631), calls this publication "the most illuminating and comprehensive" survey of economic conditions that had yet appeared. See also D. J. Morgan of the London School of Economics, "The Economy of Europe," *Economica*, August 1949 (pp. 255-262), for comments on the Survey.

United Nations Relief and Rehabilitation Administration, *Economic Recovery in the Countries Assisted by UNRRA*, prepared by the Economic Adviser of UNRRA; report by the Director General of UNRRA to the Secretary-General of the United Nations, September 1946.

A country-by-country summary of the prewar and postwar economic activity. There are narrative descriptions of problems facing the recovery effort for the first postwar year, and of individual government policies on such matters as wages, rationing, and food distribution. The countries included are Greece, Yugoslavia, Albania, Poland, Czechoslovakia, Italy, Austria, and China.

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United Nations Relief and Rehabilitation Administration, Operational Analysis Papers, London, 1946-1947. Nos. 1-49 by the UNRRA European Regional Office are listed below:

1. *Transport Rehabilitation in Poland*, June 1946, 21 pp.
2. *Industrial Rehabilitation in Poland*
3. *Agriculture and Food in Poland*, July 1946, 32 pp.
4. *The Food Situation in Austria, Part I*, July 1946, 27 pp.
5. *UNRRA Aid to Finland*, August 1946, 15 pp.
6. *UNRRA's Welfare Programme in Italy, Part I*, August 1946, 29 pp.
7. *Foreign Trade in Poland*, September 1946, 45 pp.
8. *The Food Situation in Austria, Part II*, September 1946, 26 pp.
9. *Poland's Need for Assistance in 1947*
10. *Agricultural Rehabilitation in Austria*, December 1946, 29 pp.
11. *Agriculture and Food in Czechoslovakia*, December 1946, 46 pp.
12. *UNRRA Procurement of U.S. Military Surpluses in Europe*, December 1946, 36 pp.
13. *UNRRA Displaced Persons Operations in Europe and the Middle East*, December 1946, 69 pp.

14. *Foreign Trade in Greece*, December 1946, 38 pp.
15. *UNRRA Assistance to the Dodecanese*, January 1947, 22 pp.
16. *Industrial Rehabilitation in Czechoslovakia*, January 1947, 43 pp.
17. *Transport Rehabilitation in Czechoslovakia*, January 1947, 33 pp.
18. *Economic Rehabilitation in Finland*, January 1947, 41 pp.
19. *Agriculture and Food in Greece*, January 1947, 46 pp.
20. *Industrial Rehabilitation in Greece*, January 1947, 48 pp.
21. *The Foreign Trade of Czechoslovakia*
22. *The Food Problem in Italy*
23. *Agriculture and Food in Yugoslavia*, February 1947, 57 pp.
24. *Currency and Finance in Austria*, February 1947, 35 pp.
25. *Post-War Public Finance in Greece*, February 1947, 35 pp.
26. *Italy's Balance of Payments in 1947*, February 1947, 35 pp.
27. *Transport Rehabilitation in Yugoslavia*, February 1947, 58 pp.
28. *Industry and Trade in Austria*, March 1947, 47 pp.
29. *Distribution of UNRRA Supplies in Yugoslavia*
30. *Agriculture and Food in Poland (Revised)*, March 1947, 66 pp.
31. *Health Conditions in Poland*
32. *Health Conditions in Italy*
33. *Agriculture and Food in Hungary*, March 1947, 41 pp.
34. *UNRRA's Welfare Programme in Italy, Part II*, March 1947, 26 pp.
35. *Industrial Rehabilitation in Poland (Revised)*, April 1947, 65 pp.
36. *Transport Rehabilitation in Poland (Revised)*, April 1947, 53 pp.
37. *Industrial Rehabilitation in Italy*, May 1947, 65 pp.
38. *Transport Rehabilitation in Italy*, May 1947, 29 pp.
39. *Economic Rehabilitation in the Ukraine*, April 1947, 79 pp.
40. *Foreign Trade in Poland (Revised)*, April 1947, 79 pp.
41. *The Food Situation in Continental Europe*, April 1947, 92 pp.
42. *Money and Banking in Italy*, April 1947, 25 pp.
43. *Agriculture in Italy*, April 1947, 20 pp.
44. *Finance in Poland*, April 1947, 76 pp.
45. *The Impact of UNRRA on the Polish Economy*, April 1947, 77 pp.
46. *Economic Rehabilitation in Albania*, May 1947, 58 pp.
47. *Economic Rehabilitation in Hungary*, May 1947, 93 pp.
48. *Economic Rehabilitation in Byelorussia*, May 1947, 57 pp.
49. *UNRRA in Europe, 1945-1947*, June 1947, 162 pp.

United Nations Relief and Rehabilitation Administration, Division of Operations Analysis, European Regional Office, *UNRRA in Europe, 1945-1947*, Operational Analysis Paper, No. 49, London, June 1947, 162 pp.

Eighty percent of UNRRA's 26 million tons of supplies were delivered in Europe and of this amount about 86 percent went to six countries: Austria, Czechoslovakia, Greece, Italy, Yugoslavia, and Poland. The European countries that received substantial UNRRA supplies and services had two important characteristics in common: They were all (except for Czechoslovakia and perhaps Italy) primarily agricultural countries, and they had a low level of subsistence and real income before the war. The 1945-46 European cereal crisis forced UNRRA to divert expenditures from nonfood to food items which reduced the part UNRRA intended to play in industrial and agricultural recovery.

Chapter II compares post-World War I and post-World War II relief; other chapters discuss UNRRA's work for displaced persons, health services, and social welfare services. Chapter XI assesses the effect of UNRRA aid.

U.S. Economic Cooperation Administration, *The European Recovery Program: Country Studies*. Mimeo, undated in copy reviewed, assumed to be prepared in the first six months of 1948 judging from internal statistical evidence.

Begins with a description of the common economic problems that faced most of the Committee of European Economic Cooperation countries (plus Western Germany), followed by chapters on each of these 16 countries (plus Western Germany) that elected to participate in the European Recovery Program (Marshall Plan). A paragraph in the Introductory Chapter states: "European recovery proceeded at a satisfactory pace until the fall of 1946. Afterward, the hard winter, the 1947 drought and, above all, the depletion of foreign exchange resources severely retarded the progress of recovery. It became clear that Europe had gone through a partial but still precarious recovery which could not be carried forward or even maintained for a longer period without continuing assistance from the United States and readjustments in European industry and trade."

U.S. Economic Cooperation Administration, *European Recovery Program: Country Studies*, U.S. Government Printing Office, Washington, D.C., February 1949.

Includes studies for each of the Marshall Plan countries: Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, the United Kingdom, and Western Germany. Illustrative abstracts for Austria, France, the Netherlands, West Germany, and the United Kingdom appear herein in the individual country sections.

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U.S. Office of Strategic Services, Research and Analysis Branch, *The Contribution of Axis-Controlled Europe to the European-Axis War Potential*, Washington, D.C., 1943, 15 pp.

Contends that Germany secured contributions from occupied countries to her war potential by various devices. These included assessment of occupation costs on occupied areas, accumulation of adverse clearing-house balances, and the sale of German bonds to individual buyers in occupied areas. The report concludes that "it is highly probable that non-German war exertion will not continue its upward trend and cannot even maintain the mid-1943 rate. The economic position of occupied areas is steadily weakening."

The *United States Strategic Bombing Survey* was established by the Secretary of War on November 3, 1944, pursuant to a Directive from President Roosevelt. Its mission was to conduct an impartial and expert study of the effect of the aerial attack on Germany, to be used in connection with air attacks on Japan and to establish a basis for evaluating the importance and potentialities of air power as an instrument of military strategy, for planning the future development of the U.S. armed forces and for determining future economic policies with respect to national defense. Some 208 reports were published as a result of the survey of Germany.

On August 15, 1945, President Truman requested that the Survey conduct a similar study of the effects of all types of air attack in the war against Japan. The survey of Japan produced 108 volumes.

For the reader's convenience the titles of the 316 volumes are reproduced below.

UNITED STATES STRATEGIC BOMBING SURVEY

LIST OF REPORTS

The following is a bibliography of reports resulting from the Survey's studies of the European and Pacific wars. Those reports marked with an asterisk (*) may be purchased from the Superintendent of Documents at the Government Printing Office, Washington, D. C.

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- *12 The Effects of Bombing on Health and Medical Services in Japan
- *13 The Effects of Atomic Bombs on Health and Medical Services in Hiroshima and Nagasaki

Morale Division

- *14 The Effects of Strategic Bombing on Japanese Morale

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- *15 The Japanese Aircraft Industry
- *16 Mitsubishi Heavy Industries, Ltd.
Corporation Report No. I
(Mitsubishi Jukogyo KK)
(Airframes & Engines)
- *17 Nakajima Aircraft Company, Ltd.
Corporation Report No. II
(Nakajima Hikoki KK)
(Airframes & Engines)
- *18 Kawanishi Aircraft Company
Corporation Report No. III
(Kawanishi Kokuki Kabushiki Kaisha)
(Airframes)
- *19 Kawasaki Aircraft Industries Company, Inc.
Corporation Report No. IV
(Kawasaki Kokuki Kogyo Kabushiki Kaisha)
(Airframes & Engines)
- *20 Aichi Aircraft Company
Corporation Report No. V
(Aichi Kokuki KK)
(Airframes & Engines)
- *21 Sumitomo Metal Industries, Propeller Division
Corporation Report No. VI
(Sumitomo Kinzoku Kogyo KK, Puopera Seizosho)
(Propellers)
- *22 Hitachi Aircraft Company
Corporation Report No. VII
(Hitachi Kokuki KK)
(Airframes & Engines)
- *23 Japan International Air Industries, Ltd.
Corporation Report No. VIII
(Nippon Kokusai Koku Kogyo KK)
(Airframes)
- *24 Japan Musical Instrument Manufacturing Company
Corporation Report No. IX
(Nippon Gakki Seiso KK)
(Propellers)
- *25 Tachikawa Aircraft Company
Corporation Report No. X
(Tachikawa Hikoki KK)
(Airframes)
- *26 Fuji Airplane Company
Corporation Report No. XI
(Fuji Hikoki KK)
(Airframes)
- *27 Showa Airplane Company
Corporation Report No. XII
(Showa Hikoki Kogyo KK)
(Airframes)
- *28 Ishikawajima Aircraft Industries Company, Ltd.
Corporation Report No. XIII

- (Ishikawajima Koku Kogyo Kabushiki Kaisha)
(Engines)
- *29 Nippon Airplane Company
Corporation Report No. XIV
(Nippon Hikoki KK)
(Airframes)
- *30 Kyushu Airplane Company
Corporation Report No. XV
(Kyushu Hikoki KK)
(Airframes)
- *31 Shoda Engineering Company
Corporation Report No. XVI
(Shoda Seisakujo)
(Components)
- *32 Mitaka Aircraft Industries
Corporation Report No. XVII
(Mitaka Koku Kogyo Kabushiki Kaisha)
(Components)
- *33 Nissan Automobile Company
Corporation Report No. XVIII
(Nissan Jidosha KK)
(Engines)
- *34 Army Air Arsenal & Navy Air Depots
Corporation Report No. XIX
(Airframes and Engines)
- *35 Underground Production of Japanese Aircraft
Report No. XX

Basic Materials Division

- *36 Coal and Metals in Japan's War Economy

Capital Goods, Equipment and Construction Division

- *37 The Japanese Construction Industry
- *38 Japanese Electrical Equipment
- *39 The Japanese Machine Building Industry

Electric Power Division

- *40 The Electric Power Industry of Japan
- *41 The Electric Power Industry of Japan (Plant Reports)

Manpower, Food and Civilian Supplies Division

- *42 The Japanese Wartime Standard of Living and Utilization of Manpower

Military Supplies Division

- *43 Japanese War Production Industries
- *44 Japanese Naval Ordnance
- 45 Japanese Army Ordnance
- *46 Japanese Naval Shipbuilding
- *47 Japanese Motor Vehicle Industry
- *48 Japanese Merchant Shipbuilding

Oil and Chemical Division

- 49 Chemicals in Japan's War
- 50 Chemicals in Japan's War—Appendix
- 51 Oil in Japan's War
- 52 Oil in Japan's War—Appendix

Over-all Economic Effects Division

- *53 The Effects of Strategic Bombing on Japan's War Economy (Including Appendix A: U. S. Economic Intelligence on Japan—Analysis and Comparison; Appendix B: Gross National Product on Japan)

and Its Components; Appendix C: Statistical Sources).

Transportation Division

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- *56 Effects of Air Attack on Urban Complex Tokyo-Kawasaki-Yokohama
- *57 Effects of Air Attack on the City of Nagoya
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- 59 Effects of Air Attack on the City of Nagasaki
- 80 Effects of Air Attack on the City of Hiroshima

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- 68 The Air Transport Command in the War Against Japan
- 69 The Thirteenth Air Force in the War Against Japan
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Naval Analysis Division

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- *73 Campaigns of the Pacific War
- *74 The Reduction of Wake Island
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- 76 The American Campaign Against Wotje, Maloelap, Mille, and Jaluit (Vols. I, II and III)
- *77 The Reduction of Truk
- 78 The Offensive Mine Laying Campaign Against Japan
- 79 Report of Ships Bombardment Survey Party—Foreword, Introduction, Conclusions, and General Summary
- 80 Report of Ships Bombardment Survey Party (Enclosure A), Kamaishi Area
- 81 Report of Ships Bombardment Survey Party (Enclosure B), Hamamatsu Area

- 82 Report of Ships Bombardment Survey Party (Enclosure C), Hitachi Area
- 83 Report of Ships Bombardment Survey Party (Enclosure D), Hakodate Area
- 84 Report of Ships Bombardment Survey Party (Enclosure E), Muroran Area
- 85 Report of Ships Bombardment Survey Party (Enclosure F), Shimizu Area
- 86 Report of Ships Bombardment Survey Party (Enclosures G and H), Shionomi-Saki and Nojima-Saki Areas
- 87 Report of Ships Bombardment Survey Party (Enclosure I), Comments and Data on Effectiveness of Ammunition
- 88 Report of Ships Bombardment Survey Party (Enclosure J), Comments and Data on Accuracy of Firing
- 89 Reports of Ships Bombardment Survey Party (Enclosure K), Effects of Surface Bombardments on Japanese War Potential

Physical Damage Division

- 90 Effect of the Incendiary Bomb Attacks on Japan (a Report on Eight Cities)
- 91 The Effects of the Ten Thousand Pound Bomb on Japanese Targets (a Report on Nine Incidents)
- 92 Effects of the Atomic Bomb on Hiroshima, Japan
- 93 Effects of the Atomic Bomb on Nagasaki, Japan
- 94 Effects of the Four Thousand Pound Bomb on Japanese Targets (a Report on Five Incidents)
- 95 Effects of Two Thousand, One Thousand, and Five Hundred Pound Bombs on Japanese Targets (a Report on Eight Incidents)
- 96 A Report on Physical Damage in Japan (Summary Report)

G-2 Division

- 97 Japanese Military and Naval Intelligence
- 98 Evaluation of Photographic Intelligence in the Japanese Homeland, Part I, *Comprehensive Report*
- 99 Evaluation of Photographic Intelligence in the Japanese Homeland, Part II, *Airfields*
- 100 Evaluation of Photographic Intelligence in the Japanese Homeland, Part III, *Computed Bomb Plotting*
- 101 Evaluation of Photographic Intelligence in the Japanese Homeland, Part IV, *Urban Area Analysis*
- 102 Evaluation of Photographic Intelligence in the Japanese Homeland, Part V, *Camouflage*
- 103 Evaluation of Photographic Intelligence in the Japanese Homeland, Part VI, *Shipping*
- 104 Evaluation of Photographic Intelligence in the Japanese Homeland, Part VII, *Electronics*
- 105 Evaluation of Photographic Intelligence in the Japanese Homeland, Part VIII, *Beach Intelligence*
- *106 Evaluation of Photographic Intelligence in the Japanese Homeland, Part IX, *Artillery*
- *107 Evaluation of Photographic Intelligence in the Japanese Homeland, Part X, *Roads and Railroads*
- 108 Evaluation of Photographic Intelligence in the Japanese Homeland, Part XI, *Industrial Analysis*

U.S. Strategic Bombing Survey, Summary Report, European War (E-1), U.S. Government Printing Office, Washington, D.C., September 30, 1945, 18 pp.

An account of the results achieved by Allied air power in each of its several roles in the war in Europe and a description of such signposts as were felt to be useful lessons for the future. A paragraph on p. 17 reads in part: "The great lesson to be learned in the battered towns of England and the ruined cities of Germany is that the best way to win a war is to prevent it from occurring. . . . Prevention of war will not come from neglect of strength or lack of foresight or alertness on our part."

Pentagon Army Library

The United States Strategic Bombing Survey, Over-All Report (European War) (E-2), U.S. Government Printing Office, Washington, D.C., September 30, 1945, x, 109 pp.

An analysis of the effect of heavy bombing on the German war economy that emphasizes the importance of the basic industries--power, transportation, oil, steel, chemicals. From the point of view of recovery, no indispensable industry was put out of commission permanently by a single attack.

Pentagon Army Library

Wittkowski, Adolph (comp.), *Schrifttum zum Marshall Plan und zur wirtschaftlichen Integration Europas im Auftrage und unter Mitwirkung des Bundesministeriums für den Marshall Plan zusammengestellt von Adolf Wittowski* [Literature on the Marshall Plan and on the Economic Integration of Europe. Compiled on behalf of and with the cooperation of the Federal Ministry of the Marshall Plan], Bundesministerium für den Marshallplan, Bad Godesberg, 1953, 382 pp. Foreword by the Minister for the Marshall Plan Blucher.

Comprehensive bibliography of literature on Marshall Plan aid and the development of European economic cooperation that draws from both official and general sources in English, German, and French. The compiler was an economic fellow of the University of Kiel's Institute of World Economy.

Four major sections of periodical and book listings are included: I. Description of U.S. foreign aid--broken down into regulations, reports of U.S. agencies, and general publications; II. Description of European Economic Cooperation--integration, economic union, EEC organization, currency agreement, customs, agrarian agreement, and energy integration plan; III. Questions arising from EEC on agriculture and food production, raw materials, energy resources, industry and crafts, national income, etc.; IV. Description of economic aid for Germany--laws, reports, general publications, and special problems. An appendix lists the names of individual authors and officials and has an index of relevant official and corporate organizations along with a listing of useful newspapers and periodicals. Each entry is fully detailed, with paging and dates, as well as the location of sources in European libraries. United Nations publications have been included.

Woodbridge, George, et al., *UNRRA: The History of the United Nations Relief and Rehabilitation Administration*, 3 vols., New York, 1950, Vol. I, xxxv, 518 pp; Vol. II, xii, 601 pp.; Vol. III documents), xiii, 520 pp.

The official history of UNRRA and its operations. Volume II contains descriptions of field operations by country. These descriptions cover industrial and transportation rehabilitation work undertaken by UNRRA, as well as the food relief, which was the agency's most important task. Factors that made relief work difficult are indicated, such as the movement of goods through war-damaged ports and over damaged railway lines, the resulting inability to keep track of shipments, and the misrouting and delays that were the consequence. The text is primarily narrative. The countries included are Greece, Yugoslavia, Albania, Czechoslovakia, Poland, Byelorussian and Ukrainian SSR, Italy, Austria, Ethiopia, Finland, Hungary, China, the Philippines, and Korea; smaller programs in several other countries are also included.

Pentagon Army Library

3. FRANCE

Baum, W. C., *The French Economy and the State*, Princeton University Press, Princeton, N.J., 1958, 391 pp.

A comprehensive study of the role of state intervention in the operation of the French economy. The first section concerns state action on several broad and interrelated problems following World War II: *the need for reconstructing and developing the war-devastated economy*, controlling sharp fluctuations in the level of economic activity, and closing the large balance-of-payments gap. Subsequent sections examine the state's traditional role of public financier, the less orthodox role of the state as entrepreneur in the large sector of the economy now under public ownership, and the state as a regulator of private enterprise in, first, industry, and second, agriculture. These economic activities are considered primarily in terms of the government's objectives and methods, but some attempt is made to discuss their results as well.

Cameron, Elizabeth R., *French Reconstruction*, Yale Institute of International Studies, Memorandum No. 27, New Haven, Conn., May 1948, 24 pp.

Brief review of the French economy that discusses the constructive and destructive forces that affected it in the 15 months before publication of the report. For example, during the middle of 1947, "production slowly rolled uphill beyond its pre-war level, wavered, and at the end of the year was thrown out of gear by the crushing impact of strikes and inflation. . . ." Describing economic conditions at the end of 1946, the author states: "In contrast with lagging production in British and German coal mines, the French mines, with a labor force increased by some 50,000 German prisoners, were yielding considerably more coal than in 1938. This accomplishment, more than any other, was a symbol of the effort which the French threw into the hard work of industrial recovery. With the first good post-war harvest of 1946, agricultural production also began to move at a better pace." Among the destabilizing factors were the uneven division of national income and the inequitable system of taxation.

Pentagon Army Library

Ministère de l'Information, *La France reconstruit, une année d'efforts*, Paris, 1945, 47 pp.

Discussion of the establishment of an order of priorities after an assessment of French resources in September 1944. This order included organizing transportation, producing energy, importing prime materials, increasing manpower and industrial production, renovating plants and equipment, and raising the standard of living. Gains made in each of these areas are discussed and statistically documented. For example, the volume of debris that had to be cleared in spite of a severe shortage of trucks, automobiles, horses, equipment, or trained personnel was estimated at 46 million cubic meters. By December 31, 1944, 13.9 million cubic meters had been cleared.

Peterson, Wallace C., "Economic Reconstruction in France, 1946-1952," Ph.D. dissertation, University of Nebraska, Lincoln, 1954, viii, 460 pp.

An analysis of the Monnet Plan which had as its goal the modernization of the French economy. "Basic industries," most of which were nationalized, were defined as those that produced such essential resources as coal, electricity, cement, iron and steel, petroleum and gas, and transportation. In the 1948 draft of the Monnet Plan, agriculture was accorded the status of a "basic sector." The reconstruction program also involved an effort to overhaul the foreign trade structure. The author assesses the success of the Monnet Plan as qualified but believes that on the whole it succeeded in eliminating the bottlenecks in basic industries that had been particularly responsible for the retarded state of economic development.

Pinkney, David H., "The Nationalization of Key Industries and Credit in France after the Liberation," *The Political Science Quarterly*, Vol. LXII, No. 3, September 1947, pp. 368-380.

Briefly traces the pre-World War II history of government intervention in industry in France and then discusses the trend toward socialization that the author concludes was "both firmly established and widely accepted." The National Council of Resistance in March 1944 called for "the return to the nation of the great means of production." The first postwar elected national assembly (November 1945 to April 1946) voted the nationalization of the Bank of France and four large deposit banks, public utilities, coal mines, and two-thirds of the leading insurance companies.

Rosa, Robert V., "The Problem of French Recovery," *Economic Journal*, Vol. 59, June 1949, pp. 154-170.

A broad review of French economic distress as it appeared toward the close of 1948, and an attempt to isolate the fundamental causes. During the fiscal year 1948-49, France was scheduled to receive more than a quarter of all aid, direct and indirect, under the program of the Organization for European Economic Cooperation.

U.S. Economic Cooperation Administration, *European Recovery Program: France, Country Study*, U.S. Government Printing Office, Washington, D.C., 1949, 100 pp.

An excerpt from the Summary and Conclusions section of this report reads: "After the liberation of France in 1944, the French economy was prostrate, with industrial activity at only 20 percent of prewar. Since then, France's economic recovery has been, in many respects, impressive. It suggests that the elements of a full recovery are present, provided two principal economic problems can be successfully overcome. The first of these, and at present the more pressing, is the problem of inflation. The second, and more fundamental, is the problem of labor productivity and production costs, particularly in French industry. The

solution of both problems depends upon a strengthening of confidence—
confidence in the franc, confidence in economic and political stability,
confidence in the security of Western Europe. Progress toward their
solution depends on continuation of United States aid."

Pentagon Army Library

4. JAPAN

Allen, G. C., *Japan's Economic Recovery*, Oxford University Press, London, 1958, xi, 215 pp.

Description and explanation of the processes by which Japan, in spite of immense material losses and the postwar collapse of the economy, emerged by the middle 1950s as once again the leading industrial country in Asia. The author, a professor of political economy at the University of London at the time of writing, relates that by 1955-1956 Japan had restored financial stability, rebuilt in large part industrial and commercial organizations, increased manufacturing production to more than twice that of the middle 1930s, and raised income well above the prewar level. He states that although the American occupation forces were at first indifferent to economic recovery and concentrated on political and social reforms, by the end of 1947 they were persuaded to revise their policies by the catastrophic conditions in Japanese industry and the deepening financial crisis. "On balance," he says, "there can be no doubt that the American association with Japan's affairs during the Occupation period conferred signal benefits upon her."

Pentagon Army Library

Cohen, Jerome B., *Japan's Economy in War and Reconstruction*, University of Minnesota Press, Minneapolis, 1949, 545 pp.

A documentation of the economic development of Japan from 1937 to 1949. The author describes and statistically supports an experiment in planned industrial expansion prior to 1941, and continues with a survey of the war years. This includes Japan's successes and failures in planning, controlling, financing, and developing war industries; meeting emergencies; and coping with problems of labor, munitions, and food supply. An analysis is made of certain "pillars of the economy," such as steel, oil, coal, and electric power. The final chapter concerns the economy under occupation, including the prospects for recovery.

Pentagon Army Library

Cohen, Jerome B., *Japan's Postwar Economy*, Indiana University Press, Bloomington, 1958, xvii, 262 pp.

Compact review of Japan's economic recovery from 1949 to 1956 that includes many tables, among whose titles are "Indexes of Japanese Industrial Activity, 1934-1956," "Japan and West Germany, Comparative Recovery, 1950 to 1956," and "Japanese National Income and Gross National Product, 1934-1936, 1950, 1952-1956."

Fearey, Robert A., *The Occupation of Japan, Second Phase: 1948-50*, published under the auspices of the International Secretariat, Institute of Pacific Relations, The Macmillan Company, New York, 1950, ix, 239 pp.

An analysis of the major developments in the occupation of Japan from early 1948 to the middle of 1950. The author, a member of the Office of Northeast Asian Affairs of the Department of State, intended this volume as a supplement to an earlier study, under the auspices of the Institute of Pacific Relations, entitled *The Allied Occupation of Japan*, by Edwin M. Martin, which covered the period from Japan's surrender to the end of 1947. Chapter 5, "Economic Developments," describes the measures that were required to stimulate the economy. The slow revival of Japan's foreign trade and increasing annual trade deficits were the facts that led, first, to the appropriation by the U.S. Congress in 1948 of funds to assist the rehabilitation of Japanese industry and trade. Later, they led to the stabilization directive to promote the development of an efficient and productive industrial economy able to make effective use of these funds and to bring Japan more quickly to a state of self-support.

Pentagon Army Library

Hersey, John, *Hiroshima*, Bantam Books, Inc., New York, 1959, 116 pp.

A description of the bombing of Hiroshima from the point of view of six survivors interviewed by Hersey soon after the event.

Pentagon Army Library

The Institute of Economic Research, Hitotsubashi University, *Annotated Economic Statistics of Japan for Postwar Years up to 1958*, Tokyo, n.d., vii, 192 pp.

Japanese-language text edition with an English table of contents. Among the titles of the 13 sections are: "National Income," "Population and Labor Force," "Production (Agriculture, Forestry and Fishery)," "Production (Mining and Industry)," "Commerce," "Firms and Establishments," "Foreign Trade and International Balance of Payment," "Transportation."

MacArthur, Douglas, "Japan: An Economy of Survival," *Fortune*, Vol. 39, June 1949, pp. 74-75, 188-204.

The first full public account General MacArthur gave of occupation policies and accomplishments in Japan after he became Supreme Commander for the Allied Powers. This article was written in reply to *Fortune's* "economic report" on SCAP, which appeared in its April 1949 issue. MacArthur's concluding sentence reads: "The rate of such progress may not satisfy those who would attempt to apply to Japan standards and remedies particularly applicable to conditions elsewhere, but a comprehensive understanding of the Japanese problem arouses wonder that such progress has been as great and rapid as it has."

Martin, Edwin M., *The Results of the Allied Occupation of Japan: An Interim Report*, American Institute of Pacific Relations, New York, 1947, 68 pp., mimeo.

A report of the Tenth Conference of the Institute of Pacific Relations. The author, who was Chief of the Division of Japanese and Korean Economic Affairs of the Department of State when this document was written, describes the purposes the occupation was designed to accomplish, the conditions under which it was operating, and the tools with which it expected to obtain the results. He discusses the difficulty in assessing progress--partly because of the language barrier and the scarcity of channels of information--particularly on developments outside the main urban areas of Japan. Since occupation policy and action were directly derived from two basic policy documents (the Potsdam Declaration of July 26, 1945, and the Presidential Policy Statement on Japan sent to the Supreme Commander for the Allied Powers (SCAP) on September 6, 1945), pertinent excerpts from these documents preface each chapter or section.

The Appendix is a reproduction of the "Basic Post-Surrender Policy for Japan" forwarded to SCAP on June 26, 1947. This directive, serial number 82, was prepared by the State Department to implement the policy adopted by the Far Eastern Commission on June 19, 1947.

Maurer, Herrymon, "The U.S. Does a Job," *Fortune*, Vol. 35, March 1947, pp. 134-143ff.

An account of the impact on the traditional Japanese economic and political structure of the Allied occupation of Japan, as administered by the Office of the Supreme Commander of the Allied Powers. The author, a *Fortune* editor, first visited Japan in 1938 during a two-year stay in the Far East. He was a leading contributor to the single-subject issue on Japan, published by *Fortune* in April 1944, and the author of books on the Orient. He observes: "The crippling of the Zaibatsu economic aristocracy has created an enthusiasm for personal moneygetting on a scale that has never existed in Japan before, and it is possible that this sense of individualism in business may transfer itself to other parts of Japanese life."

Ohkawa, Kazushi, et al., *The Growth Rate of the Japanese Economy since 1878*, Kinokuniya Bookstore Co., Ltd., Tokyo, 1957, xiii, 250 pp.

A report of a group study project at the Institute of Economic Research, Hitotsubashi University on measurements of long-term changes in national product and capital formation from 1878 to 1940. Its historical statistics range from national income to price deflators. An appendix covers the postwar period.

Overseas Consultants, Inc., *Report on Industrial Reparations Survey of Japan*, New York, February 1948, 224 pp., plus extensive tabular exhibits.

A detailed survey of those industries in Japan from which equipment was to be removed for reparations, made for the purpose of selecting which specific factories should be dismantled in whole or in part to meet this requirement. The analysis also looks at Japanese economic requirements and concludes that most of the above factories and equipment which

were not "primary war facilities" should remain in Japan, because their removal "would hurt world production, would reduce the likelihood of Japan's becoming self-supporting . . . and would not be to the best interests of the claimant nations." The state of Japanese industrial recovery at the time of the survey, two years after the end of the war, is summarized as follows: "The problem of restoring the economy of Japan to a self-supporting basis, even to the relatively low standards of 1930-1934, is one of enormous difficulty."

Pentagon Army Library

Supreme Commander for the Allied Powers, Economic and Scientific Section, National Resources Section, and Public Health and Welfare Section, *Food Situation during the Second Year of the Occupation*, Tokyo, 1948, iii, 77 pp.

A general statement on Japan's food situation that points out that without imported food, consumption in urban areas would have been at starvation levels in the spring and summer of 1947. Surveys in Tokyo in May and August of that year indicated that the total food consumption during those months would have been only about 800 to 900 calories per capita per day if imported food had not been available for distribution. A study of labor output in relation to food consumption among coal miners showed that the tonnage per man dropped from 14 tons per month to 5.3 tons per month as caloric intake dropped.

Japan's dependence upon outside sources for a portion of the food supply necessary to provide even minimum needs underlined the importance to Japan of a revival of foreign trade. Over 50 pages of statistical tables are included.

Supreme Commander for the Allied Powers, Economic and Scientific Section, *Mission and Accomplishments*, Tokyo, 1950, 47 pp.

Begins with 16 pages of economic indicators, followed by descriptive material covering such areas as finance, taxation, prices and distribution, shipping, textiles, industry and utilities. With respect to food supply:

Rice collections from farmers, which had dropped to 19 million koku (1 koku equals 4.9 bushels) in the 1945-46 crop year, compared to about 36 million in the war years, were increased to 27 million koku in 1946-47, 29 million in 1947-48, and 31 million in 1948-49. . . . Private transportation of staple goods [was] banned and restaurants closed. . . . In 1946 811,000 metric tons of foodstuffs (solely U.S. relief goods) were brought into Japan.

Supreme Commander for the Allied Powers, Economic and Scientific Section, Research and Statistics Division, *Japanese Economic Statistics*, Tokyo, Japan, September 1946 through November 1951 (monthly).

Cumulative reports distributed to major universities and public libraries as of the November 1947 Bulletin No. 15; earlier issues not available. The UCLA catalog card states that from December 1951 to June 1952 *Japanese Economic Statistics* was issued by the Japan Economic Stabilization Board and after that by the Japan Economic Counsel Board.

Examples of the tables, included in the issues reviewed (November 1947-April 1948), are "Electric Energy Generation by Geographic Area," "Selected Food Commodity Reports," and "Railway and Industrial Rolling Stock." All of these tables include 1930s statistics and detailed monthly figures on industrial production.

Supreme Commander for the Allied Powers, General Headquarters, Statistics and Reports Section, *History of Non-Military Activities of the Occupation of Japan*, SCAP, Tokyo, 1952.

Fifty-five monographs prepared by the section of SCAP which later became the Civil Historical Section. The most useful for the present bibliography are Monographs 41-54. Microfilm copies of the monographs, some of which were classified until recently, are in the Records Center at Suitland, Maryland, and can be purchased from the U.S. National Archives and Records Service, General Archives Division, Washington, D.C., 20409. The titles of the monographs on the rehabilitation of various sections of Japan's economy are given below:

41. The Petroleum Industry
42. Fisheries
43. Forestry
44. Rehabilitation of Non-fuel Mining
45. Coal
46. Expansion and Reorganization of the Electric Power and Gas Industries
47. The Heavy Industries
48. The Textile Industries
49. The Light Industries
50. Foreign Trade
51. Land and Air Transportation
52. Water Transportation
53. Communications
54. Reorganization of Science and Technology in Japan

For illustrative purposes we have set forth below, in separate abstracts, descriptions of the contents of some of these monographs.

Supreme Commander for the Allied Powers, General Headquarters, Statistics and Reports Section, *History of the Non-Military Activities of the Occupation of Japan*, Monograph No. 45, *Coal*, Tokyo, 1952, 72 pp., plus appendixes.

Survey of manpower and production changes in the coal industry. The September 1945 output of 890,000 metric tons of coal was approximately 25 percent of the average monthly production of 1936. About 130,000 of the wartime coal miners were Korean and Chinese prisoners who had to be repatriated. The Japanese government's recruitment process was considered dilatory, even in view of the many problems, and in December

of 1945, SCAP directed it to solve the problem without delay. Intensive publicity campaigns promising special food and clothing rations and improved living conditions succeeded in obtaining the necessary replacements by March 1946. Prewar coal mining had been a strenuous and hazardous occupation with low pay and little prestige. After 1945 the economic condition of coal miners equaled or surpassed that of any industrial worker in Japan.

SCAP encouraged the introduction of safety measures and more modern mining techniques. Production in 1949 was 38,062,734 tons which exceeded the 1935 production of 37,762,000 tons.

Supreme Commander for Allied Powers, General Headquarters, Statistics and Reports Section, *History of the Non-Military Activities of the Occupation of Japan*, Monograph No. 47, *The Heavy Industries, 1945-1950*, Tokyo, 1952, 163 pp., plus appendixes.

Discusses the problems and policies affecting the heavy industries: iron and steel, nonferrous metals, industrial machinery, shipbuilding, transportation machinery, heavy chemical industry, rubber manufacturing, and cement. Some of the problems, apart from the destruction of plants and equipment, were the migration of industrial workers to the country, first to escape the bombing and later to search for food; the near impossibility of obtaining raw materials; the condition of the coal industry; a disorganized money market; a runaway currency; and a faulty distribution system. Another obstacle to recovery was the initial occupation policy of industrial dismantling directed toward removing Japan's war-making potential. SCAP pressed for a policy decision on reparations at the end of 1946 when Japan's industry was in a precarious state.

Supreme Commander for the Allied Powers, General Headquarters, Statistics and Reports Section, *History of the Non-Military Activities of the Occupation of Japan*, Monograph No. 48, *The Textile Industries, 1945-1950*, Tokyo, 1952, 146 pp., plus appendixes.

Until 1937 when the heavy industries expanded rapidly as a result of war-time needs, textiles were Japan's most important manufacturing industry. During the period 1930-1937 the value of textile production averaged a little more than 33 percent of the total of all manufacturing industries. The postwar revival of the "safe" textile industries was of prime importance both in achieving the necessary expansion of exports and in supplying the domestic economy with textiles after the years of rigid rationing and depletion of stocks. Postwar silk production was approximately 13 percent of the prewar average, partly because large areas previously devoted to mulberry leaf growing had been converted to food production during the war.

Supreme Commander for the Allied Powers, General Headquarters, Statistics and Reports Section, *History of the Non-Military Activities of the Occupation of Japan*, Monograph No. 53, *Communications, 1945-1950*, Tokyo, 1952, 226 pp., plus appendixes.

Survey of the Japanese communications system, which was badly disrupted by bombings and lack of proper maintenance. The immediate concern of the occupation forces was to establish and maintain an efficient military communications system--military units were widely dispersed throughout the four islands. This meant, of course, a further reduction in the severely limited lines and equipment available for nonmilitary use. A major difficulty in restoring the communications system in the first year was the shortage of skilled personnel. The repatriation of Japanese communications personnel still in areas formerly under Japanese control was accelerated. The repatriation of Japanese from Soviet-occupied areas was extremely slow: Nearly five years after surrender, 301 Japanese telecommunications technicians were still being held prisoner in the Soviet Union. Suitable replacement equipment was almost unavailable: About 70 percent of the capacity of the electronics and communications equipment plants had been destroyed.

One of the means the Japanese government used to reduce the staggering number of errors in the transmission of telegraphic messages was to foster a competitive spirit among telegraph operators by holding annual operators' contests.

United Kingdom Home Office and U.K. Air Ministry, *The Effects of the Atomic Bombs at Hiroshima and Nagasaki, Report of the British Mission to Japan*, His Majesty's Stationery Office, London, 1946, vi, 21 pp.

Relates what the British Mission saw and could learn three months after the atomic bombing in Japan and points to general conclusions on the effects to be expected from similar atomic bombs, with particular reference to Great Britain. The Mission, which spent the month of November 1945 in Hiroshima and Nagasaki, had previously been concerned with an analysis of air raid damage in Great Britain, and subsequently on the continent of Europe. It was assisted by facilities and data furnished by the U.S. Strategic Bombing Survey, whose report was published simultaneously.

Pentagon Army Library

U.S. Department of State, Interim Research and Intelligence Service, Research and Intelligence Branch, *Japanese Use of Burmese Industry*, Washington, D.C., November 1945, iii, 65 pp.

A study of the Japanese organization and use of Burma's industries for war purposes, 1942-1945, together with an investigation of the development of Burma's economy as the result of the occupation. The Japanese probably foresaw that their armies might be cut off from the mainland. Therefore, from the end of 1943 on they stressed self-sufficiency in Burma. For example, gasoline was distilled from rubber, tung oil, kanyin, and resin. The Japanese introduced jute spinning and weaving, cotton weaving by power looms on a small scale, and deep-sea fishing, among other innovations.

The Burmese received training in many kinds of industrial skills which they had never before attempted. The study states that the

Japanese did not prove that Burma could be economically independent but they did suggest ways to increase the prosperity of Burma by expanding industry, agriculture, and internal trade.

United States Strategic Bombing Survey, *Summary Report (Pacific War)*, (P-1), U.S. Government Printing Office, Washington, D.C., July 1, 1946, iii, 32 pp.

A quote from a section entitled "Economic Effects of Air Attack against the Japanese Home Islands" reads: "The physical destruction resulting from the air attack on Japan approximates that suffered by Germany, even though the tonnage of bombs dropped was far smaller. The attack was more concentrated in time, and the target areas were smaller and more vulnerable. Not only were the Japanese defenses overwhelmed, but Japan's will and capacity for reconstruction, dispersal, and passive defense were less than Germany's. In the aggregate some 40 percent of the built-up area of the 66 cities attacked was destroyed. Approximately 30 percent of the entire urban population of Japan lost their homes and many of their possessions. . . . The railroad system had not yet been subjected to substantial attack and remained in reasonably good operating condition at the time of surrender. . . . Damage to local transport facilities, however, seriously disrupted the movement of supplies within and between cities, thereby hindering production, repair work and dispersal operations."

Pentagon Army Library

Ward, Robert E., and Frank Joseph Shulman, *The Allied Occupation of Japan, 1945-1952, An Annotated Bibliography of Western-Language Materials*, American Library Association, Chicago, Ill., 1974, xx, 867 pp.

(Companion volume to Sakamoto Yoshikazu's, *Nihon senryō bunken mokuroku* [A Bibliography on the Allied Occupation of Japan], Japanese-Language Materials, Nihon Gakujutsu Shinkōkai [Japan Society for the Promotion of Science], Tokyo, 1972, xxiv, 349 pp.)

The first research project completed under the auspices of the Joint Committee on U.S.-Japan Cultural and Educational Cooperation, partially supported by a grant from the U.S. State Department's Bureau of Educational and Cultural Affairs.

This volume is a very useful and comprehensive compilation which contains chapters describing the location in the United States of archival materials covering the period; and the political, legal, administrative and, of particular interest for the present bibliography, the economic aspects of the occupation period. Most of the relevant records have been deposited with the National Archives and Records Service; they fall under the jurisdiction of its Modern Military Records Division, and are housed in the Archives' new depository in Suitland, Maryland, a suburb of Washington.

In their introduction, the authors express the hope that the bibliography will stimulate and assist studies of the occupation period, which "has attracted so little scholarly attention to date."

5. THE NETHERLANDS

Netherlands Ministry of Economic Affairs, Information Department, *Economic Reconstruction in the Netherlands*, Netherlands Government Printing Office, The Hague, June 1953, 80 pp.

Brief survey of the stages of economic reconstruction from 1945 through 1952. "By the time of the liberation [May 1945], 40 percent of the productive capacity of the country had been lost. Eighty-six complete plants and more than 28,000 machines had been carried off to Germany, 564,912 acres of arable land--9.7 percent of the total arable area--had been inundated; out of 2,200,000 houses, 92,000 had been destroyed by acts of war. . . . By the end of 1945, a large part of Dutch industry, though producing little in comparison with pre-war, was again in operation." Appendix I provides a "List of Important Events in the Economic Field after the Liberation." Appendix II includes statistics on population, national income and expenditure; and indexes of industrial production and agriculture, traffic and transport, and balance of payments. Most of the figures used were supplied by the Central Bureau of Statistics of the Netherlands.

Netherlands Ministry of Economic Affairs, *Organized Robbery*, Netherlands Government Printing Office, The Hague, 1949, vii, 242 pp.

Report prepared by Major E. van Konijnenburg of the Office of the Commissioner General for Netherlands Economic Recuperation. The Preface indicates that the government of the Netherlands wished to make known details of its \$2 billion reparations claims against Germany. An inventory of Dutch property was one of the first measures taken by the occupying Germans. Some of the methods most frequently used to take over property and products were confiscation, enforced surrender, requisition and seizure by individual Germans, appointment of administrators, imposition of collective fines, reorganization of associations and institutions, purchase (with occupation marks), and "Aryanization."

Part III, entitled "Restitution and Reparation," defines the terms and gives the history and regulations of reparations procedures.

Netherlands Ministry of Foreign Affairs, Directorate-General for the Economic and Military Aid Program, *Road to Recovery: The Marshall Plan, Its Importance for the Netherlands and European Cooperation*, The Hague, Netherlands, 1954, 212 pp.

A comprehensive outline of the significance of the Marshall Plan for the Netherlands and for European cooperation. The decision to publish this book was made in January 1953, when the Netherlands government was able to inform the U.S. government that the economic situation in the Netherlands had improved to such a degree that American economic aid was no longer needed.

In the first section, 13 Netherlanders who were closely connected with the execution of the Marshall Plan give their personal impressions of the different aspects of the European Recovery program, and its effects on agriculture and industry. In the second section the effects

of the Marshall Plan in the Netherlands and its importance for European cooperation are outlined.

Revival of The Netherlands (Text: Th. P. Tromp), The Netherlands Contact, Amsterdam, 1948, 35 pp., 104 pp. of illustrations (Dutch and English).

Includes a vivid description of the occupation, liberation, and initial reconstruction periods: "One of the greatest problems connected with the work of getting the economical apparatus to function again was the reconstruction of the transport system. In our country with its extensive canals and its widely branched rivers, inland navigation plays a very important role. The system of waterways is 2-1/2 times as long as our railroads and has a length of 5000 miles. The Germans not only destroyed the bridges but the sluices and dams. . . . The Meuse, owing to damage done to the three great dams at Sambeek, Belfelt, and Linne, partially again followed its old course, with the result that it became innavigable."

In order to obtain fuel for cooking what food there was, houses were cannibalized for wood to the point of being weakened structurally, and asphalt was pried up to feed the stoves.

U.S. Economic Cooperation Administration, *European Recovery Program: The Netherlands Country Study*, U.S. Government Printing Office, Washington, D.C., 1949, 40 pp.

Chapter I, entitled "Analysis of Current Situation," states: "In May 1945 the Dutch transportation system was close to a standstill, about 10% of the arable land was under fresh, brackish and salt water, industrial production was only a fraction of the pre-war level, and food consumption in the worst areas had dropped to the sub-subsistence per capita level of 400 calories daily. Within eight months the inundated area had been reclaimed, industrial production is now above the pre-war level, the national diet, while tightly restricted, is adequate, and recovery has progressed in an atmosphere of relative financial and labor stability. . . . The restoration of the Dutch railways makes a particularly impressive story. The quantities of materials, equipment, and labor involved in the restoration were enormous. Two-hundred-and-two railway bridges were blown up, including the 19 largest. Total damage by the Germans to the railroad system is estimated at over \$200 million at pre-war prices. It is in this sector of the economy that American assistance has been especially warranted. The destruction by the Germans was partly in retaliation to the railway strike called by the Netherlands Government-in-exile in September 1944."

Pentagon Army Library

6. POLAND

Alton, Thad Paul, *Polish Postwar Economy*, Columbia University Press, New York, 1955, xv, 330 pp.

Published by the Russian Institute, established in 1946 at Columbia University, this study seeks to appraise the character of Polish economic planning, focusing on developments after World War II. For the purpose of background and comparison, Polish economic development to 1939 and the effects of World War II are included. Major portions of the study deal with the evolution and ideology of the postwar government as a determinant of economic policy; the extension of state control over factors and sectors of production and consumers; the administration of the planned economy; and planning and performance in the economy as a whole and in major sectors of activity. Economic plans through 1955 are taken into account.

United Nations Relief and Rehabilitation Administration, Operational Analysis Papers, Division of Operational Analysis, European Regional Office, London, various dates. Of the 49 papers produced by the European Regional Office, 12 concerned Poland. These are listed below, See pp. 110-111 for a list of reports 1-49.

1. Transport Rehabilitation in Poland, June 1946, 21 pp.
2. Industrial Rehabilitation in Poland
3. Agriculture and Food in Poland, July 1946, 32 pp.
7. Foreign Trade in Poland, September 1946, 45 pp.
9. Poland's Need for Assistance in 1947
30. Agriculture and Food in Poland (Revised), March 1947, 66 pp.
31. Health Conditions in Poland
35. Industrial Rehabilitation in Poland (Revised), April 1947, 65 pp.
36. Transport Rehabilitation in Poland (Revised), April 1947, 53 pp.
40. Foreign Trade in Poland (Revised), April 1947, 79 pp.
44. Finance in Poland, April 1947, 76 pp.
45. The Impact of UNRRA on the Polish Economy, April 1947, 77 pp.

The following description of UNRRA's assistance to Poland in 1945-1947 with respect to food supplies and agricultural equipment is a synthesis of material in several of the UNRRA publications listed above. It is supplied here as representative of the kinds of statistics and data furnished in these Operational Analysis reports. It is also indicative of the importance of external assistance in the survival and recovery of a society that was only a little above the subsistence level in the predisaster environment.

UNRRA's Contributions to Poland's Food Supply, 1945-1947

ORGANIZATION OF UNRRA

UNRRA was organized in November 1943 to "supply food, clothing and shelter to needy persons in liberated countries, to aid them to recover health and strength, to protect them against pestilence, and to assist the repatriation of the uprooted. That much was 'relief.'"^{*} There was a rehabilitation purpose as well, aimed at furnishing supplies that would stimulate production, both agricultural and industrial, and that would assist in restoring essential services. In March 1944, Congress appropriated \$1.35 billion for its operations, and until our withdrawal on December 31, 1946, the United States supplied some 70 percent of its total budget. Ninety percent of all food and supplies distributed by UNRRA was grown on American farms or produced in American factories. The worldwide food shortage of 1945 and 1946 reduced the role UNRRA could play in assisting recovery and presented even greater difficulties in obtaining and distributing food to prevent starvation.

Erika Spitzer describes this threatened world famine in UNRRA's Operational Analysis Paper No. 41, *The Food Situation in Continental Europe*, April 1947:

As early as September 1945, UNRRA, which had been carefully awaiting the harvest prospects, gave a warning that an unprecedented shortage in bread grains was developing. Added to the terrible destruction resulting from war operations were the effects of one of the worst droughts ever recorded which afflicted Europe and North Africa in the spring and summer of 1945. . . . In continental Europe (excluding the USSR) production of bread grains was equal to 31 million metric tons, as compared with 46 million during the preceding year and 59 million tons average before the war. The Far East was at the same time severely affected . . . the rice and millet crops harvested in the winter over 1945-46 fell below expectations by approximately 3,000,000 tons . . . at the same time some Latin American countries, such as Brazil, Mexico, and Cuba, showed cereal deficits amounting to approximately 1,000,000 tons.

^{*} John C. Campbell et al., *The United States in World Affairs, 1945-47*, published for the Council on Foreign Relations by Harper & Bros., New York, 1947, p. 319.

POLAND: UNRRA'S LARGEST EUROPEAN PROGRAM

UNRRA's policy was to assist countries lacking sufficient foreign assets with which to purchase food and other supplies. Its work was therefore carried out principally in East European countries and in Asia. Poland, at the end of World War II, had about \$71 million in gold and foreign exchange. The original September 1945 agreement between Poland and UNRRA provided for full-scale relief and rehabilitation assistance amounting to \$451 million. Data in *UNRRA in Europe, 1945-47* (Operational Analysis Paper No. 49, June 1947) indicate that actual deliveries by June 15, 1947, amounted to \$481 million divided as follows:

Food	\$201,725,000
Clothing, textiles, footwear	82,700,000
Medical and sanitation	25,800,000
Agricultural rehabilitation	75,900,000
Industrial rehabilitation	95,135,000
Total	\$481,260,000

UNRRA's Polish program was its largest in Europe. Occupied by Germany in September 1939, the westernmost parts of Poland were not liberated until the spring of 1945. The German occupiers ruthlessly exploited Polish labor and Polish resources and deliberately exterminated certain classes of Polish citizens. Poland's territory was the scene of some of the war's most fierce and destructive battles. Six million Poles died--making World War II the greatest disaster in Polish history in terms of loss of life.

Prewar Poland was primarily an agricultural country and not only fed her own population but also exported agricultural goods to the United Kingdom, Germany, and France. Agricultural rehabilitation was therefore essential for Poland's survival and central to solving the food problems of other European countries.

Poland's prewar agricultural economy relied heavily on animals for draft power and for transportation. At war's end 70 percent of the horses were missing and the few remaining tractors were worn out. UNRRA's priorities therefore included immediate importation of animals and tractors.

In the winter of 1945-46, 654,000 hectares of land were plowed with the 4544 UNRRA tractors that had by then arrived. The tractors also supplied transportation during this winter, as many sections of the country had no railroad connections, trucks were scarce, and the few horses left in the country were diseased and underfed.

Horses and cattle imports began to arrive in Gdansk in October 1945. In all, 145,000 horses and 20,000 cattle were delivered to Poland; 100,000 horses arrived in time to assist with the harvest and autumn planting of 1946.

To further aggravate Poland's agricultural and food problems, one of the greatest population movements in history took place after Poland's boundaries were altered by international agreements at Yalta, Moscow, and Potsdam. Some of Poland's territories were transferred to the Soviet Union and Poland acquired territories in the west that had previously been part of Germany. This revision of frontiers meant shifting some of the population of the former eastern territories to the west and the expulsion of thousands of Germans from the newly acquired territories. In 1945 those Germans remaining in the "new territories" to the west had little incentive to harvest or thresh their crops, and large quantities of grain not collected by the armies were consumed by refugees. About 250,000 tons of bread grains disappeared before the Polish government was able to set up administrative machinery.

Further conditions contributing to the agricultural crisis and the threat of starvation were the loss of more than half of Poland's qualified veterinarians; the lack of serums and equipment; the destruction of an estimated 400,000 farms, the presence of unexploded and undetectable mines; a critical weed problem resulting from the long untended fields; an unprecedented plague of mice in the new western territories; a shortage of natural fertilizer; and a lack of seed grain made even more significant by the acute worldwide cereal shortage.

The 1945 Harvest and the Grain Deficit

UNRRA food shipments in 1945 were comparatively small, and by the end of that year, less than 120,000 tons of foodstuffs had arrived in Poland. Most shipments were made through Constanza, Rumania's port on

the Black Sea. Some UNRRA publications state that at the close of the war Poland did not have even one berth at which a ship could dock and that the ports of Gdynia and Gdansk and Szezecin (Stettin) were damaged beyond use. Early food shipments consisted of miscellaneous items, surplus army rations, wheat flour, and rye. Polish requirements submitted to UNRRA in August 1945 had not stressed the need for cereals, the assumption being that domestic production would be sufficient to meet the country's minimum needs in 1945-46. However, when the disastrously low crop returns for the 1945 harvest became known and it was realized that there would be a serious grain deficit, an urgent request was made to UNRRA for 500,000 tons of bread grains to be delivered before September 1946. Because of the threatening world grain crisis, this was reduced to 350,000 tons by UNRRA; actually, 320,000 tons were shipped.

Management of the Food Supply by the Polish Government

The Polish government compelled farmers to furnish a quota of their production at a very low fixed price. The balance could be sold on the officially recognized free market where the prices were sometimes 13 times as high as prewar prices compared with 2 or 3 times as high for the quota system food. Various means were used by the Polish government to apportion the food UNRRA delivered.

Ration card holders obtained their supplies from official agencies, while those not holding ration cards were either fed in institutions or obtained supplies in the free market. The first shipments of UNRRA food were used to feed people in the urban centers and the larger towns. Nonproducers of food were estimated at 11 million at the beginning of the food year 1945-1946.* During the last months of 1945 and the first months of 1946, the number of non-self-suppliers increased to 13 million as poor crops made a number of farmers dependent on bread rations provided by the government. Also, new settlers in the western territories could not become self-sufficient until at least one crop had been harvested.

* The food year ran from September 1 to August 31.

Rationing in Poland meant the right to buy a certain quantity of food at very low prices, but the ration card was not always honored. "Key personnel," regarded as particularly important to the reconstruction of the country, received "guaranteed" rations and had priority over other ration card holders. Holders of "guaranteed" rations status constituted about 50 percent of all ration card holders. In January 1947 the total number of persons holding ration cards was estimated at 10,206,411.

Trade with the Soviet Union

Before 1939 Poland had had very little trade with the Soviet Union, principally because the main exports of the two countries were similar-- agricultural products and timber. In the months during and after "liberation" of Poland by Russian troops, the USSR became one of Poland's leading trade partners. The problem facing the Polish government was getting any supplies at all. There were no sources other than the USSR for such essential commodities as iron ore, wool, cotton, and gasoline. Further, only the Soviet Union could accept delivery of coal from Polish mines (about the only product Poland had to offer in exchange) in its own transport at a time when Polish railway transport was almost non-existent.

The first trade agreement between Poland and the USSR was strictly a barter arrangement concluded on October 20, 1944. Poland was to obtain oil and light consumer products in return for exports of sugar, flax, coal, and metals. In 1945 trade with the USSR under various agreements constituted 90 percent of Poland's foreign trade. UNRRA imports, of course, were not classified as foreign trade.

Polish Imports to March 31, 1946

The value of Polish imports delivered under the various trade agreements with the USSR and other countries up to March 31, 1946, is shown in Table II.1 in millions of U.S. dollars. The table sets forth the total UNRRA program for Poland compared with that part of the program fulfilled up to March 31, 1936.

Table II.1

POSTWAR IMPORTS OF POLAND

(In \$ millions)

	Programmed (various dates)	Delivered (to March 31, 1946)
All trade agreements ...	280	66
UNRRA imports	474	233

SOURCE: UNRRA Mission to Poland and Polish Ministry of Navigation and Foreign Trade, Warsaw.

Until March 31, 1946, therefore, UNRRA imports constituted 77 percent of Poland's total postwar imports. According to one source,

UNRRA thus far has played the predominant role in Poland's imports, by providing the major part of them, by supplying goods not available under existing trade agreements, by furnishing supplies free of charge, and by delivering them at a considerably faster rate than would have been possible through ordinary commercial channels.*

UNRRA Supplies to June 30, 1946

Table II.2 shows supplies furnished in UNRRA shipments to Poland from the time of liberation to June 30, 1946.

Another of UNRRA's contributions was to bring in a number of agricultural experts, including veterinarians, livestock research specialists, farm machinery and tractor experts, agricultural engineers and economists, a pest control specialist and nutritionist, and experts in the fields of fisheries, food preservation, and mass feeding.

The Disappointing Harvest, 1946-47

The unprecedented exports of grain worldwide from the major exporting countries--the United States, Canada, Australia, and Argentina--could not be maintained indefinitely and the 1946-47 harvest in Europe

*Operational Paper No. 7, *Foreign Trade in Poland*, September 1946.

Table II.2

UNRRA SHIPMENTS TO POLAND, FROM TIME OF LIBERATION
IN 1945 TO JUNE 30, 1946

(Estimated values in \$ thousands)

<i>Food</i>	<i>Value</i>	<i>Clothing, etc.</i>	<i>Value</i>
Grain and grain products	20,022	Finished clothing	23,577
Meat and meat products	16,420	Blankets and comforters	2,351
Fish	8,088	Cotton textiles	1,411
Dairy products	21,046	Woolen textiles	9,851
Fats, oils, and soap	18,380	Cotton yarn	45
Sugar	202	Woolen yarn	953
Pulses	1,780	Raw cotton	14,471
Vegetables	66	Raw wool	17,411
Beverages	3,007	Footwear	7,987
Fruits and fruit products	931	Upper leather	826
Soup dehydrated	2,668	Sole leather	1,284
Quartermaster food	21,098	Hides	435
Other food	2,909	Miscellaneous textiles	1,245
Vitamins and minerals	74	Miscellaneous footwear	536
Animal feeds	226	Unclassified	161
Unclassified	2,320		
Military surpluses	535	Total	82,544
Total	119,772	<i>Medical Supplies</i>	15,512
<i>Agricultural Rehabilitation</i>		<i>Industrial Rehabilitation</i>	
Bagging	2,655	Transport and tele-	
Farm machinery	7,581	communications	35,760
Fertilizer	3,031	Public utilities	352
Fishing equipment	1,035	Building repair equipment	2,440
Flood control and		Mining and quarrying	
irrigation	37	equipment	710
Food processing equipment	250	Machine repair equipment	11,341
Livestock	14,540	Fuels and lubricants	5,264
Pesticides	234	Miscellaneous consumer	
Repair materials and		goods	190
hand tools	512	Materials chemicals and	
Seeds	2,644	engineering stores	6,334
Dairy and poultry equipment	4	Unclassified	53
Unclassified	57		
Total	32,580	Total	62,444
Grand total	312,852,000		

SOURCE: Operational Report No. 4, UNRRA Bureau of Supply, Washington, D.C.

was therefore awaited anxiously. Initial optimism was dimmed by bad weather. Drought in Southeast Europe and floods in Britain considerably reduced grain production, and an abnormally severe winter in continental Europe damaged or destroyed millions of acres of fall-seeded crops.

The wheat and rye harvest of 1946-47 in continental Europe was only 40 million tons compared with an annual average of 60 million tons between 1935 and 1938. The 1945-46 harvest had produced only 33 million tons. See Table II.3.

END OF UNRRA: POLAND FAILS TO JOIN THE MARSHALL PLAN COUNTRIES

The United States withdrew its support from UNRRA in December 1946. Joseph Yakowicz evaluated UNRRA's assistance to Poland as follows:

Delivered at a time when agricultural production was depressed, UNRRA shipments helped feed the population of Poland at a critical time, and this assistance also contributed to some extent to the country's economic recovery.*

Further official aid from non-Communist countries was blocked, of course, when Poland, along with other Eastern European countries under Soviet influence, did not participate in Marshall Plan aid.

* Joseph Vincent Yakowicz, "Economic Reconstruction, Nationalization, and Agrarian Reform in Postwar Poland," Ph.D. dissertation, New York University, 1954, 326 pp. (A copy reproduced by microfilm-xerography can be purchased from Xerox University Microfilms, Ann Arbor, Mich.)

The author uses many Polish-language materials to illustrate and document the initial recovery and the later socialization, industrialization, and expansion of the Polish economy during the years 1945-1952. Transportation, primarily railway, is indicated as the principal bottleneck to recovery in the initial postwar years. Many statistical tables and an extensive bibliography are included.

Table II.3

GRAIN PRODUCTION IN CONTINENTAL EUROPE, 1935-1938 AND 1946-1947
(In thousand metric tons)

Country	Annual Average			
	1935-1938		1946-1947	
	Bread Grains	Other Grains	Bread Grains	Other Grains
France	8,716	6,630	7,112	5,056
Belgium	871	705	602	622
Luxembourg	49	44	38	38 ^a
Netherlands	910	487	798	610
Switzerland	247	33	282	149
Denmark	639	2,887	590	3,200
Norway	73	317	80	275
Sweden	1,086	2,055	965	1,454
Finland ^b	470	795	295	465
Total North and Northwest Europe	13,061	13,953	10,762	11,869
Germany ^b	9,325	7,932	5,900 ^a	5,500 ^a
British zone	2,620	2,287	1,531	1,270
U.S. zone	2,289	1,997	1,601	1,245
French zone	694	672	404	361
Russian zone	3,722	2,976	n.a.	n.a.
Austria	950	900	479 ^c	385
Czechoslovakia ^b	2,980	2,422	2,467	1,860
Poland ^b	8,705	5,060	3,388	1,691
Total Central and East Europe	21,960	16,314	12,234	9,436
Hungary	3,049	3,281	1,370	1,924
Rumania ^b	2,720	5,401	1,965	1,518
Bulgaria ^b	2,114	1,607	1,400	850
Yugoslavia	2,782	5,389	1,039	2,320
Total Danubian Basin	10,665	15,678	5,774	6,612
Greece	822	618	820	460
Italy	7,657	4,520	6,231	3,072 ^d
Spain	4,903	3,501	4,098	3,317
Portugal	517	495	550	520
Total Mediterranean area	13,899	9,134	11,699	7,369
Total Continental Europe, excluding USSR	59,585	55,079	40,469	35,286

SOURCES: UNRRA missions to countries under UNRRA care for these countries; for other countries, estimates by UNRRA and other agencies.

^a Estimated.

^b Areas adjusted to present frontiers.

^c Including winter meslin.

^d Including oats.

7. UNITED KINGDOM

Chancellor of the Exchequer, *Economic Survey for 1948: Report to Parliament*, His Majesty's Stationery Office, London, March 1948, 61 pp.

States that the most important uncertainty of all in 1948 was whether United States aid under the European Recovery Plan would be forthcoming. Without it, "we should be compelled to cut consumption and employment, and to abandon many of our development plans." Some of the targets for home production in 1948 were 210 million tons from the coal industry and 14 million tons of ingots and castings from the steel industry. The distribution of the industrial population in 1947-1948 is presented in one of the tables.

Pentagon Army Library

Chancellor of the Exchequer, *Economic Survey for 1949: Report to Parliament*, His Majesty's Stationery Office, London, March 1949, 63 pp.

Heralding the year 1948 as one of great and steady progress, this report states: "We received generous and timely assistance from the United States under the great European Recovery Programme; our essential imports from dollar sources were assured; and we escaped the grave crisis which threatened not only ourselves but other countries of Western Europe. . . . Though the labour force increased by only 2 percent, industrial production as a whole rose by about 12 percent above the 1947 level. . . . Most important of all, the great increase in steel output, which exceeded even the raised target, enabled production to expand in many investment and export industries." There are a number of statistical tables included.

Pentagon Army Library

Crick, W. F., "Britain's Post-War Economic Policy, 1945-50," *Canadian Journal of Economics and Political Science*, Vol. XVII, No. 1, February 1951, pp. 39-49.

The author points out in the introductory paragraph that disasters may provide the opportunity for social change: "and certainly the past five and a half years have been a period of intense activity, aimed perhaps not so much at reconstruction of a former economic system but rather at building a structure which should be more in accord with popular aspirations than the kind of economy that prevailed before the war." The author, who was associated with the Midland Bank in London, credits Marshall Plan aid as being a powerful factor in the reconstruction program.

Kaiser, Robert G., *Cold Winter, Cold War*, Stein and Day, New York, 1974, 226 pp.

A clearly written account of certain events in the United States and Great Britain during 1945-1947. The cold winter of 1947 with its attendant fuel crisis exacerbated Britain's political and economic difficulties.

The possibility of economic collapse in England hastened what was perhaps the inevitable assumption by the United States of British responsibilities in Greece and Turkey. The Cold War began with the Truman Doctrine pronounced in March 1947.

Milward, Alan S., *The Economic Effects of the Two World Wars on Britain*, prepared for The Economic History Society, Macmillan & Co., Ltd., London, 1970, 64 pp., bibliog.

One of a series of studies commissioned by The Economic History Society. Each book in the series attempts to provide a guide to the key themes of economic history and a brief survey of the current state of knowledge rather than an exposition of the author's own viewpoint. Milward, who at the time of writing was an associate professor of economics at Stanford University, concentrates on the more controversial problems of long-term changes in the British economy brought about by war in this century. The short-term changes are considered only in this wider context. For example, the effects of the German submarine blockade in the first world war were to lead the British government in 1917, by the use of financial incentives and, to a small extent, by compulsory methods, to reverse the trend of British agricultural development from that of the previous 40 years.

U.S. Economic Cooperation Administration, *European Recovery Program: United Kingdom, Country Study*, Government Printing Office, Washington, D.C., 1949, vi, 90 pp.

Among the conclusions of this report are that "the basic recovery problem of the United Kingdom is to attain a balance in its overseas accounts at an acceptable domestic standard of living. . . . The ability of the United Kingdom to become self-sustaining depends in large part upon the creation of sufficient new income on current-account to make up for the loss of overseas investments which have been liquidated."

Pentagon Army Library

III. WAR-PRODUCED DISASTER: HYPOTHETICAL

Brite, Robert L., et al., *Zonal Transportation System Vulnerability*, University of New Orleans, New Orleans, La., April 1976, 159 pp.

Presents a prototype model that not only describes systemic capability of waterways, highways, air and rail transportation systems in terms of routes, quantities and types of commodities transported, but also identifies weak links of the systems under emergency situations. A second model simulates the flow of vital goods between urban nodes to determine the response performance of transportation systems and subsystems to meet critical commodity requirements of the economic system in a disaster environment. The report also includes a state-of-the-art section and an annotated bibliography.

AD A024 460 (NTIS)

Brown, W. M., with appendixes by Raymond D. Gastil and Quentin Ludgin, *Emergency Mobilization for Postattack Reorganization*, Hudson Institute, Inc., Croton-on-Hudson, New York, May 1968, 58 pp.

Emphasizes the dangers to eventual reconstruction posed by the disorganization inevitably following a nuclear war. The potential difficulties in this reorganization period are examined in scenarios and by analogy. The author suggests that during the crisis period preceding a nuclear war a number of useful actions enhancing the chance of postattack recovery should be undertaken as part of an emergency mobilization for civil defense. The problems of creating such countermeasures appear to be formidable but possible if (1) the usable warning provided by the crisis is of sufficient duration (several weeks or more), and (2) the preplanning for the mobilization action is completed in advance of the need.

AD 669 623

Brown, W. M., *On the Postattack Viability of American Institutions*, The Rand Corporation, P-4275, Santa Monica, Calif., January 1970, 29 pp.

An attempt (1) to delineate a set of crucial problems that could develop if a nuclear war collapsed the federal government as an authoritative presence, and (2) to discuss problems that might be insurmountable even if the federal government survived. The first problem set represents the threat to viability from dependence on the suddenly missing presence of the federal government; the second set deals with the lack of governmental skill in its vital postattack functions. The author concludes that: (1) The problems of the early survival period and the reorganization period may be intangible ones rather than ones involving shortages of material sources. (2) If the federal authority disappeared after a nuclear attack, reconstituting it could be very difficult. (3) An alternative approach to postattack federal functions is needed to provide a desirable orientation for postattack planning. (4) Some

countermeasures are possible that might be implemented in a future crisis if planned for in peacetime.

AD 699 831

Brown, W. M., *Recovery from a Nuclear Attack (A Study Based upon a Hypothetical 1973 War Scenario)*, Topanga, Calif., October 1971, iii, 69 pp.

An analysis of postattack recovery problems, approached by means of a 1973 nuclear war scenario. The scenario depicts a preattack crisis of several months' duration, an urban evacuation, a large Soviet nuclear attack before the evacuation is completed, a calculation of the casualties, and a discussion of the critical problems at two weeks' and at three months' postattack. The factors found to affect the recovery most strongly are: (1) the survivability of the federal government; (2) the nature of the preattack civil defense plans; and (3) the civilian responses during the preattack crisis. In this scenario an incapacitation of the federal and most state governments leads to major societal changes, including the political fragmentation of the nation. Competition for scarce resources leads to authoritarian community governments, riots, and intercommunity conflicts as well as to great inequities in the distribution of survival supplies. Some low-cost countermeasures that might reduce or prevent the more undesirable developments are suggested.

AD 732 499

Brown, W. M., *On Reorganizing after Nuclear Attack*, The Rand Corporation, P-3764, Santa Monica, Calif., January 1968, 27 pp.

Analyzes current thinking on the possibility of a U.S. recovery from a nuclear attack that destroys or severely damages all major cities. The economic viability of the country is not assured even though a major proportion of the physical resources survive. Preplanning for a civil defense mobilization will enable it to proceed rapidly and effectively when needed. A large emergency organization could be indispensable for ensuring an effective postattack economic reorganization. Effective civil defense mobilization would tend to produce a "para-governmental" agency of several million trained people to manage reorganization problems. A major problem of recovery will be the collapse of federal currency, resulting in misallocation of food supplies and fragmentation of resources. Preventative actions could include an option to nationalize the food industry during the reorganization period. Stockpiles of petroleum, metals, chemicals, and medical supplies could be built for use as additional currency to ensure that the government would survive and function. Research and analysis of the requirements for planning a mobilization effort may require modest federal funding for a decade.

AD 670 829

Bull, Elwyn M., and Hebron E. Adams, *Postattack Resource Management*, American Technical Assistance Corporation (a subsidiary of General Research Corporation), McLean, Va., May 1975, 90 pp.

Research report on the successful disaggregation of the 86-sector "ROPE" (Runout Production Evaluation) Model, an interindustry model of the U.S. economy in the first 90 days after a hypothesized nuclear attack. The Defense Civil Preparedness Agency has worked for several years, sometimes in collaboration with other government agencies, on developing special models for systematically examining the surviving U.S. economy after hypothesized nuclear attacks and in using these computer programmed models in damage assessment simulations and studies. The ROPE Model can show the influences of constraints resulting from a government-imposed priority system and the absence of normal peacetime optimizing possibilities that are open to industry. Two improvements needed for the model were the introduction of a manpower constraint, that is, an available labor force constraint, and the disaggregation of the 86 national economic sectors into an expanded structure, better able to manipulate detailed or spurious constraints in the input/output model.

In addition to disaggregating the earlier 86 sector model to 173 sectors and assigning these to Priorities 1 and 2 for use in exercising the model, the present research has also developed a manpower-constraint equation and included it in the model. Part of the report is a user's manual for operation of the modified ROPE program. A magnetic tape and deck of cards for computer use were produced. Adaptations of the primary ROPE model were used in 1974 by the Department of Commerce in both the oil and coal crises.

AD A010 808 (NTIS)

Carr, H. C., *Area Impact Evaluation: A Planning Methodology for Assessment of the Economic Viability of Local Areas during Crisis Relocation*, Checchi and Company, February 1975, 115 pp.

Report that introduces an innovative planning tool, the Zonal Economic Profile (ZEP), developed through research supported by the Defense Civil Preparedness Agency to (1) provide a more comprehensive framework for analyzing alternative deployment options; (2) define the magnitude of the problems and imbalances that would be created by crisis population dispersal; and (3) develop methods to predict and evaluate their impact on national and regional economic systems.

The ZEP measures the overall supportive capacity of an evacuation zone and of each county, city, and town within that zone. In an effort to standardize the measures of the supportive capacity of the host areas, the ZEP utilizes two measures: (1) employment per 100 population in selected "vital" industries and (2) the Location Quotient, a mathematical index giving the relationships of reception area employment to zonal employment in these industries. The report describes these tools and presents a Relocation Planning Process Model for elaboration and evaluation of local state and regional evacuation plans.

AD A010 197 (NTIS)

Chenault, W. W., and C. H. Davis, *Reception/Care Planning for Crisis Relocation*, Vol. I; *Prototype Reception/Care Plan To Meet the Welfare, Shelter, and Related Needs of Populations Affected by Crisis Relocation*, Vol. II, Reception/Care Plan for Fremont County [Colorado], Human Sciences Research, Inc., McLean, Va., 1975, Vol. I, ca. 117 pp., Vol. II. ca. 277 pp.

Study that contributes significantly to Crisis Relocation Planning (CRP)--the planned movement of populations out of vulnerable areas, their hosting in less vulnerable communities, and related activities designed to reduce the probability of casualties--by illustrating how organized movement would improve reception and care operations.

Crisis Relocation Planning is an additional preparedness option included in the Nuclear Defense Planning program of the Defense Civil Preparedness Agency. It could involve the relocation of populations in higher-risk target areas during a grave international crisis--for example, one in which tactical nuclear weapons are employed or an enemy nation commences a similar evacuation. This study demonstrates how risk-area families, moving with their employing organization, could be preassigned to predesignated congregate care and fallout shelter facilities. The CRP concept, however, would apply to a range of other hazards, such as large-scale natural disasters, industrial accidents, and terrorism involving weapons of mass destruction.

Volume I of the present study includes a lengthy list of publications having to do with the "evolution of Reception/Care Planning efforts from earlier studies of World War II evacuations--through the period when tactical evacuation was considered a primary response to nuclear attack, and through the shelter-focused civil defense of the 1960s--to the present consideration of Crisis Relocation as a potential strategy to protect life and sustain economic organizations in times of threatened or actual disaster."

Volume II presents specific reception and care plan for Fremont County, Colorado, and a guide for undertaking plans in other areas.

Vol. I. AD A018 231 (NTIS)

Vol. II. AD A018 232 (NTIS)

Chenault, William W., Richard E. Engler, and Peter G. Nordlie, *Social and Behavioral Factors in the Implementation of Local Survival and Recovery Activities*, Human Sciences Research, Inc., McLean, Va., August 1967, x, 87 pp.

Proposes a socioeconomic approach to recovery activities following a nuclear attack. Some of the factors considered are the social environment, economic motivations, and community differences affecting implementation with illustrations of geographical diversity. The concluding section discusses implications for postattack socioeconomic policy.

AD 663 811

Clark, P. G., *Vulnerability and Recuperation of a Regional Economy: A Study of the Impact of a Hypothetical Attack on New England*, The Rand Corporation, RM-1809, Santa Monica, Calif., October 1956, 99 pp.

An attempt to determine the economic consequences of bombing attacks on a regional economy, postulating both light and heavy bombing attacks, with and without warning. An assessment is made of the surviving economic capacity and the probable demands upon that capacity. The primary purpose of the study is to explore a method of analysis, not to make an explicit forecast.

AD 123 549

Cristy, G. A., *Best Shelter for Critical Industry Workers*, Oak Ridge National Laboratory, Oak Ridge, Tenn., May 1975, 83 pp.

Discussion of the options available to workers and the industries who employ them in an extended crisis relocation situation. One of the requirements for such a situation is maintenance of economic support. In order to maintain a minimum level of activity during a crisis (in cities where industrial capacity and support activities are centered), a corresponding minimum level of labor is necessary. There is a serious question regarding whether the key workers who are supposed to remain behind in the high-risk areas will do so unless they are furnished protection from direct effects of nuclear weapons.

AD A014 626 (NTIS)

Dixon, H. L., D. G. Haney, and P. S. Jones, *A System Analysis of the Effects of Nuclear Attack on Railroad Transportation in the Continental United States*, Stanford Research Institute, Menlo Park, Calif., April 1960, 254 pp.

Represents the initial findings of a study whose scope was expected to include all major modes of transportation in the United States--railroad, motor vehicle, pipeline, water and air--following a nuclear attack.

The basic procedure followed in the analysis was to inventory the major components of the railroad transportation system, assess the damage to the inventory for the minimum and maximum of a range of possible attacks in two time periods, and evaluate the effects of the attacks on the capability of the railroad transportation system.

Dresch, Francis W., *Information Needs for Postattack Recovery Management*, Stanford Research Institute, Menlo Park, Calif., April 1968, vii, 109 pp.

This study is concerned primarily with information needed for (1) monitoring the effects of actions taken by governmental bodies at federal, state, and local levels in a postulated postattack period; and (2) providing business management with the overall information it needs for making business decisions in the absence of undistorted indicators of economic developments.

AD 668 692

Dresch, F. W., and S. Baum, *Analysis of the U.S. and USSR Potential for Economic Recovery Following a Nuclear Attack*, Stanford Research Institute, Menlo Park, Calif., January 1973, 151 pp.

Develops a methodology for translating estimates of possible damage from nuclear attack into statements about recovery potential. The approach followed combines an attack model with an economic recovery model to simulate recovery schedules under a range of different assumptions about attack objectives and recovery policies. Economic data from both the United States and the USSR are used to estimate parameters in these models and to generate preliminary simulations of possible postattack investment and recovery schedules. The abstract states: "The results show consistent paths for economic recovery and provide plausible schedules for allocation of postattack investment among sectors. Variations in the size of the attack and postattack austerity (imposed by policy stipulated constraints on personal consumption and government expenditures) displace recovery schedules up or down without significant distortion. Recovery to preattack levels of GNP requires up to a decade after heavy attacks, but such preliminary results should be taken with caution until verified by more refined, less aggregated analyses."

Pentagon Army Library

AD 755 552

Dresch, F. W., and H. T. Ellis, *Criteria for Early Postattack Economic Viability of Local Areas*, Stanford Research Institute, Menlo Park, Calif., June 1974, 154 pp.

This report considers a wide variety of factors that could affect the early postattack economic viability of local areas. Radiation, structural, and other hazards present in all or part of an area could deny access to facilities for periods of many months. Local transportation problems preventing receipt of necessary raw materials and other supplies could result in a major degradation of potential output as local inventories become exhausted. Substandard living conditions having an adverse effect on morale could greatly degrade labor productivity, an important consideration in areas with labor shortages. The present report considers the relative importance of these and other factors in degrading the output from surviving capacity, and suggests relations for the time dependence of such degradations.

Fernald, O. H., and T. D. Bull, *Critical Industry Repair Analysis, Food Industry*, Advance Research, Inc., Needham Heights, Mass., April 1965.

An analysis of the U.S. food industry in terms of vulnerability and post-attack repair. Processing plants in eight specific segments of the industry were selected on the basis of essentiality and vulnerability: flour, yeast, sugar, citrus fruit, edible oils, fish, meat, and packaging (cans and cartons).

The authors find that vulnerabilities of the plants vary by a whole order of magnitude. They conclude that (1) a severe shortage of both

raw and processed foodstuffs is improbable, because food manufacturers are both numerous and geographically dispersed; and (2) food in one form or another, including ample reserves in the form of stored, surplus commodities, will be available, depending, of course, on the supply of fuel for transportation.

AD 614 908

Gastil, Raymond, and William Schneider, Jr., *Scenario for Postattack Social Reorganization*, Hudson Institute, Inc., Croton-on-Hudson, New York, August 1969, 153 pp.

An approach to postattack analysis that explores the possible contribution that a documented scenario could make to postattack research on organizational problems. Using knowledge of historical disasters that were somewhat comparable to nuclear war, the authors divide the scenario into the following periods: preattack, the disaster, period of fractionation, survival and reconstruction, innovation and control, and return to normalcy. The scenario covers a period of more than two years (1970-1972), and the attack was one in which 2000 megatons were used. In the appendixes the authors explore more analytically certain issues raised by the scenario.

AD 859 630

Goen, Richard L., *The Magnitude of Initial Postattack Recovery Activities*, Stanford Research Institute, Menlo Park, Calif., December 1971, xi, 119 pp.

An analysis of the life support tasks of the initial postattack recovery period, from the time the survivors emerge from shelters until they have been provided with adequate accommodations. The objective of this study is to provide a basis for the subsequent development of operational contingency plans for the initial postattack recovery period. The author develops quantitative descriptions of typical damage situations in metropolitan areas. The tasks necessary for survival are defined and estimates are made of the effort, equipment, and number of men required for the tasks. The major tasks analyzed are (1) debris clearance, (2) delivery of food and water, (3) decontamination, (4) relocation of the homeless survivors, and (5) boarding windows.

Goen, Richard L., et al., *Analysis of National Entity Survival*, Stanford Research Institute, Menlo Park, Calif., November 1967, xi, 91 pp.

Defines certain principal elements of the national entity and analyzes the degree of survival of these elements from two attacks. The first is a counterforce attack, while the second has a countervalue objective added. Elements of the national entity examined include the following: population; industry (SIC 20-39), defined in terms of manufactured value added; and industrial and governmental management personnel. Significant elements of the nation's agricultural system--feed and food grains and livestock--are also considered.

Both direct weapons effects and fallout are considered in the analysis of damage to these elements of the national entity. Surviving population is defined in terms of "effective survivors," or those capable of joining the labor force, as well as in terms of total survivors, divided into six groups including injured and sick from radiation. Surviving industry is defined in terms of manufactured value added, and its ability to satisfy postattack interindustry and final demands is considered. Surviving food stocks are compared with postattack demands.

AD 834 531L

Goen, Richard L., Richard B. Bothun, and Frank E. Walker, *Potential Vulnerabilities Affecting National Survival*, Stanford Research Institute, Menlo Park, Calif., September 1970, 179 pp.

A study of selected problem areas related to national survival and recovery after nuclear attack. The vulnerability of important manufacturing industries, if directly attacked, is analyzed and the number of weapons required to reduce the industries to any level is derived. The vulnerability of petroleum product pipelines to direct attack is also considered, and the capabilities of rail tank cars and tank trucks to replace the pipeline are determined. Location patterns of electric power generating stations, the capabilities for transmission of power between power supply areas, and postattack power requirements are examined. The relocation of homeless survivors, and the availability of housing within various distances of the large metropolitan areas are analyzed, taking account of radiation dose rate constraints on use of the housing.

AD 875 589L

Goen, Richard L., Donald E. Clark, C. Alexander Kamradt, John W. Ryan, and Richard Bothun, *Critical Factors Affecting National Survival*, Stanford Research Institute, Menlo Park, Calif., March 1969, 112 pp.

Concerns selected problem areas of national survival and recovery dealing with the initial recovery phase, food processing, and manufacturing capacity. The extent to which undamaged communities could accommodate the homeless from damaged Standard Metropolitan Statistical Areas is analyzed for Detroit in particular and on a nationwide basis. Estimates are made of the surviving food stocks and processing capacity of the sugar and grain industries and are then related to survivor requirements. Labor survival in each manufacturing sector is calculated, and the effects of the labor shortages are analyzed.

AD 693 877

Hall, Earl E., with an Appendix by Freeman B. Hudson, *A Model of Society To Use in Systematic Analysis and Management Planning for Societies under Stress*, Human Sciences Research, Inc., HSR-RR-69/7-Vb, McLean, Va., November 1969, v, 78, 44 (appendixes).

Development of a societal model that identifies key social and psychological factors crucial for societal system functioning. The model is described in conceptual, diagrammatic, and equation form. The analysis provides a first-order quantitative estimate of values of some key social and psychological factors, permitting the incorporation of these factors in systems analysis. An illustrative example of such an analysis is presented. Conclusions regarding the importance of social and psychological factors in crisis and recovery situations are drawn. An appendix concerning the social and psychological problems in the repair of a particular key power plant damaged by nuclear attack is presented.

Hamberg, William A., *Transportation Vulnerability Research: Review and Appraisal 1959-1969*, Stanford Research Institute, Menlo Park, Calif., January 1969, xi, 75 pp.

Reviews and appraises earlier research reports on this subject produced during the decade 1959-1969 by Stanford Research Institute (SRI) and others. The author concludes that an extensive literature search has revealed no significant improvements in vulnerability assessment methodology, or in essential data availability since the manual technique employed in the earlier SRI studies. An annotated bibliography of the more important documents (about 50 items) is included.

AD 699 423

Hamberg, William A., and Richard W. Hall, *Vulnerability and Surviving Capability of the Nation's Transportation Systems, Interim Report: Development and Test of Methodology*, Stanford Research Institute, Menlo Park, Calif., March 1970, xii, 114 pp.

One of a group of reports concerned with determining the vulnerability of the U.S. transportation systems to nuclear attacks. It describes the development of a method of determining the capability of an all-mode transportation system to move a given amount of goods and people according to a required schedule and distribution pattern.

AD 715 972

Hanunian, N., *Dimensions of Survival: Postattack Survival Disparities and National Viability*, The Rand Corporation, RM-5140-TAB, Santa Monica, Calif., December 1966, 228 pp.

A study of the changes that massive nuclear attack might produce in the U.S. societal structure. Eight exemplar attacks, delivering between 800 and 13,200 megatons, are modeled realistically, and survival of well over a score of demographic and economic entities is assessed. The author concludes that even heavy damage from nuclear attack is likely to be so distributed as to leave the economy's resource balance, in terms of nationwide aggregates, much as it was before the attack. The agricultural sector, however, will tend to suffer much less damage than other sectors. The impact of nuclear war on society seems much more

oppressive when examined in terms of a substantial number of well-chosen indicators than when appraised on the basis of some single measure of outcome, such as nationwide mortalities. New insights are furnished by calculations of not only *how many* people would be killed, but also *which* people. To establish a frame of reference, a background sketch of historical disasters is included.

NTIS

Hirshleifer, J., *Economic Recovery*, The Rand Corporation, P-3160, Santa Monica, Calif., August 1965, 20 pp.

A discussion of the possibilities of economic survival and recovery following a nuclear war. The author discusses available resources measured against the needs of the postattack society, and the successful use of them to meet these needs. He concludes that, although a postattack period of privation is to be expected, the historical record does not justify pessimism on the issue of ultimate recovery.

AD 626 605

Huschke, R. E., *The Simultaneous Flammability of Wildland Fuels in the United States*, The Rand Corporation, RM-5703-TAB, Santa Monica, Calif., September 1966, 167 pp., bibliog.

Estimates the fire hazard in the continental U.S. wildlands at a given time of year, to provide a basis for predicting wartime fire hazard and resource survival. Flammability, or dryness, is quantitatively expressed by "burning indices" for different plant types; "critical" levels are selected arbitrarily. The burning indices are mathematical models derived from a 10-year set of daily weather observations made at 89 locations throughout the United States. It was necessary to devise a national wildland-fuel distribution inventory, a growth cycle (phenological) calendar for each principal species as a function of geographical location, and a method for simulating the fire-depressing effects of snow cover. Annual cycles of simultaneously flammable area for eight different fuel-type combinations at several frequency levels are shown graphically. Additional graphs present the principal results as recalculated by varying over a wide range the burning index level taken as critical.

NTIS

Jones, Paul S., *The Effects of a Nuclear Attack on Rail Activity Centers*, Stanford Research Institute, Menlo Park, Calif., July 1961, viii, 107 pp.

An examination of the surviving rail network and yard facilities in 12 individual rail activity centers and an evaluation of their ability, in a post-nuclear attack environment, to cope with organizing and terminating shipments as well as through traffic. These particular centers were selected because each would face severe problems following a specific nuclear attack. The author believes that a detailed study of the

logistical difficulties encountered at these 12 centers would encompass most of the problems likely to occur at the other 25 centers comprising the model of 37 nodes, each of which is a major rail activity center.

These 37 nodes represent the points of origination and termination of 60 percent of the rail traffic of the period and are linked together by the principal lines of the 25 largest railroads.

The analysis is based on the transportation of a single commodity--food. Food was selected because its demand and transportation requirements in the postattack period could be determined more accurately than those of other individual commodities or groups of commodities.

AD 632 560

Karlson, June H., and Frederick J. Wells, *Postattack Research: Reviews and Abstracts of Research on the Demographic Effects of Nuclear War, Vol. III*, The Mitre Corporation, Bedford, Mass., February 1969.

Comparative reviews of research on the demographic effects of nuclear war. Two areas of study are discussed: general postattack demographic characteristics of the survivors and the effect of nuclear attack on certain specific skill types.

Karlson, June H., and Frederick J. Wells, *Postattack Research: Reviews and Abstracts of Research on Economic Recovery Management, Vol. IV*, The Mitre Corporation, Bedford, Mass., February 1969, 126 pp.

Descriptive reviews of research concerned with the question: If enough of the "real" or "tangible" inputs of production survive, can they be reorganized by intangible economic measures into productive capacity to achieve economic recovery? Included within the economic institutional factors are money and credit; asset ownership, redistribution, and control; price and wage controls; production controls; and government financing.

AD 700 131

Karlson, June H., Ellen K. Langer, and Frederick J. Wells, *Postattack Research: Reviews and Abstracts of Research on Surviving Economic Production Potential, Vol. V*, The Mitre Corporation, Bedford, Mass., February 1969, ix, 143 pp.

Contains both descriptive and comparative reviews of studies of post-attack economic feasibility problems. In the abstract the authors describe the research surveyed as employing techniques of comparative analysis of industrial and population survival rates, specific industry studies, and input-output calculations. "In the majority of the research, it is concluded that economic recovery is possible after most attacks. The input-output results tend to indicate a postattack standard of living not much below the preattack level."

AD 700 132

Karlson, June H., and Ellen K. Langer, *Postattack Research: Reviews and Abstracts of Research on Critical Postattack Resources and Industries, Vol. VI*, The Mitre Corporation, Bedford, Mass., August 1969, xiii, 208 pp.

A review of research on critical post-nuclear-attack resources and industries, which include food and agriculture, transportation, communication, utilities (water supplies electric power, and natural gas), petroleum, and steel. A summary of the findings in each area is presented.

AD 704 963L

Karlson, June M., and Ellen K. Langer, *Postattack Research: Reviews and Abstracts of Research on Socio-Psychological Problems, Vol. VII*, The Mitre Corporation, Bedford, Mass., August 1969, viii, 110 pp.

Formatted abstracts and a narrative review of seven research tasks on postattack socio-psychological problems. Most of the tasks are analyses of civilian behavior in peacetime disasters and conventional wars. Research of methods for influencing behavior after a nuclear attack is recommended.

AD 708 570

Katz, Y. H., *Nuclear War and Soil Erosion: Some Problems and Prospects*, The Rand Corporation, RM-5203-TAB, Santa Monica, Calif., December 1966, 94 pp.

A survey of current knowledge about the extent, effects, and prevention of soil erosion as background for further investigations related to the situation after a hypothetical thermonuclear attack on the United States. Erosion, currently the dominant conservation problem on more than half of U.S. land, seriously affects land and water resources and waterways. The interruption of man's constant battle to save the soil would probably rank high in accelerating erosion in a postattack environment. The best protection against erosion is undisturbed vegetative ground cover; clean-tilled cropland may lose thousands of times as much soil per year as areas covered with protective vegetation. More than a third of U.S. cropland currently requires antierosion treatment. In addition to basic information on present land use and the erosion hazard, further research is needed on effective agricultural practices and on radiation-resistant plant species. Plants should be established in areas now endangered by erosion and should be stockpiled for emergencies.

NTIS

Lambert, B. K., *Vulnerability of Regional and Local Electric Power Systems: Nuclear Weapons Effects and Civil Defense Actions*, U.S. Department of the Interior, Defense Electric Power Administration/Texas Tech University, July 1975, 92 pp.

Refines a conceptual model previously developed and described in a March 1973 report entitled "Vulnerability of Regional Electric Power Systems to Nuclear Weapons Effects," and applies it to a regional electric power system in Louisiana to measure the response of the local power system to disruptions. Defense Civil Preparedness Agency research to develop techniques for evaluating the vulnerability of electric power systems to nuclear weapons effects has progressed from detailed examinations of the distribution segments of electric power systems to a broader concept using sophisticated modeling techniques to evaluate the systemic vulnerability of total electric power systems within an economic region. A conceptual model developed under this broader concept is the model refined in this report.

AD A014 431 (NTIS)

LaRiviere, Philip D., and Hong Lee, *Postattack Recovery of Damaged Urban Areas*, Stanford Research Institute, Menlo Park, Calif., November 1966, ix, 63 pp.

In the summary the authors state that "The development of planning and scheduling concepts for postattack recovery operations requires some definitive descriptions of postattack environments. To provide such descriptions, representations of the various effects of nuclear detonations are explored in detail both as separate entities and in combination. Mathematical formulas for assessment of damage due to blast and fire and a procedure for estimating the fallout environment in the damaged area and the consequent hazards of transattack and postattack operations are presented. The net result of applying the computational procedure is a description of the prerecovery state of the urban population, urban facilities, and urban resources that would be available for recovery operations."

AD 815 846

Lowry, I. S., *The Postattack Population of the United States*, The Rand Corporation, RM-5115-TAB, Santa Monica, Calif., December 1966, 153 pp.

An analysis of the demographic consequences of a nuclear attack on the United States in terms of size of the postattack population; its rate of growth in subsequent decades; its composition by age, sex and color; and postattack patterns of fertility and mortality. Five nuclear attacks are simulated and the demographic consequences computed by means of the Rand damage-assessment model QUICK COUNT.

The range of alternative outcomes from the five simulated attacks is increased to 15 by variation of damage-assessment parameters. In terms of total fatalities, these outcomes range from 2 to 62 percent of the preattack population. Only disparities of age among those surviving appear to have short-run or long-run significance either in a purely demographic sense or from the perspective of recovery planning.

NTIS

Massell, Benton F., and Charles Wolf, Jr., *Economic Development and Postwar Recuperation: A Comparison of Industrial Priorities*, The Rand Corporation, RM-2952-PR, Santa Monica, Calif., 1962, vii, 27 pp.

Compares the priority of various industries for economic development in less-developed areas, and for economic recuperation in advanced countries in the event of thermonuclear war. The authors discuss the theoretical reasons for expecting both similarities and differences between industrial priorities within the contexts of development and recuperation. Next, they describe a particular measure of industrial priority for economic recuperation from earlier Rand work (D.V.T. Bear, and P. G. Clark, *The Importance of Individual Industries for Defense Planning*, P-2093, Santa Monica, Calif., September 1960, 22 pp.; *The Importance of Individual Industries for Defense Planning--Supplemental Data*, P-2124, Santa Monica, Calif., October 1960, 33 pp.).

The authors then correlate the measure successively with each of three different measures of industrial priority for economic development: a measure due to Hirschman based on "linkage effects"; a measure due to Chenery based on the growth elasticity of different industries with respect to changes in per capita national income; and a measure of priority based on industrial growth under India's Five Year Plan. The three correlations yield different results but suggest, on balance, a weak but positive relationship between priorities in the two contexts.

AD 270 637

Mitchell, H. H., *Lecture on Civil Defense*, The Rand Corporation, P-1927, Santa Monica, Calif., March 1960, 10 pp.

A talk presented before the Staff College of the New York State Civil Defense Commission at West Point, New York, February 9, 1960. The author stresses such aspects of civil defense as its effect on alleviating the catastrophe of a nuclear attack on the United States, the necessity of preparations to reconstruct and reconstitute our nation to its pre-attack status, and its contribution to U.S. freedom of action in conducting peacetime foreign policy and in implementing a broad deterrence strategy. The casualty problem at Hiroshima and Nagasaki is reviewed. Rand's civil defense study, begun in 1957, is described, and the objectives of the program are summarized (namely, whether a civil defense program is feasible, and whether a feasible program can be devised to make a plausible case for implementing it).

AD 616 576

Mitchell, H. H., *Plague in the United States: An Assessment of Its Significance as a Problem Following a Thermonuclear War*, The Rand Corporation, RM-4968-TAB, Santa Monica, Calif., June 1966, 60 pp., bibliog.

An investigation of the possibility that bubonic or pneumonic plague could appear in the United States in a postattack situation. Although modern methods of control and treatment make it unlikely that a plague of vast proportions could occur, a study of plague ecology and projected disturbances in a postattack environment indicates that it is a possible

danger. The memorandum suggests that current planning include surveys for locating endemic foci of plague in wild rodents and for coordinating the results with evacuation plans of the civil defense system.

NTIS

Mitchell, H. H., *The Problem of Tuberculosis in the Postattack Environment*, The Rand Corporation, RM-5362-PR, Santa Monica, Calif., June 1967, 81 pp.

An assessment of the problem of tuberculosis in an environment created by a nuclear attack in the United States. Tuberculosis is still a relatively important public health problem, and even with current rates of decline continuing, eradication will not be accomplished by the year 2000. Any postattack population must expect to have individuals infected with tuberculosis among its members. The conditions that have been correlated with high tuberculosis rates in the past--malnutrition, poor housing, and overcrowding--are to be expected in the postattack environment. The modern chemotherapeutic and chemoprophylactic agents and BCG vaccines, if available in the postattack environment, make tuberculosis control a reasonable goal if accompanied by an adequate public health program. In the absence of active control, tuberculosis could well be the most serious infectious disease problem of the post-attack environment.

AD 654 668

Mitchell, H. H., *Survey of the Infectious Disease Problem As It Relates to the Postattack Environment*, The Rand Corporation, RM-5090-TAB, Santa Monica, Calif., August 1966, 91 pp.

An examination of the incidence of infectious diseases and methods of control to indicate measures that might be taken to prevent the occurrence of epidemics in a postattack environment. The possible collapse of quarantine regulations and a lack of immunization facilities after a nuclear attack suggest that public health measures may have to include compulsory immunization against diseases not now prevalent in the United States. As tuberculosis may well be one of the great problems of a post-attack environment, current tuberculosis control measures should be evaluated. A study that projects the epidemiology of various diseases into the postattack environment will help to indicate the resources that will be needed and to reveal where emphasis should be placed in planning for postattack recovery.

NTIS

Mitchell, H. H., *Time and Civil Defense*, The Rand Corporation, P-2009, Santa Monica, Calif., June 1960, 10 pp.

A discussion of the importance of civil defense, which is examined from the viewpoint of historical time, present time, clock time, and calendar time. Aspects of civil defense considered by the author include preparations to limit the extent of damage the United States may suffer,

Soviet civil defense efforts, the feedback effect of civil defense on foreign policy and military decisions, and the preventive effect of civil defense in connection with medical problems in a postattack situation.

Nehnevajsa, Jiri, *Crisis Location: Perspective of Americans*, University of Pittsburgh, Pittsburgh, Pa., January 1975, 51 pp.

Analyzes and reports four past national public-attitude surveys conducted in 1962, 1964, 1966, and 1972, to ascertain attitudes of Americans toward the issue of evacuation of high-risk areas. This study emphasizes the limited historical nature of the findings and identifies some 15 areas of needed attitude data. The data available indicate that the idea of crisis relocation planning as a protective measure is acceptable to 60 percent of the American people. Public acceptance of the concept of crisis relocation is considered a major factor affecting the feasibility of the program.

The data also indicate a significant decline in public acceptance of evacuation from 83.5 percent in 1964 to 57.6 percent in 1972. The study suggests that this decline might be attributable to the lack of public discussion about this issue in recent years, and to the possibility that the public may have come to believe such planning is not feasible or needed. During this same period, public acceptance of the in-place shelter system remained high (75 percent). The data indicate that concepts of population movement are more acceptable in reception areas than high-risk areas and are least acceptable in the large cities of the Northeast and West Coast.

AD A011 104 (NTIS)

Nordlie, Peter G., *An Approach to the Study of Social and Psychological Effects of Nuclear Attack*, Human Sciences Research, Inc., McLean, Va., March 1963, xi, 423 pp.

An orientation to the total problem area of civil defense needs for research on postattack behavioral phenomena. This document contains a 330-item list of behavioral data sources, including a category entitled "Economic Studies Related to Recovery."

AD 402 098

Pogrund, R. S., *Nutrition in the Post-Attack Environment*, The Rand Corporation, RM-5052-TAB, Santa Monica, Calif., December 1966, 71 pp.

An investigation of the problem of providing an adequate diet for the population surviving a nuclear attack on the United States. American dietary habits and the extent to which they contribute to the inefficient use of land in the United States are examined. Alternative food sources and the ability of humans to adapt to unfamiliar foods are considered in the context of a postattack environment.

NTIS

Popper, R. D., and W. A. Lybrand, *An Inventory of Selected Source Materials Relevant to Integration of Physical and Social Effects of Air Attack*, Human Science Research, Inc., HSR-PR-60/4-SE, Arlington, Va., 1960.

A review compiled for use in the development of an analytic model that might have the potential of estimating time and level of recovery of an attacked societal system. The report is divided into three sections: (I) *The Problem* includes studies or treatises dealing with thermonuclear warfare and its effects; (II) *Societal Behavior under Stress* encompasses studies of World War II bombing attack effects, the effects of major disasters on societal functioning, and studies of individual and small group reactions to stress; (III) *Analytic Methods* contains reports of analytic approaches used on aspects of the problem.

AD 244 888

The Rand Corporation, *Report on a Study of Non-Military Defense*, R-322-RC, Santa Monica, Calif., July 1958, 53 pp.

Considers such problems as population shelters, long-term fallout, economic recuperation, possible nonmilitary defense programs, and interactions with other aspects of national defense. The study was initiated in the belief that nonmilitary defense measures, if they could be made effective in protecting the civilian population, economy, and institutions of the United States, might make two significant contributions to the national defense. First, they might alleviate the catastrophe of a nuclear attack and, if military victory were attained, they might provide a reasonable chance that the United States as a nation could survive. Second, they might increase U.S. freedom of action in conducting peacetime foreign policy and in implementing a broad deterrence strategy.

Rockett, Frederick C., and William M. Brown, *Crisis Preparations for Postattack Economic Recovery*, Hudson Institute, Inc., HI-661-PR, Croton-on-Hudson, New York, July 1966, 47 pp. (For the Office of Civil Defense, Department of the Army.)

Outlines several actions that might be taken if an attack against the United States appeared likely, the costs of these actions, and their contributions to postattack posture and recovery. A major consideration is the potential protection of approximately \$500 billion of tangible assets that would be at risk in a city attack: business inventories, producer durables and inventories, and consumer durables. Short-term actions (one to seven days) include loading vehicles and moving them to safer areas, moving or burying business and personal records and small valuables, and processing and storing foods that are perishable if not processed. Selected factory relocation, hardening, and various other actions are identified as appropriate to three-month or one-year warning.

AD 639 387

Stephens, Maynard M., *Vulnerability of Total Petroleum Systems*, Department of the Interior, Office of Oil and Gas, Washington, D.C., May 1973, 196 pp.

An overview of the national petroleum industry and an analytical model of the total petroleum system including linkages with transportation and energy networks within the economic area of Louisiana. Vulnerable areas of the system are identified with a methodology developed for assessing potential damage and evaluating such loss as to the ability of the system to function. The model can portray the effects of major disruptions caused by nuclear attack and other types of disaster and evaluate systems response in terms of a stated objective. The author states that a major concern is the lack of data on structural damage possible to industrial facilities by overpressures less than 10 psi. Most petroleum installations are built close to the code and specification and could be seriously damaged by as little as 2 psi.

AD 775 437

Stephens, Maynard M., and Joseph A. Golasinski, *Vulnerability of Natural Gas Systems*, Department of Interior, Office of Oil and Gas, Washington, D.C., June 1974, 108 pp.

Surveys the national natural gas industry, describes all segments, identifies the systemic vulnerability of the transmission segment of the gas system within an economic region (Louisiana), and develops a methodology for assessing potential damage and evaluating its effects on the ability of the system to function. (The petroleum and natural gas industry supplies about 80 percent of the nation's total energy, with the Louisiana area producing 34 percent of the nation's natural gas and 23 percent of the liquids extracted from gas used by refineries and petrochemical industries.) The possibility that a weapon attack on the gas system would result in fires and explosions that would overwhelm available control and remedial facilities is a major concern. Most preparedness planning, according to this report, does not consider the possible magnitude of the impact of a damaged natural gas system on the dependent industries.

AD A007 583 (NTIS)

U.S. Department of the Army, Office of Civil Defense, *Proceedings of the Civil Defense Systems Evaluation Research Conference*, October 14-17, 1968, held at the Institute for Defense Analyses, Arlington, Va., Vols. I and II, Washington, D.C.

Volume I contains 12 papers given at the conference by attendees other than those from the Institute for Defense Analyses, whose presentations constitute Vol. II. Names of the participants and their affiliations also appear in Vol. I. Volume III is classified.

AD 850 175 and AD 850 176

U.S. Department of the Army, Office of Civil Defense, *Proceedings of the Symposium on Postattack Recovery from Nuclear War*, held at Fort Monroe, Va., November 6-9, 1967, Washington, D.C.

Contents of 36 papers presented at a symposium sponsored jointly by the Office of Civil Defense, the Office of Emergency Planning, and the National Academy of Sciences through two of its advisory committees--one on civil defense and one on emergency planning. Of particular interest for this bibliography are those papers on the prospects for economic recovery. One conclusion of the studies is that the most serious of the postattack recovery problems would be in management techniques--for government as well as for the economy--and in the motivations, the incentives, and the behavior of all levels of the population.

AD 672 770

Van Horn, William H., *The Construction Industry: Vulnerability to Nuclear Attack and Postattack Capabilities*, URS Research Company, URS-7037-5, San Mateo, Calif., August 1972, 147 pp., plus 6 appendixes.

Defines the operations of the construction industry in a normal economy and suggests how these operations might have to be modified to meet altered demands in the postattack period. The industry elements critical to its operation are design, management, materials, labor, and equipment. In particular, field construction supervisors who have the capability to manage massive construction projects are virtually irreplaceable industry resources whose loss could be disastrous.

AD 748 113

Van Horn, William H., and O. L. Crain, *Process Control Instrumentation: Vulnerability and Manufacturer/User Response to Nuclear Attack*, URS Research Company, San Mateo, Calif., February 1975, 220 pp.

Analyzes the vulnerability of industrial process control instrumentation to nuclear attack and outlines preattack planning and protective measures to provide greater assurance of instrument survivability. Identification of those industries critical to postattack recovery and analysis of their ability to meet survivor demands are essential for providing a viable economy. This report identifies representative types of instrumentation (pneumatic, mechanical, optical, and electrical) commonly used by industry nationwide. The major users are the petroleum and chemical industry (40 percent of annual sales), utilities and primary metals industries (30 percent), and food and related products industries (20 percent). These industries are located primarily in the large SMSAs, which makes them subject to targeting.

All user industry processing is highly dependent on automatic control instrumentation loops. Damage to instrument loops (sensor, transmitter, recorder/indicator, controller, converter, control valve, cables, and electrical/pneumatic) and computers (on occasion) occurs at overpressures as low as 2 psi. Damage estimates and repair requirements are made for the various instrument manufacturing facilities and comparative analyses are made relating to plant repair versus instrument repair

at user facility. The study's demand/response analyses indicate instrument needs surpass remaining productive capabilities when various nuclear attacks (light, medium, heavy) schemes were considered.

AD A010 804 (NTIS)

Wickham, G. E., et al., *What the Planners Need To Know: Vol. I, About the Debris Environment; Vol. II, About Debris Clearing Operations*, Jacob Associates, June 1975, 117 pp.

Stresses that an understanding of the type and nature of debris problems, and knowledge as to how they best can be handled, are essential and highly desirable in developing operational plans to cope with any type of disaster. The presence of debris could have a significant influence on the effectiveness of any activity in an area damaged by nuclear attack. Clean-up after major natural disasters (floods, hurricanes, or tornados) is the most predominant and expensive aftermath task that must be accomplished by emergency forces, particularly if it must be accomplished in a short amount of time.

AD A012 493

Winter, S. G., Jr., *Economic Viability after Thermonuclear War: The Limits of Feasible Production*, The Rand Corporation, RM-3436-PR, Santa Monica, Calif., September 1963, 240 pp., bibliog.

A study of certain aspects of the question of how, and under what circumstances, the resources surviving a thermonuclear war could be used to create an economy capable of supporting the population, maintaining its capital stock, and meeting other urgent national needs. The main focus of this study is on the limits imposed on production in the logical conditions. The reorganization problem is treated as being synonymous with the problem of achieving a viable economy. A solution to the problems of making effective use of surviving resources is satisfactory only if it is permanent. No predictions are made of the course of economic events after a war; instead, a range of situations is considered and discussed in terms of production limits, rather than of actual outcomes given particular organizational arrangements. Some tentative judgments are made on the levels of attack at which viability would become unlikely without preattack preparations.

AD 426 906

Winter, S. G., Jr., *The Federal Role in Postattack Economic Organization*, The Rand Corporation, P-3737, Santa Monica, Calif., November 1967, 18 pp.

Paper presented at the Symposium on Postattack Recovery sponsored by the National Academy of Sciences. The author challenges the basic axiom, exemplified in the "National Plan for Emergency Preparedness," that direct governmental control of economic activity is a sound, or feasible, policy for the postattack situation. He stresses that the appropriate action described is an alternative, not a complement, to the National Plan and outlines the drawbacks to reliance on controls. Research suggestions are made in line with this view.

AD 662 340

IV. NATURAL DISASTER

Anderson, William A., *Disaster and Organizational Change: A Study of the Long-Term Consequences in Anchorage of the 1964 Alaska Earthquake*, Disaster Research Center, The Ohio State University, Columbus, September 1969, viii, 89.

Discusses the findings of a year-and-a-half field study of the long-term effects of the March 27, 1964, Alaska earthquake on a sample of 23 Anchorage organizations. Seventeen of the organizations studied experienced some long-term change as a result of the earthquake. In some cases the disaster facilitated the emergence of new patterns of change and in others it accelerated pre-existing trends. Organizations tended to undergo long-term change when the earthquake significantly altered their environments, for example, by creating new demands, and when it engendered or heightened internal problems, such as organizational strains.

See also Daniel Yutzy, with William A. Anderson and Russell R. Dynes, *Community Priorities in the Anchorage Alaska Earthquake, 1964*, Disaster Research Center, The Ohio State University, Columbus, 1969, which focuses on the organizational response in the immediate emergency period.

Busch, N. F., *Two Minutes to Noon: The Story of the Great Tokyo Earthquake and Fire*, Simon & Schuster, New York, 1962, 191 pp.

A description of the destruction from the earthquake of August 1923. The figure for the total number of deaths is generally agreed to be over 140,000. Plans for the reconstruction of Tokyo began before the city ceased burning. "By 1929, most of the damage done by the quake had been restored; and, if the results were not quite those that had been originally envisaged. . . , they were at least in some respects an improvement upon what had existed before the disaster."

Pentagon Army Library

Duffy, John, *Sword of Pestilence: The New Orleans Yellow Fever Epidemic of 1853*, Louisiana State University Press, Baton Rouge, 1966, x, 191 pp.

Depicts a major metropolitan center in crisis and the reaction of its citizens to that crisis. In a period of five months, approximately 40,000 cases of yellow fever developed, and 11,000 citizens died. Of these deaths, almost 9000 were definitely attributed to yellow fever. The author, a professor of the history of medicine at the Tulane University School of Medicine, points out some of the positive effects of the epidemic: It brought the inadequacies of traditional medical practices into focus; it was the direct reason for the formation of a state board of health, the first in the nation. With respect to economic recovery (for a period of at least two months nearly all economic activity was halted), he states that "within a few months the

influx of newcomers had more than compensated for any losses, and the city continued to participate in the booming prosperity of the 1850's."

Dynes, Russell R., J. Haas, and E. L. Quarantelli, *Some Preliminary Observations on Organizational Responses in the Emergency Period after the Niigata, Japan, Earthquake of June 16, 1964*, Disaster Research Center, The Ohio State University, Columbus, December 1964, 48 pp.

Report of a 10-day field study conducted by a team from the Disaster Research Center of The Ohio State University, to observe organizational response, both in Tokyo and the disaster area itself, to the emergency created on June 16, 1964, by the strongest earthquake to hit Japan since 1923. The earthquake and accompanying flooding, seismic waves, and fires in the city of Niigata itself destroyed or damaged thousands of buildings and affected over 150,000 people. It disrupted all the public utilities, severely interrupted all means of communication, and shut down almost all land, sea, and air transport facilities. The research in this study focuses on communication, control, and coordination problems. Very complex disaster plans at all governmental levels appear to have minimized difficulties created by the catastrophe.

Pentagon Army Library

Edwards, R. Dudley, and T. Desmond Williams (eds.), *The Great Famine: Studies in Irish History 1845-52*, published for the Irish Committee of Historical Sciences by Browne & Nolan, Ltd., Dublin, 1956, xvi, 517 pp.

Collection of studies by a group of specialists in 19th-century Irish history, which includes descriptions of Ireland on the eve of the famine, Irish agriculture, and political background, the medical history of the famine, and the organization and administration of disaster relief.

The editors state that inadequate relief efforts resulted from the prevailing political philosophy that the government assume only minimal responsibility for providing aid. "Human limitations and timidity dominate the story of the Great Famine, but of great and deliberately imposed evil in high positions of responsibility there is little evidence." The editors, both professors of history at University College, Dublin, indicate they wanted to include an assessment of the long-term implications of the Great Famine but were prevented from doing so by the scarcity of specialized studies of Irish economic history during the late 19th and early 20th centuries.

Fisher, H. H., *The Famine in Soviet Russia, 1919-1923: The Operations of the American Relief Administration*, The Macmillan Company, New York, 1927, Publication No. 9, The Hoover Library on War, Revolution, and Peace, Stanford, Calif., 1935, 609 pp.

The story of American aid to Russia through the American Relief Administration during the famine of 1921-1922. In Chap. XXI the author, chief of the Historical Department of the American Relief Administration, summarizes the causes that combined to make the famine of 1921-1922 vastly more devastating than previous crop failures. In Chap. VII

he describes the Russian transport crisis--the possibility that the supplies might not reach the starving in time or that the transport system would break down completely under the strain of carrying such vast stocks.

Pentagon Army Library

Haas, J. Eugene, Robert W. Kates, and Martyn J. Bowden (eds.), *Reconstruction Following Disaster*, The MIT Press, Cambridge, Mass., 1977, xxxv, 331 pp.

Compares aspects of reconstruction in four cities following natural disaster: San Francisco, 1906 earthquake; Anchorage, Alaska, 1964 earthquake; Rapid City, South Dakota, June 1972 flash flood; and Managua, Nicaragua, December 1972 earthquake. Focusing on the problem of housing and jobs, the study also seeks answers to a variety of questions: "Are there underlying forces that reshape the society and its institutions?" "How extensively do 'outside' decisionmakers and federal policies determine what happens locally?" "Would predisaster reconstruction planning based on broad consensus speed up postdisaster creation of a safer city with less potential conflict?" As indicated in the Preface, even studies of limited aspects of reconstruction of a single city or area are rare. This work is *one of the few comparative studies* of reconstruction.

Hirshleifer, Jack, *Disaster and Recovery: The Black Death in Western Europe*, The Rand Corporation, RM-4700-TAB, Santa Monica, Calif., February 1966, 40 pp., bibliog.

A discussion of the Black Death of 1348-1350 in Western Europe and its aftermath as a disaster-recovery experience. The author describes the immediate social, political, and economic effects of the first decade; and possible effects during the century following the initial plague disaster.

Hoehling, A. A., *The Great Epidemic*, Little, Brown and Company, Boston, Mass., 1961, 217 pp.

An account of the influenza pandemic of 1918-1919 which killed 500,000 of the 20 million Americans who contracted the virus and caused 20 to 25 million casualties worldwide. Only one area escaped--the remote island of Tristan da Cunha in the South Atlantic.

Pentagon Army Library

Kunreuther, Howard, and Elissandra S. Fiore, *The Alaskan Earthquake: A Case Study in the Economics of Disaster*, Institute for Defense Analyses, Arlington, Va., February 1966, xx, 162 pp.

Investigates the economic problems of recovery in the city of Anchorage and the surrounding area following the severe earthquake of March 27, 1964. The authors characterize the immediate recuperation period as

one of great uncertainty, especially with regard to the status of the disaster region. The problems which this created in terms of obtaining and communicating accurate information and its effect on emergency needs such as food and housing are studied. The long-term economic recovery process is also examined. Using the concept of the capital/labor ratio, the authors analyze types of destruction to physical and human resources as well as the speed of recovery through outside aid (capital) and migration behavior (labor). Finally, they discuss the role of the federal government in the private sector (through the Small Business Administration). Whenever possible the study of the Alaskan experience is supplemented with observations from other disaster studies.

Pentagon Army Library

Moore, Harry Estill, *Tornadoes over Texas: A Study of Waco and San Angelo in Disaster*, University of Texas Press, Austin, 1957, xxiii, 334 pp.

A study of the Texas communities of Waco and San Angelo which were devastated by tornadoes in May 1953. Some of the questions addressed are: What social institutions prove most effective in minimizing chaos and facilitating rapid recovery? What forces in a community add to the confusion and delay recovery? The final chapter is entitled "Toward a Theory of Disaster."

Pentagon Army Library

Tokyo Municipal News, a monthly journal of the Tokyo Metropolitan Government, Vol. 26, No. 2, March 1976, 8 pp.

A brief description of the results of a survey--the first of its kind in Japan--concerning areas in Tokyo that would be most vulnerable to danger from fire and falling buildings following a major earthquake. The "Tokyo Earthquake and Fire Prevention Ordinance," passed in 1971 by the Tokyo Metropolitan Assembly, made it compulsory for the Tokyo Metropolitan Government to conduct such a survey every five years and announce the results.

Webber, D. L., "Darwin Cyclone: An Exploration of Disaster Behavior," *Australian Journal of Social Issues*, Vol. 11, No. 1, 1976, pp. 54-63.

An examination of the responses of those affected before, during, and after Cyclone Tracy struck Darwin on December 25, 1974. Forty-nine lives were lost, 16 persons were missing and presumed dead, and hundreds were injured. A total breakdown in facilities occurred. It was Australia's greatest natural disaster to that date. One reason for the loss of life was that many people simply ignored the warnings, partly because there had been no major cyclone strikes in Darwin since 1937. Darwin's population was 46,600. Within the next few days 25,000 people were moved south by air and 10,000 others by road, constituting the greatest mass movement of civilian personnel in Australia's history.

The author, a senior psychologist with the Department of Health in Darwin, comments on the inability or unwillingness of Australian authorities to implement programs in Darwin to deal with the social and psychological, as well as the physical, effects of disasters.

Woodham-Smith, Cecil, *The Great Hunger: Ireland 1845-1849*, A Signet Book, The New American Library, New York, 1964, 429 pp.

An account of the Irish famine of the 1840s, resulting from the failure of the potato crop. An estimated one and a half million died, and another million were forced to emigrate.

Wurtele, Zivia S., *A Case Study of Corpus Christi after Hurricane Celia and a Methodology for Evaluating Economic Impacts of Disasters and Disaster Assistance Programs*, Vol. I, System Development Corporation, TM-4907/001/00, Santa Monica, Calif., May 1972, ix, 136 pp.

Hurricane Celia hit the Texas gulf coast on August 3, 1970, at wind speeds ranging from over 100 mph to peak gusts of 180 mph. The damage to the Corpus Christi Standard Metropolitan Statistical Area (SMSA) was estimated at \$355 million, which represented about 40 percent of the annual total personal income of the area's residents. Ten months later, few signs of the destruction were visible.

This study consists of four parts: (1) a case study of the economy of the Corpus Christi SMSA for the 12-month period following Hurricane Celia; (2) the design of a regional socioeconomic profile to be used for monitoring a regional economy during the year following a disaster; (3) the formulation of two alternative models for estimating economic impacts; (4) implementation of one of the models for each of the two counties (San Patricio and Neuces) contained in the case study region, and implementation of the second model for the entire study region.

V. GENERAL WORKS AND BEHAVIORAL STUDIES RELATED
TO BOTH MAN-PRODUCED AND NATURAL DISASTERS

Baker, George W., and D. W. Chapman (eds.), *Man and Society in Disaster*, Basic Books, New York, 1962, xiii, 442 pp.

Produced under the auspices of the Disaster Research Group of the National Academy of Sciences-National Research Council, this volume contains contributions by 17 leading behavioral scientists exploring the literature on human behavior under stress. The scientists draw on more than 100 studies of human behavior during wartime bombings, tornadoes, fires, floods, epidemics, airplane crashes, and other natural and man-produced catastrophes. Among the aspects of disaster experience they review are psychological effects of warnings, reaction to uncertain threat, and disasters and social change.

An introductory chapter describes contemporary disaster research beginning with a reference to Samuel Prince's 1920 study of the Halifax explosion.

Pentagon Army Library

Bennett, M. K., *The World's Food: A Study of the Interrelations of World Populations, National Diets, and Food Potentials*, Harper & Brothers, New York, 1954, 282 pp.

An analysis of mass behavior with respect to food consumption, primarily from an economic point of view. In the chapter entitled "Major Food Problems in Wartime," the author, who was Director of the Food Research Institute at Stanford, points out that Great Britain left flour, bread, and potatoes unrationed during both world wars while Japan had to resort very early to rationing of rice, the main staple. He talks about prewar stockpiling of food, noting that Nazi Germany had accumulated some 7.5 million tons of wheat and rye before the outbreak of World War II.

Bloch, Henry, and Bert F. Hoselitz, *Economics of Military Occupation*, University of Chicago Press, Chicago, Ill., August 1944, 157 pp.

Categorizes, analyzes, and correlates available information on the economic principles of military occupation, using information on Japanese and German occupation of conquered territories as well as information from the U.S. Army and Navy Manual of Military Government. The authors examine several topics, including military currency, exchange rates, banking, price control and rationing, and production control under military occupation.

Brandt, Karl, *The Reconstruction of World Agriculture*, W. W. Norton & Co., Inc., New York, 1945, viii, 416 pp.

Observation and analysis of the impact of World War II on the world's food economy, including an evaluation of plans for postwar reconstruction of agriculture.

Commenting on extreme programs to destroy industrial plants and prevent their rebuilding in the conquered Axis countries, the author, a member of the Food Research Institute at Stanford University and a professor of agricultural economics, states: "If such radical plans should be pursued and the contemplated industrial decay should emerge, it would mean simply that the existing farm population would be impoverished to an unbearable degree."

Brown, William Adams, Jr., and Redvers Opie, *American Foreign Assistance*, The Brookings Institution, Washington, D.C., 1953, 615 pp.

A detailed examination of U.S. experience with different forms of foreign assistance in the 12 years following the outbreak of World War II. Especially important to this bibliography are Part Two, "Early Postwar Assistance Policy," and Part Three, "Assistance for European Recovery."

Pentagon Army Library

Campbell, John C., and the Research Staff of the Council on Foreign Relations, *The United States in World Affairs, 1945-47*, published for the Council on Foreign Relations by Harper & Brothers, New York, 1947, xvi, 585 pp., selected bibliog.

The first of a series following the 1940 edition. Contains several particularly relevant chapters: "The Problems of Central Europe," "American Responsibilities in the Far East," "Relief of War-Stricken Peoples," and "Reconstruction of World Trade."

Campbell, John C., and the Research Staff of the Council on Foreign Relations, *The United States in World Affairs, 1947-1948*, published for the Council on Foreign Relations by Harper & Brothers, New York, 1948, xix, 572 pp.

The second of a series following the 1940 edition. See chapters on "Truman Doctrine and Marshall Plan," "America's Record in Japan and Korea," "American Aid to Europe," and "The Great Debate."

Cantril, Hadley, *The Invasion from Mars: A Study in the Psychology of Panic*, Princeton University Press, Princeton, N.J., 1940, xv, 228 pp.

A study by the Princeton University Radio Project of the role played by radio for different groups of U.S. listeners. The unexpected panic-stricken reaction to the *War of the Worlds* radio broadcast by the Mercury Theater on October 30, 1939, which purported to describe an invasion of menacing Martians, provided the experimental situation for this study. At least six million people heard the broadcast and at least one million were frightened and disturbed, some to the extent of fleeing frantically.

The author derives information from detailed interviews of 135 persons, 100 of whom were selected because they were known to have been disturbed by the broadcast, and seeks to discover the cause of such panic behavior, analyzing the importance of such factors as "the critical ability" of those affected and the historical setting.

Chenault, William W., Richard E. Engler, and Peter G. Nordlie, *Social and Behavioral Factors in the Implementation of Local Survival and Recovery Activities*, Human Sciences Research, Inc., McLean, Va., August 1967, x, 87.

Concludes that social or behavioral and economic approaches to planning should be developed in a common framework that allows simultaneous consideration of factors in both areas--in short, a socioeconomic approach. The authors discuss five basic planning orientations.

AD 663 811

Curti, Merle, *American Philanthropy Abroad: A History*, Rutgers University Press, New Brunswick, N.J., 1963, xix, 651 pp.

A comprehensive and well-documented history of "a complex and little emphasized chapter in the history of international relations: voluntary giving by individuals and groups in one country to those in another, to meet the needs of sufferers in disaster and to build and strengthen agencies for the long-range improvement of mankind." The author includes descriptions of European assistance to Americans in colonial times and in the first difficult days of American independence. In Chap. XVII, "Helping the Victims Survive," he discusses the contributions to post-World War II relief through CARE (Cooperative American Remittances to Europe, later called Cooperative for American Relief Everywhere) and by individual Americans who sent some \$6 billion in gifts directly to kinsmen or to friends overseas between 1946 and 1956.

Dacy, Douglas C., and Howard Kunreuther, *The Economics of Natural Disasters: Implications for Federal Policy*, The Free Press, A Division of The Macmillan Company, New York, 1969, xvii, 270 pp.

Provides the framework for analyzing the economic problems resulting from natural disaster, with detailed statistical data on increasing costs, sources of aid, and analyses of federal trends. In Part II, "Short-Period Recuperation: Empirical Evidence," the authors illustrate information and communication, as well as short-run supply and demand problems that follow a catastrophe. They provide data from several different types of disasters--hurricanes, tornadoes, and earthquakes--and place particular emphasis on emergency food and shelter requirements. In Part III, "Long-Term Recovery: Empirical Evidence," the authors outline capital and labor needs of disaster-struck areas. They discuss the differences in recovery patterns between a relatively underdeveloped area (Skopje, Yugoslavia) and an industrialized area (south-central Alaska); and they analyze migration patterns and conclude

that disasters may generate modernization and technological innovation. In the final section of the book they examine the role of the federal government in providing disaster relief.

De Castro, Josué, *The Geography of Hunger* (Foreword by Lord John Boyd-Orr), Little, Brown and Company, Boston, Mass., 1952, xiv, 337 pp., bibliog.

Focuses on the nutritional deficiencies in the diets of at least two-thirds of the world's population. The author, from the Institute of Nutrition of the University of Brazil, states that he traveled widely on three continents and maintained a widespread correspondence during the years this book was in preparation. He calls the "plague of universal hunger the prevailing social calamity of the day." He does not specifically investigate famines, which Lord Boyd-Orr states in the Foreword have killed more people than war. In individual chapters the author discusses "The Taboo of Hunger"--hunger in the New World, in Africa, and in Asia. Most pertinent to this bibliography is the chapter entitled "Starving Europe," in which he graphically describes the postwar food situation there, and details Germany's systematic confiscation of the food resources of conquered countries in application of its policy of "organized hunger" as a weapon of war. Concluding chapters are entitled "The Advance against Hunger" and "The Geography of Abundance." The author attributes more of the blame for worldwide hunger to political and economic philosophies than do other writers.

Dynes, Russell R., and E. L. Quarantelli, *The Role of Local Civil Defense in Disaster Planning*, Disaster Research Center, The Ohio State University, Columbus, January 1975, 115 pp.

An analysis of organizational behavior under stress, based on specific studies of 12 (unnamed) cities and other studies of over 100 disasters. This report examines the role and legitimacy of local civil defense and the role of the local director, in historical perspective, and includes summaries of studies of two dissimilar cities. The authors meticulously describe and document the fieldwork and the analytical method used.

AD A008 421 (NTIS)

Green, J. B., and Leonard Logan, *The South Amboy Disaster*, Operations Research Office, The Johns Hopkins University, Washington, D.C., August 7, 1950.

Describes the effects of a munitions explosion--the equivalent of 25 to 30 tons of TNT--on the docks of South Amboy, New Jersey. Thirty-one people were killed and about 300 injured. The authors emphasize the reactions of residents, police, and other public agencies and the lessons that might be extrapolated to much larger disasters.

Harbridge House, Inc., *An Inquiry into the Long-Term Economic Impact of Natural Disasters in the United States*, prepared for Office of Technical Assistance, Economic Development Administration, U.S. Department of Commerce, Boston, Mass., 1972.

Examines the long-term impact of natural disasters on the economics of small- to medium-size communities (50,000 to 200,000 population). The paper also considers the assistance available at the local, state, and federal level to these communities to facilitate their eventual long-term economic recovery. Part IV gives particular attention to an analysis of Luzerne County, Pennsylvania, one area severely damaged by hurricane Agnes in June 1972.

Hargreaves, Reginald, *The Enemy at the Gate*, Military Service Publishing Company, Harrisburg, Pa., 1948, 371 pp.

Tells the story of 12 of the most famous sieges in history, including four involving the Russian cities Sevastopol, Plevna, Port Arthur, and Stalingrad. The author, a Britisher, points out that in a siege the characteristics of the civilian population are as important to survival as those of the military; as an example, he cites the resourcefulness of the longshoremen and Volga River pilots who ferried supplies to Stalingrad.

Pentagon Army Library

Harris, William R., *U.S. Participation in the Relief of International Disasters: Issues for a Proposed Task Force*, The Rand Corporation, P-5662, Santa Monica, Calif., June 1976, 18 pp.

Poses questions and suggestions with respect to the organization and coordination of U.S. disaster relief efforts. The author, who has a background in international law, states: "In FY 1965 through FY 1970 [according to statistics of the Agency of International Development] the United States government participated in relief of 302 foreign disasters, an average of 50 per annum, in an average of 38 countries." The issues he discusses include the use of military technology in the estimation of damage and also in the identification of damage, as in the case of "creeping disasters" such as drought; the application of technological advances in housing construction; organizational alternatives; resource management; cost sharing; and disaster insurance pooling. This paper, prepared originally when the author was a Teaching Fellow at Harvard University, reviews the situation as of September 1971, the date of the original draft.

Hippelheuser, Richard H. (ed.), *American Industry in the War*, Prentice-Hall, Inc., New York, 1941, 498 pp.

Includes a reprint of the report of the War Industries Board of World War I by Bernard M. Baruch, Baruch's own program for total mobilization of the United States as presented to the War Policies Commission in 1931, and current (1941) material on priorities and price fixing. The

Introduction states that Baruch's pioneer work on industrial mobilization for war created a pattern of organizations and method for war-regulation of industry, which both the Germans and the British acknowledged and adapted to their own systems. According to Baruch in the Foreword, "Total defense must plan to fight, to win, and above all to survive war."

Pentagon Army Library

Hirshleifer, Jack, *Disaster and Recovery: A Historical Survey*, The Rand Corporation, RM-3079-PR, Santa Monica, Calif., April 1963, xi, 128 pp., bibliog.

An investigation of economic characteristics of some major disasters and recoveries of modern times. Four periods are covered in detail: Russian war communism, 1917-1921; the American Confederacy, 1861-1865; Japan, pre- and post-World War II; and Germany, pre- and post-World War II. The author emphasizes the mechanism of collapse, whether the source is technological or organizational, and the forces that promote or hinder recovery.

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Iklé, Fred Charles, *The Social Impact of Bomb Destruction*, University of Oklahoma Press, Norman, Okla., 1958, 250 pp.

Concerns the adaptive processes of a society which has suffered from bombing and . . . the rehabilitation of destroyed cities in the months and years following a disaster rather than in the first few hours after an attack." The author also discusses the effects of partial destruction in cities on a continued war effort.

Janis, Irving L., *Air War and Emotional Stress: Psychological Studies of Bombing and Civilian Defense*, A Rand Corporation Book, McGraw-Hill Book Company, Inc., New York, 1951, 279 pp.

Examines the reactions of survivors of both conventional and atomic bombing disasters. In the Introduction, the author states: "The study of reactions to disaster may prove to have important implications for general behavior theory by illuminating basic processes of human adjustment that occur under conditions of severe environmental stress." Chapters especially relevant to this bibliography are "Problems of Disaster Control," "Training and Emotional Inoculation," and "Education for Survival."

Pentagon Army Library

Kates, Robert W., *Natural Disasters and Development*, Background Paper, Wingspread Conference, Racine, Wisc., October 1975, 53 pp.

Paper presented at a Wingspread Conference entitled "The Poorest of the Poor: A Conference on the Problems of the Least-Developed Countries," in Racine, Wisconsin, October 19-22, 1975. This is the first of a

series of papers being prepared for the Clark University Program on International Development and Social Change, concerned with alternative approaches for development activities in the least-developed countries. It is only recently that "we could begin to specify the relative vulnerability of the poor nations to natural disaster . . . with but two-thirds of the world's population, developing countries experience 95 percent of the disaster-related deaths." Professor Clark states that reduction in disaster-caused losses and a consequent gain in real GNP "cannot be achieved by emulating either the development of the disaster reduction activity of the wealthy industrial nations."

Kunreuther, Howard, *Recovery from Natural Disasters: Insurance or Federal Aid*, American Enterprise Institute for Public Policy Research, Washington, D.C., 1973, 71 pp.

Argues for a system of disaster insurance to replace the current federally subsidized disaster relief policy. In the last 20 years, as the cost of repairing damage from natural disaster has been increasingly treated as a public responsibility, federal disaster aid has risen from \$52 million (FY 1953) to over \$2.5 billion (FY 1973). Professor Kunreuther states that the current disaster relief program has failed to discourage individuals from locating in hazard-prone areas and may in fact have reinforced their reluctance to ensure themselves against potential loss. He analyzes in detail Small Business Administration disaster loan files covering the San Fernando earthquake (1971), the Rapid City flood (1972), and tropical storm Agnes (1972). The central question he poses that has yet to be answered is, Should insurance coverage be voluntary or compulsory?

Matusow, Allen J., *Farm Policies and Politics in the Truman Years*, Harvard University Press, Cambridge, Mass., 1967, 267 pp.

Assesses what the author believes was "the large, sometimes even critically important, part that food, farmers and farm policies played during the presidency of Harry Truman, both in foreign and domestic affairs." Matusow states that it was grain from American farms that saved Europe after World War II and votes from the farm belt that helped elect Truman in 1948. In the chapters "Crisis in Europe" and "The Wheat Crusade," he discusses the political and economic complexities of U.S. agricultural export operations and policies. Matusow calls the winter of 1947 in Europe "the worst winter in the history of man," and says it erased the progress Europe had made toward recovery during the previous year.

National Academy of Sciences, National Research Council, Disaster Research Group, *Field Studies of Disaster Behavior: An Inventory*, Disaster Study No. 14, Washington, D.C., 1961, ix, 78 pp.

Inventory of studies conducted in the 1950s that emphasizes peacetime disasters affecting civilian groups. Of the 144 field studies included, only eight concern World War II bombings. "Disaster field study" is

defined as a study in which the behavioral scientist goes to or near the site of an actual or potential disaster, selects some aspect or problem of human behavior in the event, and attempts to exercise at least minimal scientific control over the collection, analysis, and reporting processes.

Pirie, Anthony, *Operation Bernhard*, A Black Cat Book, Grove Press, Inc., New York, 1961, 254 pp.

An attempt to use attested facts and the likeliest available evidence to relate the story of "the greatest forgery of all time." Germany plotted to undermine the economy of England during World War II by circulating unlimited quantities of perfect British banknotes. The money was used to buy arms, pay secret agents, and finance the rescue of Mussolini.

Pentagon Army Library

Prest, Alan Richmond, *War Economics of Primary Producing Countries*, Cambridge University Press, Cambridge, Mass., 1948, ix, 308 pp.

A description of the war contribution of several primary producing countries, including India, some of the countries of the Middle East, Nigeria, and Trinidad. By "war contributions" the author means the direct utilization of recruits, workers, or equipment and supplies; the more indirect but sometimes more important devotion of resources to export of essential commodities; and principal reductions in civilian consumption and in the price and income changes that occurred.

"Industrial production in many of these primary economies was limited by many factors: there was frequently a shortage of skilled labor or even of men who could be trained to be skilled. . . . Probably the most important single factor was the lack of machinery, both mechanical and electrical, in all countries. Not only was it impossible to secure new machinery but the necessary spare parts to patch up the old were not available either."

Pentagon Army Library

Prince, Samuel Henry, *Catastrophe and Social Change*, Columbia University, Longmans, Green & Co., New York, 1920, 151 pp.

An observational study of the social phenomena in the disaster environment produced by one of the greatest explosions in history--that resulting from the collision of a munitions ship with another vessel in Halifax Harbor in December 1917. The author emphasizes the importance of catastrophes in effecting social change for the better and concludes: (1) that part of society which is most closely organized and disciplined in normal times first recovers social consciousness in a catastrophe; and (2) it is only after the responsibility for relief work is delegated to a special group that public thought is directed to the resumption of a normal society.

Quarantelli, E. L., *An Annotated Bibliography on Disaster and Disaster Planning*, 2d edition, Miscellaneous Report No. 16, Department of Sociology, Disaster Research Center, The Ohio State University, Columbus, January 1976, 13 pp.

Included in the first part are reports on research projects conducted at the Disaster Research Center, which has been engaged since 1963 in the scientific study of individual, group, organizational and societal responses to communitywide disasters and other extreme stress situations.

The second part of the bibliography lists works done elsewhere chosen selectively from the literature on the basis of their general availability to the public and their direct relevance to disaster research and disaster planning. The author is Co-Director of the Center.

Quarantelli, E. L., and Russell R. Dynes (eds.), "Organizational and Group Behavior in Disasters," *American Behavioral Scientist*, Vol. 13, No. 3, January-February 1970 (entire issue).

Special edition that contains articles on the operations of police and fire departments, the Red Cross, the Salvation Army, and military organizations in rescue and preliminary recovery efforts following natural disasters.

Quarantelli, E. L., and Russell R. Dynes, "When Disaster Strikes (It Isn't Much Like What You've Heard and Read About)," *Psychology Today*, Vol. 5, No. 9, February 1972, pp. 66-70.

Wenger, Dennis E., James D. Dykes, Thomas D. Sebok, and Joan L. Neff, "It's a Matter of Myths: An Empirical Examination of Individual Insight into Disaster Response," *Mass Emergencies*, Vol. 1, No. 1, 1975, pp. 33-46.

Both of these articles state that many attitudes of the general public about disaster behavior, sometimes created by reports in the popular media, are not supported by scientifically gathered evidence. Wenger, Dykes, Sebok, and Neff present the results of a survey of attitudes about disaster behavior of "nonvictim individuals residing in a non-subcultural, nondisaster locale during a noncrisis period."

Rayner, Jeannette F. (comp.), "Studies of Disasters and Other Extreme Situations: An Annotated Selected Bibliography," *Human Organization*, Vol. 16, No. 2, 1957, pp. 30-40.

Selected bibliography prepared to "aid and stimulate research on the human aspects of disaster." The major goal of the author, a staff associate, Committee on Disaster Studies, National Academy of Sciences-National Research Council, was to compile a selection of less well-known works of high quality.

Rosenthal, A. M., and Arthur Gelb (eds.), *The Night the Lights Went Out*, The New York Times Company, A Signet Book, The New American Library, Inc., New York, 1965, 158 pp.

Describes the biggest blackout in history, that of November 9-10, 1965, which affected 30 million people living on the U.S. northeastern seaboard. This work by the staff of *The New York Times* recounts how individuals met the emergency in cities and villages; reports on the investigations launched by power companies, city, state, and federal governments; and examines the far-reaching implications of the crisis.

Shenton, James P. (ed.), *The Reconstruction: A Documentary History of the South after the War: 1865-1877*, Capricorn Books, New York, 1963, 314 pp.

Provides introductory material to the documents of the Reconstruction period after the Civil War, which left the South almost entirely destroyed and demoralized, its institutions overthrown, and its economy pulverized. The introductory materials include Congressional reports on conditions in the South and comments of contemporary observers.

Pentagon Army Library

Sorokin, Pitirim A., *Hunger as a Factor in Human Affairs*, The University Presses of Florida, Gainesville, 1975, xxxix, 319 pp.

The first systematic, generalized study of the *social* role of nutrition, particularly in time of famine. The present edition of this work, originally written in Russia during the great famine of 1919-1921, is the first to be published since the 1922 edition was ordered destroyed by the Communist censors in the final stages of production. Elena Sorokin, in her Prologue, describes her activities in the "illegal" procurement of food in 1918-1919. In a chapter entitled "Hunger, Riots, Insurrections, Revolution," a historical review of the correlation of these phenomena, Sorokin attributes to mass starvation in the Middle Ages such concomitant social aberrations as mass hysteria and mass psychoses.

Sorokin, Pitirim A., *Man and Society in Calamity*, E. P. Dutton and Company, Inc., New York, 1942, 352 pp.

A study of the effects of disasters, war and revolution, famine, and pestilence on the mental processes, behavior, social organization, and cultural life of the population involved. In this classic work, written during a calamitous period in world history, the author describes the typical effects that have occurred repeatedly in all major catastrophes, rather than the unique effects of a specific calamity. In the conclusion section, entitled "Causes and Remedies of Calamities," Sorokin vividly presents "A Glance into the Future."

U.S. Department of Housing and Urban Development, Federal Disaster Assistance Administration, *Directory of Disaster-Related Technology*, HUD Report No. 401-FDAA, Government Printing Office, Washington, D.C., August 1975.

A compendium of studies, investigations, and research efforts undertaken since 1970 that are related to disaster preparedness, assistance, mitigation, and hazard reduction of natural disasters in the United States. The data for the Directory came from two principal sources: the National Technical Information Service (NTIS) of the Department of Commerce (for completed projects), and the Smithsonian Science Information Exchange (SSIE) (for ongoing projects). The Federal Disaster Assistance Administration provided additional summaries drawn from other sources. The Bibliography was prepared by the Institute of Behavioral Science, University of Colorado, Boulder, Colo.

U.S. Department of State, Office of Public Affairs, Division of Historical Policy Research, *American Economic and Technical Aid to Foreign Countries since 1945*, Government Printing Office, Washington, D.C., 1947, 70 pp., mimeo.

A general survey of certain significant items of American assistance rather than a comprehensive examination of U.S. aid. Data, provided by various offices within the U.S. State Department, were collected before December 1946 and some before mid-1945.

This selective study includes items classified as general aid--loans and technical assistance, fixed war installations transferred, "hard goods" distributed through UNRRA, and specific bilateral financial arrangements. Contributions by the United States made through international organizations other than UNRRA, expenditures devoted to the regular operation of the U.S. government in conducting aid programs, and sales of combat materiel are excluded from consideration.

Aid is broken down by countries, listed geographically by region, as well as by program. Major headings include American republics, European and British Commonwealth, Near East and Africa, Far East, and occupied countries (Austria, Germany, Hungary, Japan, Korea, Rumania). The general résumé shows aid administered under the various programs--lend-lease, Export-Import Bank loans and credits, other loans, services, transfers, settlements, and surplus property sales. The purposes of the various programs are also mentioned.

Wolfenstein, Martha, *Disaster: A Psychological Essay*, The Free Press, Glencoe, Ill., 1957, xvi, 231 pp.

A study based on materials collected by field research teams who interviewed victims of disasters, mainly victims of peacetime disasters in the United States. It was supported by the Committee on Disaster Studies of the National Academy of Sciences-National Research Council. The author uses the data as a basis for formulating a series of hypotheses on how people react to disastrous events. Some of the chapter headings are descriptive of the reactions studied: "Who Worries about Remote Dangers?" "The Illusion of Centrality," "The Feeling of Abandonment," "Egoism and Altruism," and "We Were Lucky."

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