

John Gimbel

Science, Technology,
and Reparations

EXPLOITATION AND
PLUNDER IN
POSTWAR GERMANY

Preface

IN DOING THE research for this book I discovered that most reasonably informed people know something about Werner von Braun and the team of German rocket scientists and engineers whom the Americans brought to the United States under Project Paperclip after the Second World War. Most of them also know about the race for German scientists that occurred at the time, a competition that perhaps explains the widespread currency of a quip, following the successful Russian launch of Sputnik in October 1957, that their Germans were better than our Germans. What virtually no one seems to know, however, is that Project Paperclip was but one aspect of a much more comprehensive and systematic “intellectual reparations” program to exploit German scientific and technical know-how, not only for military purposes but also for the benefit of American science and industry. That broader program, and the way in which Project Paperclip dovetailed into it, is the subject of this book.

I am myself unsure when I became aware of the broader program, but I do know that it did not happen during my immediate postwar service as translator and interpreter for the military government detachment in Friedberg, Hessen. Neither did it occur during my research in the 1950's on the impact of the American occupation on the town and county of Marburg. Gradually, but only gradually, during the 1960's and 1970's—when I continued my research on the American occupation of Germany and on the German problem and the origins of the Marshall Plan—did I come to realize that there was a story here, and that it was worth telling. Perhaps my nagging curiosity about the basis of Russian and East German charges that the Western Allies had taken billions of dollars in reparations influenced me, even though I was

metals and chemical company, the first Allied technical visitors were a chemist and an engineer from DuPont, with which Degussa had had prewar patent agreements. The Degussa director who received them noted, among other things, that their discussion of mutual acquaintances became so congenial and friendly that both parties found it difficult to maintain the hostility that was supposed to characterize such meetings officially.⁴⁰ But the first visit was followed by others of a different character, one of them by an American officer accompanied by an infantry soldier, who stood by with his weapon in readiness during the entire interrogation.⁴¹ On another occasion, two Americans came and demanded information about German-Japanese relations, for which they searched files and company records. A Mr. White, from DuPont, and a German-speaking U.S. Army lieutenant—in a much more penetrating and intensive interrogation than the earlier one by representatives of DuPont—went through the plant in Frankfurt and questioned several of the available employees about many things, including ceramic colors, cyanide production, and carbon black, in which they seemed particularly interested. Another team of four, who refused to give their names, demanded details on petroleum and special greases (“Treibstoff- und Schmieröl”), about which they obviously had some previous knowledge. After protesting that this was all experimental and not directly related to the German war effort, Dr. Roka, the Degussa official who made a record of the meeting, was told that this was total war and that he and other German scientists and technicians had to surrender their knowledge in the same way that soldiers had to surrender their weapons.⁴²

Degussa, which recorded more than 200 visits by individuals and commissions between April 1945 and March 1946,⁴³ eventually prepared an English-language description of the firm, which its personnel systematically handed out to investigators,⁴⁴ some of whom asked highly technical and “indiscreet” questions bordering on “industrial espionage,” while others were “exceptionally friendly and open-minded.”⁴⁵ Among the latter was Sidney D. Kirkpatrick, the American publisher of *Chemical and Metallurgical Engineering*, who did wartime service as a chemical representative in London for the U.S. War Production Board and went to Germany as a technical consultant for CIOS in the spring of 1945. According to his published report, he had high-priority

Ludwig G. Ranft (whose "intimate knowledge of camera manufacturing technique," Schwartz was to write later, "is of immeasurable value to us in launching our first production of cameras"), and determined that he was willing to emigrate. Upon his return to the United States, Schwartz went to the Army Signal Corps Headquarters in Fort Monmouth, New Jersey, and persuaded someone there to request Ranft's inclusion in the Paperclip program. He was duly recruited, processed, and brought to Fort Monmouth in September 1947; he worked there under a short-term Signal Corps contract until it expired on 21 January 1948, when he was released by the Signal Corps and employed by The Kalart Company.⁶² Available records do not reveal what he did at Fort Monmouth, nor do they show what contact The Kalart Company may have had with him while he was in the custody of the Signal Corps. They suggest, however, that The Kalart Company's ambitious plans to use Ranft "in launching our first production of cameras" ended a year and a half later, when Ranft was employed by the Wollensak Optical Company as a shutter engineer—a transfer that does not change the fact that a German Paperclip specialist was used in the United States for private purposes and that he was recruited and brought to this country for precisely those purposes.⁶³

From the Army Ordnance Department to the Dow Chemical Company. Soon after the war in Europe ended, a team of technical consultants from Western Electric and Bell Telephone Laboratories visited the Mahle Werke in Fellbach, near Stuttgart, where they found die-casting machines that were "a real advance in the die casting art."⁶⁴ Even before the team's report was issued as a CIOS Evaluation Report, one of its members—John R. Townsend, of Bell Telephone Laboratories—had returned to the United States and asked the Commerce Department's Office of Technical Services to have one of the machines brought to the United States for study by experts.⁶⁵ Townsend's request was followed by others, including a particularly emphatic and detailed one by J. D. Hanawalt, of Dow Chemical Company, which asked for evacuation of both machines and personnel.⁶⁶ After lengthy delays, caused first by General Clay's unwillingness to remove equipment from Germany outside of reparations channels and then by resistance from the State Department after Clay deferred to Commerce and War Department desires to do so,

the machine—weighing twelve or twenty tons, depending on the source one reads—was brought to the Army Ordnance Department's Frankford Arsenal, in Philadelphia, Pennsylvania.⁶⁷ There, on 5 February 1947, the Ordnance Department held a conference of interested people, including representatives of the American Magnesium Association and the Die Casting Institute, to examine the machine, determine what it would take to restore it as a functioning unit, and discuss how best to exploit this German know-how for American industry. Estimating that it would cost about \$50,000 to replace missing parts and assemble the machine, and judging that the German machines were dangerous to operate, the conference decided not to restore the machine. But there was another way to go.

Three weeks after the conference at the Frankford Arsenal, a letter from Colonel G. F. Powell, of the Army Ordnance Department in Washington, went out to potentially interested firms, inviting them to consider bringing Dr. Alfred Bauer, the designer of the die-casting equipment found at Mahle Werke, to the United States for use by American industry. This could be done, Colonel Powell wrote, by making a request either to the Department of Commerce or to one of the armed services, which would request him and then make him available to private industry.⁶⁸ The Dow Chemical Company expressed interest in March 1947. Whether Bauer was brought through the Commerce Department or one of the services is not revealed in the available records, but he was in the United States on 11 December 1947, when a Dow Company official reported his presence to Special Assistant Ray L. Hicks, in the Commerce Department's Office of Technical Services. The official wrote, "We should like to go on record that we feel quite definitely that German scientists of Dr. Bauer's caliber constitute an easily exploitable resource which industry in this country cannot afford to be without." Industry's "top men" who went to Germany to investigate "German technological developments and personnel" did a good job, he continued, "but it has been our experience that the worthwhile developments cannot be exploited successfully or without considerable expense unless the German technicians familiar with all of the details of such developments are brought to this country." Precisely what happened after that cannot be determined from available records, but they do show that the Dow Chemical

Company considered Bauer to be a great asset to the magnesium industry of the United States. The company wanted to keep him in the United States on a permanent basis, was prepared to send him back to Germany to wind up his business affairs and arrange to bring his family, and was willing to pay for air travel to avoid having to use surface transport provided by the Army.⁶⁹

From the Army Air Forces to the Loewy Construction Company. One of the early technical intelligence investigators to visit Schloemann AG in Düsseldorf was none other than Erwin Loewy, who had left Schloemann and Nazi Germany before the war and established the Loewy Construction Company in New York.⁷⁰ He returned to Germany in 1945 as a colonel in the U.S. Army Air Forces and visited Schloemann AG, M.A.N. in Nuremberg, and other firms in search of plans, drawings, blueprints and related information on the manufacture of hydraulic presses, cranes, and other heavy industrial equipment. The Army Air Forces took tons of such pieces of equipment, some the German originals and some copies, to Wright Field, Ohio, in the fall of 1945.⁷¹ A Schloemann AG summary report of 8 June 1948, on Allied confiscations after the war, listed the U.S. Air Force removals as 10 drawings of a 1,000-ton forging press (*Schmiedepresse*), 10 drawings of a 1,200-ton forging press, 14 drawings of a 3,500-ton punching press (*Lochpresse*), 11,109 drawings of a hot rolling mill (*Warmwalzwerke*), and 1,056 drawings of a tube rolling mill (*Rohrwalzwerke*), among other things. The documents created in 1955, when the Americans returned the records they had seized a decade earlier, show 14 cubic feet of "Schloemann Firm Records" to have been shipped in 12 boxes, each weighing about 500 pounds.⁷²

In January 1946, Captain H. W. Boesch, the chief of the Foreign Exploitation Section at Wright Field, while on a trip to Germany to represent the interests of the German scientists and

*USFET sources show that Boesch—saying he had orders from the Commanding Officer at Wright Field, who would appeal to the War Department for action if necessary—demanded extra rations, such as were normally allotted to heavy workers, for the dependents of the scientists at Wright Field. They also show that Boesch violated numerous security regulations by delivering letters and packages that had not gone through channels for censorship, by telling family members in Germany where the scientists were located in the United States, and by advising them to send letters directly to Wright Field rather than through

The Documents Program

SUPREME HEADQUARTERS, Allied Expeditionary Forces (SHAEF) established the Field Information Agency, Technical (FIAT) on 31 May 1945. In reporting the action to the War Department, General Eisenhower cabled that the numerous military and nonmilitary, economic, financial, scientific, industrial, and technological activities that had been conducted during the war by the Combined Intelligence Objectives Subcommittee (CIOS) and other British and American agencies urgently needed coordination.¹ FIAT was nevertheless slow to organize, hampered as it was by early Air Force and Navy objections to limitations on their freedom of action and by SHAEF's move from Versailles to Frankfurt. FIAT had hardly begun to function when SHAEF's dissolution required its reorganization into separate British and American components. This was done for the Americans on 14 July 1945 by General Lucius D. Clay, Eisenhower's deputy for military government in Germany, who insisted that the American element of FIAT function under the U.S. Group, Control Council (later named the United States Office of Military Government for Germany).²

General Clay's directive of 14 July 1945 established the U.S. element of FIAT to "coordinate, integrate and direct the activities of the various missions and agencies interested in examining, appraising and exploiting . . . the German economy." It charged FIAT with developing and implementing policy governing (1) the collection of technical information, (2) the conduct "of all missions and agencies" engaged in collections, and (3) the "control and disposition of personnel, documents, equipment and installations of primary value" to FIAT's purpose. To carry out its mandate, FIAT was empowered by Clay's directive to send out

field personnel equipped with "special credentials directing all military authorities and all subordinate Commanders in the territory occupied by U.S. Forces to facilitate and expedite their mission by all practicable means," which included "the freezing of any and all targets . . . of interest to the Field Information Agency, Technical (U.S.) and the arrest, internment and removal of individual Germans who may be of similar interest."

As noted previously, agreements and understandings worked out in Washington and Europe in the late summer and fall of 1945 designated FIAT as the responsible agency in Europe for implementing those portions of Truman's Executive Order 9604 that provided for the acquisition of "information concerning scientific, industrial and technological processes, inventions, methods, devices, improvements and advances" still to be found in Germany. To do this FIAT concentrated on two interrelated functions, the one a records and documents filming project, the other—which is the subject of the next chapter—a program to facilitate the work of technical consultants and technical missions sent to Germany by the Commerce Department's Office of Technical Services.

The Records and Documents Filming Project

As was true of the entire FIAT operation, the project to film records and documents grew out of the wartime scientific and industrial intelligence experience. CIOS teams and other wartime investigators had often supplemented their written reports with photographic copies of formulas, drawings, blueprints, flow charts, test reports, research reports, and other documents that provided details on such things as production processes and techniques. "As time went on," a Commerce Department report of 10 December 1946 reflected, "it became clear that a massive microfilming program was needed to get all the information we wanted."³

The "documents program," as it was called at FIAT, began ambitiously in the fall of 1945 and continued somewhat more modestly until FIAT went out of existence on 30 June 1947. Using the wartime CAFT, CIOS, and T-Forces assessment and exploitation reports, which it inherited as the successor to those organizations, FIAT identified some 20,000 industrial targets as

potential locations of documents for filming. Beginning in mid-January 1946, it sent out special reconnaissance teams—made up of nontechnical Army officers and drivers on temporary duty with FIAT—to these and other targets to do inventories and prepare reports showing the availability, type, condition, volume, and location of documents that might be copied.⁴ Targets that the reconnaissance teams found to be promising were subsequently visited by document screeners and microfilm teams, normally in that order, but document screeners sometimes went with the filming teams to show them the documents to be filmed.⁵ The document screeners (also called analysts or simply investigators) were normally German-speaking, scientifically and technically trained individuals whom the Department of Commerce had recruited from universities, industrial firms, research establishments, government agencies, and other places in the United States for service with FIAT. Their instructions from FIAT were to look for documents with high military or industrial security classifications, secret patent applications, documents in original manuscript form, documents covering processes, formulas, and techniques not generally known in the United States, and finally, minutes, reference materials, and policy determinations of highly placed research and planning committees.⁶ The microfilm teams, which sometimes spent weeks at a given location, copied the chosen records and turned the films over to FIAT, which developed them, prepared abstracts and annotated index cards of their contents, and then sent everything to the Commerce Department's Office of Technical Services for eventual release under the Publication Board program.⁷

After only two months of operations it became clear that the initial ambitious plans for the documents program needed modification. Based on a survey of 67 plants, a FIAT study estimated that more than 3 billion pages would have to be screened and about 33 million would have to be microfilmed to complete the program as originally planned. Calculating that the screening would take about seven years and the filming another four years, the FIAT study concluded that it would be more realistic to limit

*A former investigator recalled years later that "any piece the Germans had stamped 'Geheim' [secret] was photographed, even laundry bills or love letters." Fred S. Thornhill to the author, 28 Sept. 1981.

Distributing the Documents-Program Booty

As document screeners and other investigators sometimes told the Germans, and as John C. Green and others repeated again and again in public statements and official correspondence, the Department of Commerce's Office of Technical Services (OTS) was obliged by presidential directives and the Publication Board's implementing regulations to make the German scientific and technical information available to the general public without advantage to those directly employed in the collection process. Doing that for the documents program proved to be an overwhelming task. As a result, OTS first modified its dissemination program after FIAT went out of existence in July 1947 and then aborted it after Congress provided only enough money in 1948 to phase out the entire OTS program.²⁰ The upshot was that the documents program tended to benefit the general public much less than it did those firms and individuals who had the incentive and the resources to get the information from OTS on their own—in other words, the competitors and potential competitors of the firms from whom the material had been taken.

The successful dissemination of the microfilmed documents in the United States depended in large part on the ability of the OTS and FIAT to recruit qualified people to accomplish "the greatest transfer of mass intelligence ever made from one country