

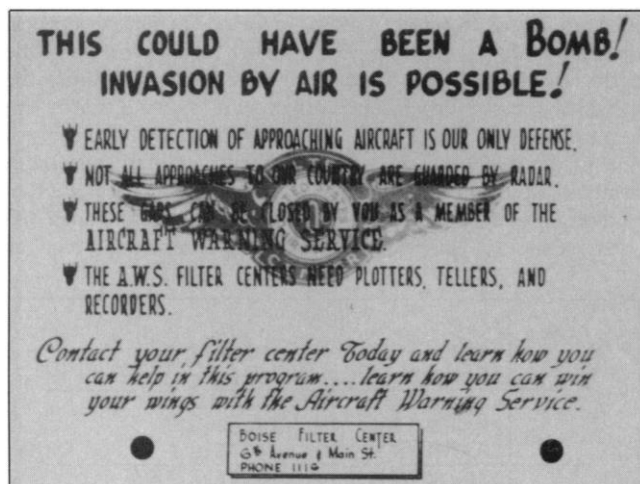
a fresh, energetic attack on the intercepts almost every day. This collection of essays makes that point well, and for that reason alone this is one of the best of the books about Bletchley Park.

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## Cold War Social Science

**Science of Coercion.** Communication Research and Psychological Warfare, 1945–1960. CHRISTOPHER SIMPSON. Oxford University Press, New York, 1994. x, 204 pp., illus. \$29.95 or £22.50.

The end of the Cold War may signal a new opportunity for scholars interested in understanding the political underpinnings of contemporary social science. If so, Christopher Simpson's *Science of Coercion* will provide a useful and provocative starting point.



Leaflet dropped in the 1950s as part of Project Revere, a series of U.S. Air Force–financed message diffusion studies conducted by sociologists at the University of Washington. The scientists “dropped millions of leaflets containing civil defense propaganda or commercial advertising from U.S. Air Force planes over selected cities and towns in Washington state, Idaho, Montana, Utah, and Alabama. They then surveyed the target populations to create a relatively detailed record of the diffusion of the sample message among residents.” The researchers “developed elaborate mathematical models describing the impact” of such stimuli, and the project “generated dozens of articles for scholarly journals, books, and theses.” [From *Science of Coercion*]

By closely examining published accounts, archival records, and previously classified documents, Simpson traces the tangled relationship linking Cold War politics to communications research in the years between 1945 and 1960. He presents his

findings in a concise, cogently argued, and lucidly written account remarkably free of contemporary communications jargon.

Simpson's study explores the symbiotic relationship between the academic discipline now called “mass communications” and the more shadowy entity that Americans called “psychological warfare,” the British “political warfare,” and the Germans, in perhaps the most telling expression of all, “Weltanschauungskrieg” (“worldview warfare”). In the United States, this relationship first became apparent in the post–World War I writings of Walter Lippmann, an intellectual who “shaped psychological strategy during the war itself, and then helped integrate the experience into the social sciences once most of the shooting was over” (p. 17). It became even more crucial during World War II, when the United States found itself opposing an enemy who elevated the study of propaganda into a prime weapon of warfare. In response, numerous social scientists, among them many recent émigrés, offered their intellectual services to the American military. At the time, only a few expressed any moral qualms about the antidemocratic potential of teaching the government to manipulate the media if the end result was to be the defeat of Nazism.

For some scientists, little changed as America moved from a hot war to a cold one, from antifascism to anticommunism. Yet as Simpson shows, these changes raised crucial questions that positioned communications theorists along an increasingly slippery moral slope. Were psychological warfare tactics equally valid in peacetime? Could they be used (secretly) in democratic countries—for instance, to reduce the influence of communists in the Italian elections of 1948? Should they be used by our government to undermine indigenous revolutionary movements abroad—for example, in the Philippines, the Middle East, Southeast Asia, and Latin America? Such questions were rarely raised as the wartime Of-

fice of Strategic Services (OSS) was gradually transformed into the peacetime Central Intelligence Agency (CIA), and the very existence of a relationship between communications research and clandestine operations became ever more deeply buried under

“multiple, overlapping layers of cover stories, deceits, and euphemistic explanations” (p. 38).

In recovering this relationship, Simpson analyzes his findings within a sophisticated framework. He does not suggest that government funding overtly influenced scientific findings. Instead, he focuses on both the positive and negative pressures that shaped academic behavior during these decades.

Much of this book documents the positive inducements for government–university collaboration. Among the most compelling was massive funding. By the early 1950s, agencies such as the Department of Defense, the U.S. Information Agency, and the CIA were spending “between \$7 million and \$13 million annually for university and think-tank studies of communication-related social psychology, communication effect studies, anthropological studies of foreign communication systems, overseas audience and foreign public opinion surveys, and similar projects” (p. 9). Such funding, frequently with no public acknowledgment, Simpson finds, often constituted more than 75 percent of the annual budgets of the Bureau of Applied Social Research (BASR) at Columbia, the Institute for International Social Research (IISR) at Princeton, and the Center for International Studies (CENIS) at MIT, among others.

Equally crucial were the social connections forged by war work. Nearly all the “founding fathers” of communications studies contributed to World War II psychological warfare research, either as employees or as consultants. Among them, Simpson cites Wilbur Schramm, Harold Lasswell, Samuel Stouffer, Leonard Cottrell, Carl Hovland, Hadley Cantril, Charles Dollard, Paul Lazarsfeld, Louis Guttman, Robert Merton, Ithiel de Sola Pool, John Clausen, Edward Barrett, Nathan Leites, Morris Janowitz, Daniel Lerner, Edward Shils, Alexander Leighton, Leo Lowenthal, Hans Speier, Herbert Marcuse, Clyde Kluckhohn, Frank Stanton, George Gallup, Elmo Roper, and William S. Paley. The military, Simpson concludes, had in effect created “an extraordinary postgraduate school” (p. 28) whose “old-boy” network would profoundly influence university appointments, foundation awards, and publishing decisions for decades to come.

Cold War social scientists were also responding to negative pressures, including the very real threat of McCarthyism. In an era when even the term “neutralist” might suggest a potentially career-ending political position, academic leaders struggled to defend their disciplines. Many found some measure of security in presenting social science research as a necessary component of the national defense.

By 1960, these factors had produced an

explosion of communications theories and methods, as well as vast new databases. Government sponsorship, Simpson proves, led to significant innovations or refinements in content analysis, survey research, scaling techniques, diffusion studies, development theories, reference group theories, and motivation research, all of which helped to institutionalize mass communications as a viable academic discipline.

More problematic is Simpson's largest claim: that psychological warfare helped shape the very construction of what communication "is" by encouraging social scientists to conceptualize their subject as a top-down power relationship, a relationship emphasizing communication as domina-

tion, communication as control. Without government pressure, Simpson suggests, American researchers might not have developed such a narrowly instrumentalist and largely quantitative conception of their field. This hypothesis is in many ways intriguing, but not entirely convincing, for earlier research suggests that an academic model promoting social science as social control was already being institutionalized prior to both world wars. Similar political and ethical questions, for instance, are raised in studies examining the early uses of both advertising and industrial psychology to suppress labor dissent, among them Loren Baritz's *The Servants of Power*—a work whose very title suggests a broad

continuity with Simpson's Cold War study.

Even so, Simpson's research adds a crucial international dimension to the history of American social science. By piercing through the subterfuges, euphemisms, and outright deceptions of the Cold War era, he has recovered a portion of history long forgotten or suppressed. In the process, he has produced an original and important contribution to the sociology of science which brings to the forefront key questions about the deeper connections between knowledge and power.

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## The Industrialization of Chemistry

**The Rainbow Makers.** The Origins of the Synthetic Dyestuffs Industry in Western Europe. ANTHONY S. TRAVIS. Lehigh University Press, Bethlehem, PA, 1993 (distributor, Associated University Presses, Cranbury, NJ). 335 pp., illus. \$49.50 or £41.95.



It is easy to take dyes for granted. Omnipresent in the consumer products that surround us, they are so reliable in their hues and fastness that we are surprised when a color fades under the insult of bright sun or strong detergents. They are cheap, their chemistry is for the most part understood, their production

is based on technologies that are a century old.

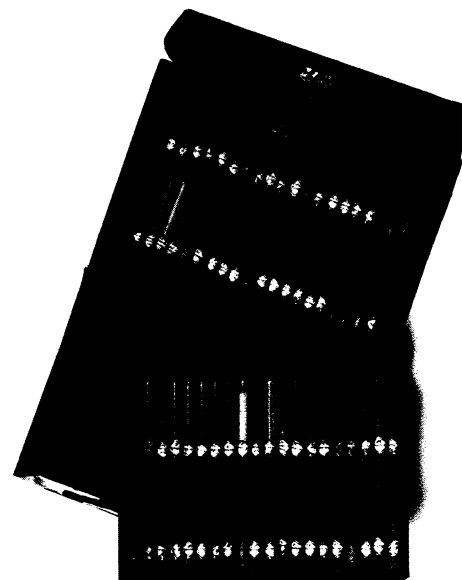
Generally considered a low- or middle-tech industry today, when considered at all, the manufacture of dyestuffs was decidedly high-tech in the 19th century. Indeed, the production of dyes from coal tar was, in many respects, the prototype of science-intensive industry. In the late 19th century, the synthesis of colors brought together scientific knowledge and industrial technology, the research laboratory and the modern business firm. The makers of dyestuffs diversified into photographic supplies, insecticides, rayon, synthetic rubber, resins, fixed nitrogen, and, not least important, pharmaceuticals. They supplied much of the know-how that made Germany a formidable adversary in commerce and war and, by stimulating investment in universities, a commanding presence in the sciences. The dyestuffs industry had much the same strategic importance in the early 20th century as the

semiconductor industry has for us—and perhaps greater importance for historians, since the close and complex relationships between science and technology that we take for granted first emerged in the manufacture of dyes.

Thirty-five years ago, a young historian taught us about the history and significance of this industry in a strikingly succinct, vivid, and penetrating book. The historian was John J. Beer; the book was his now-classic *The Emergence of the German Dye Industry* (University of Illinois Press, 1959; reprint, Arno, 1981). Commencing with William Henry Perkin's discovery of mauve in 1856 and ending with the formation of the German trust I. G. Farben after World War I, Beer's work provided both an engrossing narrative of the growth of the synthetic dyestuffs industry and a generous framework for thinking about the relationship between science and technology in the modern era. He was concerned to understand how an industry that grew out of serendipitous discovery came to be dominated by systematic research of battalions of chemists. He was interested, too, in the relationship between patent legislation and the pace of technological innovation, the role of universities in industrial development, and the reasons for the ascendancy of German and Swiss firms during the 1870s and 1880s—an ascendancy that had far-reaching implications for modern economic and political history. Beer's superb book had the intended effect of informing a broad audience about a critical episode in the history of modern science and modern industry; it also had the unintended effect of discourag-

ing further historical work on the history of the dyestuffs industry itself. Beer, quite simply, was a hard act to follow.

Anthony Travis's *The Rainbow Makers* is the first book-length study of the history of the synthetic dyestuffs industry to appear in English since Beer's. It is, on the whole, a worthy and useful successor. This is not so much because its questions are new; in fact, Travis traverses much the same terrain as Beer and focuses on many of the same issues. Nor does he revise the main contours of the story that Beer told. Like Beer, he sees the early years of the



"A 'sumptuous book' is how an American described BASF's latest color swatch in 1880. This sample case of dyestuffs by the same firm was another of the elaborate sales aids provided to representatives and consumers in Europe, the United States, the Far East, and elsewhere." [From the dust jacket of *The Rainbow Makers*; courtesy of BASF Archives, Ludwigshafen]