# "No Operation in an Academic Ivory Tower": World War II and the Politics of Social Knowledge

*Christopher P. Loss*

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America's sprawling system of colleges and universities has been built on the ruins of war. After the American Revolution the cash-strapped central government sold land grants to raise revenue and build colleges and schools in newly conquered lands. During the Civil War, the federal government built on this earlier precedent when it passed the 1862 Morrill Land-Grant College Act, which created the nation's system of publicly supported land-grant colleges. And during Reconstruction, the Freedmen's Bureau, operating under the auspices of the War Department, aided former slaves in creating thousands of schools to help protect their hard-fought freedoms. Not only do "wars make states," as sociologist Charles Tilly claimed, but wars have also shaped the politics of knowledge in the modern university in powerful and lasting ways.[1]

In the twentieth century, higher education both profited from war and helped wage it. Half the nation's colleges enlisted their support during World War I, lending brainpower and physical space to the war effort. The Student Army Training Corps (SATC) turned many campuses into de facto army boot camps during the fall term of 1918. Solar astronomer George Ellery Hale organized the National Research Council (the working arm of the National Academy of Sciences) in the name of national defense. Assigned to military labs and then forced to labor under the noses of military officers, academic experts made few groundbreaking scientific discoveries. Their greatest victories occurred away from the field of battle in streamlining the

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Christopher P. Loss teaches history and education at Vanderbilt University. His next book, *Front and Center: Academic Expertise and its Challengers in the Post-1945 United States*, will be published by the University of Pennsylvania Press.

[1]Charles Tilly, "War Making and State Making as Organized Crime," in *Bringing the State Back In*, ed. Peter B. Evans, Dietrich Rueschemeyer, and Theda Skocpol (New York: Cambridge University Press, 1985), 171.

production of war materiel and in recruiting, testing, and deploying soldiers.[2]

The real revolution in federal-academic relations occurred during World War II.[3] With comparatively stronger and better organized professional associations and a more robust national network of research universities, natural and social scientists welcomed the opportunity to showcase their expertise in tackling big research projects. Physicists and engineers built the first atomic bomb and developed radar technologies that helped win the war. Social scientists, meanwhile, worked away on less dramatic but nevertheless critically important problems of soldier adjustment, testing, and mental health and well-being.[4]

Significantly, the wartime research culture reflected the prevailing gender and racial hierarchies of the wider academy and state. The three classic articles by Ellen Condliffe Lagemann, Mary Ann Dzuback, and James Anderson thus provide a useful point of departure for understanding how the war years remapped existing patterns of exclusion and discrimination. Lagemann's "The Politics of Knowledge: The Carnegie Corporation and the Formulation of Public Policy" examines how, beginning in the 1920s, a "politics concerning the creation, organization, development, and dissemination of knowledge took shape, and . . . became critical to the processes through which public policy was set." She recounts the rise of the philanthropic-university partnership and of the corporation's influential role in defining a modern notion of expertise that privileged PhD-credentialed professionals over amateurs, objectivity over advocacy, scientists over social scientists, and, ultimately, white men over everybody else.[5] Next, Dzuback's "Gender and the Politics of

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[2] Roger L. Geiger, *Research and Relevant Knowledge: American Research Universities since World War II* (New York: Oxford University Press, 1993), 3.

[3] See, for example, Geiger, *Research and Relevant Knowledge*; Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power* (New York: Cambridge University Press, 1991); Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford* (New York: Columbia University Press, 1994); and Rebecca S. Lowen, *Creating the Cold War University: The Transformation of Stanford* (Berkeley: University of California Press, 1997).

[4] On the role of social scientists, see Christopher P. Loss, *Between Citizens and the State: The Politics of American Higher Education in the 20th Century* (Princeton, NJ: Princeton University Press, 2012), 91-120; James T. Sparrow, *Warfare State: World War II Americans and the Age of Big Government* (New York: Oxford University Press, 2011), 160-200; and Ellen Herman, *The Romance of American Psychology: Political Culture in the Age of Experts* (Berkeley: University of California Press, 1995).

[5] Ellen Condliffe Lagemann, "The Politics of Knowledge: The Carnegie Corporation and the Formulation of Public Policy," *History of Education Quarterly*

Knowledge" locates "gender as the fundamental defining characteristic of American educational institutions, ideas, and practices."[6] She shows the challenges that confronted female faculty at single-sex institutions like Vassar, Mount Holyoke, and Smith, and how women's struggle for authority and respect led to a feminized "research culture" notable for advancing the educational aims of female students and scholars.[7] Finally, Anderson's "Race, Meritocracy, and the American Academy during the Immediate Post-World War II Era" puts race front and center. Noting that no African American professor held a "permanent faculty position" at a predominantly white university in the United States until 1941, Anderson chronicles how black professors' access to faculty positions at northern universities was systematically thwarted by supposedly race-neutral assessments of professional merit. Mining a rich repository of personal correspondences between university presidents and Fred Wale—the education director of the Rosenwald Fund who spearheaded the organization's black faculty placement program—Anderson (like Wale before him) discovered precious few takers despite hundreds of "eminently qualified" candidates.[8]

These three essays provide important context for making sense of the white-male research culture of World War II and how that culture shaped race and gender politics in the postwar period, as Jessica Blatt reveals in her essay.[9] However, there is more to the story: a decisive turn toward team-based social research during the war also left an indelible mark. Understanding the origins of team research is particularly important given the recent interest in the study of collaborative, interdisciplinary and multidisciplinary research processes by scholars such as Hunter Heyck, Joel Isaacs, Joy Rohde, Ethan Schrum, and Mitchell Stevens, Cynthia Miller-Idriss, and Seteney Shami.[10]

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27, no. 2 (Summer 1987), 206. On the Carnegie Corporation, see Patricia L. Rosenfield, *A World of Giving: Carnegie Corporation of New York—A Century of International Philanthropy* (New York: Public Affairs, 2014). On the role of foundations more generally, see Roger L. Geiger, *To Advance Knowledge: The Growth of American Research Universities, 1900-1940* (New York: Oxford University Press, 1986), 140-73.

[6]Mary Ann Dzuback, "Gender and the Politics of Knowledge," *History of Education Quarterly* 43, no 2 (Summer 2003), 174.

[7]Dzuback, "Gender and the Politics of Knowledge," 193.

[8]James D. Anderson, "Race, Meritocracy, and the American Academy during the Immediate Post-World War II Era," *History of Education Quarterly* 33, no. 2 (Summer 1993), 151-75. For additional information on Wale and the Rosenwald Fund, see Gilbert A. Belles, "The College Faculty, the Negro Scholar, and the Julius Rosenwald Fund," *Journal of Negro History* 54, no. 4 (Oct. 1969), 383-92.

[9]Jessica Blatt, "Institutional Logics and the Limits of Social Science Knowledge," *History of Education Quarterly* 60, no. 2 (May 2020), 203–213.

[10]Roger E. Backhouse and Philippe Fontaine, "Toward a History of the Social Sciences," in *The History of the Social Sciences since 1945*, ed. Roger E. Backhouse and

Where did the teamwork model come from? How did it affect the organization of knowledge? And to what extent does it still permeate research culture today? This essay offers answers to these questions by retracing the organizational evolution of team research in World War II. Picking up where Lagemann, Dzuback, and Anderson left off, I explore how the all-out war effort thrust the male-dominated social science community of foundations and elite universities into bureaucratic systems that demanded interdisciplinary cooperation to solve mission-critical problems.[11] Although some social scientists disliked playing on the same team, others thought teamwork represented the best hope for long-term professional and social progress. In the end, both sides turned out to be right.

## The Evolution of "Big Social Science"

World War II gave birth to a kind of research that would be known simply and, for some, regrettably, as "big science"—big projects that required big staffs, big facilities, and big pots of money. Theoretical physicist Hans Bethe purportedly coined the term and its deprecating usage, thinking about his fellow natural and physical scientists when he did.[12] But the big science model that emanated from the Cambridge research complex and the Manhattan Engineer District was matched

Philippe Fontaine (New York: Cambridge University Press, 2010). Thanks to Dorothy Ross for pointing this work out to me.

[11] For works that I have found helpful in thinking about team research and interdisciplinary work more generally, see Hunter Crowther-Heyck, "Patrons of the Revolution: Ideals and Institutions in Postwar Behavioral Sciences," *Isis* 97, no. 3 (Sept. 2006), 420-46; Joel Isaacs, *Working Knowledge: Making the Human Sciences from Parsons to Kuhn* (Cambridge, MA: Harvard University Press, 2012); Joy Rohde, *Armed with Expertise: The Militarization of American Social Research during the Cold War* (Ithaca, NY: Cornell University Press, 2013); Mitchell L. Stevens, Cynthia Miller-Idriss, and Seteney Shami, *Seeing the World: How US Universities Make Knowledge in a Global Era* (Princeton, NJ: Princeton University Press, 2018); and Ethan D. Schrum, *The Instrumental University: Education in Service of the National Agenda after World War II* (Ithaca, NY: Cornell University Press, 2019). Isaacs studies the "interstitial academy," Rohde "gray area," Schrum "organized research units," and Stevens and his coauthors "not-departments," which they deploy in their discussion of area studies centers, the exclusive focus of their book. Heyck focuses on the postwar period, while this paper considers earlier developments.

[12] Howard Brick, *Age of Contradiction: American Thought and Culture in the 1960s* (New York: Twayne Publishers, 1998), 37. Brick dates the use of "big science" to 1958, but there were earlier references to it that prefigured Bethe's later use. See, for example, Harry D. Gideonse, "Changing Issues in Academic Freedom in the United States Today," *Proceedings of the American Philosophical Society* 94, no. 2 (April 21, 1950), 91-104, in which Gideonse wrote: "Modern wars are won by 'big' industry, backed by 'big' laboratories and 'big' science," 100.

by similarly configured large-scale social research projects in the social sciences. Less money and fewer researchers but unmistakably big, the birth of "big social science," as one leading scholar has shown, captured the imagination of experts and patrons alike in the postwar period.[13]

The idea of bringing together groups of social scientists to work on solving social problems had taken root decades earlier. Economist Richard T. Ely of the University of Wisconsin founded the Institute for Research in Land Economics and Public Utilities in 1920; sociologist Howard Odum formed the Institute for Research in Social Science at the University of North Carolina in 1924; and five years later, Yale University president James R. Angell (a trained psychologist) helped create the Institute of Human Relations, which wove together medicine, law, and the social sciences in the hope of studying society and its problems. All three institutes were committed to "cooperative research" yet struggled to fulfill their ambitious agendas. Ely moved his shop from Wisconsin to Northwestern under political duress in 1925, where it operated until the Great Depression bled its funding dry. Angell's institute wobbled along, and then folded in 1949. Only Odum's institute survived; it still exists at the University of North Carolina, where researchers continue to pursue interdisciplinary work on contemporary social issues like poverty and workforce training.[14]

An equally important precedent was set by Swedish economist Gunnar Myrdal's *An American Dilemma: The Negro Problem and Modern Democracy*.[15] Funded by the Carnegie Corporation and released to great acclaim in 1944, the study brought together researchers from across the social sciences to study America's bitter legacy of racism. Although it offered few novel methodological advances, the sheer size of the undertaking—seven years and dozens and dozens of commissioned studies; 20,000 pages of raw research; and a two-volume, 1,500-page final product—introduced a whole generation of researchers to the possibilities of team-based social scientific work.[16]

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[13]On the spread of "big social science" in the postwar era, see Crowther-Heyck, "Patrons of the Revolution," 426.

[14]Charles J. Holden, *The New Southern University: Academic Freedom and Liberalism at UNC* (Lexington: University Press of Kentucky, 2012), 49-74; Rupert B. Vance and Katharine Jocher, "Howard W. Odum," *Social Forces* 33, no. 3 (March 1955), 203-17; Abraham Flexner, *Universities: American, English, German* (1930; repr. New Brunswick, NJ: Transaction Publishers, 1994), 110-24, esp. 120n70; "For Freud, for Society, for Yale," *Time* (March 6, 1939), 51-52; Schrum, *Instrumental University*, 15-16; and Herman, *Romance of American Psychology*, 36-38.

[15]Gunnar Myrdal, *An American Dilemma: The Negro Problem and Modern Democracy* (New York: Harper, 1944).

[16]Walter A. Jackson, *Gunnar Myrdal and America's Conscience: Social Engineering and Racial Liberalism, 1938-1987* (Chapel Hill: University of North Carolina Press, 1990).

Each of these interwar developments served as a warmup for the main event during World War II, when social scientists were finally able to experiment with the interdisciplinary team model on a grand scale. The Research Branch of the Army Information and Education Division—where social scientists collected and analyzed reams of soldiers' opinion data for "practical use in policy formation"—was a main hub for this work.[17] Major General Frederick T. Osborn—an amateur demographer and one of Franklin Roosevelt's "dollar-a-year men" who had made his fortune in railroads and investment banking— directed the Information and Education Division. Osborn lacked a doctorate but more than made up for it with his personal and professional connections at the Rockefeller Institute of Government and the Carnegie Corporation. For the all-important position of director of the Army Research Branch, Osborn selected sociologist and statistician Samuel A. Stouffer of the University of Chicago, one of the country's leading quantitative survey researchers and a founding member of the National Opinion Research Center. Stouffer, who had met Osborn through the Social Science Research Council and had previously worked alongside Myrdal, jumped at the chance.[18] "[Stouffer] was a good fit for the director of the Research Branch," a colleague recalled, "lots of chutzpah, enormous energy, indefatigable, lots of imagination."[19]

Stouffer packed his bags for Washington, and by late 1942 was ensconced in office space in the half-built Pentagon building. The close proximity to the army command was intentional, since Stouffer's research agenda was determined by the army's immediate administrative needs rather than the theoretical imperatives of the disciplines. "The Research Branch," Stouffer noted, "was set up to do a fast, practical job; it was an engineering operation."[20] Stouffer surrounded himself with an able team of psychologists, sociologists, and statisticians, including rising stars like Rensis Likert, Paul Lazarsfeld, Hadley Cantril, Robert Merton, Louis Guttman, Frank Stanton, Robin

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On Myrdal's methodological choices, see E. Stina Lyon, "Researching Race Relations: Myrdal's American Dilemma from a Methodological Perspective," *Acta Sociologica* 47, no. 3 (Sept. 2004), 203-17. Maribel Morey of Clemson University is working on a new study of Myrdal that promises to enrich our understanding of his research and its legacy.

[17] Samuel A. Stouffer et al., *The American Soldier: Adjustment during Army Life*, vol. 1 of *The American Soldier: Studies in Social Psychology in World War II* (Princeton, NJ: Princeton University Press, 1949), 11.

[18] Loss, *Between Citizens and the State*, 94-95.

[19] Jean M. Converse, *Survey Research in the United States: Roots and Emergence, 1890-1960* (Berkeley: University of California Press, 1987), 169.

[20] Stouffer et al., *American Soldier: Adjustment during Army Life*, 30.

Williams Jr., and more than 150 other male researchers and consultants, along with a handful of female staff members.[21]

Stouffer and his team found common cause in their shared social backgrounds, gender identities, and in the interdisciplinary field of behavioral science, which permitted them to display the utility of their technologies to results-oriented army commanders who demanded a unified front. Assigned "problems" to investigate—everything from draftee discontent to race relations, and from alcohol consumption to the quality of government-issued uniforms and soldiers' reading habits—researchers had little choice but to fall into line. "In many instances these concrete problems represented the interlacing of technical, economic, political and psychological or sociological problems—all combined in one not-too-neat package," a branch researcher later recalled. "In such a social climate, interdisciplinary cooperation in some sense became a practical necessity."[22]

The Research Branch's preferred technology was the opinion survey—the most efficient and democratic way to gauge the pulse of millions of army soldiers. Surveys had been a staple of social science work for decades. During the Progressive Era, social reformers had used surveys to gather data on the problems of the American city in the hope of elevating "community consciousness" and stimulating reform, perhaps exemplified best by W. E. B. Du Bois's groundbreaking 1899 book, *The Philadelphia Negro: A Social Study*. During the 1920s, the reform impulse now in retreat, survey data still served as the basis of foundational social science scholarship. Both W. I. Thomas and Florian Znaniecki's *The Polish Peasant in Europe and America: 1880–1920* and Robert and Mary Lynd's *Middletown* deployed small teams of researchers to collect and exam the survey data at the heart of those studies.[23] Concurrent developments in the business sector and by independent opinion pollsters like Elmo Roper and George Gallup pushed the survey method toward greater statistical sophistication, making possible the analysis of ever larger amounts of information. While concepts such as "sampling" and "sampling error" remained poorly understood until the postwar period, and data misinterpretation was a routine

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[21]Converse, *Survey Research in the United States*, 163.

[22]Robin M. Williams Jr., "Some Observations on Sociological Research in Government during World War II," *American Sociological Review* 11, no. 5 (Oct. 1946), 573.

[23]Sarah E. Igo, *The Averaged American: Surveys, Citizens, and the Making of a Mass Public* (Cambridge, MA: Harvard University Press, 2007), 23-67; W. I. Thomas and Florian Znaniecki, *The Polish Peasant in Europe and America*, (1918; repr., New York: Knopf, 1927); and Robert S. Lynd and Helen Merrell Lynd, *Middletown: A Study of American Culture* (1929; repr., New York: Harcourt, Brace & World, 1956), 1. In addition to the Lynds, the *Middletown* "research team" included three other members.

occurrence, by the time the Research Branch began operating it was in a position to chase the phantom of opinion into heretofore unchartered terrain. "Never before had modern methods of social science been employed on so large a scale, by such competent technicians," asserted Osborn, without a hint of modesty.[24]

From the outset, the Research Branch was "no operation in an academic ivory tower," as Stouffer put it.[25] After overcoming some initial resistance from Secretary of War Henry L. Stimson, who bristled at professors snooping around army bases ferreting out opinion data, Stouffer's organization arrived at a set of standard operating procedures that lent the guise of an objective, fact-based research operation. The model was, in a word, bureaucratic: "rigid hierarchy, formal and impersonal procedures, appointment of officials, sharp demarcation of areas of competence and authority, a multiplicity of explicit and rigid regulations, a high degree of specialization of functions, and a complex system of interlocking subordinate organizations," was how one researcher remembered it.[26]

On receiving a request from the army command, the branch geared up for action. This meant meetings and planning sessions to develop an instrument for the "client," followed by a pretest, then revision, and finally survey administration. For this final task, Stouffer turned to his ground game—the local-level research teams dispatched at home and in all major theaters of operation. The use of local researchers speeded up the collection process, as did the fact that these two-person teams consisted of an army officer and an enlisted man, whose military credentials ensured smoother relations with commanders and soldiers in the field. All survey results were mailed back to Washington, DC, where the data was coded and processed using IBM punch cards before being analyzed by Stouffer and his senior research staff. Results were packaged for distribution into "secret" monthly progress reports and larger collections—provocatively titled *What the Soldier Thinks*. After a slow start, the workload picked up considerably and never relented: from 1942 until the end of the war, the Research Branch developed and administered more than two hundred different surveys to more than five hundred thousand soldiers worldwide.[27] The complete findings of the Research Branch were published in 1949 in a four-volume series, *The American Soldier: Studies in Social Psychology*, made possible with a grant from the Carnegie Corporation, which had been sponsoring the social sciences for

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[24] Stouffer et al., *American Soldier: Adjustment during Army Life*, vii.

[25] Stouffer et al., *American Soldier: Adjustment during Army Life*, 11.

[26] Williams Jr., "Some Observations on Sociological Research," 573.

[27] Stouffer et al., *American Soldier: Adjustment during Army Life*, 12.

decades.[28] The "mine of data . . . unparalleled in the history of any single research enterprise," as Stouffer put it, ensured that it would serve as a benchmark for the future of team research in the social sciences.[29]

## Teamwork and its Skeptics

The scale and scope of the Research Branch's work, rather than its theoretical innovations, distinguished it. Stouffer quietly admitted as much in the introduction of *The American Soldier*. "Much of the work done would have been done better if time had permitted," he confessed. "Conclusions had to be drawn, all too often, from inadequate data." There were a few noteworthy accomplishments. The Research Branch's findings helped shape the army's educational programming and offered important insights into soldiers' racial beliefs and demobilization preferences. But mostly there was frustration and a "hesitance to make explicit recommendations, since it was recognized that an administrative decision on a given issue might involve many other variables."[30]

A year after the publication of *The American Soldier*, and with even more distance from the war, Stouffer opened up about the difficulties of pioneering organized group research. "Most of our time was wasted, irretrievably wasted, in so far as any contribution to social science was concerned. Sometimes a study like whether men preferred Coca-Cola to Pepsi-Cola or whether they preferred nuts in their candy bars may have had a neat technical twist, but ordinarily it did not." His attempts to coax clients into theoretically rich, longitudinal studies were routinely rejected. "In order to help the Army, or to help 'sell' research to the Army, I had to be a concerned first and foremost with what was immediately wanted or purchasable. When I supported longer range studies . . . on several occasions [I] was severely censured by superiors."[31] Fed up with large-scale social science research and

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[28] Samuel A. Stouffer and Carl I. Hovland, *Studies in Social Psychology in World War II* (Princeton, NJ: Princeton University Press, 1949).

[29] Stouffer et al., *American Soldier: Adjustment during Army Life*, 29.

[30] Stouffer et al., *American Soldier: Adjustment during Army Life*, 11.

[31] Samuel A. Stouffer, "Some Afterthoughts of a Contributor to *The American Soldier*," in *Continuities in Social Research: Studies in the Scope and Method of 'The American Soldier,'"* ed. Robert K. Merton and Paul F. Lazarsfeld (Glencoe, IL: Free Press, 1950), 200-201. On the "many frustrations" of war work, which Stouffer began to experience after a few months on the job, see Samuel A. Stouffer, "Social Science and the Soldier," in *American Society in Wartime*, ed. William F. Ogburn (Chicago: University of Chicago Press, 1943), 106-17. On the limited contributions of the Army Research Branch in the area of theoretical knowledge, see Peter Buck, "Adjusting to Military Life: The Social Sciences Go to War, 1941-1950," in *Military*

with no stomach for "mere technician" work, Stouffer all but abandoned the survey method after the war, spending the remainder of his career running the interdisciplinary Social Relations Lab at Harvard University, where he conducted small-scale experimental research using more strenuous theoretical designs.[32]

Other technicians were less alarmed by their wartime experience and tried instead to understand its implications for the future of research in the human sciences. Robin M. Williams Jr., a Cornell University sociologist who served as the director of research in the European Theater and helped coauthor *The American Soldier*, offered insight into what he and his team "learned" during the war. Writing in the pages of the *American Sociological Review*, Williams noted that the most striking aspect of the Research Branch was the bureaucratic milieu in which work was conducted—it was "*group research* rather than *individual research* [emphasis in original]." The top-down bureaucratic structure and time-sensitive nature of the work, according to Williams, presented both new opportunities as well as costs. On the one hand, it revealed that "team research is feasible and productive to a degree which would not have been generally acknowledged as possible in many academic circles a few years ago"; on the other hand, "[it also] introduces important *new* problems of organization, motivation, and of research standards and ultimate purposes [emphasis in original]."[33] Team research demanded a strong director to lead the project and to stand accountable for its results, Williams explained. Achieving consensus between the director and research staff, and between the whole team and the client required "frequent conferences and much discussion" that was "nearly always a painful process ... and that ... *sometimes* results in compromises pitched on a sort of lowest-common-denominator of insight and creative problem-solving [emphasis in original]."[34] Team research was also time consuming. The frequent delays and the legwork required for "selling administrators on the need for research" led to dysfunctional team dynamics and to low morale. "Persons brought up as 'independent artisans' do not easily adjust to the anonymity and discipline of the 'factory,'" cautioned Williams.[35]

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*Enterprise and Technological Change: Perspectives on the American Experience*, ed. Merritt Roe Smith (Cambridge, MA: MIT Press, 1985), 203-52.

[32] Samuel A. Stouffer, "Measurement in Sociology," *American Sociology Review* 18, no. 6 (Dec. 1955), 592; Converse, *Survey Research in the United States*, 221-23; and Morton Keller and Phyllis Keller, *Making Harvard Modern: The Rise of America's University* (New York: Oxford University Press, 2001), 93.

[33] Williams Jr., "Some Observations on Sociological Research," 574.

[34] Williams Jr., "Some Observations on Sociological Research," 575.

[35] Williams Jr., "Some Observations on Sociological Research," 576.

Columbia sociologist Robert K. Merton, a former consultant to the Research Branch, shared many of Williams's views and thought that the rise of group research required a deeper analysis of the relationship between the social sciences and the social order.[36] A student of Harvard sociologist Pitirim Sorokin, Merton's work was indebted to his mentor's "integralism" as well as to the structural-functional theory of Talcott Parsons, Sorokin's colleague and rival.[37] Shades of Parsons are evident everywhere in Merton's work—but with a twist: where Parsons treated bureaucracy as a normative mode of social organization, Merton wanted to know how values became institutionalized in organizations and their effect on the workaday lives of individuals.[38] A pacesetter in the sociology of science, Merton's was most interested in understanding the personal, professional, and scientific price paid by social scientists who conducted large-scale research in a "system of prescribed relations."[39] Such an examination, Merton believed, was long overdue. "The hobo and saleslady have been singled out for close study but we seem reluctant to analyze the social scientist," he quipped.[40]

*Social Theory and Social Structure* offered Merton's richest explication of the challenges of bureaucratized intellect.[41] According to Merton, "With increasing bureaucratization, it becomes plain to all who would see that man is to a very important degree controlled by his social relations to the instruments of production." Using a Marxist frame, Merton insisted that scientific work conducted in hierarchical organizations necessarily deskilled workers by distancing

[36] Sheldon Krimsky, *Science in the Private Interest: Has the Lure of Profits Corrupted Biomedical Research?* (Lanham, MD: Rowman & Littlefield, 2003), 73-89.

[37] Vincent Jeffries, "Pitirim A. Sorokin's Integralism and Public Sociology," *American Sociologist* 36, no. 3-4 (Fall/Winter 2005), 66-87.

[38] Robert K. Merton, "Priorities in Scientific Discovery: A Chapter in the Sociology of Science," *American Sociological Review* 22, no. 6 (Dec. 1957), 635-59. For Merton's earliest exploration of the relationship between science and society, see Robert K. Merton, *Science, Technology & Society in Seventeenth-Century England* (1938; repr., New York: H. Fertig, 1970); and Robert K. Merton, "Science and the Social Order," *Philosophy of Science* 5, no. 3 (July 1938), 321-37.

[39] Robert K. Merton, *Social Theory and Social Structure* (1949; repr., New York: Free Press, 1957), 195.

[40] Merton, *Social Theory and Social Structure*, 207.

[41] Three chapters in *Social Theory and Social Structure* offer Merton's fundamental position on the bureaucratization of intellect: chapter 6, "Bureaucratic Structure and Personality," 195-206; chapter 7, "Role of the Intellectual in Public Bureaucracy," 207-24; and chapter 15, "Science and the Social Order," 537-49. For a useful synopsis of Merton's key ideas about the sociology of science, see Stephen Cole, "Merton's Contribution to the Sociology of Science," *Social Studies of Science* 34, no.6 (Dec. 2004), 829-44.

them from the tools of production. "So develops, for example, the new type of scientific work, as the scientist is 'separated' from his technical equipment—after all, the physicist does not ordinarily own his cyclotron. To work at his research, he must be employed by a bureaucracy with laboratory resources."[42] Later, Merton named this new breed of knowledge worker—what else but the "bureaucratic intellectual"— and which he juxtaposed against an older, less fashionable occupational type, the "unattached intellectual." Where the unattached intellectual pursued autonomous research and all the freedom of choice that it allowed, the bureaucratic intellectual worked for "policy-makers in the organization for whom he is, directly or remotely, performing a staff function."[43] The advent of the scientist-as-staff and the co-optation of the research process by outside patrons posed a grave threat to the future of free inquiry and the norms that Merton thought should guide it: universalism, communalism, disinterestedness, and organized skepticism. Within the confines of the large-scale research laboratory, Merton warned, the bureaucratic intellectual "now becomes aware of *visible controls* over the nature and direction of his inquiries [emphasis in original]."[44] The bureaucratic intellectual's willingness to pursue research that flowed from a "predefined policy" was *the* dilemma, according to Merton, but one not easily resolved, since professional advancement depended on it. "If the intellectual is to play an effective role in putting his knowledge to work," admitted Merton, "it is increasingly necessary that he become a part of a bureaucratic power-structure."[45]

Merton was out front in his critique of the ascendant organized intellect model, but he was not alone. His Columbia colleague C. Wright Mills would add more fuel to the fire soon enough, railing against the dangers of "Brains, Inc." and of a political and intellectual order controlled from above by a "power elite."[46] Theirs would remain a minority view until the 1960s, when student protesters from Morningside Heights to Berkeley joined hands with faculty allies in a doomed effort to upend the nefarious "military-industrial complex." In between, however, the majority of social scientists seemed to have learned a different lesson from their wartime service—specifically, that the future of social knowledge lay beyond campus borders and

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[42] Merton, *Social Theory and Social Structure*, 196-97.

[43] Merton, *Social Theory and Social Structure*, 212.

[44] Merton, *Social Theory and Social Structure*, 222.

[45] Merton, *Social Theory and Social Structure*, 217.

[46] C. Wright Mills, *White Collar: The American Middle Classes* (New York: Oxford University Press, 1951); and C. Wright Mills, *The Power Elite* (New York: Oxford University Press, 1956).

that outside funding was the key to getting there. A young Nathan Glazer, writing in the maiden issue of *Commentary* magazine in November 1945, captured the outsized ambitions of his fellow (male) professionals in the war's aftermath: "The ivory towers now stand abandoned; almost every scholar of note in the fields of sociology, psychology and anthropology concerns himself with how the studies devoted to the extension of man's knowledge of man may advance solutions to the problems of a free society"—problems, he failed to mention, typically identified by government and foundation sponsors and pursued using the teamwork model used during the war.[47]

## Conclusion

World War II transformed US higher education forever. The war provoked the abandonment, once and for all, of decentralized federal-academic relations and laid the foundation for a truly national system of colleges and universities. The government pumped billions into research and then into the education of returning veterans under the GI Bill, leading to even greater public investments in ideas and people later on, ultimately helping to undo the male-dominated culture whose institutionalization Lagemann's, Dzuback's, and Anderson's works identified and chronicled. The war remade the modern university and American life in a whole host of profound and lasting ways.

The war also did something else, less well understood but nevertheless inestimably important, by stimulating interest in team-based inquiry that has become a key vessel of research production across all fields. Visit any university webpage and you will find a link to academic centers. Follow those to glimpse an interdisciplinary world where the rigidly demarcated disciplinary bounds of old have melted away and new cutting-edge knowledge work is performed. Experts from all fields gravitate to these centers in search of solutions to some of today's biggest problems—everything from global warming and poverty to identity and social justice issues. And the list goes on. Experts move between multiple centers, old problems beget new ones, one center leads to another. This development was a long time in the making, as this paper argues. "In social science, institutes for

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[47]Nathan Glazer, "The Study of Man," *Commentary* 1 (Nov. 1945), 84. "The Study of Man" would remain a feature of the magazine for more than a decade, with Glazer as a regular contributor. The goal of "this department," he explained in the first issue, "[is] to rove the various fields of the social sciences with a view to reporting to the thoughtful general reader what contributions the research, discussion, thought and speculation of social scientists are making to the solution of problems of general concern," 84.

specialized research are typically established in response to social, economic and political needs, as these are defined by influential groups in society," wrote Merton in 1952, mercilessly clear-eyed as to the changes in science and the social order then occurring around him. "Each 'social problem' seems to generate its own complement of research centers."[48] Scholars interested in understanding how we arrived at the current landscape of the politics of social knowledge will need to look to the watershed era of World War II, the reconfiguration of federal-academic relations, and the rise of team research.

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[48] Robert K. Merton, foreword to *Science and the Social Order*, by Bernard Barber (Glencoe, IL: Free Press, 1952), xii.