THE OXFORD HANDBOOK OF

INTERDISCIPLINARITY

SECOND EDITION

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OXFORD

UNIVERSITY PRESS

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Great Clarendon Street, Oxford, OX2 6DP,
United Kingdom

Oxford University Press is a department of the University of Oxford.
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Oxford University Press in the UK and in certain other countries

First Edition published in 2010
Second Edition published in 2017

The moral rights of the authors have been asserted
Impression: 1

Published in the United States of America by Oxford University Press
198 Madison Avenue, New York, NY 10016, United States of America

British Library Cataloguing in Publication Data
Data available

Library of Congress Control Number: 2016952283
ISBN 978–0–19–873352–2

DOI: 10.1093/oxfordhb/9780198733522.001.0001

Printed and bound by
CPI Group (UK) Ltd, Croydon, CR0 4YY

CHAPTER 9

INTEGRATING THE SOCIAL SCIENCES

Area Studies, Quantitative Methods, and Problem-Oriented Research

CRAIG CALHOUN

DISTINCTIONS among social science disciplines are historically forged and to some extent intellectually arbitrary. Most focus on a domain of social life: Three of the oldest and most prominent reflect Western modernity's constitutive notion that economy, polity, and society are distinct spheres. Anthropology has studied the nonmodern and non-Western, with a holism shaped by the inverse notion of less differentiated societies (and an emphasis on culture often lacking in economics, political science, and sociology). History, taking the past and change as foci, also encompasses what the social sciences divide (but then reproduces the divisions internally); it is often placed among the humanities because its ostensible particularism contrasts with the social science pursuit of generalizations. Psychology is on the margin of social science not least because it focuses on biological as well as social individuals. Geography, likewise, has encompassed both the physical environment and the spatial organization of human life. But the boundaries of all these topoi are at best fuzzy. They are matters of style as much as method—characteristic patterns of attention and ways of solving problems, tastes for different forms of presentation or internal division of labor. And indeed, the idea of method cuts two ways: Does each discipline have a characteristic method as in the arts and humanities, or is a common method basic to the unification of science? And are not there methodological diversities (among others) in each of the social science disciplines?[1]

9.1 OVERVIEW

Despite the arbitrariness and ambiguity, disciplinary boundaries are jealously defended and also maintained by habit, social networks, and funding conventions. While early social

[1] A previous version of this chapter was coauthored with Diana Rhoten. She was unable to participate in its revision or to review the substantial changes made.

Calhoun, C., *Integrating the Social Sciences: Area Studies, Quantitative Methods, and Problem-Oriented Research.* In: *The Oxford Handbook of Interdisciplinarity, Second Edition.* Edited by Robert Frodeman, Julie Thompson Klein, and Roberto C. S. Pacheco: Oxford University Press (2017).
DOI 10.1093/oxfordhb/9780198733522.013.11

science was "predisciplinary" and often nonacademic, from the late nineteenth century, academic employment became basic to social science and disciplines became integral to the organization of universities. Disciplines organized training, publication, and employment—and disciplinary departments often became containers rather than nodes in broader networks. This worried both those who wanted more effective engagement with public problems and those who wanted more unified science.

Interdisciplinary scholarship is accordingly as old as disciplines, and central to the very idea of unifying knowledge in the university. Much is simply a matter of individuals extending the reach of their knowledge.[2] But there are also projects, as researchers from two or more disciplines combine their different methods, analytical frameworks, or empirical knowledge. They may be motivated by intellectual curiosity, desire to address practical problems, or the initiatives of funders. It is important to appreciate and understand the conditions for success in such projects (Mansilla et al. 2015) and the implications of interdisciplinary work for individual careers (Rhoten & Parker 2004). Such collaborative work may change disciplines or may simply result in new knowledge incorporated eventually into the separate fields. Only occasionally does it cumulate into the formation of an interdisciplinary field (or new discipline).

The idea of interdisciplinarity received its first explicit formulation in discussions that led to the 1923 creation of the Social Science Research Council (SSRC).[3] Charles Merriam, a political science professor at the University of Chicago, helped conceive the SSRC by calling for the "closer integration of the social sciences themselves":

> The problem of social behavior is essentially one problem, and while the angles of approach may and should be different, the scientific result will be imperfect unless these points of view are at times brought together in some effective way, so that the full benefit of the multiple analysis may be realized. (Worcester 2001, p. 16)

In September 1930, the SSRC restated this view as policy:

> The Social Science Research Council is concerned with the promotion of research over the entire field of the social sciences. The Council's thinking thus far has been largely in terms of social problems which cannot be adequately analyzed through the contributions of any single discipline. It is probable that the Council's interest will continue to run strongly in the direction of these inter-discipline inquiries. (Barnett et al. 1931, p. 286)

The SSRC was influential, partly because of the engagement of leading social scientists but also and crucially because it had access to funding from major foundations and the US government. But funding was not all on the side of interdisciplinary programs. Disciplinary

[2] At least as far back as the great early twentieth-century anthropologist Ralph Linton, leading social scientists have argued that the most effective interdisciplinary relations took place inside a single skull. Versions of this quotation are in fact attributed to a variety of scholars—much in the manner of the famous remark about standing on the shoulders of giants studied by Robert Merton (1965).

[3] While the *Oxford English Dictionary* cites a 1937 article in the *Journal of Educational Sociology* as the first printing of "interdisciplinary," versions of the term had in fact appeared annually since at least 1930 in the SSRC awards listings and reports printed in the journals of various professional societies including *Journal of the American Statistical Association*, *American Sociological Review*, and *American Economic Review* (Sills 1986; Prewitt 2002).

departments controlled most of the resources that flowed from student enrollments. And though the government funded an enormous amount of problem-oriented research from mission-driven agencies, by the 1970s the most prestigious funding for social science was allocated on a disciplinary basis by the National Science Foundation. Disciplines also dominated in the academic structures of most other nations. Still, postwar social scientists developed two broad interdisciplinary agendas for the improvement of social science: international knowledge and quantitative research methods. Neither was narrowly problem-focused, though building better capacity to solve future problems was a rationale for funding each.

The focus of the present chapter is on these three agendas for integration of social science: (1) area studies, seeking a comprehensive understanding of concrete patterns of social life organized in terms of geopolitical regions and/or civilizations; (2) quantitative and mathematical research methods, shared across disciplines to provide tools to support innovation and greater rigor inside different disciplines; and (3) problem-oriented research, bringing together different disciplinary perspectives and tools to address issues of public concern.

Although all three have older roots, in the United States they were given strong momentum by the mobilization of social scientists in the context of the New Deal and World War II. After the war, researchers returned to universities both invigorated by their wartime experiences and challenged by a sense of their own previous limits. They sought widespread improvements in social science in order to make it an effective source of objective knowledge that could inform government policy. Immigrants educated in Europe added knowledge and intellectual perspective. At the same time, former soldiers swelled university enrollments to record numbers and social science departments grew. And the US example became globally influential in an era of US academic (and other) dominance.

9.2 Area Studies

The emerging Cold War and nuclear arms race added to anxieties over peace and global influence. The SSRC founded a Committee on World Area Research in 1946. In 1950 the Ford Foundation began the Foreign Area Fellowship Program, which it later turned over to the joint SSRC–American Council of Learned Societies (ACLS) committees on different world areas to administer. Ford put nearly 300 million dollars into this project, and in due course was joined by other foundations and by the US government, which made large investments in foreign area research and language teaching. These supported university centers focused on different world regions. These were usually not allowed to make their own independent faculty appointments; that was reserved to disciplinary departments. But initially they had funds to attract and support the research of disciplinary academics.

The dominant paradigm of area studies was distinctively American, and responded to a widespread sense that the country lacked the knowledge of other world regions needed to support the world leadership the United States was assuming. But the growing interdisciplinary fields built on traditions of European scholarship. Islamic, Indic, and Chinese civilizations had been the object of "orientalism," with brilliant examples from Germany; colonial administration had shaped the creation of institutions like Britain's School of Oriental and African Studies. In the United States, the area studies architecture was distinctively synoptic,

dividing the whole world into regions. Overall, they mirrored US military and diplomatic organization (Cummings 1997). However, practical purposes were in the background; they explained the investment but not the organization.

Area studies fields differed in the extent to which research and teaching focused on contemporary politics, civilizational history, or economic development and thus the prominence of different disciplines— and of the humanities alongside social sciences. The Cold War put politics at the center of Russian and East European studies, and even contributed to the demarcation of the region itself. South Asian studies certainly confronted political issues, but focused more on civilization and culture. Economic development was front and center for Latin American studies, and the formation of "new nations" was a key theme for African studies.

During the postwar period, however, all the area studies fields shared a broad intellectual orientation associated with the idea of modernization. Economic development, political reform and the creation of new national institutions, social transformation, expansion of literacy and consequent cultural production, and even change in psychological attitudes were all seen as parts of a common process. And if modernization described what was shared in this process, different histories and cultures shaped distinctive patterns in each region. This encouraged a two-way trade in which area knowledge was fitted into and completed the disciplinary analytic frameworks (sometimes modifying previous generalizations) while the disciplinary frameworks gave structure to area knowledge. Language study and contextual knowledge could be seen as tools for such research.

The connection and complementarity modernization theory facilitated between area studies and social science disciplines came unstuck in the 1970s. This reflected the end of the great decolonization era, collapse of faith in economic development, and crisis in modernization theory – especially when faced with Marxist critiques. But a long-standing epistemological fault line also contributed. As quantitative methods and the pursuit of universal laws became increasingly dominant in sociology, political science, and especially economics, simultaneous membership in area studies fields came to be seen as a matter of divided loyalty. Disciplinary knowledge was understood as ideally abstracting from specific cases and contexts to establish more universal laws. The area studies fields, by contrast, seemed to be particularizing, focused on the specifics of local conjunctures of history, culture, politics, and even environment.

This was always a caricature of area studies research, and perhaps a misunderstanding of what disciplines themselves achieved. It is easy to mock either side: The psychologist who thought human nature could be found in experiments involving only white, middle class, male American undergraduates; the anthropologist who responded to every assertion of a more general causal pattern with "well, that's not so on the island I studied." But there is a point of more basic significance.

The area studies projects at their best were not so much about idiographic particulars as about the notion that there were and are different ways to be human, to be social, to be political, and even to have markets—and therefore that the pursuit of more general knowledge required attention to specific historical and cultural contexts and patterns. Such knowledge could be of broad application without being abstractly universal. And indeed, the area studies fields contributed to major analytic perspectives that far transcended their initial sites of development. Benedict Anderson's (1991) account of nationalism as a matter of imagined communities was informed by Southeast Asian studies, but not contained by it. So

was James Scott's (1998) effort to understand the ways states viewed societies. Dependency theory developed as an effort to understand specifically Latin American problems, as did Albert Hirschman's work on development assistance and unbalanced growth (Prebisch 1950; Hirschman 1958; Frank 1967; Cardoso & Faletto 1979). The "world systems theory" of Immanuel Wallerstein was deeply shaped by African studies as well as by Braudelian global history, Marxist political economy and indeed the earlier Latin American dependency theories (Wallerstein 1974). And so forth.

Each of these examples became part of active interdisciplinary discussions—of development and underdevelopment, class and power, power and knowledge, states and nations. Of these, only development studies really became an academic field of its own—more substantially institutionalized in Britain and some other countries than the US (though rural sociology which once focused mainly on the United States became increasingly part of global development studies). Marxism was for a time a vital interdisciplinary discussion, with strong social movement links, but never with strong academic institutionalization outside the communist countries. Interdisciplinary political economy flourished from the 1960s to 1980s, often integrated with comparative historical research, but this receded.

This points to a more general problem for interdisciplinary work. When it lacks institutional conditions of reproduction, it is at the mercy of disciplines that may claim it, ignore it, or incorporate some ideas from interdisciplinary projects without providing ways of sustaining the intellectual conditions that produced them. While a few universities set up autonomous departments of Latin American or East Asian studies, many more set up interdisciplinary committees or centers and left the appointment and promotion of faculty and the awarding of PhD degrees to disciplinary departments.

In the 1950s and 1960s, the area studies fields were relatively well financed and often able to offer funding to students from various disciplinary departments. In the United States, the Peace Corps brought a new infusion of students—once again like the soldiers with motivating life experiences—but this time also often with language skills and local knowledge. More generally, while the university system expanded, there were jobs for the political scientists and sociologists with area studies emphases. This changed with the mid-1970s recession. Academia stopped expanding and suffered a shortage of faculty jobs, sharp tightening of tenure standards, and new pressures on graduate students to demonstrate disciplinary publications before entering the job market. In this context, disciplinary departments exercised discipline by rewarding intradisciplinary achievement and limiting credit for interdisciplinary work. At the same time, area studies programs saw their proportionate funding decline, not least as graduate student financial aid became widely tied to teaching assistantships administered by departments. By the 1980s and 1990s, efforts to shrink PhD cohorts further consolidated disciplinary control.

Economics effectively seceded from area studies as it relied increasingly on mathematical models and on theories that stressed more or less universal microfoundations. Economists who retained strong area interests often wound up in interdisciplinary programs rather than economics departments—not just area studies but also urban studies, policy analysis, and development studies—or working for the World Bank or other nonacademic institutions. In varying degrees sociology and political science followed suit, leaving the area studies fields increasingly tilted toward the humanities.

From the 1970s and especially after the end of the Cold War, many economists and social scientists began to conceptualize globalization as a universalization that would eliminate the

need to know about national or regional contexts. The "end of history" was operationalized as the universality of markets and media. Ironically, in other words, attention to globalization came to a considerable extent at the expense of attention to the specific regional and other contexts through which globalization was refracted and in which it took on different meanings.

It would be an error, nonetheless, to write the obituary of area studies programs or context-specific social science. In the first place, formal, universalizing approaches have their limits. Take the recent struggle of experts in international relations to develop stronger approaches to religion when it unexpectedly loomed much larger in the real world than predicted by the resolutely secular academic literature of their field (Hurd 2007). The difficulties have to do with reigning theories, of course, but also with institutional and intellectual distance from those with more knowledge—often area studies specialists and researchers from the humanities and fields like history and anthropology that straddle humanities and social science.

Secondly, area studies are being creatively reimagined. Important new engagements take up connections between regions—for example as Islam or Pentecostalism flourish in different regions, or as trade, culture, and diplomacy are recognized to follow the Silk Road or pan-Asian coastal trading routes.

Third, with shifts in global economic growth and the end of the Cold War, many areas previously lumped together as "underdeveloped" are taking on new geopolitical importance. Globalization itself has helped produce new patterns of regional power and association.

Fourth, the very globalization of higher education creates new demands for regional knowledge and regional centers to mediate the international relations of universities. This includes the flow of students with interests in their native regions. It extends to preparing students of all origins for careers that connect them increasingly to other regions. It is also a matter of research. This has been reshaped both by increased transnational scholarly collaboration, by the migration of many scholars from other regions to work in Western universities (while still studying their home regions), and by growing sophistication among social scientists in previously underdeveloped regions. Area studies centers have often morphed into portals to manage these diverse connections. International funding plays no small role.

9.3 Quantitative and Formal Methods

Like area studies, quantification and mathematical formalization had long histories in social science but received renewed emphasis from wartime engagements. The war shaped the rise of modern computing, the development of large datasets, and strategic thinking that contributed to game theory.

Statistics had long been important to social science, both in the sense of technique and in that of an accumulated knowledge base. Statistics figured as one of the founding disciplines in the SSRC and one of the first brought into the London School of Economics and Political Science (LSE). The rise of testing in psychology (and related interdisciplinary education research) was prominent, spurred on by its use in military efforts to classify recruits as well as by the expansion of public schooling. In both criminology and public health, efforts to introduce treatments and measure changes in rates became basic. If the state was a central collector and user of statistics (as the name suggests), the pioneers of social science recurrently

mobilized statistics to make cases for social reform (Stigler 1986; Porter 1995). Both policy makers and advocates wanted to know "the statistics" on crime or employment.

At first this meant overwhelmingly descriptive statistics. Statistics grounded in probability theory made uneven headway in the social sciences before World War II (Hacking 1990). They mattered most in economics and psychology, though even there much work continued to focus on absolute numbers, percentages, and measures of association. The problem of establishing patterns of heredity was influential in development of multivariate approaches, inspiring figures such as Galton, Edgeworth, and Pearson. As both Pearson and Yule analyzed families of curves, this work moved out of evolutionary theory and into economics and social policy. Analytic efforts to compare groups, to track interventions, and to understand differential rates of occurrence grew increasingly influential.

Although many of the specific techniques used in social science have much older provenance, their use became widespread only in the 1960s and after (Raftery 2005). Both multivariate data analysis and mathematical modeling were, for one thing, greatly aided by greater computational power and easier access to it. Graduate training programs substantially increased the numbers of social scientists able to use sophisticated quantitative methods. Statistics departments remained prominent, though increasingly dominated by biostatistics. Social science was transformed as quantitative research methods spread through most disciplines. This was not just from statistics departments outward. Many of the specific research techniques taken up by the early "behavioralists" in political science, for example, came from sociology and social psychology.

This flow of knowledge was supported by interdisciplinary centers devoted to quantitative research.[4] Above all, they were associated with the rise of survey research— in what one of its leaders described as the "golden era" of a kind of interdisciplinary social psychology (Sewell 1989). This had early roots outside academic social science and was aided by the appeal of some of its results to journalists. Accounts of "the average American" joined statistics on a variety of "deviations" (Igo 2007). Opinion polls informed not only political campaigns but also market research. Academic survey research developed as an interdisciplinary field dedicated to raising the standards of this partly extra-academic pursuit at the same time as advancing social science.

Survey research became central to an interdisciplinary field of specialists in data collection, closely related to but somewhat distinct from statisticians as specialists in data analysis. Survey research centers became institutional bases and meeting points for methodologists and quantitative researchers from different disciplines. Survey data informed (and transformed) the study of elections, inequality, race, education, and other topics. In some cases, a large, complicated dataset—like the Panel Study of Income Dynamics (PSID) begun in 1968—developed its own cadre of experts and became the focus of interdisciplinary discussion. In other cases, a survey program was not topically specific but opened an integrated data collection effort to researchers from different fields. Thus the National Opinion

[4] With money from the Rockefeller Foundation, even before the war the SSRC funded the creation (and even the physical buildings) of institutes for social science research at universities such as Chicago and North Carolina. The Rockefeller goal was always concrete, "realistic" solutions to pressing social problems. Realism was identified with quantification—and also with short-term politically palatable solutions, though on the later count Rockefeller was often disappointed (Richardson & Fisher 1999; Camic 2007).

Research Center's (NORC) General Social Survey has since 1972 provided researchers from different disciplines the opportunity to purchase questions or modules to gain data on their specific concern that could be related to a common background of demographic and attitudinal data.

Survey data remain important to social science, but survey data collection is now a technical skill organized largely on nonacademic bases. Surveys are conducted by specialized organizations on a contract basis. Some of these are based at universities and some are for-profit companies. Most social scientists who analyze survey data today have no experience collecting it (as did their predecessors a generation earlier). There is major work to be done on data archiving and accessibility, but in itself this is not social science.

Methodological excitement is now focused more on "data analytics" that can be deployed on a variety of preexisting data sources. With the rise of computerization, a host of different transactions result in large datasets. Records are kept of purchases, doctor's visits, insurance, locations tracked by GPS systems, e-mail metadata, and so forth. Search algorithms facilitate data mining; machine learning helps them get "smarter." Often called "big data" because millions of cases may be involved, it is perhaps more relevant to say these data arise as by-products of transactions, relatively disorganized or structured for purposes different from research. There are exciting possibilities for using such data, though also obstacles, including notably the fact that many are kept from researchers' use for proprietorial or data security reasons.

Big data suggests not only a renewal of interdisciplinary engagement among quantitatively inclined social scientists but also potential for a rapprochement between modelers and empiricists. The two were joined in the cybernetics of the 1950s and the systems theory that grew from it but often diverged later. In economics, the "microrevolution" of the 1970s put mathematics in the ascendant. Game theory, agent-based modeling, and similar approaches were often pursued in the abstract rather than with meaningful real-world data. This was true even for econometric and statistical data, but the gulf was wider where empirical knowledge was based on ethnography or comparative historical research. The improvement of formal techniques and the distance from other forms of knowledge spread into political science and, to a lesser extent, sociology.

But the trend may be to close the gap. Empirical (applied) economics has enjoyed a recent resurgence. Improved data and improved computing power helps. Behavioral and other experimental research is also prominent. This is perhaps more "cutting edge" in economics than psychology, where the dominant interdisciplinary connections extend to the brain sciences and the study of cognition. Network analysis is another interesting case, spreading from mathematics (especially graph theory) and anthropology to achieve a center of gravity in sociology and influence work throughout the social sciences. Formal analysis of complex systems was pioneered in the natural and physical sciences but has diffused into social science through interdisciplinary centers like the Santa Fe Institute. In each case, there is potential for renewed mutual engagement between formal modeling and empirical analysis.

Waves of innovation in research methods are commonly greeted by dramatic declarations of revolutionary leaps forward and capacity to integrate all of the social sciences (or to integrate social science fully into science generally). They do create bases for interdisciplinary collaboration, especially where shared support facilities like survey research centers are important. But for the most part, new tools sustain interdisciplinary fields only temporarily.

Research based on different tools is incorporated into individual disciplines and interdisciplinary fields defined by topics and problems.

9.4 Problem-Oriented Research

Both area studies and quantitative methods flourished partly on the basis of expectations that they would contribute to practical problem-solving as well as more rigorous academic knowledge. Both did. Quantitative research methods diffused into policy research both at universities and in government agencies and think tanks. Context-specific international knowledge was important to diplomacy, foreign policy, and practical development work. For the most part, though, the social sciences retained an emphasis on "pure" scholarship distinct from more "applied" research. Within universities, the growth of professional schools provided an alternative site for problem-oriented work.

Recently, both foundations and governments have voiced disappointment in the limits of social science contributions to solving public problems. This echoes calls for relevance in the 1960s. One difference is that today funders more often bypass academics to seek research from think tanks. Universities risk losing some of their centrality to the contemporary knowledge ecology if they do not remain central to problem-oriented research—and many universities have responded by launching cross-disciplinary initiatives to help tackle major problems like climate change, urbanization, or poverty eradication. The other difference is the proportionately much larger role of professional schools today than 50 years ago. Both are challenges for social science. An important response has been more emphasis on interdisciplinary, problem-oriented research.

In fact, social science—both disciplinary and interdisciplinary—deserves more credit for producing useful knowledge than it has received. But social science disciplines have often resisted putting problem-oriented research front and center. Part of the reason for this is emphasis not just on purely academic research but also on discipline-specific research agendas. As Pierre Bourdieu (1988) argued, academic fields value what they regard as distinctive and essential to them; transactions at their margins may be required to secure resources but they are commonly denigrated—as "pure" artists may denigrate mere illustrators or designers. So each discipline values both that which is interior to it and that which is more pure or fundamental. This hierarchy imposes distinctions and divisions where research might better be served by collaboration and communication. Whether the issue is risks to the global financial system or the growth of megacities, effective problem-oriented research calls for the combination of different intellectual tools and perspectives as well as different disciplines.

The problem here is not just the prestige hierarchy; it is also the very notion that pure science always precedes application in a one-directional linear process. In fact, the relationship may be much messier and more iterative; application may also be experiment, and the observation of poorly informed practical action may be the basis for better knowledge. This often involves a process of cocreation in which nonacademics are linked into the knowledge-producing networks and processes. The nonacademics may be researchers working in other, more practically oriented settings. They may be "practitioners" who bring knowledge from their experience. They may be officers of organizations that control relevant data. Among their contributions may be to help academic researchers ask better questions, so it is

important that they be engaged earlier in the planning of research.[5] Social science has relatively underdeveloped networks of communication and collaboration both among researchers pursuing different kinds of studies and with practical actors.

Claiming value freedom and resisting external control, disciplinary social science often minimizes the development of relationships with relevant practical actors. But these are important, including at the fundamental point of problem choice (Calhoun 2008). While science may require freedom from efforts to interfere with results, it need not be altogether autonomous about agendas. More appreciation is needed of how much intellectually fundamental work is produced in efforts to understand and address practical problems and public issues. Donald Stokes (1997) termed this research "in Pasteur's quadrant" after the way microbiology was pioneered by efforts to stabilize beer production. Examples abound in social science.[6] Many of the most important are products of interdisciplinary fields and projects defined by their efforts to address public problems and inform public debate.

The interdisciplinary character of problem-oriented social science is often limited to a form of parallel play. Economists and sociologists both study inequality and mobility for example. Their work often follows distinct paths; occasionally a researcher makes a point of connecting them (e.g., Piketty 2014). Such work addresses a common domain of public interest, but is not necessarily joined in collaboration on specific problems.

But problem-oriented research can be much more effectively organized and explicitly interdisciplinary. This can be relatively short-term. For example, the sense that welfare reform was urgent mobilized many researchers (and funders) in the 1990s. Likewise, funders today have committed significant resources to studies of obesity and potential societal responses and seek to mobilize social and behavioral as well as biomedical scientists. Climate change is generating a similar mobilization, as it is recognized that the demonstration of its existence and causal dynamics by natural and physical scientists needs to be complemented by economics and other social science in order to generate practical solutions—say in the development and pricing of carbon options.

But short-term, problem-driven interventions can also shape long-term scientific agendas. Take demography. Family planning and censuses had long histories, mostly outside academia. In the early twentieth century, a connection was spurred by anxieties over potential for a sort of negative evolution and calls for eugenics. By the 1950s and 1960s, family planning was linked to concerns for economic development, population growth, and the role of women. The Rockefeller and Ford Foundations played key roles in funding academic research centers, data collection, and organizations like the Population Council. While the research did contribute practically useful knowledge, it also shaped basic understandings of social structure. Population studies today may not be quite as free of concerns for family planning or overpopulation as microbiology is free of focus on brewing, but problem-oriented research has clearly shaped a field of knowledge not limited to the initial problems.

[5] Changing contexts and networks for knowledge production have been a theme in science studies. See, among many, Nowotny et al. (2001).

[6] To cite a single example, Robert K. Merton and Paul F. Lazarsfeld are known respectively as a leading social theorist and methodologist of the postwar era. Yet most of their extraordinarily influential research (and much of their training of graduate students) was financed through grants for problem-oriented research to Columbia's Bureau of Applied Social Research.

A fourth kind of problem-oriented interdisciplinary field focuses on the education and support of professionals who use the contributions of different disciplines in their work. This is sometimes left out of accounts of interdisciplinary social science, but in fact professional schools are major sites of interdisciplinary collaboration in research as well as teaching. Schools of business and management, social work, public policy, and international affairs are among the most important sites of interdisciplinary social science. Schools of law, nursing, medicine, and journalism all employ social scientists and provide interdisciplinary bases for their work. In each case, the focus is on integrating tools and perspectives from different social sciences into the problem-solving capacities of professionals.

Funding has often been a crucial stimulus to problem-oriented social science, though links to social movements have also been influential. It may be particularly important to all social science in the future. Funding for basic research awarded on the basis of disciplinary evaluations (as through National Science Foundation procedures in the United States and older research council procedures elsewhere) is a small and declining proportion of total funding. Indirect funding for research based on revenues associated with student enrollments is under pressure. Philanthropic donations are an important growth area, but they too are commonly focused on areas of expected practical contribution. This places a premium on the capacity of social scientists to integrate problem-oriented research into the production of more fundamental knowledge.

9.5 Conclusion

Interdisciplinary fields form as researchers take up themes or issues that either do not fit the classificatory scheme of disciplines or need attention from several. This may be driven by social change, as for example the combination of World War II, the Cold War, and growing globalization shaped the rise of area studies. Pressing public issues, like environmental degradation and climate change, may stimulate problem-oriented interdisciplinary research. New tools can also be important, as quantitative and mathematical research methods not only diffused across the social sciences but also created an interdisciplinary field of experts in methodology. But for a new field to reach critical mass and endure depends not just on intellectual interest but also generally on funding and potential for impact. All three of the kinds of interdisciplinary research just mentioned have benefited from the support of foundations and government agencies and from the interest of policy makers (and sometimes broader publics) in the products of research.

Institutional support inside universities is also influential. So powerful is the model of disciplinary departments that there is a tendency to impose it even on fields that initially embraced interdisciplinarity. For example, the study of media and communications has grown as a new focus at the interface of several disciplines. Yet as it became one of the fastest growing of social science fields, and secured a funding basis by proliferation of successful degree programs, it commonly adopted a departmental organization and calls proliferated to make it a discipline, reinforced by a growing practice of recruiting faculty members from the graduates of PhD programs in communications rather than one of the older disciplines (Calhoun 2011).

The focus in this paper has been on fields that have stayed interdisciplinary and not departmentalized. These have relied on two main organizational structures. First, professional schools bring together faculties educated in different disciplines but united by a mission to train nonacademic specialists in fields of practice. Some, like law, have roots in old, even premodern disciplines. Others, like business, public policy and now, indeed, communications, are formed from interdisciplinary collaboration. Of course, like new disciplines, they may gradually take over the training of their own new members and reduce ties to their original disciplines. Second, interdisciplinary centers or institutes offer support and linkages to researchers from different disciplinary departments, but commonly lack the capacity to appoint their own faculty or give their own PhD degrees. This is partly precisely to prevent them from turning into new disciplines themselves.

Area studies flourished for decades after World War II as quasi-autonomous interdisciplinary fields. Supported usually by centers that complemented disciplines, they also had close links to schools of international affairs and diplomacy. The interdisciplinary context they provided nurtured widely influential intellectual perspectives as well as work highly specialized in its context. They went through a period of crisis after the end of the Cold War, with weakened connections to disciplinary social science, but are enjoying renewed prominence as mediators of international academic relations. At their best, they helped produce very mobilized and different disciplinary perspectives in order to achieve an inclusive, integrated view of societies or cultures in different settings.

Bringing more sophisticated quantitative tools to social science was a major interdisciplinary initiative of the postwar era. Largely successful in the United States and some other countries, and more in some disciplines (like economics) than others, the interdisciplinary initiative has been renewed with successive advances in methods. Quantitative research methodology generally does not pose any particular topic or focus for investigation. But specific tools do sometimes carry intellectual perspectives, as for example survey research lends itself to the idea of discrete individual respondents or network analysis emphasizes relationships. Overall, quantitative approaches have been linked to abstracting particular aspects of social life from their contexts. This has encouraged an unfortunate divide between knowledge produced through qualitative and quantitative research. Researchers focused on contexts have often been resistant to formalization of their knowledge to aid in comparison and generalization, and researchers focused on formalization have often been willing to dispense with learning what context-specific knowledge can offer.

The social sciences have retained substantially the same disciplinary structure since their formation in the late nineteenth and early twentieth centuries. Interdisciplinary scholarship has brought new knowledge and intellectual innovations but not changed the overall structure. Abbott sees this as likely to continue, because the disciplines control much of the allocation of academic resources and capacity to reproduce (Abbott 2001). Others see the disciplinary system as brittle and more likely to decay or be transformed (Fuller 1991; Turner 2000). There have been periods of much greater interdisciplinary cooperation and periods of relative retrenchment, and there have been important shared agendas like "institutionalism" or comparative historical studies of social change (Hall 2007). There have been numerous calls for the reorganization of social science, such as Wallerstein's (2003) suggestion that there be a regrouping around quantitative, ethnographic, and historical methods. But social science disciplines have shown great capacity to retain their identity and mainly "topical"

organization even while changing their content. Even where intellectually innovative, they are institutionally conservative. It may be that only massive changes in universities themselves (not impossible as pressures grow) would fundamentally change the disciplinary-departmental order. If disciplinary departments dominate one-sidedly inside universities this could, ironically, increase the extent to which funders and policy makers turn to other sources for usable knowledge—especially of the sort that problem-oriented research could provide.

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