

History Matters for Understanding Knowledge Exchange

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THE NARRATIVE SYSTEMATIC REVIEW OF 205 PUBLICATIONS on the “relations between knowledge and action” in this issue concludes that “externally valid evidence about the efficacy of specific knowledge exchange strategies is unlikely to be forthcoming” because “collective knowledge exchange and use are. . . deeply embedded in organizational, policy, and institutional contexts” (Contandriopoulos et al. 2010, 468). The authors’ pessimism about obtaining “externally valid evidence” is the result of a search strategy that largely ignored publications based on historical methods. Accordingly, the theme of my commentary is that historical research provides evidence that sustains cautious generalizations about effective strategies for exchanges between researchers and policymakers in comparable policy and institutional contexts.

A definition of exchange informed by history would emphasize reciprocity, that is, how researchers and policymakers have learned from each other. Instead, however, Contandriopoulos and colleagues follow the authors of many of the publications they review in defining exchange, explicitly or implicitly, as the influence on policy of research conducted by full-time knowledge workers. The historical literature, in contrast, describes exchanges in which researchers had a broader array of relationships with policy; advising policymakers in person and in writing, working as members of their staff, and serving as policymakers themselves. Knowledge derived from both research and political experience has been vital to these exchanges (defining politics here as who, in

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particular contexts, does what, to, for, and with whom when, why, and with what results for allocating authority and resources).

A Brief History of Reciprocal Knowledge Exchange

Knowledge relevant to policy has been exchanged for centuries and is the subject of a vast literature written mainly by historians and scholars in the adjacent disciplines of the social and policy sciences. Here are three examples of such exchanges in the history of health policy during the nineteenth and early twentieth centuries. Rudolf Virchow, an experimental pathologist, policy researcher, and legislator in Prussia and then Germany, applied knowledge to political action during a career that spanned most of the nineteenth century (Ackerknecht 1953). In Britain during the second half of that century, Florence Nightingale and William Farr exchanged findings from epidemiology for knowledge from military and civilian policymakers about how to persuade their peers (Bostridge 2008). Hermann Biggs, a public health official in New York City and New York State from the 1880s through the early 1920s, earned international acclaim for policy in which he exchanged recent advances in bacteriology for political education and support from leaders of the Tammany Hall political machine (Fox 1975, 2010).

The overly simple assumption that knowledge and policy workers have different, often incompatible, values and career paths has become conventional wisdom only recently (as historians think about time). Knowledge workers proliferated during the twentieth century as a result of a historically unprecedented expansion of universities and research organizations. Most of these workers dedicated their working lives to conducting research that could earn the approval of disciplinary peers. During the past century, most knowledge workers also came to regard the application of new knowledge to policy and practice as a distraction from their proper work, except when applying knowledge was lucrative for them and their employers (Etzkowitz 2010).

Similarly, during the past century, most people working in politics and public- or private-sector management, as well as practitioners of law, medicine, and other professions, seem to have regarded themselves as activists who occasionally acquired new knowledge. Most of them were introduced to the methods and important findings of the natural

and social sciences in secondary and tertiary education. Nevertheless, most of them subsequently assumed that practical (including clinical) experience, rather than formal knowledge, was the principal source of their ability to appraise information relevant to policy, politics, and professional practice and then to make informed judgments about action.

This conventional history of the distinction between knowledge workers and persons in other occupations does not fully account for considerable evidence about their behavior. Although knowledge workers accorded their highest priority to discipline-based research during the twentieth century, many of them also expressed and acted on strong opinions about politics and policy, often at some cost to their research. Moreover, many researchers sought and accepted funding from commercial firms, often without expressing concern that their scientific work might be used for purposes other than the advancement of knowledge.

Similarly, many policy workers and practicing professionals have followed research relevant to their areas of specialization. Many policy workers also learned about systematic bias in research that resulted from investigators' conflicts of interest when they sought to regulate environmental toxins and smoking or made policy for approving and marketing pharmaceutical drugs and medical devices. Similarly, many health professionals have been attentive to research findings that contradicted advice they had been giving patients, often findings that either enlarged or diminished their scope of practice.

Historical Literature and Systematic Reviews

An extensive, peer-reviewed literature on the history of politics and policy has documented the work of policy advisers, policy staff, and policymakers with strong credentials as researchers in, for example, economics, political science, physics, chemistry, biology, engineering, and biomedical science. Contributors to this literature report many reciprocal exchanges between people whose main expertise was in research and colleagues who relied mainly on experience-based knowledge.

Findings from this literature could be applied in ways that might increase the efficiency and effectiveness of reciprocal exchanges of knowledge. To my knowledge, the evidence on which these findings are based has not been synthesized by researchers who describe themselves as

systematic reviewers, even though an increasing number of reviews synthesize and assess quasi-experimental, observational, and qualitative studies. For example, in their “systematic snowballing sample” of thirty-three “seminal papers,” Contandriopoulos and colleagues included only one publication that significantly employs historical methodology (Allison 1971/1999).

Historical knowledge is difficult to assess in systematic reviews because it is based on stories (or, more formally, narratives). Historians (and scholars who use historical methods in political science, sociology, economics, and other fields) evaluate one another’s work using criteria deriving from the Aristotelian categories of correspondence and coherence; that is, the extent to which particular stories credibly account for evidence in primary sources. Another reason for the deficit of historical research in systematic reviews is that much of it is published in books, which are inadequately indexed in automated bibliographies. Indeed, the only publication using historical methods that Contandriopoulos and colleagues listed as “seminal” is also the only book on that list.

Moreover, historians whose research is relevant to understanding reciprocal knowledge exchanges hardly ever describe their work as addressing the translation of knowledge into action. Even when they are indexed, their publications usually appear under such subject headings as economic, health, foreign, and national security policy, or public and business management, or elections, political parties, and legislatures.

Researchers who use historical methods would strongly agree with Contandriopoulos and colleagues about the importance of context. But most of them would probably insist that generalizing about strategies of knowledge exchange, even in highly similar contexts, improperly subordinates the substance of policy and politics. Knowledge exchange does not seem to have been a discrete issue in the public careers of researchers who became policymakers. Examples are the British economist John Maynard Keynes, a prominent Treasury official, and the American chemist James Bryant Conant, chairman of the National Defense Research Committee and later high commissioner for and ambassador to postwar West Germany (Hershberg 1993; Skidelsky 2005).

Some researchers who use historical methods might also note that reciprocal knowledge exchange may not be problematic because it has become routine. Prominent knowledge workers in policymaking positions in the Obama administration, for instance, include Donald Berwick (administrator of the Centers for Medicare and Medicaid Services), Steven

Chu (secretary of energy), Francis Collins (director of the National Institutes of Health), Peter Orzag (former director of the Office of Management and Budget), Lawrence Summers (former director of the National Economic Council), and Harold Varmus (director of the National Cancer Institute).

Seeking Evidence about Effective Knowledge Exchange

Evaluating why some attempts to use knowledge to inform policy succeed while others do not may, however, have some beneficial results. Policy and knowledge workers could, for instance, learn from evaluating reciprocal exchanges that have been institutionalized by government. Contandriopoulos and colleagues mention such exchanges in only a single sentence. Because institutionalized reciprocal exchanges are codified in law and regulation, they are quite different from the examples I offered earlier in this commentary, which could be ascribed to the talents and skills of individuals. The usual purpose of institutionalized exchanges is to insulate both policymakers and researchers from vested interests in order to ensure the objectivity of research. The purpose of ensuring objectivity is to enhance policymakers' ability to use findings from independent research to challenge claims about evidence by partisan opponents and commercial and advocacy groups (including the researchers they subsidize).

My starting assumption in evaluating instances of institutionalized knowledge exchange is that making, communicating, and applying knowledge are political processes. In contrast, the authors of much of the recent literature reviewed by Contandriopoulos and colleagues assume that knowledge is a commodity that can be packaged, translated, and communicated by specially trained, apolitical agents who follow formal procedures of exchange. If knowledge is a commodity, policymakers need not know very much about the politics of science, disputes about methodology, or the activities of entrepreneurial academics that Daniel S. Greenberg summarizes as "science for sale" (Greenberg 2007). But because knowledge is not a commodity, knowledge and policy workers engage most effectively as principals, that is, face to face as experts who have extensive firsthand knowledge of their particular fields.

The history of organizations that institutionalize reciprocal exchange demonstrates how knowledge and policy workers have engaged each other as principals (Fox 2010). Examples at the federal level in the United States include the U.S. General Accounting (now Government Accountability) Office, the Congressional Research Service, the Council of Economic Advisers, and the Patient-Centered Outcomes Research Institute created in the Affordable Care Act of 2010. Since 2002, policy-makers in most of the states have institutionalized reciprocal exchange for making decisions about coverage for pharmaceutical drugs and, in an increasing number of states, for other health services as well. International examples include Australia's Pharmacy Benefit Scheme, Britain's National Institute for Health and Clinical Excellence, and Canada's Agency for Drugs and Technologies in Health.

Evidence about institutionalized knowledge exchanges (much of it, alas, not yet published) suggests that an important reason for their success is that the participants respect one another's knowledge. Persons whose work has mainly been in research contribute effectively in exchanges when they are interested in, even fascinated by, the politics of policymaking. Similarly, persons who work mainly in politics and policymaking are more likely to institutionalize exchanges when they are interested in, and enjoy learning about, the methods of research as well as its practical uses.

Deliberate exchange strategies have sometimes helped knowledge and policy workers develop a mutual respect that has enabled institutionalized reciprocal exchange. Knowledge and policy workers have, for instance, benefited from assistance in understanding each other's expectations. For example, most researchers do not know why most policymakers prefer to receive advice from persons who have firsthand knowledge of the strength of relevant evidence, or why they are unusually sensitive to past and current conflicts of interest (often more sensitive than deans, chancellors, and editors), or why they value loyalty and trust more highly than, say, pathbreaking research results. Similarly, many policymakers have no reason to know why many researchers expect advising to make only modest demands on their time and energy, why they repeatedly emphasize the uncertainty of scientific knowledge, and why they are uncomfortable if asked to participate in drafting policy documents (Fox 2010).

The findings of Contandriopoulos and colleagues support my argument that communicating and applying knowledge are political

processes (their review does not address the politics of making knowledge). The authors' "main conclusion" is "that context dictates the realm of the possible for knowledge exchange strategies aimed at influencing policymaking or organizational behavior." Moreover, the review summarizes persuasive evidence of the limitations of promoting "one given technique as a solution to the challenges of knowledge exchange . . . or else very linear, knowledge-driven processes."

Neither the review in this issue nor my comments on it are, however, likely to restrain proponents of knowledge exchange strategies that are based on tenuous assumptions. An example from the historical literature is the "two cultures" controversy that began in Britain during the 1960s. In a lecture in 1959, C.P. Snow, a physicist, novelist, and civil servant, deplored the persistence and harmful effects of two incompatible cultures, science and the humanities. For much of the twentieth century, this incompatibility allegedly impeded "applying [advancing] technology to the alleviation of the world's problems" (Collini 1998, viii). Snow and his allies proposed deliberate strategies to solve the two cultures problem. But subsequent research has found considerable evidence of routine and reciprocal knowledge transfer strategies, especially in British defense policy (Edgerton 2006).

Asserting that a gap must be bridged between incompatible cultures, one based on scientific research and the other mainly on practical experience, continues to justify employing knowledge brokers. This is not news. Many knowledge workers since Machiavelli in the sixteenth century have attempted to broker knowledge, claiming that what they offer would benefit princes and leaders of republics. Many of them have also, like Machiavelli, combined brokerage with advocacy for particular agendas that they claim are derived from applying the methods of inductive reasoning (King 2007).

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