Review: Questioning Expertise
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We live in a knowledge society in which we regularly defer to and trust in experts. Yet as specialized knowledge expands, it is beginning to groan under the weight of its own bulk. Cracks are appearing that are both theoretical and practical. Within STS various groups have challenged the idea that we should trust scientific experts because they have special access to truth. Setting aside radical skepticism, courts and legislatures struggle to utilize often contradictory expert opinions. At stake in public policy is the value of particular specialized knowledges in the face of real-world problems that rarely fit the confines of any single disciplinary box. Furthermore, as debates over Wikipedia and evolution reveal, the shape, significance and location of expertise are increasingly contested. Scientific experts, in particular, are being asked to demonstrate their accountability and relevance to society.

Thus, even as we grow more dependent upon and supportive of experts, we are less sure about what expertise is and in what ways it is beneficial and detrimental. The times call for reflection on the nature and value of expertise. The two works reviewed here are useful tools toward this end. The first, The Philosophy of Expertise, is a collection of essays, all previously published either as book chapters or journal articles between 1972 and 2005. It is a sampling of some of the most important analyses and critiques of expertise spanning a wide range of approaches and tackling a breadth of problems. The second, The Honest Broker, is a monograph focused on a specific question: How should experts, particularly scientists, behave when it comes to interacting with the public sphere of politics and policy making?
The Philosophy of Expertise

In compiling their essays, Selinger and Crease do not set out to provide a definitive or comprehensive framework for expertise. Rather, their goal is to adopt an ‘exploratory’ approach that displays the key issues and essential features that need to be accounted for when addressing expertise. Neither do they promise any immediate solution to practical problems. Instead, they argue that philosophic reflection is valuable in clarifying and assessing the fundamental questions at work below the surface of any issue surrounding expertise and society. As Selinger and Crease point out, these issues are not without consequence. At stake is philosophy itself—and even science broadly understood—because what the essays bring into question is the justification of expert authority and the possibility of general rational criteria for deciding when to defer to experts.

The editors argue that one can focus on expertise ‘as a relation between those who “have” the expertise and those who “consume” it’, or one can ‘focus on one or the other pole of this relation’ (p. 5). They thus organize the volume into three parts, each containing five essays. The first section contains essays that approach expertise as a relationship of trust and deference between two parties. The second section focuses on the expert pole and essays here seek both to defend and critique universal structures of embodied cognition and affect in understanding how expertise is acquired. The third part focuses on and problematizes the ‘lay’ pole of the relationship through discussions regarding the social embeddedness and cultural constitution of experts and non-experts. At this point, the taxonomy breaks down, because such essays clearly cannot confine themselves to the non-expert pole without focusing on its relationship of co-construction with expertise. However, the value of this work lies less in its organization than in the conversations it creates by bringing together in one place much of the best contemporary thinking on the problems of expertise.

This book is an invaluable treasure for scholars and advanced students in STS, social studies of science, philosophy of science, and related fields. There is not the space here to survey the nuances of any one piece, let alone the whole collection. A sampling will have to suffice.

Several of the essays enter into either direct or indirect dialogue with one another by virtue of addressing the same or closely related questions. This is the case with the contributions by Alvin Goldman, ‘Experts: Which Ones Should You Trust?’ (originally published in 2001) and Scott Brewer, ‘Scientific Expert Testimony and Intellectual Due Process’ (originally published in 1998). Both address what Goldman calls the novice/2-expert problem: Can a layperson evaluate the testimony of experts and justifiably (i.e. not arbitrarily) decide which of two or more rival experts is most credible? In the Charmides, we find Socrates asking a similar question: Can we distinguish someone who pretends to be a doctor from someone who truly is one? Thus, in addition to being a central dilemma for courts and advisory processes, it is an ancient question about the nature of techne, or expertise.
Goldman surveys five possible sources of evidence that a novice may use as the basis for trusting one putative expert over another. His conclusion is cautiously optimistic, and he holds out the possibility that reformed education and communication can make ‘the novice-expert relationship more one of justified credence than blind trust’ (p. 34). Brewer’s assessment is bleaker and is a scathing indictment of the rules and doctrines governing the decision procedures of U.S. legal systems. In his view, non-expert judges and juries almost always reach epistemically arbitrary conclusions when faced with competing scientific experts. The only solution he sees is not a program of general education, but one of ensuring that ‘the same person who has legal authority must also have epistemic competence in relevant scientific disciplines’ (p. 149). In other words, eliminate the novice. But if the expert disagreement is truly entrenched this only begs the question—which experts should comprise which juries?

Brewer spends a good portion of his article attacking John Hardwig, whose article ‘Epistemic Dependence’ (originally published in 1985) also appears in this volume. Hardwig makes an optimistic argument that we can gain knowledge—or at least justified belief—from appeals to intellectual authority: ‘one can have good reasons for believing a proposition if one has good reasons to believe that others have good reasons to believe it’ (p. 328). Not only can we gain knowledge this way, but we must claim that we are rationally justified in so doing unless we are prepared to admit most of our beliefs are irrational or non-rational. This is a radical attack on ‘epistemo-logical individualism’, a foundational Enlightenment model of rationality. Hardwig presses this attack even into the confines of knowledge production, arguing that dependence on other experts pervades any complex field of research.

Hardwig claims that ‘rationality sometimes consists in refusing to think for oneself’ (p. 328) and that ‘the layman cannot rationally refuse to defer to the views of the expert’ (p. 333). His analysis thus bluntly raises the uneasy tension between democracy and expertise, a theme that is masterfully treated by Stephen Turner in ‘What is the Problem with Experts?’ (originally published in this journal in 2001). Turner sees two potential problems with (especially scientific) expertise depending on whether it is cast as a good that some have access to and others do not or as one viewpoint among others. The former characterization poses challenges of equality and democratic accountability—how can we utilize the esoteric knowledge of scientists without ceding so much power that we slip into a technocracy? The latter characterization poses a problem of liberal neutrality. If scientific experts are just one faction among many, then state support through science education and funding is a violation of the impartiality that liberal regimes are supposed to adopt in the face of rival opinions. Through a discussion of the democratic legitimation of cognitive authority, Turner goes on to create a five-fold taxonomy of expert types. This allows him to hone in on the villain. It is not scientific experts, because they must legitimate themselves to the public at large. Rather, the culprit is a sectarian bureaucratic expertise. Because their authority is not
validated by public achievements, it is the kind of expertise that conflicts with democratic processes.

Paul Feyerabend illustrates the critique of expertise as ideology in his, ‘How to Defend Society against Science’ (originally published in 1975). Hiding behind a false cloak of ‘neutrality’, science puts us in a tyrannical headlock that inhibits freedom of thought. This essay is a gem—pugnacious, humorous, and provocative. One gets the feeling that, given his intimate knowledge of the horrors of Nazism, Feyerabend would like to punch Hardwig or anyone who advocates such blanket offloading of critical thought. In a more subdued tone, Don Ihde (‘Why Not Science Critics?’, originally published in 1997) makes a similar point about a pervasive scientistic hegemony: technoscientific expertise works systematically to exclude criticism.

But all of this begs the questions: What is expertise and how does one acquire it? The editors’ own contribution, ‘Dreyfus on Expertise: The Limits of Phenomenological Analysis’ (originally published in 2005) is a summary and criticism of Hubert Dreyfus’ answer to these questions. (An essay by Dreyfus also is included: ‘How Far is Distance Learning from Education?’, originally published in 2001.) Dreyfus pictures expertise as the culmination of a five-stage embodied cognitive and affective skill acquisition process that begins with the application of general rules and ends in contextual intuition. Selinger and Crease argue that even Dreyfus’ well-honed phenomenological account is necessarily incomplete. As expertise is a relationship, any complete account must acknowledge the social attribution and recognition of cognitive authority and legitimacy.

This debate raises one final point central to the volume, namely, how far does the concept of expertise stretch? Can one be an expert sleeper, eater, or walker? More pressing, given the unavoidable moral dimensions of public policy, are there such things as ethics experts and, if so, what role should they play in the public sphere? In ‘Moral Knowledge as Practical Knowledge’ (originally published in 2001), Julia Annas revisits Plato to conceptualize expertise in terms of values, apprenticeship, and action, which supports a justification of moral expertise or virtue as an encompassing skill of living well. Finally, Peter Singer (‘Moral Experts’, originally published in 1972), in just three pages, builds a persuasive case for the possibility of moral expertise in a more narrow sense of a special competence in reaching soundly based conclusions in cases where norms clash or are unclear.

There are a few weak points in the volume. For example, the contribution by Steve Fuller (‘The Constitutively Social Character of Expertise’, originally published in 1994) makes the point that expertise is socially constructed, but he does so in an unhelpfully erratic and opaque way. Throughout, the editors wisely adopt a light touch, providing minimal introductions to texts that can well-enough speak for themselves. Nonetheless, a concluding section to help the reader assimilate the main themes and locate them in a broader social and historical context would have been useful. For example, the terms ‘interdisciplinarity’, ‘transdisciplinarity’, and ‘Mode 2 knowledge production’ are not mentioned at all—a serious shortcoming.
considering these are the most prescribed remedies for the myopia of experts. Indeed, the pedagogical (e.g., problem-based learning) and research (e.g., assessment) questions raised here may be some of the most interesting and practical aspects of the philosophy of expertise. Also, though this is the only work compiling essays focused on the philosophy of expertise, other related works exist (e.g., Maasen & Weingart, 2005) that the editors could have set in the context of their compilation.

Though the editors could not have aspired to comprehensiveness on such a broad topic, some important voices have been left out. From the theory of democracy, for example, Robert Dahl’s critique of philosopher kings (2000) and E.E. Schattschneider’s work are missing. Anyone who claims that ‘Democracy…is a form of collaboration of ignorant people and experts’ deserves at least some mention in such a text (Schattschneider, 1975, p. 137). However, most of the important authors not included in the book are referenced either by the editors or the contributors. Overall, this is a crucial read for those aspiring to understand better the production and use of specialized knowledge, that is, for those seeking to become experts about expertise.

The Honest Broker

A good perspective from which to see Roger Pielke’s book is through the lens provided by H.M. Collins and Robert Evans in their contribution to the volume discussed above. In ‘The Third Wave of Science Studies: Studies of Expertise and Experience’, Collins and Evans (2002) argue that there have been two stages of thinking about science-society relations. In wave one, science is pictured as esoteric and authoritative, so scientific expertise can best enter policy making in a top-down method of truth speaking to power. Wave two deconstructed the dichotomy between science and society lying behind the wave one model. But the pendulum swings too far if it leads to incommensurability or the total erasure of expertise. They propose a third wave, therefore, that works to re-build the categories of politics and science in a way sensitive to the lessons of wave two. They argue that expertise should feed into policy making but in a new way that constitutes their normative theory of decision-making.

Pielke provides an analysis of this problematic and proposes his own ‘new way’ or normative theory for the incorporation of scientific expertise into policy making. His book is intended for scientists to help them understand the choices they face when it comes to policy and politics. Scientists and those in the business of science policy should read this book and consider its message carefully, because it has the potential to both bolster the legitimacy of the scientific enterprise and improve policy making. STS and social studies of science scholars are likely to find his argument familiar, but Pielke has developed such an incisive framework that even these audiences will find new and valuable contributions. Furthermore, his book is exemplary in its clear, jargon-free accessibility, which makes it an excellent pedagogical tool for initiating students into issues of science and society.
The book takes aim at a pervasive problem: science in the service of policy is threatened by science in the service of politics. Rather than being explicitly connected to a range of alternatives concerning a decision to serve the common interest (policy), science is commonly used as ammunition for special interest groups to advocate for their narrow agenda (politics). Political battles are waged in the guise of science, often leading to gridlock and uncivil exchanges. Furthermore, science itself is threatened as it increasingly appears to be nothing but the handmaid of politics.

Pielke traces the causes of this problem to a widespread ‘myth’ or conceptual framework guiding the thoughts of many scientists and policy-makers. He labels this myth ‘the linear model’, which is composed of several basic theses. First, science is and should be separated from society as an autonomously self-governing arena. Second, scientific knowledge can sufficiently approximate certainty so as to compel action. Third, science contributes to social goods automatically—scientists need not concern themselves with the downstream uses of their work. This means that, fourth, scientists simply need to get the science right in order to help improve decision making in particular contexts. This is ‘wave one’ thinking: When faced with a problem that contains scientific and technical elements, let the experts work out a solution in their field, which can then be plugged into the policy arena, leading to a solution.

In decision contexts that are characterized by both value consensus and low uncertainty, this model works well. Here, scientists can provide policymakers with either basic information not explicitly connected to their decision (thus playing the role of the ‘pure scientist’) or purely factual information more directly related to the decision (thus playing the role of ‘science arbiter’). In such contexts, getting the science right really will compel the decision. Pielke calls these contexts ‘tornado politics’, because when a tornado is approaching everyone agrees on the goal (survive), the scope of choice is unambiguous, and improved information (e.g., on the tornado’s path) will increase understanding about the relationship between alternative courses of action and goals.

These contexts, however, are rare. In most science policy scenarios conflict exists about the desirability of different outcomes, ambiguity exists about the relationship between alternative courses of action and outcomes, and in the short term improved information promises little insight into the courses of action likely to lead to a desired outcome. There is, in short, disagreement about values and uncertainty. Pielke labels these contexts ‘abortion politics’ to highlight the notion that improved scientific information can contribute little on its own to policy making. Science will not compel action, yet the linear model reinforces the mantra of ‘more research’ and ‘we just need to get the science right’. The important irony here is this: The linear model would have us believe that science and politics are separate, but attempts to uphold this division exacerbate the politicization of science. Science is marshaled for political purposes and politics is argued through science—the classic dynamics of ‘wave two’ science studies.

The reason for this is two-fold. First, as Daniel Sarewitz (2000), Pielke’s main inspiration, argues, science yields an ‘excess of objectivity’. In
the complex systems most often at issue with public policy, it is simply not possible to get a unified view of the world as it really is. Different scientists and different disciplines—in good faith—paint different pictures. The second reason is the iron triangle, composed of politicians, scientists, and special interest groups. Politicians do not like making hard decisions that could upset parts of their constituency. So, they throw money at the scientists to ‘figure it out’, and the scientists are happy to oblige. This research inevitably creates an ‘excess of objectivity’, which means that special interest advocates can cherry-pick among the experts and findings to choose those that support their view. The upshot is that explicit policy debate about the issues is replaced with political wrangling all in the guise of (supposedly value-free!) science.

Scientists, often unknowingly, end up playing the role of ‘stealth issue advocate’. The more they claim to be acting as pure scientists, the more their work fuels this cycle of politicization. The ‘issue advocate’ openly associates his or her work with a political perspective and seeks to narrow options to the preferred outcomes of the party line. The ‘stealth issue advocate’ ends up supporting the same dynamic but is cloaked in the garb of neutral science, which the linear model maintains as the scientist’s ideal role.

In all this, Pielke sees both the reputation of science and democratic common interests suffering. His solution lies in the best role that scientists can adopt (within ‘abortion politics’ contexts), namely ‘the honest broker of policy alternatives’. Honest brokers seek to expand options by explicitly associating scientific findings and uncertainties with a range of policy alternatives. They assess the science in terms of its significance for action by relating trends, conditions, and projections to policy alternatives and valued outcomes. Scientists, rather than political activists, directly confront the question of ‘what does this particular bit of science mean in terms of policy action?’ or ‘which policy alternatives are consistent with scientific results?’ Underlying his preferred scenario is the work of Schattschneider, who pictures democracy not as interest group competition but as a system where experts present options to the public or their representatives.

One surprising aspect of Pielke’s book is a chapter dedicated to the intelligence leading up to the 2003 U.S.-led invasion of Iraq. In hindsight, the intelligence was clearly flawed and much attention has since been directed at how we can get better information and improve its connections to policy making. Pielke’s framework clarifies what this would mean. But he presses the issue further and presents a fundamental insight that very few seem to notice. Once the George W. Bush administration adopted the foreign policy model of pre-emption in 2002, information or getting the intelligence right hardly mattered. This is especially true in a world populated by unsavory regimes and loosely organized terrorist networks and sprinkled with deadly weapons. In this situation, there will always be enormous uncertainty about the level of threat posed by any potential enemy. Therefore a legitimate case can always be made for a preemptive strike that comports with intelligence. CIA director George Tenet, for example, cleared a speech made by Bush where he famously argued we cannot afford
to wait for the smoking gun, which could come in the form of a ‘mushroom
cloud’. It was, after all, in the realm of possibility that Saddam Hussein
could have acquired and used a nuclear weapon the next day. The major
point, then, is not about getting the intelligence right. It is a political ques-
tion: How should we handle risk, what level of risk is acceptable, and who
should make these decisions? This shift in focus signals something akin to
‘wave three’ science studies.

Though tightly argued and clearly presented, Pielke’s framework suf-
fers from two important shortcomings stemming from his analysis of uncer-
tainty and values disagreement. First, we live in an era of post-normal
science where the scientific findings are themselves in question. Judging
whether genetically modified crops pose a threat and should be regulated,
for example, depends on the very scientific evidence that is contested.
Pielke does indeed highlight this with his focus on uncertainty. But if expert
disagreement is so entrenched, the ideal of an honest broker begins to look
rather mythical. Could we really expect some strong-willed expert to rise
above the fray to achieve independence? This achievement, after all, would
depend on public recognition of the honest broker’s neutrality, which
seems highly unlikely in just these contested situations in which everyone
seems to be taking sides. In short, Pielke may not have invented a hero
strong enough to withstand the tempest he so shrewdly characterized.

Second, Pielke’s message is that in contexts characterized by values
disagreement, which comprise the majority of science policy, we should
lower our expectations of what science can do. Only once values conflicts
have been explicitly adjudicated can science play a useful role in clarifying
how best to reach the agreed-upon goals—honest brokers supply the
means-ends reasoning once the ends have been decided upon. Thus,
processes in which values are openly managed are logically central to his
argument. But it is just at this point that Pielke offers only the black box of
‘politics’, and specifically ‘abortion politics’.

Following Harold Lasswell, Pielke defines politics as processes of bar-
gaining, negotiating, and compromising that determine ‘who gets what,
when, and how’. Lasswell considered politics an ‘irrational’ process, which
stems from an assumption that when it comes to values—preferences,
really—reasoning stops. We can only tally votes, trade favors, muscle-up, or
resort to outright violence. Pielke implicitly subscribes to this subjectivist
type of values theory with his binary account of tornado and abortion politics.
The former is cleanly value-free where the latter is entrenched in incom-
mensurable worldviews. There is (scientific) Reason and irrationality—
nothing in between.

But most public policy issues lie between these extremes and we do reg-
ularly reason through values claims of all sorts. There is no need here to
rehearse the fallacies of ethical relativism. We may suppose that Pielke real-
izes all this, but his book does not reflect this realization. This leaves him in
a bind. He is committed to the value of ‘policy’, which is a term that by def-
inition is about finding good reasons in service of common interests. But if
there is frequently strong ethical disagreement and if ethics is an irrational
show-stopper, then how could reason (explicit policy debate) help transcend differences toward common goods? His treatment of values as preferences allows for pure politics and for pure science, two things he tolerates but often disparages, but not for policy, the very thing he champions. His framework depends on something—the rational adjudication of values disputes—that he does not account for and that his implicit theory of values would even negate.

A commitment to policy necessarily entails a commitment to the reasonableness of values. Otherwise we are left with the interest group pluralist theory of democracy where the loudest voice wins and it is assumed that the common good is served by this vector addition of competing interests. Under this system there is nothing in principle wrong with marshalling science in the service of politics. Pielke rejects this theory, because he has diagnosed just what is wrong with such practices. His notion of the honest broker is one part of the remedy, but it is a part that can only function in a world where values conflicts are more reasonably and honestly adjudicated. Scientific honest brokers depend upon but cannot aid these processes (except by not playing the role of stealth issue advocate). Pielke’s framework, then, should be expanded to consider ways in which honest brokers of ethics can actively facilitate policy debates by articulating and assessing competing values claims and elevating the moral vocabulary and civility of the public sphere in general (see Briggle, et al. 2006).

This brings us full circle to a consideration of expertise in light of normative theories of decision making. From this perspective the question of expertise is: What is pertinent knowledge? Pielke points out that ‘more science’ is often not the answer to morally charged matters of public policy. He notes that, at root, many of these issues are about questions of who should have power and how we ought to treat one another. In a high-tech society, then, the most pertinent knowledge is often that which pertains to the most ancient question: How should we live?

References


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POLITICAL CULTURES OF SCIENCE

Laurence R. Tancredi

Jasanoff, Sheila Designs on Nature: Science and Democracy in Europe and the United States (Princeton, NJ: Princeton University Press, 2005) 374pp, ISBN 0691118116 (hbk); 0691130426 (pbk); £29.95 / $49.50 / 36.33 (hbk); £11.50 / $18.95 / 15.95 (pbk)

Designs on Nature is a valuable contribution to our understanding of the interrelationship of science, policy and political systems. In this book Jasanoff compares and contrasts the systemic differences among three Western nations—United States, Germany and Britain—which impact on and are affected by developments in the life sciences. A major presupposition of this book, as articulated by Jasanoff early on, is that a transition has occurred during the later part of the twentieth century from traditional industry-dominated societies to ‘knowledge societies’. These societies, most particularly countries of Western Europe, the United States and Japan, rely on scientific and technical knowledge as opposed to natural resources as the primary asset for their economic and social development.

Jasanoff asks how this transition has played out in specific national contexts by focusing on political cultures rather than on individual actors, interests and institutions within those cultures. By ‘political cultures’ she refers to the culturally specific mechanisms by which policy choices and modes of reasoning are shaped and made binding within communities. She goes further by articulating how specific developments in the life sciences and biotechnology have interacted with efforts of ‘re-imagining’ nationhood in all three countries. In the case of Germany, for illustration, this has involved projects to reconstitute national identity after WWII. One of Jasanoff’s arguments is that nation building is easiest to see in Germany, but has been part of the UK and US agendas as well: in the former by reinforcing New Labour’s promises of making Britain more competitive in the knowledge economy and in the latter by underlining the deregulatory and neo-liberal policies that marked the end of the Cold War.