MICHAEL FUERSTEIN

EPISTEMIC DEMOCRACY AND THE SOCIAL CHARACTER OF KNOWLEDGE

ABSTRACT

How can democratic governments be relied upon to achieve adequate political knowledge when they turn over their authority to those of no epistemic distinction whatsoever? This deep and longstanding concern is one that any proponent of epistemic conceptions of democracy must take seriously. While Condorcetian responses have recently attracted substantial interest, they are largely undermined by a fundamental neglect of agenda-setting. I argue that the apparent intractability of the problem of epistemic adequacy in democracy stems in large part from a failure to appreciate the social character of political knowledge. A social point of view brings into focus a number of vital factors that bear on our understanding of democratic epistemology and our assessment of its prospects: the essential role of inclusive deliberation, the public's agenda-setting function, institutional provisions for policy feedback, the independence of expert communities, and the knowledge-pooling powers of markets.

I

From an epistemic point of view, democracy presents us with a serious difficulty, one that animates, in various forms, the arguments of its fiercest critics and troubles many of its best defenders. Governance is an extremely difficult business, perhaps more so than any other in which human beings are engaged. So it seems that gaining knowledge of how to do it well – i.e., *political knowledge* – should require the application of extraordinary acumen, training, and experience. And yet democracy would grant all citizens a hand in matters of governance without regard to any but the most minimal indices of competence (e.g., their age). The question then is just this: how can democratic governments be relied upon to achieve adequate political knowledge when they turn over their authority to those of no epistemic distinction whatsoever? Call this the *problem of epistemic adequacy*.[1]

In invoking the notion of political knowledge, I assume without argument an "epistemic" conception of democratic procedures in the minimal sense that there is some standard, independent of the real-world outcomes of such procedures, by reference to which we can evaluate the quality of government decisions (Coleman

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and Ferejohn 1986, Cohen 1986, Estlund 1993, 1997, 2008). Below, I argue that the apparent intractability of the problem of epistemic adequacy stems in large part from a failure to appreciate the social character of political knowledge. To approach the problem of epistemic adequacy from a social point of view does not solve the problem. But it does change our understanding of the distinctive challenges it poses and, in doing so, opens the door to a range of promising potential solutions. The aim of the paper, therefore, is to highlight the analytical benefits of applying the social-epistemic perspective in this particular domain.

II

Traditional arguments for democratic epistemology tend to focus on the suggestion that the public, when entrusted with the powers of governance, will be better motivated to serve its own interests than will an inevitably self-serving aristocratic elite.[2] But the luster of that argument, as a response to the problem of epistemic adequacy, is seriously diminished by the simple observation that the intention and motivation to implement knowledge is worthless without the competence to acquire knowledge in the first place. It is precisely the aristocrat's point that the public interest is difficult to discern, and that the jejune "common man" will be easily prone to misperceptions and fallacies. Even if we reject such a pessimistic assessment of the public's intelligence, however, it is hard to see how the mass of citizens could find sufficient time and cognitive energy for complex governmental matters, given the competing demands of their personal projects and responsibilities.

In light of the manifest weaknesses of such traditional arguments, the Condorcet Jury Theorem has proven a tempting resource for more recent proponents of democratic epistemology.[3] Given the recent refinements of List and Goodin (2001) to cover plurality voting over multiple options, the CJT leads us to believe, roughly speaking, that – as long as a voting population is of significant size, votes independently and non-strategically, and is, on average, more likely to choose the correct option than any other option presented – a voting population will almost always choose correctly.[4] Setting aside a number of well-known problems with applying this result to real-world democracies,[5] however, the theorem is beset with a critical limitation: it fails to address the question of *which* options happen to appear on the voting agenda. It may therefore be worth bearing in mind an adage familiar to computer scientists: "garbage in, garbage out." Since the "right" option may not be among those presented on the agenda, the CJT only warrants the claim that a voting population will choose the best option available, not that it will choose the right one, or even a good one.

In principle, the CJT can be marshaled in response to the agenda-setting problem. If all citizens are given the opportunity to put proposals on the agenda for consideration, then, assuming the Condorcetian constraints are met, standard plurality voting procedures should yield a strong tendency towards a

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good (if not the very best possible) proposal.[6] That assumes, of course, that at least one person in the population will identify a good proposal. But since that assumption must be made for the aristocratic case as well, it does not present any special challenge to democratic epistemology. The real difficulty here is simply the insuperable impracticality of the proposal in voting populations of any substantial size. The impracticality is not merely a matter of the massive effort required for citizens to appraise, even at the marginal level of competence required, an ever-expanding set of proposed policy solutions; it is also a matter of the effort required to identify effectively the most pressing problems to which solutions will be proposed. Any convincing response to the problem of epistemic adequacy must therefore provide a convincing account of how it is that (i) practicable procedures (ii) that can be properly described as democratic (iii) can effectively isolate a handful of effective policy proposals from among the infinite set of those possible. Since voting results can only be as good as the range of options available, it is this agenda-setting stage that bears the bulk of democracy's epistemic burden. The tendency of many of democracy's observers to focus on election day as the signature moment of democratic life, and voting as the democratic citizen's quintessential act, has obscured this essential point.[7] When one considers the frequency with which democratic citizens are forced to choose among options that are all quite unattractive, Condorcet's result starts to seem far less exciting and certainly far less plausible as a response to the problem of epistemic adequacy.

III

But what is political knowledge anyway? Without attempting immediately to provide a full conception of political knowledge, we can at least note the various types of knowledge that are required to govern well:

(i) Knowledge of the nuts and bolts administrative facets of governance (drafting legislation, running committees, etc.).

(ii) General knowledge of the various sciences, theories, and practices that go into the characteristic activities of governance (education, epidemiology, economics, etc.).

(iii) Highly fine-grained knowledge about the way in which policies in these various domains are going to affect the lives of citizens. General policies devised in the central chambers of government often have surprising consequences when implemented at the local level; these must be accounted for.

(iv) Knowledge of the beliefs of citizens about how a particular policy is likely to affect their lives, irrespective of the truth of these beliefs. The effectiveness of a given policy always depends on the behavioral responses of the citizenry to it (if only because their compliance is required), and therefore their beliefs about its consequences.

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(v) Moral knowledge, at least to the extent that there is such a thing that stands over and above practical knowledge in all of the various domains of government action. Most obviously, this would include general principles of justice.

With respect to what portion of the above are we seeking adequacy in worrying about the epistemic status of democracies? If we simply include all the knowledge tallied above, then we wind up with an epistemic category that is both perversely inflated, insofar as it subsumes just a bit less than *anything at all* that one might want to know, and hopelessly *ad hoc*, insofar as there appear to be no salient methodological features of the various epistemic subdomains that might plausibly unite them under one category. At the same time, if we isolate any single portion of the knowledge listed above, then we will be ignoring knowledge types that are of the utmost relevance to the question at hand, which is how democratic governments are going to acquire the knowledge needed to govern well.

It might be tempting to think that political knowledge is just some sort of higher-order knowledge (call this *wisdom*) that would allow one to pool or survey all of these various epistemic domains in order to make good policy decisions. But it is far from obvious, first of all, that there really is any well-defined or useful category of knowledge like this. More important, however, is that a society could have citizens who were universally wise but who were, nonetheless, extremely shallow in all of the epistemic subdomains above. A society like that would be an extraordinary epistemic failure with respect to governance. From the standpoint of epistemic adequacy, therefore, attention to these subdomains is crucial, whatever the need for wisdom.

The difficulty here is that while most people could perhaps become at least better than chance (as the CJT requires) in answering a well-defined body of relatively similar, relatively sophisticated questions, it does not seem reasonable to think that they could do so across domains requiring mastery of a wildly heterogeneous set of methodologies. If gaps in relevant knowledge had no systematic effect on voting behavior, then this would not be a problem: those who lacked some relevant piece of knowledge would be distributed randomly (with respect to that piece of knowledge) among the options, and the few who happened to have the knowledge would "nudge" the aggregate result towards truth. This is unfortunately not the case, however, since political judgments are unavoidably as much a consequence of what people do not know as what they do. If some apparently superior candidate narrowly wins an election but is nonetheless, unbeknownst to the public, an avowed racist, then the fact that he wins is a direct consequence of the fact that the public does not know this. In general, gaps in knowledge will tend to support false beliefs (in this case, that the candidate is not a racist) that can be critical to political decisions. In reasonably contained epistemic domains, keeping track of such gaps and possible gaps seems a manageable problem. The difficulty in the case of political knowledge is that we appear to be confronted with an ever-expanding range of such domains. The situation is made even worse in light of the tendency

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for bits of politically relevant knowledge to interact in quite complex ways (I will return to this last point in Section V).

IV

Given the colossal skein of knowledge required for effective governance, it may be the case that the very idea of political knowledge is simply an artifact of our need to solve various kinds of problems through one particular kind of institution – government – rather than a well-formed piece of ontological furniture. Whether or not there really is something to be usefully described as "political knowledge," however, is not the interesting question. The question is, rather: if we are interested in achieving epistemic adequacy with respect to governance, how can we most fruitfully think about the challenge presented? Our most recent observations concerning the vast heterogeneity of knowledge required for governance make it clear that epistemic adequacy will hinge, not on mastery of any one body of knowledge, but rather on our ability to coordinate many discrete bodies of knowledge, diversely distributed across the political community. It becomes clear, in other words, that the proper epistemic perspective can only be social. The right perspective is social in two senses: it is social, first, in the sense that it concerns the effects of social organization on the achievement of knowledge; and it is social, second, in the sense that the achievement with which it is concerned is considered on a social scale. Whereas an individualistic epistemology asks only what a cognitive agent, considered in isolation, would require in order to achieve knowledge, we want a perspective that allows us to consider the way in which vast groups of cognitive agents – political communities – can solve common epistemological problems – political problems – through methods of large-scale cognitive organization.[8]

If we understand political knowledge as knowledge in the ordinary, individualistic sense, anxiety immediately arises about how one can identify individuals competent to master such a daunting epistemic domain, and therefore about democracy's peculiar egalitarian approach to political knowledge. The crucial insight afforded by a social-epistemic perspective is that we cannot look at epistemic agents individually without due attention to their relation to a broader community of inquirers. More specifically, a social-epistemic perspective allows us to see that the type and degree of epistemic competence required of any individual, with respect to some body of knowledge, depend on the distinctive manner in which the production and implementation of knowledge is distributed across the community of inquirers in which the individual is embedded as well as where within that distribution the individual falls. Let us refer to any such distribution within a particular epistemic community as that community's *division of cognitive labor* (Kitcher 1990).

To see the way in which attention to the political community's division of cognitive labor bears on our understanding of the problem of epistemic adequacy,

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it may be helpful, first, to look at a (slightly) less complicated kind of epistemic community: the scientific community. The fact that we have the vast store of natural-scientific knowledge that we now do is a reflection of the fact that many individual scientists have performed their individual acts of inquiry sufficiently well to contribute to the overall fund of knowledge. But since the possible contributions of individuals on their own are under strong cognitive and temporal limitations, it is important that they effectively divide their labors. The question of how, in particular, they ought to divide up epistemic responsibilities can be treated as the question of which division will maximize the achievement of epistemic success in a given domain. Epistemically speaking, the question of any individual scientist's responsibilities then just becomes the question of what role he is required to fill within the overall division of cognitive labor, given the relevant standard of epistemic success. I propose, generically, that epistemic success on the social scale will in some sense concern an epistemic community's ability to systematically provide true answers to the characteristic questions of a given domain. But since none of the crucial points below should turn on the particulars of this proposal, readers who find it objectionable should feel free to substitute their own version.

Thus, for example, Kitcher (1990) invites us to consider the following question: ought a particular scientist pursue a highly speculative research agenda to the neglect of an equally significant research agenda that nonetheless appears more likely to produce epistemically valuable results? Without any regard for the activities of the rest of the scientific community, the answer would seem to be no: *ceteris paribus* one ought to pursue the more promising research agenda because the more promising research agenda would be more likely to further epistemic ends. But if the entire community of scientists pursues the same research agenda, then the community loses the benefits of cognitive diversity, thereby reducing the overall likelihood of success.[9] Thus, as Kitcher argues, what we want is a communal distribution of research agendas that reflects the benefits of such diversity. Some individual scientists, therefore, will be epistemically justified in pursuing highly speculative research.

To take another issue, consider the appropriate balance, for researchers, of general and more highly specialized knowledge. The benefits of more general knowledge for a given scientist are that he will be in a better position to gain insights from the knowledge of other members of the epistemic community. The benefits of specialized knowledge, meanwhile, are that he will be able to achieve deeper insights within a given area. To keep things simple, let us suppose that there is a direct tradeoff between these two kinds of knowledge: if the chemist acquires a bit of knowledge in proximate areas of physics and biology, then he sacrifices a bit of depth in his field; but if he acquires more depth in chemistry, then he will have less cognitive energy available to keep up with the latest developments in proximate areas of other domains. In order to figure out what particular balance of general vs. specialized knowledge is appropriate, we will have to consider what the knowledge community around him looks like and where he fits within it. If,

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for example, he is one of only a select few who understands the farthest reaches of some important biological subspecialty, then it is likely that he ought to leave generalization to others with less capacity for specialized work. But if there are few with epistemic competence in proximate fields, and his particular subspecialty is saturated with inquirers, then the right thing from an epistemic point of view might be for him to sacrifice specialization for the sake of generality.

Both of these examples show that the question of what each particular inquirer's epistemic responsibilities are, with respect to some social-epistemic endeavor, can only be answered by reference to his role in a broader community of diverse epistemic agents whose work bears on a common goal. They also illustrate the way in which the epistemic status of a community overall depends on the effectiveness of its division of cognitive labor as much as the particular level of competence of each individual agent. A community of mediocre scientists, well distributed throughout the natural sciences, is likely to be more epistemically successful than one full of brilliant scientists who are all doing physics. The social-epistemic perspective allows us to see that achieving knowledge is not just a matter of producing greater proportions of knowledgeable people; it is a matter, in addition, of coordinating cognitive labor effectively.

V

Having made the case for a social perspective on political knowledge, and having shown how the analytical tools of such a perspective can be applied to scientific knowledge, we are finally in a proper position to consider its bearing on our principal concern: the epistemic adequacy of democracies. In the contemporary political context, we are faced with three crucial circumstances that bear on the distinctive challenge of political epistemology, considered from a social point of view. These, we might say, are the *circumstances of political epistemology*:

(a) In discrete fragments, the relevant bits and clusters of knowledge are abundantly, though by no means completely, available in principle. Human beings are now astonishingly competent across an enormous range of specialized epistemic domains, both practical and theoretical in nature, which figure centrally in the business of governance.

(b) But, at the same time, we face serious limitations in our ability to pool such knowledge at the level of the individual decision-maker. It is hard to produce agents who are competent to survey all the knowledge that goes into typical political decisions, both because of the inherent cognitive limitations of human beings and, as many aristocratic commentators have pointed out, a range of seemingly endemic deficiencies in the morale and education of citizens.

(c) Nonetheless, political action does appear to require some kind of executive-level decision-making to a substantial extent. Let us define an *executive decision*, with respect to some epistemic domain, as a decision that requires one to draw on knowledge from all of the domain's subdomains. *Executive knowledge*, then, is just

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the knowledge required to make such decisions well. Individual voters do need to make decisions, among other things, about which candidates are most likely to secure the best policies on a national, state, and local level over multi-year terms in office. These decisions are executive in the sense that they require one to consider the likely impact of a candidate selection across all domains of governance or, at the very least, all those domains that one takes to be important.

To see why some significant degree of executive competence will be required of voters, let us imagine a population made up entirely of individuals who are expert in some crucial political subdomain (business, healthcare, diplomacy, etc.) but who are, nonetheless, extremely ignorant in all other subdomains (if it seems artificial to imagine that one could neatly divide up knowledge tasks in this way, then, as we shall see, that will only serve my point). And let us suppose that all of the crucial subdomains are covered. Now suppose that there is an election between an incumbent candidate who is judged to be adequate though not spectacular in most subdomains, and a challenger who, according to relevant experts, has a range of superior policy proposals in almost all individual subdomains. Nonetheless, the challenger has an economic agenda that, according to almost all expert economists, is extremely likely to have dire consequences for the nation's economy.

Will such a population make an epistemically sound decision or not? To suppose that executive competence is not required of individual voters in a democracy is to suppose that they can collectively produce democratic, epistemically favorable outcomes by the independent application of their subdomains of expertise, i.e., without consulting those outside their subdomain. But the trouble with this supposition is twofold.

The first difficulty stems from the evident holism of political epistemology. If we assume that the predictions of the economists bear out, then the predictions of the other experts, within their own subdomains, are likely to be significantly undermined. For one thing, given an economic crisis, it is doubtful that the requisite funds would be available for many of the ambitious reforms envisioned by our challenger. The problem, however, does not merely concern the means with which reforms could be sustained; it concerns the very type of reforms needed. We might imagine, for example, that major structural shifts in the economy would significantly affect the types of labor demanded by employers. That, in turn, would certainly bear on the demands placed on the educational system. Likewise, if, for example, drastic economic changes substantially undermined the market for migrant laborers, it is likely that the profile of border security issues would be altered, thus bearing on military (or at least security) policy. A great deal of policy appears to be holistic in exactly this way: that is, one cannot successfully evaluate policy within one particular subdomain without some substantial regard for the effects of such policy in a wide range of other subdomains.

The second epistemic difficulty with our community of narrow experts is that politico-epistemic success overall is a function of the significance of the epistemic

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successes achieved as weighed against the significance of failures, not the quantity of successes against the quantity of failures.[10] But in a democracy of narrow experts, it is precisely this ratio of quantities (adjusted for the fact that there will be different numbers of experts in different subdomains) that determines outcomes. The fact that a policy agenda is impressive in an overwhelming majority of subdomains may not be worth much, considered overall, if its isolated failures are nonetheless extremely bad. That is clearly the case with our challenger candidate, who would plunge the economy into crisis. This point becomes particularly acute when considerations of justice come into play. After all, governments can do all sorts of things extremely well in spite of the fact that, and sometimes because, they persecute ethnic minorities or unjustly exploit economic inequalities.

Given these most recent indications that intelligent policy-making requires substantial knowledge-pooling, it might be tempting to try to implement some more sophisticated method of aggregation, one in which knowledge could be pooled through the formal decision procedure itself in spite of voters' individually narrow competence. Under some circumstances, this is the sort of thing that markets, for example, can do quite nicely.[11] But even if it were the case that some procedure for aggregating the knowledge of individuals could mimic the effects of a hypothetical omniscient decision-maker,[12] the result would be, in effect, governance by black box: various reasons enter the aggregation procedure as inputs, and as outputs we get policies. What is left out in the process is any discernible justificatory chain between the two. The problem here is that a government whose actions do not have some transparent rationale to its citizens will wield power, at least from the standpoint of those citizens, arbitrarily. In particular, since the only evidence that a policy is good is the fact that the black box recommends it, the capacity for citizens to contest and evaluate governmental decisions by appeal to reasons will be undermined.[13] Indeed, it would seem that the greater the corrective powers of any social aggregation procedure, the greater the threat to this core contestatory element of democratic rule. If ordinary voting procedures themselves seem to be a kind of black box,[14] then that is all the more reason to insist on the importance and priority of procedure-independent epistemic evaluation among the democratic citizenry.

In short, the substantial epistemic interdependence of political subdomains requires that they be evaluated in tandem to some significant degree while the contestatory function of the citizenry requires that such evaluation occur, at least to some degree (to what degree, exactly, is a question that I will consider shortly), by citizens themselves. The problem of epistemic adequacy then, from a properly social point of view, concerns the adequacy of available methods of social organization to sufficiently exploit the abundance of fragmented knowledge described in (a), in a way that preserves for citizens the executive oversight role described in (c), while nonetheless meeting the knowledge-pooling constraints described in (b). As I have already noted, my objective here will not be to offer a complete solution to this problem. My objective is to show, rather, the way in which a social-epistemic

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perspective brings to light new and important considerations bearing on both the problem's solubility and the kinds of solutions we ought to be considering.

VI

For expository purposes, it will be useful at this point to work with a concrete policy scenario. Thus, let us consider a short parable of governance:

The gas tax parable. Suppose that there is a group of local fisherman who notice, over a period of several years, that their yield of fish has significantly decreased. Unsure of how to account for the situation or what to do, they approach their local government, explaining the problem and requesting assistance. The local government recruits scientists from a nearby university to investigate the problem. The scientists conclude that there is a peculiar warming trend in the local waters and begin to discuss it with their peers, discovering that similar phenomena have been noticed in a number of places around the world. Gradually, more and more climate scientists begin to look at the problem and conclude, after decades of hard research, that the planet is heating up and that carbon dioxide and other gas emissions caused by human activity are at least partly responsible for this fact.

Deeply concerned, these climate scientists then talk to engineers and chemists who can spell out for them the amount of carbon dioxide typically produced by automobiles, and conclude that the emissions of automobiles ought to be a major target for policy reform. They then start up a dialogue with various business leaders and economists, trying to divine a measure that will be both adequate to the problem at hand, and minimally painful from an economic point of view. After a few years of deliberation and inquiry, the gas tax proposal emerges as a favorite. The community of environmental activists, meanwhile, catches wind of this and begins organizing a series of grassroots actions to put pressure on legislators. As such pressure builds, a group of sympathetic politicians begins to consult with various experts in the drafting of a proposed bill. After extensive deliberation and bargaining with other politicians, the concerned politicians draft a bill for a gas tax, which passes thanks to a major information campaign by environmentalists.

Here we have all the crucial components of the epistemic challenge that democracies face. There is fragmented but abundant knowledge that is difficult to synthesize. Yet it will not be sufficient simply to allow the blind mechanisms of the market, for example, to solve the problem. The knowledge must be pooled in a way that allows for an all-things-considered (executive) judgment on the part of individual citizens. That is what allows them to discharge their oversight function with respect to their legislators. By applying the analytical framework of social epistemology to the example, we can tease out a number of crucial insights concerning the epistemic adequacy of democracies.

The importance of vigorous, inclusive deliberation. In section V I argued that, given the need for executive competence, citizens need a mechanism for pooling widely

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distributed knowledge at the level of the individual voter. A process of vigorous, inclusive deliberation provides a means of pooling knowledge that, due to its discursive character, and unlike any formal aggregative method, preserves the transparency to individual citizens of the justificatory basis of political action.[15] In the case of our gas tax, deliberation allows truckers, for example, to refine their beliefs about the benefits of the gas tax in light of both the dire predictions of climate scientists and the forecasts of transportation experts who, we might suppose, foresee surprisingly positive consequences for the trucking industry (perhaps the gas tax will greatly reduce traffic, thereby leading to major gains in time and fuel efficiency for truckers – or whatever). It allows economists, meanwhile, to modify their predictions by gaining a richer understanding, say, of the gasoline consumption patterns of truckers. And it allows environmentalists who live in cities, and therefore do not own cars, to come to a fuller understanding of the potential impact of the policy on the lives of citizens for whom gas prices are absolutely central. If that impact is particularly severe, we might imagine, some of the more absolutist environmentalists may come to a more nuanced view of the relevant issues concerning values, e.g., the appropriate balance between immediate human interests and large-scale environmental goals. We might thus imagine that, in this way, deliberation between the various parties moves somewhat fluidly between discussion of both means and the ends that they invoke.[16]

If this extensive process of dialogue goes well, the beliefs of individual citizens will be refined to reflect better the various relevant bits of knowledge that are distributed throughout the system. In turn, such changes will also create pressure, through the oversight power that voting provides, for politicians to refine their proposals in a manner that better reflects available knowledge. In this way, deliberation provides a mechanism through which distributed knowledge can be effectively brought to bear on a complex policy question in spite of the fact that, given the vast scope of knowledge required to address it, no single individual or small set of individuals could possibly count as an expert on the matter considered overall.

Of course, deliberation is a fraught business that, under many circumstances, can just as easily undermine the epistemic quality of outcomes as enhance them (Sunstein 2002, 2006). If we are to situate deliberation at the heart of democratic epistemology, we must therefore be realistic about its ameliorative powers and think carefully about how to maximize these powers through institutional design. We must also not be utopian about the prospects for most citizens to participate in any direct form of deliberative engagement with (most of) their fellows. It is safe to assume that, in the real world, most citizens will rely to a great degree on trusted, expert proxies in order to form their opinions. Thus, in calling for an "inclusive" process of deliberation, my point is simply that, in the ideal, the full range of perspectives in a society ought to be in some way represented in

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the proposal and evaluation of policy.[17] This means recognizing that the authority of opinion-leaders rides, in part, on their responsiveness to the particular local knowledge of those whose perspective they represent in political dialogue. In our gas tax example, for example, leaders of the fishing industry might be in a position to make policy/voting recommendations to local fishermen by drawing on sophisticated analyses of the likely impact of a gas tax on their industry. But such a recommendation would be incomplete without attention to the particular fuel consumption patterns of fishermen, and the evolving practical problems posed by a global warming trend across different regions and different fish species. It is because intelligent policy-making requires attention to "situated" knowledge of this kind that deliberation must be inclusive in a fairly strong sense.[18] Even if expert opinion-leaders play an important and inevitable role in democracy, ordinary citizens must be competent, first, to make epistemic contributions to their judgments, and, second, to identify cases in which these contributions are not being adequately assimilated.[19] The former ensures that policies will be developed and revised with sufficient attention to their genuine effects in practice. The latter is particularly important if the citizenry's contestatory function is to be preserved.

Whatever its epistemic benefits, however, there are nonetheless enormous limitations to the deliberative mechanism: we cannot expect that, through deliberation, non-expert citizens will gain a widespread competence to make complicated kinds of judgments about how, for example, the gas-tax should be structured and implemented. Such knowledge remains within the purview of expert economists and will inherently remain so. As policy questions become more and more fine-grained, their accessibility to the competence of lay citizens rapidly retreats, no matter how extensive the deliberative process. This highlights the need for structural measures that accommodate the inherent and strong epistemic limitations of executive decision-makers, i.e., the citizens, and ultimately the politicians, whose individual acts will collectively determine the governmental response to the gas tax issue.

Reliance on localized and expert knowledge for agenda-setting. The first thing to notice about our gas tax example, in this regard, is the extent to which the proposal under consideration, and the awareness of the problem to which it is supposed to respond, are fruits of the coordinated activities of both experts and non-experts. While the public is required to discharge a significant role of executive oversight, it is only called upon to do so at the end of an extremely long, laborious, and epistemically taxing process. In this particular example, the concrete policy chosen at the end has its origins in the acute knowledge of local fishermen of features of their environment, i.e., the stocks of fish in local waters. Once this local bit of knowledge raises concern, the issue is taken up by the scientific community, at which point the community's understanding of the problem, and plausible solutions to it, is augmented and refined by a thousand expert hands. By the time the matter surfaces as a concrete policy proposal, submitted for the legislators' approval, all the astounding nuance and complexity of the matter is at once distilled

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for public consideration into a single pair of discrete, shrinkwrapped options: yes – gas tax; no – no gas tax.

In order for the government to make the right decision, when confronted with these options, the legislators in power must have a certain degree of general competence. In turn, the ordinary citizens who will reelect them must also have some sort of even more general competence, i.e., what I have been calling "executive" competence. But equally if not more important is all of the epistemic labor that goes into the identification of the climate change problem and the production of discrete policy proposals for public evaluation. The fact that the government winds up approving this particular course of action, this particular way of spending its resources, of all the infinite ways in which it might have, is at least as much a consequence of agenda-setting activity as the oversight function that the public performs at each election. It is a proper account of this function, the reader will recall, that is missing in Condorcet-based responses to the problem of epistemic adequacy.

The point is that a social-epistemic point of view allows us to see that epistemic adequacy, overall, is not just a narrow question of executive competence in the way that critiques of democratic epistemology traditionally suggest. Such adequacy stems from the ability of a public, through reliance on expert communities and localized knowledge, to radically narrow the range of policy questions and answers to which executive-level knowledge must be applied. One way of putting this point would be to say that, by carrying out its agenda-setting function, the public shifts some of its epistemic burden from collective, executive competence (competence, e.g., concerning which presidential candidate to choose) to individual, widely distributed, local competence (competence concerning the manifestation of public problems in one's immediate environment) and narrow expert competence (competence, e.g., concerning economic theories). To the extent that strong localized and expert competence can compensate for the sort of weak executive-level competence that democracy's critics have traditionally highlighted, there is some indication that the problem of epistemic adequacy may be more tractable than we thought.

Provisions for regular policy feedback and revision. Suppose that the government does not pass a gas tax as a consequence of insufficient public support. And suppose that public support was insufficient as a consequence of inadequate general awareness of the nature of the climate change problem and its severity. Now suppose that, shortly after the tax fails to pass, a prominent filmmaker comes out with a documentary that dramatically improves general awareness on the relevant issues. It is plausible that there might be a renewed push for policy change and that the gas tax, or something like it, would come up for a vote again.[20] As a consequence of dramatic changes in public perception, it is plausible that the bill would pass. Or else, if the bill does not pass the second time around, it is reasonable to think that it might pass once the election cycle runs its course and new, more environmentally enlightened legislators hold voting power. In this way, democracies diminish the

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epistemic burden on the voting population by affording continuous opportunities for the revision of policy mistakes. On the assumption that, over time, individuals acquire more knowledge that bears on important policy issues, it follows that, over time, opportunities for revision will produce a generally positive trend in policy quality. Democracies, in this way, give epistemically taxed citizens multiple opportunities to get things right.[21] The value of the social-epistemic perspective here is that it allows us to appreciate the way in which epistemic burdens can be born both by an individual, facing a particular kind of question, and a broader system of social organization in which he is embedded. A system that responds to the tendency of individuals' competence to improve over time will (*ceteris paribus*) produce more knowledge than one that does not. One can thus improve epistemic adequacy simply by adjusting features of politico-institutional design.

Reliance on independent expert communities for policy implementation. Thus, we are supposing that the gas tax passes. Once that occurs, there will be an enormous range of complicated issues that arise in its implementation: questions about how exactly to collect it, how to minimize compliance problems, etc. But these will not be answered by the general public. Rather, they will be pondered and answered by the massive team of expert bureaucrats working within the government system. Although such experts must be appointed and broadly supervised by politicians, the question of who counts as an expert in the relevant field, how they will be trained, and what their methodology will be, is one for which communities of experts themselves provide the primary answer. By the time the question arises for the government of which expert to hire, almost all the hard work of expert certification has been performed. If the government needs a business economist, then it will look for people who have earned Ph.D.'s in business economics from well-respected institutions, who have published in journals reputable among their peers, etc. As a consequence, the options available to the government, with respect to business economics, will already be dramatically reduced to those candidates, possessing the relevant credentials, who have self-selected into the application process.

The fact that such experts must be identified, hired, and assessed within the political system, however, immediately introduces some familiar problems with the use of experts by governments: i.e., the tendency of politicians to cherry-pick experts who will simply shill for their favored agenda, and to abuse those who espouse politically inconvenient positions.[22] So the relevant lesson here cannot be that, as things stand, our reliance on independent expert communities, functioning within the government, solves the problem of epistemic adequacy.

What the social-epistemic perspective does afford us, however, is a rather clear and potentially promising research agenda for institutional organization, i.e., one which seeks to determine just how much independence of expert communities from political oversight is ideal with respect to epistemic adequacy overall. One can erect more robust institutional barriers between experts and politicians (e.g., one could allow expert communities to make political appointments themselves),

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at a cost to the government's executive oversight capacity. Or one could increase oversight, thereby increasing political interference in expert epistemology. Which balance is epistemically optimal is unclear. What is clear, however, is that there is a significant tension here – probably inherent – between our desire to preserve executive oversight on the one hand, and the epistemic adequacy of our government on the other. What this reveals is that seeking better governance is not simply a matter of seeking ways to improve the knowledge of those who wield government power. It is also a matter of reducing the connection between political power and knowledge in places where that connection proves problematic. That provides an indirect measure of support for democratic epistemology: since democracies, through their characteristically robust provisions for personal freedom, tend better to protect the autonomy of expert communities, they are far better situated to avail themselves of the epistemic benefits that such autonomy can provide.

Delegation of problem-solving to private markets. As I have noted, once the gas tax passes, the experts working in the government bureaucracy will have to make important decisions about how it will be implemented. But there are also many kinds of important decisions they will not make: decisions about how consumers will compensate for the increased costs of driving, how the trucking industry will adjust its compensation for drivers, who will bear the increased costs of distributing products that rely on the trucking industry, etc. This is not to say that policy-makers will not consider the likely effects of a gas tax in these various domains. It is to say, however, that they will leave the ultimate determination of such effects to the free market, which will resolve these issues through the interaction of a billion local decisions, rather then the centralized decisions of government actors. This explains why the robust reliance on free markets and private industry that typically characterizes contemporary democracies is so integral to their adequate functioning. Markets solve problems, via social mechanisms, that executive agents simply cannot, by sheer dint of informational capacity (Hayek 1945).

That is not a prescription for wholesale abandonment to the market's invisible hand. As I argued earlier, aggregative mechanisms (like markets) always have the potential to undermine the public's contestatory function, and must therefore be implemented as a complement to more standard democratic processes, rather than their replacement. In addition, if markets are to work in pursuit of epistemic ends, then they will presumably need to be regulated, and will need to be regulated in a manner that specifically reflects the value of those ends. However, this epistemic role for markets underlines a lesson from our discussion of independent experts: achieving better governance is not simply a matter of improving the knowledge of those who wield political power. With respect to markets, it is also a matter of selectively delegating decisions to systems that solve knowledge problems through organizational principles rather than the cognitive powers of executive decision-makers. Although this does not provide a vindication of democratic epistemology, it does reveal an important point. It is often assumed

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that if democratic epistemology is inadequate, then aristocracy threatens as the immediate alternative. When democracy is epistemically inadequate, however, the solution is not to seek out and anoint a class of elite political knowers. It is to harness socially dispersed knowledge in a more effective way.

Still, these considerations on the importance of private markets for epistemic adequacy, combined with our considerations on the role of independent experts appear, in the end, to concede at least part of the aristocrat's point: the objectives of governing well and governing democratically may not be entirely in sync, at least insofar as democratic governance is equated with the people's "willing" or, less grandiosely, controlling government actions. But that is a rather different point than the claim that one cannot achieve both at the same time. The social-epistemic considerations offered above suggest that the cognitive powers of ordinary citizens, channeled through effective social organization, can and must play a central role in forging and overseeing government policy if such policy is to be effective. At the same time, we have seen that adequate governance may require, in some cases, a selective abandonment of the citizen oversight role that sits at the core of the modern democratic view. How much this should be a cause for concern among democratic theorists is unclear. A social-epistemic perspective allows us, at least, to put this tradeoff clearly in view and to assess some of its consequences.

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NOTES

1 Plato (1953, 557–65) provides the obvious *locus classicus* for this problem. The elitist voting scheme proposed by Mill (1861/1991, ch. 8) offers a compelling portrait of one of democracy's great proponents grappling with these issues. And Schumpeter (1950, ch. 21) nicely captures the kind of rampant cynicism concerning voter-competence that underlies a great deal of more recent work in democratic theory (though Schumpeter's cynicism is deployed to raise concern about a different issue, i.e., the idea of democracy as realization of the "will of the people"). For a more current dose of cynicism about the state of voter-knowledge, see Caplan (2007).

2 This is one prong of the case for democracy given by Mill (1861/1991, ch. 3), for example.

3 See discussions in Cohen (1986), Estlund (1994), Estlund et al. (1989), Grofman and Feld (1988), List and Goodin (2001), and Goodin (2003, ch. 5). Certainly, there is no one suggesting that the CJT offers an unequivocal vindication of democratic epistemology. The extended analytical treatment that the CJT has received among democratic thinkers, however, manifests a clear enthusiasm for its potential significance.

4 My formulation of the CJT reflects List and Goodin's allowance (n. 36), adapted from Grofman, Owen, and Feld (1983), that it is only *average* and not necessarily identical competence that is the relevant consideration (with the further requirement that individual competencies be symmetrically distributed around the mean). As List and Goodin show (287), the voting population size required to approach certainty depends greatly on the average competence of the voters and the number of options with which they are presented. Across a significant range of cases, however, the population size required is easily within reach for real-world political communities.

5 The most obvious difficulty concerns satisfaction of the competence condition, as Gaus (1997, 150–1), among others, points out. It also remains unclear at best, as Estlund (1994, 1997) notes, that the independence condition can be reliably satisfied. Estlund (2008) also raises important worries about the way in which the options in CJT choice scenarios are individuated.

6 Independent of CJT considerations, Dahl (1956, 76) highlights the hypothetical importance of such an agenda-setting procedure for democratic choice. I thank an anonymous referee for drawing my attention to the bearing of such a procedure on the CJT's epistemic value.

7 I certainly do not mean to suggest, however, that I am the first to highlight the importance of agenda-setting in democracy. As I already suggested in n. 6, Dahl (1956, ch. 3), for example, very clearly sees the profound significance of the agenda-setting stage in the determination of democratic outcomes. The enormous dependence of outcomes on agenda-setting also plays a central role in Riker's (1982) seminal post-Arrowian assessment of democracy.

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8 Thus, the relevant sense in which I treat knowledge as social here conforms with two of three senses Goldman ascribes to social epistemology: first, as the study of "the distribution of knowledge or error within the larger social cluster" (1999, 4) and, second, as the study of knowledge achieved by "collective or corporate entities" (4). For the general social-epistemological approach that I adopt here, I owe strong intellectual debts to Goldman (1999), as well as Kitcher (1990, 1993, 2001).

9 The supposition that cognitive diversity is beneficial is grounded in two further crucial but plausible suppositions: first, that there are diminishing marginal returns for each inquirer added to the same research agenda and, second, that (relatively) speculative research agendas often *enough* turn out to be more epistemically fruitful than (relatively) promising research agendas.

10 As David Estlund has pointed out to me, it could be questioned whether considerations of "significance" are genuinely epistemic or merely practical considerations of some other sort. In this case, nothing turns on the issue as long as we assume that the significance of knowledge, with respect to the achievement of political ends, is an important concern in some respect or other.

11 This is, of course, an important refrain in the classical liberal critique of democracy. See Caplan (2007, ch. 8), for example. In a more sympathetic vein, Sunstein (2006) weighs the epistemic role that prediction markets might play in democratic governance.

12 Bradley (2006) considers the prospect of some such aggregative omniscience and some of its implications for social choice.

13 I owe this account of arbitrary rule and its significance for the democratic citizenry's powers of contestation to Pettit (1997). Pettit (2001) has also emphasized the way in which the particular structure of decision procedures bears on such issues.

14 This is the sort of conclusion one might draw after reading Riker (1982), for example.

15 In emphasizing the vital role of deliberation in democracies, I am certainly drawing, very broadly, on the school of thought that travels under the banner of "deliberative democracy," though the extent to which deliberative democrats assign deliberation epistemic value, as opposed to merely procedural value, is unclear. Estlund (1997, 2008) provides valuable discussion of this issue, as well as a forceful argument for an epistemic conception of deliberation. For a good overview of deliberative-democratic views, see Bohman and Rehg (1997) or, more recently, Fishkin and Laslett (2003).

16 For more on the possibility of deliberation about ends, and of the fluidity between considerations of ends and means more generally, see Richardson (1997, 2002).

17 See Goodin (2003, ch. 9) for a helpful survey of the difficulties involved in providing full and adequate representation of perspectives.

18 For an extremely useful discussion of "situated" knowledge and its consequences for thinking about the virtues of democratic epistemology, see Anderson (2006, 17–20). It is Anderson to whom I owe the emphasis on the vital epistemic role of local, non-expert contributions to policy-making.

19 McCubbins and Lupia (1998) provide an extensive and fairly optimistic account of the way in which citizens with quite limited political knowledge can nonetheless rely on knowledgeable opinion-leaders with substantial epistemic success. From a politico-epistemic point of view, however, we need to know not only how knowledge flows from opinion-leaders to "ordinary" citizens, but also the converse. That is precisely my point here.

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20 I am obviously offering a thinly veiled allusion to Al Gore's 2006 documentary on global warming, *An Inconvenient Truth*. The fact that the widespread attention that the film garnered has not yet precipitated any gas tax legislation (in the United States, anyway) indicates, clearly, that a deficit in public awareness is not the sole obstacle to such legislation.

21 As Philip Kitcher pointed out to me, if citizens are given such opportunities too frequently, unsteady and myopic policy-making can easily result, thereby undermining epistemic ends. From an institutional design standpoint, the desirability of such opportunities must therefore be weighed against their drawbacks. This kind of balance is struck, most obviously, in setting terms of office.

22 I am grateful to Daniel Viehoff for pressing me on the significance of such problems. These problems, indeed, are amply demonstrated by the present Bush administration: *Harper's Magazine* ("Harper's Index" August 2007) reports that as of June 2007, 85 Bush appointees were regulating industries for which they once served as lobbyists.

Michael Fuerstein is a doctoral candidate in philosophy at Columbia University. He is presently writing a dissertation on the role of scientific norms of inquiry in democratic society.

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