

Flawed Wisdom: The Challenges of Knowledge Systems in Epistocracy and Democracy

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Abstract

Epistocracy has recently reasserted arguments for its comparative merits over democracy on the basis of claims by the former to improved instrumental policy outcomes based on possession of superior knowledge to inform governance. This paper challenges those epistocratic arguments by examining the interaction between political bodies and knowledge systems, which has been insufficiently examined by both epistocrats and their opponents. Those knowledge systems are the infrastructures by which we generate, verify, distribute, and deploy knowledge claims. Importantly, knowledge systems both shape and are shaped by public policies and political bodies; hence, policy preferences contain implicit and frequently unexamined knowledge system preferences. It will be demonstrated here that the 'enlightened' policy preferences of epistocracies, as a result of their concomitant and unexamined knowledge system preferences, have the potential to negatively influence the quality and quantity of knowledge claims generated to guide public policy in the long term. Thus, epistocracy potentially degrades its own basis for claims to superiority over democracy based on the possession of better knowledge to inform governance.

Introduction

Epistocracy as an alternative to democracy has recently returned to discussions in political theory to make claims to its superior merits over popular government (Bell 2015, Brennan 2012, 2017, Caplan 2011, Mahbubani 2018, Somin 2016). Advocates for epistocracy argue that with regards to at least some matters of policy making a political process that enfranchised citizens selectively based upon their relevant knowledge would outperform democratic political systems in terms of instrumental policy outcomes. These epistocratic fusillades against democracy have gained renewed vigor in the current moment as liberal democracies have encountered the similarly resurgent menace of populism (Levitsky and Ziblatt 2018, Müller 2016). Thus, liberal democracy

appears to be under flanking maneuvers from both the irrationalities of identity driven populism and rationalizing expertise.

Defenders of democracy have mounted several responses that attempt to claim that democracy can indeed be superior to epistocracy specifically on instrumental criteria. However, these responses have been met with vigorous contestation by epistocrats. This paper offers to contribute to the democratic cause by addressing a peculiar omission from the conversation. Specifically, the participants in the scholarly debate regarding the relative merits of epistocracy and democracy have hitherto curiously neglected the topic of knowledge generation and its relationship to politics.¹ That is to say, in the various argumentative skirmishes regarding the proper place of knowledge in guiding politics, participants have yet to seriously consider where that knowledge comes from, how it is produced, and what relationship that has to political bodies.² This paper addresses this oversight by incorporating existing research from the field of science and technology studies (STS) regarding knowledge systems into the discussion over epistocracy and democracy. Those knowledge systems are the practices and infrastructures by which we generate, verify, distribute, and deploy knowledge claims (Miller and Munoz-Erickson 2018). A particularly important insight that is gained from drawing on that literature is it reveals that epistocracy as currently discussed relies on a flawed conception of the relationship between knowledge systems and political bodies. Specifically, they assume knowledge is independent of political processes and that it is ready at hand simply needing to be effectively deployed by the correct regime type (epistocracy). STS, in contrast, understands that there is an ongoing reciprocal

¹ One amusing exception to this observation is arguably Plato. The *Republic* spends a considerable amount of time on how institutions might be arranged for the purposes of accessing knowledge of the Good and how that knowledge ought to be placed into power. However, we today cannot rely on methods for accessing the divine model of the *Kallipolis* as the basis of our politics.

² It is as if for many years we were debating the divine right of kings versus popular government, and yet none of the participants ever thought a discussion of the origins of the tenants and practices of true religion in relation to that debate was necessary.

co-productive relationship between many knowledge systems and political bodies meaning that each participates in generating and influencing the other.

When this co-productive relationship between knowledge systems and political institutions is recognized, it creates an opportunity for a new entry into the running debate between the advocates of epistocracy and democracy. However, this opportunity is not yet another instrumental defense of the merits of democracy but is instead a counter-offensive that questions the claims of epistocracy to superiority. This paper will present an argument that because of the co-productive relationship between knowledge systems and political institutions, a shift to epistocracy will necessarily have some impact on the knowledge systems that it relies on. Further, there is no guarantee at this time that such impacts will be beneficial overall. It is fully possible that epistocracy may degrade and alter the knowledge systems it requires to produce knowledge for proper rule in the long run. This risk is especially possible because first order policies that are recommended by expertise can contain unexamined knowledge generation preferences that are maladaptive to second order policy decisions, thus reducing the overall value of policy outputs. Therefore, existing claims for the instrumental superiority of epistocracy need to be questioned. That is because regardless of whatever gains might be made immediately by better expert deployments of public policy, potential negative side effects for relevant knowledge systems may diminish the quality, quantity, and pattern of knowledge produced in the long run and thus likewise degrade epistocracy's ability to outperform in the long-term.³

³ One might argue that on a large scale this has been occurring under neoliberalism's influence. Specifically, the economization of the methods and topics of social scientific inquiry that produce a different pattern of knowledge than might otherwise be obtained. Additionally, we might point to potential negative instances of that pattern of knowledge being filtered back into political bodies and potentially maladaptive policies.

This argument will be developed over the course of the following divisions of this essay. In section two of this paper I will review a set of arguments advanced in favor of epistocracy with a focus on the most recent items provided by Jason Brennan and Daniel A. Bell as primary interlocutors. This will involve a discussion of the current dominant criticisms offered of the merits of democracy, a review of instrumental defenses of democracy and the responses to those offered by epistocrats, and a summary of the models of potential epistocracies currently offered. Next, in the third section I will introduce discussions from STS literature to describe knowledge systems and their relationships to politics. This section will specifically provide an account of how political policy preferences can contain unexamined knowledge generation effects within themselves. The fourth section of this essay will then advance to argue that the ‘enlightened’ policy preferences of epistocracies, as a result of their concomitant and unexamined knowledge system effects, have the potential to negatively influence the quality and quantity of knowledge claims generated to guide public policy in the long term. At the conclusion I will argue that in light of this real possibility existing arguments in favor of epistocracy are insufficiently persuasive on their chosen instrumental criteria because none thus far have offered a satisfactory account of how they might produce *sustained* superior deployments of knowledge in public policy.

Epistocracy and the Case against Democracy

The proper place of knowledge in politics is one of the oldest concerns in political philosophy finding powerful early articulation in Plato’s *Republic*. Epistocracy is a primordial and persistent proposition in political thought. The notion that Apollonian reason would serve better as a ruler than the alleged intemperance of Dionysian democracy in its irrationality and ignorance is

strikingly enduring.⁴ The case for epistocracy both in the venerable form of Plato's works and the more recent contributions from contemporary scholars tends to follow a consistent two-part formula. The first of which is a recounting of the flaws of democracy, and the second is an illustration of an aspirational imaginary in the form a description of the possibility and desirability of models of epistocracy. In the following section I will trace the common elements of both arms in the epistocratic campaign along with a review of significant existing defenses of democracy.

One-point worth emphasizing from the outset is the grounds for evaluation of democracy versus epistocracy that epistocrats choose to engage upon regards their comparative instrumental value. That is to say, epistocrats such as Brennan argue that we ought to make our determinations about the relative desirability of models of government based solely upon the anticipated capacities of those models to produce preferable policy outcomes (Brennan 2017, 11). Hence, arguments about the intrinsic value of democracy are rejected. Further, procedural justifications relying on the fairness of democracy are likewise regarded as ineligible arguments. Brennan makes reference to Estlund's famous observation that flipping a coin to make decisions may be regarded as procedurally fair, and yet that alone does not make it a preferable mode of political decision making as we still care about instrumental outcomes of the use of power in a society (Estlund 2009, 66). For the purposes of this paper I will accept this instrumental field of engagement below when I advance to a discussion of knowledge production.

Having noted this instrumental criterion for evaluation I will now advance to first consider Brennan's presentation of arguments against democracy. Specifically, he argues that democracy suffers from an abundance of citizens that are ignorant, irrational, tribalistic, and incorrigible (Brennan 2017, 51). With regards to ignorance, the generally low level of political knowledge

⁴ It is perhaps also fitting that Apollo is the god of reason *and* of pestilence.

among the public regarding politics and policy is indeed a well-established and documented phenomenon (Converse 1964). To wit, a large share of citizens struggle to correctly identify both public figures as well as the policy preference orientations of politicians. Some have argued that such levels of voter ignorance is actually less concerning than it might appear on its face due to the availability of heuristics to help produce competent decisions even in the absence of a full set of relevant knowledge (Lupia 2016). However, the availability of heuristics aside, Brennan argues that voters observably wanting for adequate knowledge will be incapable of making good decisions in politics. This is emphasized by noting that greater knowledge is systematically linked with different policy preferences (Althaus 1998). Hence, the inclusion of low information voters in the electorate is expected to have substantively significant effects on policy outcomes.

In addition to much of the electorate being ignorant of important aspects of politics and policy, Brennan also criticizes democracy for the irrationality of its voters. That is to say, voters frequently improperly process information as a result of various cognitive biases. For instance, republicans and democrats presented with the same information regarding the lack of discovery of weapons of mass destruction in Iraq following the invasion under the second Bush presidency will interpret that information in a manner that conforms to their partisan identities (Gaines et al. 2007). Additionally, voters tend to engage in motivated skepticism when mentally processing political information in order to reaffirm their preexisting attitudes (Taber and Lodge 2006). Hence, when voters encounter information that challenges their perspectives they will subject such materials to much greater skepticism and will tend to seek out sources of information that confirm the beliefs they already hold. Similarly, many voters are unable to adequately make connections between desired ends such as the reduction of economic inequality and policy means such as schemes of taxation (Bartels 2005). All of these findings and more are presented together by epistocrats such

as Brennan to suggest that democratic decision making is inherently irrational. Democracies on this count are argued to be incapable of making good decisions because systemic cognitive biases inhibit the proper process of reckoning from knowledge to policy judgements.

Related to the criticism of the irrationality of democratic politics, Brennan further argues that democracy suffers from tribalism. That is to say, the subset of voters that do tend to have higher information and engagement with politics also tend to be dedicated partisans. Their policy preferences and political behaviors are more the product of identification with a political party than an expression of thoughtful reflection. This is demonstrated by experimental research indicating that voters will often express preferences regarding policies they are presented with as a result of the partisan identity attached to that policy (Cohen 2003). To wit, voters' evaluations of policy proposals appear to be impacted minimally by the substantive content of such proposals, and instead they are strongly determined by the partisan labeling of possible policy programs. Hence, much of politics is taken to be expressions of identification with partisan tribes, rather than thoughtful engagements with questions of how best to achieve desirable outcomes.

Relating to all the above criticisms of democracy, Brennan further adds to his indictment the charge that the electorate appears to be incorrigible on the matters of ignorance, irrationality, and tribalism. First, the ignorance of voters is for the most part a rational behavior in response to the marginal insignificance of individual votes on electoral outcomes. Secondly, the aspects of irrationality and tribalism appear to be relatively fixed aspects of human psychology. Additionally, Brennan rejects arguments that democratic participation might improve those that engage in the process and therefore have value in that manner. Arguments of this nature trace back to Mill and more recently Pateman and Macpherson regarding the supposed educative and socializing effects of democratic participation (Macpherson 1978, Pateman 1970). Brennan dismisses these

arguments and instead insists that in practice democratic participation, far from improving the participants, instead induces citizens to become more tribalistic and quarrelsome. That is, he suggests that an engaged electorate becomes a worse version of itself by descending into tumults.

Bell in his *China Model* echoes many of Brennan's arguments regarding the failings of democratic models of government. However, he also offers some unique critiques of democracy that we might incorporate into the discussion. First, Bell notes that liberal democracy in practice suffers from a vulnerability to being captured by economic elites (Bell 2015, 37). Hence it is alleged to fail at its stated purpose of allowing the demos to rule through some approximation of collective self-legislation. This is a criticism of contemporary and historical models of liberal democracy echoed by many other political theorists. Wendy Brown for instance, has been very critical of how neoliberal rationality has degraded the functioning of governments by capturing it for the narrow benefit of economic elites (Brown 2015). On this criticism, then, democracy appears to lose its desirability due to it being hollowed out into a mere pass through mediating entity for elites' agendas.

Secondly, Bell further adds the criticism that democracy has a tendency towards myopic decision making because it fails to include the interests of future generations into decision making processes (Bell 2015, 49). That is to say, often the political community that makes a decision is different from the political community, such as a future generation, that must endure the outcomes of that decision. A simple example of this is the Brexit referendum of 2016 in the United Kingdom that was decided by a majority composed of a much greater share of elderly residents, while younger Britons tended to favor remaining in the European Union (YouGov 2016). Because of the long reaching effects of Brexit, should it actually occur, the majority that decided in favor of withdrawal will be very different from the remainder of the country in the form of younger and

future generations that will experience the consequences of this referendum. This intergenerational problem for democratic decision making is again illustrated by the politics of climate change in the United States. Here again the consequences of failing to address climate change will be experienced over the course of decades to come, rather than on a short two-year electoral cycle. Further, the governing coalition of elderly voters that has opposed measures to mitigate and reduce the impacts of climate change will not be the ones to experience the long run costs of those decisions. In contrast to this, Bell argues that more meritocratic and stable models of government might be better able to plan for and address political challenges such as climate change that unfold over elongated time horizons.

Finally, Bell also argues that democracy is potentially problematic in that it tends to contribute to societal disunity (Bell 2015, 54-5). On this note, it appears Bell objects to democracy specifically because it is a *political* system that emphasizes competition and contestation over harmonious consensus. Democracy is problematic, then, because competitive elections involve dividing citizens against each other into their tribal parties and setting them into conflict. In contrast to this, Bell prefers a Confucian influenced vision of political institutions oriented towards the harmonious maintenance of the social tapestry of a society.

In sum, Bell and Brennan's arguments regarding the flaws of democracy taken together are not necessarily a comprehensive account of the epistocratic arguments against democracy. However, they serve as a useful guide for our purposes here. Their arguments overall tend to reflect a concern that democracy is inherently flawed as a political system due in great part to the quality of the electorate. Citizens appear to be, in their telling, simply too ignorant, irrational, and partisan to produce good policy outcomes. In particular, Brennan goes so far as to claim that democracy is

an unjust form of government because it subjects citizens to the coercive power of government under the direction of an incompetent public (Brennan 2017, 240-242).

Instrumental Defenses of Democracy

In response to the arguments regarding the alleged failings of democracy a variety of defenses have been proposed specifically meeting epistocrats on the basis of its instrumental value. Jason Brennan provides a summary and response to a number of these worth reviewing, though there are also more recent instrumental defenses worthy of note that he does not consider. Instrumental defenses of democracy often recognize the alleged defects of the mass electorate as individuals in terms of their political ignorance, irrationality, tribalism, and so forth, yet they suggest the system might function competently as a whole nevertheless. That is to say, there is the possibility that democracy as a system has emergent properties that enable it to function well in spite of the deficiencies of the capacities of the mass of individual members of the electorate. Brennan suggests such defenses regarding potential emergent properties of democracy can be compared to arguments regarding the competency of the market to organize collective decisions regarding material production that is produced as an outcome of the multitude of individual consumers and producers making economic decisions with their specific narrow set of interests and information. Hence, it is suggested that democracy too might be able to produce better outcomes in decision making than any narrow individual might be capable of. Brennan considers three such arguments for how such an instrumentally good outcome might be an emergent property of democracy that we may quickly review here.

First, there is the defense of democracy offered under the guise of the miracle of aggregation theorem. As Brennan describes this it suggests that “if errors in an enormous

democracy are randomly distributed, then as long as there is a minority of well-informed voters, a democracy made up almost entirely of ignorant voters will perform just as well in epistemic terms as a democracy made up of entirely well-informed voters” (Brennan 2017, 173). That is to suggest, that in a democracy where there is no systematic pattern to the preferences of ignorant voters that will produce a roughly even split in preferences across two candidates in an election. Then, in that condition a small but critical set of well-informed voters will be empowered to make the actual decision between the two candidates. Hence, the democracy as a whole will decide the same as if that well-informed subset of the electorate were the only voters participating in the election. Brennan rejects this miracle of aggregation theorem on the grounds that one of its critical premises is flawed. Specifically, he claims that the condition that the political preferences of the less well-informed voters in the electorate are randomly distributed is simply incorrect. Instead, he points to research such as that of Althaus and Caplan who claim to find systemic biases relating to the degree of measured political knowledge in voters after controlling for standard demographic factors (Brennan 2017, 177). Hence, in a condition lacking randomly distributed preferences on the part of the less well-informed multitude of voters the smaller subset of better informed voters is no longer necessarily positioned to be the decisive block in elections, and democracy, likewise, no longer necessarily can be expected to decide correctly in elections.

Another potential instrumental defense of democracy is the Condorcet jury theorem. Estlund provides a useful review of this defense stating, “suppose that, rather than coins, it is 1,000 people, facing a true/false question. And suppose that each person has about a 51 percent chance of getting the right answer...What is the chance that at least a majority of them will get the right answer? Again, the likelihood is very high, because it is almost certain that about 51 percent will get the right answer” (Estlund 2009, 15). Unfortunately, the Condorcet jury theorem appears to

also encounter fatal difficulties. For instance, Brennan suggests that it is fully possible to argue against democracy employing this same theorem. That is, if the average competency is actually only slightly under 0.5 in this same formulation, then the chances of them making the correct selection instead begin to approach 0 (Brennan 2017, 180). Further, Ingram has noted of the Condorcet jury theorem

“that it proves too much to be a plausible basis for an epistemic defense of majority rule. Its immodest conclusion not only makes it a dubious resource for defending the epistemic value of majority rule under realistic conditions. It also means that any appeal to the jury theorem will conflict with the ordinary intuition that someone who dissents from majority opinions is not necessarily irrational” (Ingham 2013).

That is to say, it would suggest the profoundly odd conclusion that nearly all electoral outcomes are correct, and yet it is doubtful anyone with experience in democratic politics would attribute such qualities to it.

Yet another instrumental defense of democracy regarding its potential emergent epistemic merits is the Hong-Page theorem. This suggests that it is possible, for instance, that “a group of one hundred people wherein each as one unit of relevant knowledge might outperform a group of ten, each of whom has five units. Even though the average member of the second group has five times more knowledge than the average member of the larger one, the total knowledge of the larger group is twice as great as that of the smaller one” (Somin 2016, 131). The idea here is that given the conditions that include a great diversity of sufficiently complex opinions and a focus on collectively addressing an identified problem the aggregation of those opinions may function better than a narrower set of expert opinions. These conditions, however, are highlighted as a critical flaw in the Hong-Page theorem. Specifically, it relies on people agreeing on what problems are

and them bringing into the decision process sufficiently diverse and sophisticated models of the problem in question to work together towards a solution. Brennan argues that none of those necessary conditions are met by the realities of democratic decision making in the mass electorate (Brennan 2017, 183).

Here we can see then that the above discussed instrumental defenses of democracy have been discussed and rejected by advocates of epistocracy. That is, they have been evaluated to have failed to provide adequate reason to prefer democracy to an alternative decision-making procedure that can plausibly claim superior policy outcomes. However, there is a more recent instrumental defense of democracy that has yet to be met with a response from epistocracy. Specifically, Bagg, while accepting the criticisms of the above instrumental defenses of democracy, nevertheless suggests there are strong reasons to prefer it over the alternatives offered by Bell and Brennan. In particular, he argues that democracy ought to be preferred on the grounds that it is more resistant to forms of capture by corrupt elites that entrench themselves in power (Bagg 2018). Bell himself acknowledges the dangers of corruption for a system of political meritocracy, though he is more optimistic that reforms might be deployed to the current Chinese regime in order to reduce this risk (Bell 2015, 112). Bagg, in contrast, suggests that democracy ought to be preferred simply on the basis that it is more robust at defending against abuses of power by elites. Hence, even when accepting that epistocracies might be superior at selecting public policies, Bagg argues that purely on the grounds of avoiding the risks of an entrenched corrupt elites that we ought to dismiss proposals to gamble with alternative regime designs. Universal suffrage and competitive elections are simply better defenses against abuses of power by elites than any current proposal offered by epistocracy's advocates. Bagg makes a persuasive instrumental argument in favor of the retention

of democracy, and as we will see below, I will offer my own argument regarding the relative merits of epistocracy to further add to that case.

Models of Epistocracy

Having discussed the epistocratic set of arguments regarding the alleged failings of democracy as well as a set of existing instrumental defenses of democracy we may now advance on to the second division of the epistocratic argument. That second element is the presentation of alternative models of government that purport to elevate knowledge and reason to rulership instead of the demos. In the classical world that alternative model was presented in the form of Plato's imagined *Kallipolis* ruled by a cohort of philosophical monarchs guided by knowledge of the Good. In modern times possibilities were presented yet again by Mill with his suggestion of plural voting for more educated members of an otherwise relatively inclusive electorate. In contemporary times we see a variety of proposals being advanced by epistocrats. For instance, Bell looks to China and Singapore as models of existing, yet currently flawed, possibilities for epistocratic government. Brennan, in contrast, looks not to any existing government, but instead considers a set of potential models provided by various theorists and his own Simulated Oracle proposal.

Beginning with Bell, he presents us with an ideal three-tiered model for a meritocratic regime based upon suggested reforms to the current Chinese state. At the higher levels of national government, he advocates for the employment of a form a meritocratic filtration for quality public servants. Hence, public services examinations such as those currently in use in the Chinese system are recommended for the purpose of selecting and elevating ability and virtue into power at the highest levels. Bell acknowledges that in practice the actual outputs of the Chinese system of filtration for talent are less than what might be ideally hoped for, but he still maintains that a

reformed system might be able to succeed at the meritocratic goal and outperform democratic systems (Bell 2015, 169). At the local level he alternatively suggests that political issues are simpler and closer to hand to citizens. Hence, local level democracy can provide effective problem solving adequate to the challenges faced by those smaller communities. Further, local level democracy is advocated for by Bell on account of its potential ability to furnish the overall China Model with some substance of democratic legitimacy to supplement the performance legitimacy of the CCP without having to compromise meritocracy at higher levels. Thirdly, between local level democracy and national meritocracy Bell argues for mid-level regional experimentation in policies (Bell 2015, 182). This mid-tier experimentation is intended to permit policy innovation in a manner supervised by the central government, and that experimentation when successful can potentially then be propagated to additional regions by the supervising central authority.

In contrast to Bell's presentation of a singular ideal model for meritocratic government, Brennan offers an array of different potential arrangements that depart from universal suffrage on an equal basis in some manner. For instance, he suggests the possibility of restricted suffrage by way of a qualification exam for enfranchisement that filters for indicators of what is deemed to be adequate social scientific knowledge. Alternatively another option intended towards the same effect would be the deployment of a regime of plural voting for those that qualify through some meritocratic filtration process (Brennan 2017, 213). This proposal for plural voting is reminiscent of John Stuart Mill's similar proposal in centuries past. However, there is a critical distinction between them in that Mill requires that any scheme of plural voting not be so extreme as to allow the privileged plural-voting citizens to overwhelm the remainder of the electorate and render their inclusion moot (Mill 1991, 337). That, he informs us, would be repugnant to one's sense of justice, however that appears to be precisely Brennan's intention. Yet again, alternatively Brennan

considers the possibility of an epistemic veto by which the current system of universal enfranchisement is retained, but an epistemic council can override the legislative decisions of the mass electorate's representatives when it so deems that course of action appropriate (Brennan 2017, 216). Finally, Brennan's apparent most preferred option would be what he describes as a government by simulated oracle. This process would entail the electorate still retaining the franchise in some sense, but the exercise of it would be paired with an examination on social scientific knowledge. Using those test results the votes of the less well-informed members of the electorate would be "corrected" to what Brennan argues they would have selected had they been more informed (Brennan 2017, 221-2). On the whole, Brennan's presentation of models is far less detailed than Bell's consideration of his singular China Model.

As noted before, interestingly absent from both of their models oriented towards placing knowledge in control of political power and the instrumental defenses of democracy offered in response to them is a consideration of how such knowledge is produced. That is to say, the conversation regarding the comparative merits of democracy and epistocracy has curiously hitherto omitted from that discussion the means by which knowledge is brought into existence. In the following section I will address that omission by briefly introducing the concept of knowledge systems from STS in order to demonstrate how a further instrumental counter-offensive to epistocracy can be crafted when that gap in the literature is addressed.

Knowledge Systems and Politics

The quality of the policy outcomes in an epistocratic regime ruled by the knowers will depend significantly on the quality, quantity, and pattern⁵ of the knowledge inputs into the regime. The

⁵ Pattern here refers to the pattern of done and undone knowledge in a society.

quality of that knowledge is in turn dependent on the functioning of institutions and practices that produce knowledge. Such knowledge producing arrangements are categorized under the term “knowledge systems” by STS scholars Mill and Munoz-Erickson (Miller and Munoz-Erickson 2018). Epistocrats have interestingly neglected a consideration of the well-functioning of such knowledge systems in their attacks upon democracy. The right knowledge for governing in their accounts is not something that must still be produced and reproduced continually. Instead, knowledge in the social sciences and economics is simply assumed as a given that is ready at hand for deployment in public policies. The force of the case against democracy that they mount rests in part upon this presumption that right knowledge is available, and the moral failing of democracy emerges from its ignorant neglect of the resources right in front of it.

As we will see below the realities of the relationship between knowledge systems and politics is in fact far more complicated than the accounts presented in the existing epistocracy literature. Hence, in this following section I will present an account of knowledge systems taken from STS scholarship, discuss how knowledge systems specifically relate to politics, and review several possible bad policy outcomes that can emerge when that relationship is improperly aligned.⁶ This discussion here will then form the basis for the following section that will argue that the omission of knowledge systems from theorization regarding the relative merits of epistocracy is a significant vulnerability.

Beginning with a review of knowledge systems generally, this is a flexible concept that indicates the institutions and practices by which knowledge is produced. This is accomplished through four characteristic functions of knowledge systems. The first function in the form of

⁶ Those bad policy outcomes are referred to by Mill and Munoz-Erickson as “knowledge failures,” among which they cite as examples the Flint Water Crisis, the levy design failures for Hurricane Katrina, and the 2008 Financial Crisis (Mill and Munoz-Erickson 2018, 4-6).

knowledge claim generation involves the specification of problems, the collection of data, and often its analysis based upon a relevant methodology. The US Census is offered as an example of the first function of knowledge claim generation as it involves a vast institution arranged for the purposes of data generation and processing (Mill and Munoz-Erickson 2018, 57). The second function of verification takes the form of practices and institutions that in some manner review and evaluate knowledge claims in order to increase our confidence in their reliability. Fact checking in journalism, the peer review process in academia, and the practice of replicating results across laboratories are each offered by Miller and Munoz-Erickson as examples of how this verification function manifests in practice (Mill and Munoz-Erickson 2018, 62). The third function of knowledge systems is the communication of knowledge claims to the relevant recipients. This can be practices as mundane as the communication of nutritional information on the sides of food products in as mandated by the FDA to grand public relations campaigns to educate public about human rights abuses (Mill and Munoz-Erickson 2018, 69). Fourthly and finally, knowledge systems also involve the deployment of knowledge in decision making and policies. For instance, at the hopeful end of the long train of work by the International Panel and Climate Change, which generates knowledge claims about the climate, verifies them through standardized procedures, and communicates those claims in the publication of ongoing reports containing their findings, we will see the deployment of restrictions on carbon usage by the relevant decision makers worldwide.⁷

⁷ An interesting additional illustrative example of a knowledge system that we might add here is the case of electoral democracies. That is to say, the institution of public elections in a democracy can be understood as a knowledge system, or as Miller has elsewhere described them as “civic epistemological infrastructures” (Miller 2015). Through the mechanism of recording votes at polling places and aggregating that data together our electoral infrastructures generate knowledge claims regarding the mixture of the political wills of the population. We verify these claims through systems of election monitoring, recounts, and even contestation in courts at times. Further, the claims generated by these election procedures are then communicated out first through county and secretary of state websites, and these efforts are then amplified by the communicative capacities of the broader media environment. Finally, we have a procedure for deploying these claims regarding the will of the public by way of rotating officials through offices in accordance with those claims.

The relationships between politics and knowledge systems are varied and extensive. In fact, each of those core functions of knowledge systems are routinely influenced by the decisions of political bodies. Knowledge systems are inevitably involved in politics. In a modern society the exercise of political power requires justifications from knowledge claims. “Leaders are expected to explain their decisions, why those decisions are correct, and the evidence to support them. This inevitably involves knowledge claims and knowledge systems in politics that surround conflicts over all sorts of decisions” (Miller and Munoz-Erickson 2018, 75). One specific manner in which this occurs is that Congress creates and maintains a vast rationalized bureaucratic apparatus to address the challenges of a modern society, and bureaucracies necessarily generate and feed on information. Further, Congress also directly writes laws that govern our systems for knowledge generation. “Legal and political work is an essential part of knowledge generation. Congress must write laws governing knowledge generation... and government agencies must, in turn, develop regulatory rule-making processes that determine exactly which data to collect and which methods to use” (Miller and Munoz-Erickson 2018, 61).

One manner in which this occurs is documented by Sheila Jasanoff as she describes the process through which Congress negotiates the line between regulatory science and pure science for the purposes of determining which knowledge claims can be deployed as policy (Jasanoff 1987). Additionally, Steve Epstein has documented how the political process was involved in the respecification of experimental designs in response to AIDS activists in the 1980s (Epstein 1995). Further, another example of the intermixing of political bodies is the legacy of the Congressional creation, direction, and employment of cost-benefit analysis institutions in its struggles over the proper place of expert policy making from technocratic civil servants (Porter 1996). Yet again, we might also look simply to the long list of knowledge generating agencies created, maintained,

directed, and designed by Congress such as the FDA, EPA, NASA, NSF, and so forth to get a sense of how thoroughly connected many of our knowledge systems are to the political system. Therefore, the political institutions of a modern state in this case and its knowledge systems ought *not* to be understood as separate. Knowledge systems are often designed and influenced by political institutions both directly and indirectly. In turn, political institutions rely upon the knowledge claims generated by knowledge systems to inform decision making. “The relationship between knowledge and [political] power is bi-directional: (1) power shapes the organization and control of knowledge systems, their design, and their operations; and (2) knowledge systems and their knowledge claims shape the making and justification of decisions to use power” (Miller and Munoz-Erickson 2018, 99). This is all to say, that knowledge systems and political institutions are *co-productive* of each other; Congress is as much as institution for making and shaping knowledge as it is for applying it. A proper theorization of the relationship between the two must account for this feedback relationship, rather than theorizing a unidirectional relationship of knowledge existing prior to decisions.

An additional detail to this relationship that will be important for our discussion below in the next section is that very often the effects of the political process on knowledge systems are not the result of intentional and direct designs. That is to say, while in the above discussion I have focused on instances of political bodies, mainly Congress, and how they are in intentional co-productive relationships with knowledge systems, the realities can be even more complicated. Specifically, we must acknowledge and consider how policy preferences not directly related to designing and directing knowledge systems can still nevertheless contain within them unexamined but substantively significant knowledge generation effects.

A very telling example of this can be taken from Virginia Eubank's recent work *Automating Inequality* on attempts at automating functions of the state through novel algorithms (Eubanks 2018).⁸ She offers an account of the implementation of a predictive algorithm by the County Office of Children, Youth and Families (CYF) to help guide the use of state interventions into families when there is suspicion of child abuse. That algorithm relied on a stepwise probit regression generated by searching through all available government records on citizens to make predictions regarding the probable likelihood and severity of child maltreatment. Subsequent analyses of that program discovered a serious flaw in its design. Specifically, the algorithm was severely biased in favor of flagging low income families as high risks while ignoring middle class and wealthy families despite all income groups being capable of child maltreatment. The explanation for this outcome soon became apparent as it was realized that the algorithm worked off of all available government records on citizens, and that there are simply a vastly greater reserve of records pertaining to low income citizens that could become grist for the algorithmic mill. To wit, aggressively means testing for public benefits in a manner that limits them to only the poorest families had the secondary effect of aggressively means testing data generation about the public that would then play out in a secondary policy domain.

What this example demonstrates is that policy preferences in one domain (the extent of the welfare state) can have strongly consequential impacts on the knowledge generation and deployment relating to a policy in another domain (child protective services). That is to say, even when a public policy is not directly concerning the design of knowledge systems, as when Congress legislates regarding the EPA for instance, there are often still knowledge systems consequences embedded and unexamined in those policy preferences. Hence, in our example

⁸ This is something we should expect to be a growing problem over time as more attempts are made to engage in algorithmic governance.

above, legislators reshaping the extent and content of the welfare state in Pennsylvania ought not to be taken as intentionally engaging in knowledge systems redesigns when passing relevant legislation. However, the downstream effects of that policy preference still had knowledge system impacts and then indirectly related policy consequences.

Overall, here, we have observed the nature of knowledge systems as studied by STS scholars. Specifically, we have observed that knowledge systems are very often in a reciprocal co-productive relationship with political institutions with each helping to constitute and assist in the functioning of the other. This stands in stark contrast to the manner that epistocrats theorize the relationship between knowledge and political power. They have incorrectly assumed that knowledge is independent of politics, prior to politics, and ready at hand in existence waiting to be applied. Further, in this section we have also reviewed how public policy preferences can carry embedded and frequently unexamined knowledge generation implications that can affect the quality of knowledge available for future policy decisions. With this discussion in hand I will next turn to a discussion of the specific implications of incorporating an account of knowledge systems into an evaluation of the merits of models of epistocracy currently being offered.

Troubles of Knowledge Systems in Epistocracy

Having now discussed both current arguments for the desirability of epistocracy over democracy on instrumental grounds and the nature of knowledge systems in relation to politics and policy we can now bring these discussions together. To begin with, our discussion of knowledge systems ought to suggest that the advocates of epistocracy have a flawed conception of the relationship between knowledge and political decision making. Specifically, in their theorizing they view relevant knowledge to be something prior to and independent of the political process as well as

that knowledge being extant and ready at hand for use under the correct regime. We can observe this thinking in their critiques of democracy, for example, in that the very basis for claims regarding the moral failings and injustice of democracy are supported by evidence that voters are ignorant of vast reserves of social scientific knowledge; this assumes that the knowledge in question exists and is ready to be deployed if only the knowers were permitted rulership. Miller, Munoz-Erickson, and Monfreda argue that this incorrect conception of this relationship is very common and it leads to predictable results (Miller, Munoz-Erickson, and Monfreda 2010).

“The idea that decisions would be better if we could just speak truth to power -- if we could just get the right information to the right people -- is remarkably widespread. This idea posits that some people have knowledge and others just need to be exposed to knowledge to make better decisions. Unfortunately, the problem is rarely that easy” (Miller and Munoz-Erickson 2018, 82).

Here we see a nice formulation of how the epistocratic mindset (though not being directly discussed by Miller and Munoz-Erickson) emerges out of the flawed conception of the relationship between knowledge and political decision making that marks the current discussion on epistocracy. A more accurate conception of that relationship, as we discussed above in the previous section, is that there is a co-productive relationship between the two. Rather than the one directional flow theorized by Brennan, the reality is that the political process is significantly involved in influencing knowledge production.

When this proper conception of the relationship between the political process and knowledge is understood, then there are important implications for the argument for epistocracy. Specifically, this means that the shift from democracy to epistocracy is not simply a matter of differently employing existing knowledge in the political system. That movement also involves

altering the conditions of knowledge systems and the production of future knowledge that will be employed for additional political decision making. This change might be analogized to the movement between a capitalist and socialist economy. In that situation it is not simply the case that existing wealth is being better distributed. It is also the case that the modes of production are also altered. Thus, seen from this perspective epistocrats are making a mistake regarding the nature of knowledge like a caricature of naive socialist who thinks only of the initial desideratum of a more egalitarian distribution of wealth without considering how an alteration of the conditions of production of wealth will also be altered, potentially to everyone's detriment. This is to suggest that it may very well be the case that epistocracy produces immediate instrumental policy benefits only to significantly underperform on those same instrumental outcomes in the long run as a result of its effects on the structuring of knowledge systems.

In what follows I will discuss in more detail how such an outcome might be produced drawing on the above discussion regarding knowledge systems. After that I will then discuss how to incorporate a better understanding of knowledge systems and politics into our evaluations of epistocracy and democracy. Ultimately, I will argue that existing accounts of epistocracy are unconvincing when we account for knowledge systems. To wit, existing claims for the superiority of epistocracy on the basis of immediate instrumental policy gains are not sufficient to render it a preferable option. It is necessary that they demonstrate that epistocracy is also superior in terms of the long-term structuring of knowledge systems and the cascade of interrelated effects in addition to initial better deployments of existing knowledge.

Here we can now review the mechanisms by which epistocracy might alter knowledge systems and hence also instrumental policy outcomes. The simplest manner this may happen is directly and intentionally as a result of new legislation in an epistocracy. That is to say, much of

the important knowledge generation that we conduct is often the product of direct legislation by Congress such as the National Climate Assessment. The introduction of different policy preferences under epistocracy, then, can directly translate into new knowledge generation preferences as the epistocratic legislative body intentionally decides what knowledge to produce on what issues. However, shifting to a regime of epistocracy can have further downstream effects as, for instance, as previously mentioned neoliberal policy preferences for higher education will impact the pattern of done and undone knowledge in our research universities. That is to say, what research questions are investigated in our universities in the domains of the social sciences (and *how*) will in part reflect the policy preferences of our political bodies and what they aim to prioritize the application of resources to. Hence, it is possible that the preferences of an epistocratic regime might produce less, worse, and/or different social science research, which is the basis for their claims to better competence, as a result of their immediate policy preferences impacting on knowledge systems.

Perhaps the most troubling aspect of how epistocracy might impact on knowledge systems, however, is how many of their policy preferences may contain far less obvious knowledge generation effects relevant to other domains of policy. This is what occurred in the example provided above from Eubanks, and we might worry that such troubles might occur on a much broader scale under epistocracy. Thought of abstractly, we might imagine a simplified hypothetical regime with two policy domains A and B. Democracies, with the inclusion of the mass electorate have a systematically different policy preference in domain A than what would be preferred under epistocracy as Brennan so frequently reminds his readers. Also, we might add that with regards to policy domain A epistocracy's policy preferences do indeed produce better instrumental outcomes in the common judgement of citizens when properly understood. Hence, in domain A democracy

might select policies that produce 10 utility for society, while epistocracy selects for policies that produce 15 utility. Further, policy domain A has imbedded but unexamined knowledge generation preferences for policy domain B that critically impact the instrumental outcomes of that second domain. For our purposes here, we might imagine the possibility that the optimal policy choice in domain A will produce knowledge that is suboptimal for making decisions in policy domain B. Further, the aggregate instrumental outputs across all policy domains may possibly be better under an ignorant democracy rather than an enlightened epistocracy because poorly informed suboptimal policy preferences in one policy domain are optimal when viewed in the full societal context. This is precisely what occurred in the example provided above in Pennsylvania provided by Eubanks. Thinking about this in relation to epistocracy, we must consider the possibility of cascades of unintended and potentially negative policy impacts that result downstream of sets of initial expert policy decisions that contain unexamined but critically important knowledge generation affects.

Given that a shift to epistocracy will impact on knowledge systems and their capacities to produce, verify, communicate, and deploy knowledge claims over the long run, it becomes necessary that epistocracy demonstrate reason to believe that it will be able improve these knowledge systems' performance over their conditions under democracy. That is to say, when we evaluate the merits of epistocracy and democracy it is insufficient to claim, as Brennan does, that epistocracy will be able to outperform democracy in instrumental policy outcomes at time one. A model of epistocracy must be required to further demonstrate sustained ability to better deploy *and* produce knowledge in the form of policy continuously over the long run. Only a model of epistocracy that can plausibly claim superior knowledge systems can make a sufficient case for instrumental superiority to democracy.

One way to think about this comparison is to visualize it. We might image six curves relating to the instrumental policy outcomes of various regimes. Those policy outcomes will be the product of both the initial use of existing knowledge *and* as time proceeds the value of those instrumental outcomes will vary as a result of the quality of knowledge produced and deployed as a result of knowledge system design across different regimes.

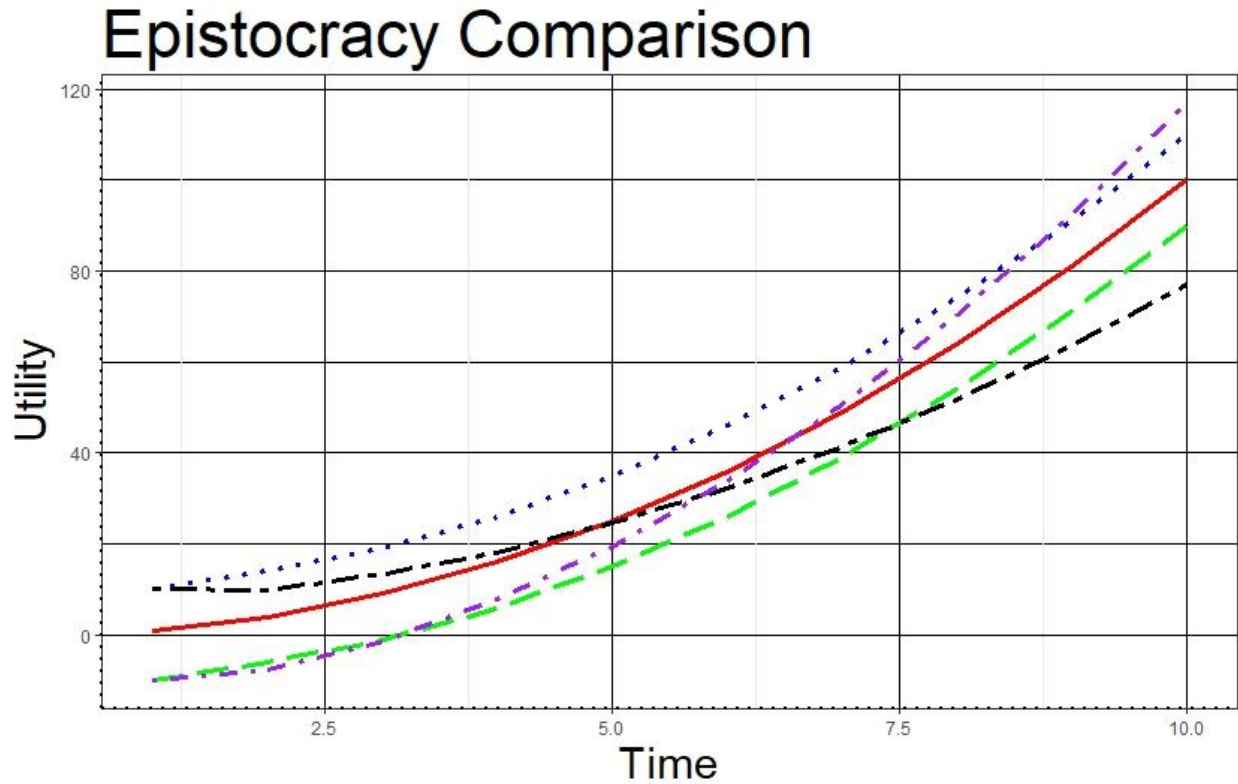


Figure 1

The first item we may consider is the default condition of democracy (D, solid red) that will serve a basis of comparison for epistocratic possible alternatives. In alternative one (E1, dotted blue), epistocracy initially outperforms democracy in the deployment of existing knowledge, and then it continues to outperform over time consistently. Second (E2, black double dash), epistocracy may initially outperform democracy, but over time democracy’s better handling of knowledge systems design allows it to overtake this initial lead. Third (E3, purple dot-dashed), epistocracy

may initially underperform democracy, but then in the long run outperform it. Fourth (E4, green dashed), epistocracy may initially underperform democracy on this count and continue to do so in the long run. Finally. (E5, not displayed), it is possible that epistocracy produces no instrumental advantage over democracy either initially or over the long run.

Of these possible curves for epistocracy, only E1 and E3 can be preferred on instrumental grounds of evaluation. Both E2 and E4 lead to the long run preference for democracy. Also, E5 would arguably also suggest the retention of democracy, even if only on symbolic grounds that Brennan rejects because epistocracy offers no comparative advantage. Brennan appears to assume a static advantage of epistocracy over democracy, and he therefore is unable to account for the full set of possibilities described above. To wit, he essentially assumes E1 is true without reflection on other possibilities. Conditions E3, E4, and E5 are flatly rejected in his thinking as epistocracy is taken to be preferable precisely because of its initial advantages over democracy. This interestingly means that he does not even permit himself access to condition E3 in which epistocracy can be preferred in the long run because of its impacts on knowledge system design despite initial shortfalls in policy outputs.

Further, and very importantly, Brennan does not consider the possibility of condition *E2* in which there are initial gains in policy outputs as a result of the shift to epistocracy, however these advantages fade with time as cascading impacts of knowledge systems take their toll. As argued here this condition E2 is a very real possibility that must be considered. That is to say, the evaluation of epistocracy on the grounds of it being able to produce better policy outputs by way of the use of better knowledge cannot rest solely on any immediate advantage over democracy. The long run impacts on knowledge system design as it is impacted by policy preferences must be

considered. The relationship between knowledge and politics needs to be theorized as one of dynamic co-production instead of a static unidirectional process.

In terms of what we might expect from these above instrumental outcome curves under an epistocratic regime, the likely result will be a mix of every possible curve across different policy areas. That is to say, epistocracy might be expected to select better policies and produce better functioning knowledge systems in some areas thus producing the outcome of curve E1. Simultaneously in other policy areas the downstream impacts of preferences in one domain could dramatically degrade the knowledge systems necessary to optimal public policy outcomes in another domain producing curve E2. The aggregate outcome of a plethora policy domains and knowledge systems is thus likely to be a thoroughly mixed bag of boons and losses. Hence, we ought to downgrade our expectations of epistocracy. It may appear more appealing when we think of policy outcomes in terms of a single step process in which the best policies are clearly indicated by available knowledge, and the challenges of government, then, are simply to select to correct decisions and head home. However, the realities of public policy are not so simple, as there are dynamic feedback effects across many policy domains and the optimal set of decisions in one area may easily produce suboptimal results in a variety of interconnected policy domains as a result of the co-productive relationship between knowledge systems and contexts of political decision-making. The realistic case for epistocracy, then, points to it being far short of the promised panacea.

Conclusion

In sum, the current debate over the relative merits of democracy and epistocracy in terms of instrumental policy outputs has been a heated exchange. An interesting omission from these skirmishes thus far has been the connection between knowledge systems and politics. For all of

the attention placed upon the desirability of placing knowledge in control of public policy and political bodies, there has been a curious silence with regards to where and how that knowledge is generated and how that knowledge generation process is connected to politics. In this paper I have offered an early attempt to address that lacuna in the discussion by drawing upon existing work regarding knowledge systems from STS scholarship. That research suggests an interesting opportunity for a counter-offensive against the advocates of epistocracy. Specifically, I have argued here that considering STS scholarship on knowledge systems the current arguments for the superiority of epistocracy can be seen to be implicitly relying on an incorrect theorization of the relationship between knowledge and political power. That is, they assume that the knowledge required for governing well is a given that is ready at hand to be deployed once a proper epistocratic regime is installed. This, however, as we have seen is an incorrect conception of the matter as the reality is that knowledge systems and political bodies are very frequently in a co-productive relationship with each other. Each helps to create, sustain, and aid in the functioning of the other. Hence, it is not possible to alter political bodies without also producing some manner of knowledge system effects. Further, that suggests that it is fully possible that epistocracy will degrade the workings of knowledge systems going forward, and that in the long term it will actually be worse at deploying knowledge as policy than democracy because its knowledge systems have suffered.

Existing scholarship favoring epistocracy has failed to account for the potential knowledge system effects that would be entailed by their proposed regime changes. Thus, they have also failed to provide an adequate account of how they will sustain instrumental policy outcome advantages over democracy by producing a better quality, quantity, and pattern of knowledge for application to policy. Hence, I have argued that existing epistocratic arguments have all alike failed to make a sufficiently persuasive case for their instrumental advantage over democracy, because regardless

of immediate gains they might plausibly claim, none have provided an account of how those gains will be sustained continuously in the long run. In closing, while I argue that no existing account of epistocracy has satisfied the criteria discussed here, I will admit that it is certainly possible that one might in the future. Thus, this work is ultimately both a counter-offensive against epistocracy, but also simultaneously an open challenge and opportunity for epistocracy's advocates to address as well.

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