

Polycentric Limited Epistocracy: Political Expertise and the Wiki-Model

Abstract:

Democracy has recently been criticized by several philosophers on grounds of poor epistemic performance. The proposed alternative – epistocracy – faces criticism for failing to uphold and express the core democratic values of civic equality and individual autonomy. In response, proposals have been offered that try to achieve epistocratic performance while retaining democratic inclusion. This paper raises two problems for such proposals, relating to the selection of experts and the incentive-compatibility of the system. Given these failures, I sketch what I call the Wiki-Model. I argue that the Wiki-Model *(i)* has desirable epistemic properties; *(ii)* realizes our democratic ideals; while also *(iii)* avoiding the two problems that other hybrid models face.

1. Introduction

Democracy, understood as a way of organizing our political institutions, has been the subject of recent normative debate. On one side are those who think that democracy, by giving equal voice to the politically ignorant and irrational, tends to produce suboptimal results.¹ The output of our decision-making institutions can be improved, they claim, by giving greater weight to the voices of the politically knowledgeable. These critics of democracy propose a variety of alternative institutional arrangements, usually grouped under the term ‘epistocracy.’²

On the other side of the debate are those who defend democracy as an admittedly imperfect, yet still preferable arrangement when compared to the epistocratic alternatives. Broadly categorized, defenders of democracy argue for their position in one of two ways: they claim that the inclusive and aggregative nature of the democratic process will tend to epistemically outperform epistocratic alternatives; or they claim that the democratic procedure

¹ Caplan (2007), Somin (2013), Bell (2016), Brennan (2016).

² The term originates with Estlund (2003). For a list of epistocratic arrangements see Brennan (2016, 15 and 208-230).

itself is normatively desirable independently of its decision outputs and consequences. Call the first group ‘epistemic democrats,’ and the second ‘procedural democrats’.³

Those who find convincing both the epistemic case for epistocracy and the procedural case for democracy are faced with the difficult theoretical task of adjudicating between two things of value: quality outputs and a normatively desirable process. Faced with this difficulty, they might inquire as to whether there is a third way, an institutional arrangement that will capture the desirable epistemic properties of epistocracy while retaining the procedural virtues of democracy. Though ambitious, such proposals have indeed been developed.⁴ The goal of this paper is to develop and offer one more such proposal.

Following a proposal by Anne Jeffrey (2018), I suggest the political process be divided into *setting* the agenda and *selecting* between options on the agenda. The former task is left to the “experts,” the latter to all citizens. The main difference between my proposal for limited epistocracy and Jeffrey’s is as follows: the arrangement I sketch in this paper aims to make use of peer-to-peer polycentric processes for the epistocratic element of the agenda-setting process. This is in comparison to Jeffrey who offers centralized mechanisms for the agenda-setting process. In slogan form, my proposal is this: agenda-setting by peer-to-peer production, decision-making by democratic vote. I shall argue that this arrangement better satisfies (compared to alternative forms of political organization) both the epistemic and the procedural desiderata noted above.

Here is how the argument proceeds. The next section reviews the case for democracy and the case for epistocracy. Having established all of the relevant desiderata to be satisfied, section

³ For defenses of epistemic democracy see Landemore (2017) and Goodin and Spiekermann (2018). For procedural defenses of democracy see Waldron (2005) and Saffon and Urbinati (2013).

⁴ Christiano (2008, 104); Lopez-Guerra (2014); Brennan (2016, ch.8); Jeffrey (2018). This paper focuses on the latter.

3 examines Anne Jeffrey’s proposal for a limited epistocracy that purports to satisfy both camps. I present two problems for Jeffrey’s model relating to the selection of experts and the incentive-compatibility of the system. Section 4 shifts the discussion from politics to encyclopedias in order to derive some organizational insights from the epistemic success of Wikipedia. Section 5 offers my proposal—the Wiki-Model—which involves designing the agenda-setting institutions along the lines of Wikipedia. I situate and motivate my proposal in relation to alternative proposals for open government. Section 6 evaluates the Wiki-Model in the light of the commitments of democrats and epistocrats. The paper concludes (§7) by suggesting that fruitful research can be done at the intersection of political philosophy, organizational economics, and technology studies.

2. On Democracy and Epistocracy

Democracy has been defended, as mentioned in the introduction, in two main ways. The first focuses on the democratic *procedure*, arguing that it embodies or expresses important values. This line of justification results in *non-instrumental* arguments for democracy. The second focuses on the quality of the *decisions* the democratic procedure generates, and on the *effects* of political deliberation and participation on individuals in society. This line of justification results in *instrumental* arguments for democracy. Epistocrats take issue with the instrumental arguments for democracy, arguing that they do not succeed; in general, though, they tend to leave untouched the non-instrumental arguments for democracy.

Non-instrumental defenses of democracy focus on some features of the democratic *procedure* that seem normatively attractive. Two such features that seem particularly important are the fact that the basic mechanism of one person-one vote is both inclusive and egalitarian,

and that rule by the people, or self-rule, allows persons to realize their autonomy. Normative consideration of these two features supplies procedural democrats with two arguments for democracy: the *argument from egalitarianism* and the *argument from individual autonomy*.

Consider first the argument from egalitarianism. The thought here is that the democratic procedure represents a fair way of reaching collective decisions on matters of common concern that citizens disagree about. By giving each person's vote equal weight, the procedure respects their own viewpoint on such matters (Christiano 2018). Closely related to this is the thought that the democratic procedure satisfies the desideratum of 'public equality'. The democratic process is perceived by members of the public as one that "*publicly embodies* the equal advancement of the interests of the citizens" (ibid, my emphasis).

Consider second the argument from individual autonomy. The relevant desideratum here dates to Rousseau and the idea that we seek a political process that reconciles political authority with individual freedom. Building on Rousseau's idea, public reason theorists argue that the democratic procedure is the only one that has any hope of attaining public justification through an overlapping consensus.⁵ In other words, democratic arrangements are the only kind of arrangement all reasonable or qualified viewpoints can come to accept as justified by their own lights. Democracy is therefore justified because it allows individuals to live under institutional arrangements or rules they would legislate on themselves.

In contrast to non-instrumental arguments for democracy, instrumental arguments hold that democratic procedures aid in making good decisions. Why think this? According to Melissa Schwartzberg's thorough review article, there are three mechanisms epistemic democrats appeal to that supposedly demonstrate democracy's superior epistemic status (Schwartzberg 2015, 196).

⁵ Rawls (1993), Gaus (2010), Estlund (2007).

First, they sometimes appeal to the *Condorcet jury theorem* which holds that, if certain conditions obtain, then as the size of a collectivity increases the likelihood of the collectivity selecting the correct answer when given some binary proposition approaches one.⁶ A second mechanism they appeal to is the *miracle of aggregation* which holds that, when we average a collectivity's estimates of some scalar value, then—again, so long as certain conditions obtain—as the size of the collectivity increases the likelihood of the collectivity selecting the correct value approaches one.⁷ And finally, many appeal to Lu Hong and Scott Page's *diversity trumps ability theorem*, which says that groups of diverse, yet less-capable problem solvers can outperform homogeneous, yet more-capable problem solvers so long as certain conditions are met.⁸

We have seen that democrats can appeal both to procedural/non-instrumental and instrumental/epistemic arguments for democracy. Proponents of epistocracy generally focus on the instrumental aspects of democracy.⁹ Given the focus on the epistemic performance of democracy, the case for epistocracy consists mostly in advancing a negative thesis against the epistemic efficiency of public deliberation and universal suffrage. Regarding the value of deliberation, epistocrats emphasize that this is an empirical issue.¹⁰ The question is not, on their view, what benefits *ideal* discourse will bestow on the public. The question is what effects *actual* discourse has on its participants. The empirical data indicates that typical public deliberation falls well short of the philosophical ideals.¹¹ Actual discourse involves dominance, rhetorical trickery, the rationalization of prejudices and biases, and an overall tribalistic mindset. As a result, argue

⁶ See Goodin and Spiekermann (2018) for a thorough examination of this mechanism.

⁷ For a succinct summary of the mechanism see Landemore (2012, 266-268).

⁸ Hong and Page (2004).

⁹ For an attempt to justify pure instrumentalism about politics see Brennan (2016, 112-139).

¹⁰ *Ibid.*, 62-67.

¹¹ See Mendelberg (2002).

epistocrats, the epistemic competence of individuals, and in turn the epistemic performance of the system, is not improved significantly, if at all, by public deliberation.

The issue of voter competence plays a major role in the epistocratic argument against the purported *wisdom of crowds* which democracy makes use of.¹² As we saw, the democratic case rests on the applicability of formal models such as the miracle of aggregation and the Condorcet jury theorem to the democratic procedure. Epistocrats challenge the claim that these models correspond to actual voters. In particular, both models assume *average* competence to be above 0.5. Yet, as Iliya Somin (2013) and Bryan Caplan (2007) observe, there is now substantial empirical data about the knowledge and opinions of voters which seems to undermine the competency assumption. Caplan, for example, evaluates the competency of voters on questions of political economy by comparing their answers to a set of questions to the answers of PhD economists to the same set of questions.¹³ The comparison indicates that voters *systematically* depart from the views of most economists.

Given that, based on empirical data, neither public deliberation, nor the equal aggregation of votes can be expected to yield high epistemic performance, epistocrats propose alternative institutional arrangements which, in one way or another, assign greater weight to the opinions of the knowledgeable than to those of the politically ignorant and/or irrational. We can therefore state the main commitment of epistocrats as follows: epistocrats want the political process to filter out inputs stemming from ignorance, biases, and irrationality, in favor of informed and rational inputs. There are many ways this can be achieved, but perhaps the main proposal is

¹² For a classic examination of the phenomenon of the wisdom of crowds see surowiecki (2005).

¹³ Caplan uses the “Survey of Americans and Economists on the Economy”. Conducted in 1996, the survey was a collaborative effort by the Washington Post, Kaiser Foundation, and Harvard. As Caplan observes, the survey is well structured for the purpose of examining lay-expert belief differences (Caplan 2007, 52).

competency-based suffrage, where voters must pass some kind of competency test in order to vote.¹⁴

We now have in hand the commitments of both democrats (procedural and epistemic) and epistocrats. From the standpoint of institutional design, the question thus becomes: can we find a way of organizing our political institutions such that they satisfy both democrats and epistocrats? Somewhat more tendentiously, can we find an institutional arrangement that nets the purported epistemic gains of epistocracy while retaining the procedural values of democracy?¹⁵ The next section turns to one such hybrid proposal by Anne Jeffrey.

3. Limited Epistocracy

In her paper, “Limited Epistocracy and Political Inclusion”, Anne Jeffrey (2018) defends a form of government which she believes can accommodate both the epistemic and the proceduralist desiderata noted earlier. Jeffrey calls her preferred form of government ‘limited epistocracy’, which she defines as, “qualified rule by expert institutions, where the institutions get their political authority in virtue of their specialized knowledge and their ability to generate optimal solutions” (412).

Expert institutions holding political authority, what Jeffrey calls ‘specialized institutions’, are institutions that meet the following three criteria. Their knowledge is *not common*, it is knowledge that cannot be acquired or surveyed by non-experts (414). Their knowledge is *optimal*, it represents the best that can be epistemically achieved vis-a-vis the subject matter

¹⁴ For a sophisticated version of this idea see Brennan’s ‘simulated oracle’ (2016, 220-222).

¹⁵ The second formulation of the question is more tendentious because it assumes epistocrats are right about the instrumental question. This is a complicated matter, which in my view depends greatly on the exact form of epistocracy proposed. Indeed, I shall go on to argue that Jeffrey’s proposal for limited epistocracy fails on instrumental grounds.

given current tools and methods (415). Finally, the outputs of the institution are *action-guiding* and are backed by coercive power (416). In short, specialized institutions are epistemically privileged bodies that get, by virtue of their epistemic authority, to issue coercive directives on the public.

Limited epistocracy made up of specialized institutions will, according to Jeffrey, better meet the epistemic desideratum of political systems. Our previous discussion concerning the epistemic shortcomings of democracy lends credence to Jeffrey's contention. In line with our analysis, however, Jeffrey recognizes the presence of the second, procedural desideratum, which she calls 'political inclusion'. The problem for limited epistocracy, as Jeffrey observes, is that, "in a limited epistocracy, the epistocratic branch of government doesn't even purport to be constrained by what is acceptable to non-experts." (419). It is therefore the case that, "A defense of limited epistocracy ... has to begin with an explanation of how the imposition of this kind of regime could be legitimate even when the people don't offer their consent and when it doesn't give voice to their collective will." (ibid).

Jeffrey's solution to this problem is to constrain the outputs issued by the specialized institutions such that they meet what she calls 'the Conditional Form Thesis*', which states that, "A directive of a specialized institutions adequately respects autonomy iff it is conditional in form, generating a wide scope requirement that S (if p then ϕ) or (if q then ψ), and both ϕ and ψ are actions S can do willingly without foregoing her reasonable fundamental commitments." (430). Unpacked in less formal terms, the conditional form thesis requires specialized institutions to issue their directives in ways that leave reasonable latitude for the public by offering them two or more options to choose from based on their own views and commitments.

We are now able to appreciate the broad contours of Jeffrey's proposed form of government and why it can accommodate, on her view, both the epistemic and proceduralist desiderata. To improve the epistemic performance of the system, some of the decision-making is taken away from the hands of the public and is instead given to specialized institutions with the proper epistemic credentials. To nevertheless retain the virtue of including the public in the decision process, the outputs of specialized institutions are constrained in such a way as to leave room for practical deliberation and autonomous decision-making among the public. A way of framing Jeffrey's idea in the language of democratic procedures is the following. In Jeffrey's system, the political *agenda* is determined by specialized/expert institutions. The public then gets to deliberate and choose between the *available options* appearing on the agenda.¹⁶

Jeffrey's proposal takes a step in the right direction. Her idea of dividing the political process to setting the agenda and deciding between available options reasonably allows for the introduction of expertise without the elimination of public participation. Nonetheless, I shall now argue that two types of problems undermine the viability of Jeffrey's version of limited epistocracy vis-à-vis the epistemic desideratum. The first problem concerns the selection of criteria by which experts are identified and selected, I will call this the *selection problem*. The second problem concerns the incentive structures put in place under Jeffrey's limited epistocracy, I will call this the *incentives problem*.

The Selection Problem

The idea behind any form of epistocracy is to give greater weight to the opinions of the knowledgeable as compared with that given to those of the uninformed. The simplest epistocratic

¹⁶ This is how Goodin and Spiekermann interpret Jeffrey (2018, 126, fn. 34).

normative principle might be this: given the need to decide on a public issue x , the voices included in the decision process should be limited to only those who are well-informed on x and on surrounding issues, theories, and frameworks pertinent to x .¹⁷ Bracketing any proceduralist worries and taking a purely epistemic stance toward the suggested principle, a worry naturally emerges regarding the epistemic obstacles involved in operationalizing the principle. More specifically, implementing the principle requires successfully overcoming a further epistemic challenge, namely identifying, regarding any issue, the relevant experts on that issue, the people who can be most trusted epistemically to arrive at the correct decision.¹⁸

It is therefore the case that institutionalizing the above principle of epistocracy requires establishing some set of criteria according to which experts will be selected. A variety of criteria may seem like sensible options. For example, in light of Caplan's analysis, we might consider expert in economic matters any citizen who holds a PhD in economics from an accredited institution. A selection criterion based on education can be formulated in broader or narrower terms. Instead of those with a PhD in economics, we could opt for a broader criterion by which we include anyone with a PhD. Or, more narrowly, we could include only those who have specialized in the specific subfield the particular issue involves (e.g. international trade).¹⁹ A different approach to the identification of the knowledgeable is to administer a competency test, the purpose of which is to filter out the uninformed and to leave the decision in the hands of those who can bring relevant knowledge to bear on the issue. Finally, we could attempt to 'manufacture' expert citizens by randomly selecting some members of the public, educating

¹⁷ Being knowledgeable about x alone will typically be insufficient. For example, expertise on the physical science of climate change is necessary but insufficient to forming good environmental policies. Also required, among other things, is knowledge of climate economics and budgetary constraints.

¹⁸ Cf. Brennan (2016, 222-26).

¹⁹ For a suggested hierarchy of expertise along such lines see Anderson (2011, 146-7).

them about the issues of the day, allowing them to deliberate, and then putting the decisions up to their votes.²⁰

The above list of criteria for the selection of experts is by no means exhaustive. There are many other proposed (and yet to be proposed) ways of selecting for expertise among the citizenry. The trouble is that all the different possible criteria have certain advantages and disadvantages. For example, education criteria might miss out on certain important non-academic knowledge held by citizens without the proper academic credentials. Academics might tend to follow and apply certain abstract models that are not sufficiently sensitive to the contextual circumstances in which collective decisions need to be made.²¹ Indeed, an important insight of the Bloomington school of political economy is in pointing out this problematic tendency among academics who studied collective action problems. Regarding three classic models of common pool resource dynamics (tragedy of the commons, prisoner's dilemma, the logic of collective action), Elinor Ostrom (1990, 6-7) writes:

What makes these models so interesting and so powerful is that they capture important aspects of many different problems that occur in diverse settings in all parts of the world. What makes these models so dangerous—when they are used metaphorically as the foundation for policy—is that the constraints that are assumed to be fixed for the purpose of analysis are taken on faith as being fixed in empirical settings, unless external authorities change them.

Ostrom cautions against the use of highly generalizing and simplifying models, constructed primarily for explanatory purposes, as a guide to public policy. Moreover, as Ostrom subsequently demonstrates in that book and other works through careful case studies, people solve common pool resource problems internally without the use of Leviathan or property rights.

²⁰ López-Guerra (2014).

²¹ Cf. Hayek (1945), particularly on the importance of knowledge of time and place (521).

A similar selection problem could also arise regarding competency tests. Designing a test that can be taken quickly and that will sort experts from the uninformed is a difficult, perhaps unrealizable endeavor. Not to mention the grim history of competency tests which were largely used to sort people according to race and ethnicity as opposed to epistemic merit. Finally, opting for the ‘manufacturing’ alternative requires having some confidence that we can quickly turn, through some process of education and deliberation, the uninformed and irrational into knowledgeable and rational decision makers. One might be reasonably skeptical of such hopes.²² Moreover, one might worry that since such a scheme requires deciding on a curriculum according to which the individuals selected will become ‘informed’, the arrangement leads to a regress in terms of the selection problem, i.e., we would need to decide who the experts are vis-à-vis designing the educational curriculum.

Regardless of where we come down on any of the specific points raised above, it is difficult not to concede the fact that the selection problem is indeed a problem. From the standpoint of deciding between different criteria for selection, some form of reaching a decision on this issue will have to be established. It is here where one might worry about problems of infinite regress. If epistocracy outperforms democracy in decision making, and we are faced with the challenge of deciding between selection criteria, we should want to make this decision through epistocracy as opposed to democracy. Unfortunately, the selection criterion is itself a prerequisite of institutionalizing epistocracy.

²²A further problem with this proposal is that it seems to require carving political decision-making to single issue decisions. As Landa and Pevnick (2019, 9) observe: “It is impossible to effectively address pressing political problems one at a time because such problems are interconnected”.

The Incentives Problem

Proposals for epistocracy are based on the idea that the political process would produce better outputs if the inputs are restricted to those members of the public who are epistemically qualified to decide on such matters. Epistocracy thus requires reducing the scope of political authority or decision-making capability from *all* members of the public to *some* members of the public. Creating a system in which political authority is given to some and not others is in danger of setting up certain perverse incentives. In particular, when political power is restricted only to those who meet some criterion, there is an incentive for anyone who seeks political power to meet the conditions set forth by the selection criterion. For example, if power is placed in the hands of those who hold a PhD, individuals seeking political power might be further incentivized to get a PhD (or buy one illegally). On the flip side, individuals seeking truth and not political power might be discouraged from pursuing a PhD.

Turning to Jeffrey's proposal for limited epistocracy, we can examine the incentive structure this system will put in place vis-à-vis the incentives problem. Introducing expertise into our political decision-making through Jeffrey's specialized institutions appears desirable in epistemic terms. Yet it is important that the incentives facing purported experts will be compatible with the effective functioning of the system. More specifically, it is crucial that the incentives facing purported experts will be largely epistemic as opposed to political. *To improve our system epistemically, experts must be guided by a search for truth as opposed to power.*

One clear way in which this type of incentive incompatibility problem can manifest itself is if expert institutions and individuals are appointed by political channels. This can lead to epistemically regrettable situations such as Ben Carson, a neurosurgeon in training, being appointed secretary of Housing and Urban Development (HUD). This form of the problem is

avoided under Jeffrey's limited epistocracy because specialized institutions (and the individuals who populate them) are not appointed politically. Specialized institutions, in Jeffrey's system, are given authority not through political appointment but through their epistemic credentials.

Though it avoids the above form of the incentives problem, Jeffrey's proposed system fails to avoid the second form the incentives problem can take noted in the first paragraph of this subsection. In Jeffrey's system, the political framework creates an incentive for inserting political forces into the specialized institutions that are supposedly independent of politics. The logic is simple, as specialized institutions come to have more coercive authority, there is greater incentive for players in and outside the institutions to utilize their power for the purpose of furthering their political agenda through the cloak of pure epistemology. Meanwhile, for those players focused on the *epistemic* rather than the *political* goal of finding the truth, there is less of an incentive to operate within the confines of specialized institutions subject to political forces that become less epistemically pure and more politicized.

The incentives problem Jeffrey's specialized institutions face is one form of the more general problem noted by public choice economists of regulatory capture.²³ This problem occurs when government agencies, created to further the interests of the public, are 'captured' by subgroups of the public who, through using the political authority of the agency, aim to promote their own interests which diverge from those of the public at large. In the case of Jeffrey's specialized institutions, the institution may be considered different in some respects from the paradigmatic regulatory agency. Nonetheless, given the political power the system places in the hands of specialized institutions, the incentives of subgroups with a shared interest will still be to 'capture' those institutions. Consequently, the epistemic reliability of those institutions is in

²³ See Stigler (1971); Laffont and Tirole (1991). Bagg (2018) similarly appeals to the problem of capture as a way to epistemically vindicate democracy (as compared to epistocracy).

danger of being compromised due to attempted infiltrations by non-epistemic motivations. Individuals who are driven by epistemic motivations might thus opt to conduct their work outside of such compromised institutions.

The problem with Jeffrey's proposal is that it does not specify or even sketch a way for setting up our specialized institutions in an incentive compatible way, given the primary goals on the basis of which we set up those institutions in the first place. Jeffrey does make clear that, by definition, the political authority of specialized institutions is based on their *epistemic* credentials. This is indeed the ideal we aspire to, yet it is difficult to successfully institutionalize this ideal. The problem with Jeffrey's proposal is therefore one of institutional design. The challenge we are faced with is how to design our epistocratic institutions in an incentive compatible way given the aim of promoting the public interest. In addition to this challenge of the incentives problem, this section also noted the selection problem—also a problem of institutional design. Our task is thus to find a way to design Jeffrey's specialized institutions, i.e., the agenda-setting process, in a way that avoids the two problems. Our path involves first a detour to the epistemology of encyclopedias.

4. Wikipedia and Polycentric Expertise

The previous section argued that Jeffrey's proposal of limited epistocracy fails to solve the selection and incentives problems. The purpose of this section is to examine the organizational structure of Wikipedia in an attempt to derive valuable insights we will then apply to the design of the political agenda-setting process. In particular, I will suggest that Wikipedia's decentralized or polycentric organizational structure is a potent remedy to the problems mentioned in the previous section.

The goal of any encyclopedia is an epistemic one, namely, to offer apt and true descriptions of a variety of topics readers might be interested in. This requires identifying what topics are of interest to readers. It further requires collecting the information pertaining to these subject matters. Finally, it requires articulating the information in a manner that is accessible and enjoyable to readers. In short, producers of a traditional encyclopedia must: (i) determine what entries to include; (ii) determine what information to include vis-à-vis each subject; and (iii) ensure that the entry is well-written vis-à-vis the readers' expectations.

Each of the above three tasks presents substantial epistemic challenges for the encyclopedia's editors. To decide what entries to include, they might use a variety of methods. For example, they could consult previous encyclopedias as a guide to what entries must be included. They could consult academic journals and disciplines to categorize and subcategorize the subjects that are to be included in the encyclopedia. They could hire or consult "encyclopedia experts" who are specialists at this task of dividing large bodies of knowledge into particular entries. The decision of what information is to be included vis-à-vis some subject matter can be approached via two main heuristics. The editors could attempt to learn about the subject matter enough to be able to determine what information the entry about it should contain. Or they could instead (or in addition) ask experts in the relevant subject matter to author or edit the entry so that it contains important information about the subject. The decision of how to present the information regarding each entry can also be outsourced to relevant experts, or it could be done internally by the compilers of the encyclopedia.

All of the above methods for addressing the epistemic challenges of compiling an encyclopedia have certain flaws and limitations that are difficult to overcome. Deferring decisions to previous encyclopedias is sensible insofar as previously successful compilations of

knowledge are indicative of good determinations regarding what entries to include. Yet, it is very possible that previous editorial decisions were flawed due to the limited information of past editors as well as their personal preferences and biases. It might also be the case that the topics of interest are different from those of the time/place in which the exemplar encyclopedia was compiled. Similarly, if the information included in entries is decided upon by the editors, it is likely that it will fail to capture some of the important information about the subject. Deferring to the experts is therefore sensible. Yet this presents a vexing problem we have noted vis-à-vis Jeffrey's proposal, namely, what heuristic editors should employ to identify the right set of experts vis-à-vis a subject matter. Finally, the editors could decide on how best to organize and present the information themselves, or they can defer much of this work to the experts. In both cases, it is rather difficult to determine what mode of presentation will be best from the standpoint of readers and their purposes.

The model set forth by Wikipedia is interesting because it offers promising solutions to some of the epistemic challenges faced by an encyclopedia's editors.²⁴ In the case of Wikipedia, the task of deciding what entries to include is left to the participants. The open nature of the platform allows anyone to start a new entry at any time and to draw connections between existing ones in the form of hyperlinks. The decision of what entries to include is thus dispersed across the Wiki community, rather than placed in the hands of select individuals. More importantly, the task of editing existing entries is likewise open to all participants. A certain small subset of privileges are reserved for administrators such as deleting a page or blocking a user/IP address from participating. The primary task of editing and adding to existing text is left open to all. Each Wikipedia page records the entire history of revisions. It is also possible for

²⁴ For a detailed exposition of the Wikipedia mechanism see Ayers et al. (2008).

users interested in particular pages to receive direct notification whenever anyone edits or adds to those entries. The editing of an entry is thus decentralized, setting up a dynamic iterative process where the product generated reflects the editorial decisions of a dispersed community as opposed to a few preselected editors.

The processes through which Wikipedia entries are created and edited are thus thoroughly polycentric.²⁵ They are fully decentralized insofar as all participants have equal decision-making capabilities (apart from the few special privileges of admins). Furthermore, the participants tend to follow certain overarching norms of attempting to make valuable contributions from the standpoint of generating well-organized, engaging, accurate, and insightful entries. Particularly important, for our purposes, is how these polycentric features of Wikipedia relate to the search for experts which putting together a traditional encyclopedia involves. Interestingly, the Wiki mechanism makes the search for experts in some sense superfluous. For the key is to get experts to reveal their information, the information itself does the work, identifying the experts is thus no longer needed or important. Put differently, what underwrites the quality of the product is not the epistemic credentials of specific individuals who create it but is rather the fact that the text undergoes continuous scrutiny by the community at large.

Notwithstanding these interesting features, one might have reasonably worried that leaving the process of writing an encyclopedia open to all comers will result in poor results from an epistemic standpoint. The two main worries have to do with the reliability and verifiability of Wikipedia entries.²⁶ Studies however indicate that Wikipedia, when compared with traditional

²⁵ For an illuminating exposition of the concept of polycentricity see Aligica & Tarko (2013). See also their (2012) for its intellectual history.

²⁶ Fallis (2008, 1664).

encyclopedias, is, with respect to many topics, quite reliable.²⁷ As for verifiability, it can indeed be difficult to identify the individuals responsible for any piece of content in a Wikipedia entry, more so at least than it is in the case of a traditional encyclopedia. However, it is not clear to what extent this is a major epistemic problem. As Fallis (2008, 1667-68) observes, “We typically trust a particular encyclopedia entry not because we trust its *author* but because we trust the *process* by which the entries in the encyclopedia are produced”. Fallis adds that, “The *process* by which entries in Wikipedia are produced seems to be fairly reliable.” (Ibid, my emphases).

We can, at this point, see why the Wiki-Model is of interest to our examination of different political arrangements. One problem Jeffrey’s proposal faces is that of devising some criteria by which individuals or institutions are designated as relevant experts, what we have called the *selection problem*. A similar problem is faced, as was noted, by the editors of encyclopedias. Wikipedia offers a solution to this problem in the form of distributing the work of identifying quality information among all members of the community, which in turn makes unnecessary the preliminary search for expert individuals. A second problem Jeffrey’s proposal faces is that, by unifying epistemic and political authority, it creates perverse incentives, what we have called the *incentives problem*. The incentives problem is not generally a concern in the case of composing an encyclopedia.²⁸ Nonetheless, the Wiki-model offers a partial solution to this problem as well. To see why this is so requires thinking about the costs and benefits of exerting influence on the institutions in question.

Importantly, influencing thoroughly polycentric institutions (like Wikipedia) is more costly and less feasible than is influencing more monocentric institutions (like Jeffrey’s

²⁷ Gilles (2005). For a more philosophically nuanced discussion of such comparisons see Magnus (2009).

²⁸ Although one might tell a story about how the original encyclopedists saw their epistemic project as closely connected to their political ambitions.

specialized institutions). The reason for this is that, in a *monocentric* institution, a relatively small number of individuals have a large impact on the resulting output of the institution. From the standpoint of those seeking to influence the output, there is reason to spend resources to try and influence the decisions of the individuals with much decision-making authority. This manifests itself regularly in the political realm in the form of regulatory capture. *Polycentric* arrangements, in contrast, are more difficult to influence. There are no individuals with a great deal of authority and impact over the output. Instead, the output is the result of dynamic feedback loops between innumerable many individuals.

The Wiki-Model appears to offer some promising solutions to the problems we have surveyed vis-à-vis political institutional arrangements. This suggests that the institutional architecture that will best be able to meet our desiderata is one that incorporates the Wiki-Model into the decision-making process. The next section fleshes out some of the details of how we might design agenda-setting institutions along the lines of the Wiki-Model.

5. Wiki Agenda-Setting

Section 3 argued that Jeffrey's proposal of limited epistocracy offers a promising way of combining expert input with democratic decision-making but that it fails to adequately address the problems of selection and incentives. Section 4 suggested that, by drawing on polycentric organizational principles, Wikipedia manages to solve problems for the encyclopedia editor that bear interesting similarity to those we face in trying to implement limited epistocracy. This section offers an institutional design proposal that aims to make use of polycentric organization in order to incorporate greater expertise into the political process while satisfying democratic ideals. By being more polycentric, it will also avoid the selection and incentives problems.

Before entering the details of my proposal, it is worthwhile to situate it vis-à-vis related proposals for open government.²⁹ A small, but growing number of researchers coming from various disciplines, have recently been engaged in documenting, conceptualizing, and developing the idea of *government crowdsourcing*.³⁰ The main characteristic of crowdsourcing, according to Daren Brabham, is that:

the locus of control regarding the creative production of goods and ideas exists *between* the organization and the public, a shared process of bottom-up, open creation by the crowd and top-down management by those charged with serving an organization's strategic interests. (Brabham 2013a, xxi, emphasis in the original).

A typical example of non-governmental crowdsourcing is the T-shirt Company Threadless. Members of the Threadless online community upload their designs to the company's site. These designs are then scored, again by the community, on a scale of zero to five. After a week in the scoring gallery, several of the highest ranked designs are manufactured in the company's headquarters and sold back to the community through the site. To incentivize prospective designers, winning designs award the designer \$2000 in cash and \$500 as a Threadless gift certificate. (Ibid, xix-xx).

An example of successful government crowdsourcing is the 'Peer-to-Patent' system proposed and developed by Beth Simone Noveck.³¹ The purpose of this program is to allow bureaucrats in the United States Patent and Trademark Office (USPTO) to utilize the expertise of dispersed citizens in the patent examination process. As Noveck explains:

What if the scientific and technical expertise of the graduate student, industry researcher, university professor, and hobbyist could be *linked* to the legal expertise of the patent examiner to produce a better decision? What if, instead of traditional peer review, a process of *open* review were instituted, wherein participants self-select on the basis of

²⁹ The literature I have in mind here includes: Aitamurto & Landemore (2015), Brabham (2013a, 2013b), Landemore (2015), Noveck (2009, 2015), Lathrop & Ruma (2010).

³⁰ The Wikipedia entry 'Government crowdsourcing' contains the references mentioned in the previous footnote as well as a good, though very brief, discussion of the concept alongside some examples.

³¹ For a fascinating discussion of the origins of the Peer-to-Patent program and the prospects of government crowdsourcing more generally see Noveck (2009, 2015).

their expertise and enthusiasm? ... The online tools available today could be employed to *connect* the government institution and the increasingly networked public to collaborate on an ongoing basis. (Noveck 2009, 5-6, my emphases).

It is clear from Noveck's explanation (especially from the words I emphasized), combined with Brabham's definition, that Peer-to-Patent is a form of government crowdsourcing in that it involves collaboration between bottom up research by the dispersed citizenry with top-down review and control by the officials in the USPTO.³² The goal of this crowdsourcing method is to improve the process of patent examination both in terms of efficiency (cashed out as time spent by the patent examiner on each case) and in terms of epistemic accuracy.³³

Returning to my proposal of designing the agenda-setting process along the lines of Wikipedia, we can now articulate a conceptual framework in which different organizational structures can be situated. On one end of the spectrum, we have fully *monocentric* institutions, where a select group of insulated officials make decisions. On the other end of the spectrum, we have fully *polycentric* institutions, where all participating individuals have equal decision-making power. Between the two extremes, we have partially polycentric institutions, where some hierarchy of decision-making power exists, but where individuals outside of the central institution are given some not insignificant power to influence the process.³⁴

Jeffrey's conception of specialized institutions approximates the notion of a fully monocentric organizational structure (with regard to political agenda-setting). The crowdsourcing methods surveyed above can be classified as falling somewhere between the two

³² This also illustrates that the concept of crowdsourcing is closely related to the concept of coproduction, another important concept in the Ostromian framework for institutional analysis. To see how coproduction can be invoked as a response to the epistocratic challenge, see Aligica (2018).

³³ The program has indeed proved itself, as Noveck (2009, 12) notes: "At the end of the pilot's first year, 89 percent of participating patent examiners reported that the materials they had received from the public had been useful; 92 percent indicated they would welcome the opportunity to examine another application with public participation; and 73 percent wanted the Peer-to-Patent program implemented as regular office practice".

³⁴ This articulation of the conceptual landscape brackets important complexities regarding formal vs. informal rules. Notwithstanding their importance, these complexities fall beyond the scope of this paper.

extremes, as Brabham’s definition aptly captures.³⁵ Wikipedia, and other similarly organized peer-to-peer production networks³⁶, fall, under my classification, on the polycentric extreme.

From a normative perspective the question is: what are the pros and cons of each of the three kinds of organizational structures? More specifically, why think the extreme peer-to-peer framework is the comparatively best one to go with for the purpose of political agenda-setting? I hope to answer this question in the course of specifying the details of my proposal. In general, my claim will be that crowdsourcing methods might prove effective in solving the selection problem, but they are in greater danger to run afoul of the incentives/capture problem. That being said, no system is perfect, and I will indicate where I think crowdsourcing as well as Jeffery’s monocentric specialized institutions can do better than my proposal for Wiki agenda-setting.

As we saw in the previous section, Wikipedia operates on two core principles: (i) any individual can open a new entry; and (ii) any individual can offer revisions and additions to existing entries. Our goal is to take these two core principles and apply them to Jeffrey’s ‘specialized institutions’. In other words, we are interested in designing our agenda-setting institutions along the lines of the Wiki-Model. The task for these institutions is to address a political issue by assembling a list of policy alternatives from which the voters will get to choose.

Applying principle (i), we can design the platform such that any willing individual can open a new proposal for tackling the relevant issue. This seems desirable given that it minimizes the chance that compelling proposals will go unnoticed, as may happen in the case of more

³⁵ In fact, there are a variety of crowdsourcing methods that might be applied to government. Distinguishing between those methods is not needed here. For a taxonomy of government crowdsourcing models, alongside examples, see Brabham (2013b).

³⁶ Relevant examples here are various open-source software projects such as Unix and Mozilla. For a classic and highly influential early discussion of the open-source phenomenon see Raymond (1999).

closed institutions, who are often subject to groupthink and a more limited perspective on the relevant issue. Though desirable in that respect, granting every individual the ability to offer a new proposal poses a serious practical problem, namely that the amount of proposals to be chosen from will exceed any reasonable amount. After all, the goal is to produce a list of proposal for voters to choose between. It therefore seems necessary to keep the list to a sensible amount such that voters can, if they wish, become informed about the alternatives and meaningfully select the one they prefer.

The question is therefore: how to square the practical need to keep the list of alternatives short and the desire to allow anyone to come up with any proposal they wish to put on the table? The answer that suggests itself is the following. Every individual will indeed be allowed to put new proposals on the table. However, not all proposals will ultimately go through and be represented on the ballot. Instead, all proposals on the Wiki platform will be subject to online endorsement by the participants, each participant will have the opportunity to endorse one proposal they wish to appear on the ballot. The top ranked proposals (say five), in terms of number of endorsements, will then be the ones to ultimately appear on the ballot.³⁷

In some sense then, the proposed system contains two separate rounds of “voting”. The first involves online endorsement of proposals used as a means to filter out proposals that need not appear on the second round of voting in which voters ultimately choose what proposal to go with. It’s important to note, however, that this first round of “voting” need not be held on some specific date. Instead, individuals will be able to endorse proposals throughout the agenda-setting process by giving their secured digital signature. The technical logistics aside, this solution

³⁷ An alternative is to set a threshold for number of endorsements needed to appear on the ballot. This seems slightly less optimal in that the number of proposals on different ballots could vary significantly. Interestingly, such a system would also open the door, logically speaking, to making the democratic vote unnecessary if only a single proposal passes the threshold.

seems desirable because it affords everyone the chance to put ideas on the table. It shortens the list of proposals to a tractable size by again drawing on the discretion of the collective.

Additionally, such an arrangement incentivizes similar proposals to split their differences and merge into one proposal as a strategy for increasing the probability of their ideas appearing on the ballot. This too might arguably be viewed as a normatively attractive feature.

At this point, proponents of epistocracy could raise the following concern. The purpose of limited epistocracy, we thought, was to insulate the agenda-setting process from public input, thereby making sure that at least that part of the political decision-making process is protected from the ignorance and irrationality of the average voter. Yet, the present proposal for polycentric limited-epistocracy reintroduces the public influence on the agenda-setting process insofar as the public at large gets to endorse proposals thereby determining which of them will appear on the ballot. The worry then, is that the proposal on offer goes too much in the direction of democratic control and will thus fail to capture the gains from expert input.

This objection is an important one. There is, I believe, room to worry about the possibility that public control of the agenda will produce inferior results, this possibility could be said to be one vulnerability of the design proposal I am sketching. Nonetheless, there are three points to be offered in response to this concern. The first is that, as mentioned, similar worries were reasonably raised regarding the idea of Wikipedia to leave full control of the encyclopedia's content in the hands of the community. And yet, it turns out that the mechanism of continual revision by anyone produces solid results. The Wiki agenda-setting procedure may be able to produce intellectually respectable output even though some portion of the input isn't up to expert standards. The second point worth mentioning is that, even if all members of the public get to decide what alternatives will appear on the ballot, not all members can effectively

determine the content of the proposals. The content of each proposal is determined via iterated revisions, which, as mentioned, tends to filter out less informed input. That being the case, though the agenda will reflect public opinion, to some extent, the details of each proposal might better reflect the opinions of experts. In some sense then, the public will get to vote on the best versions of each proposal. The third and final point is that, the agenda-setting process can complement voting among representatives of the public and not just the public itself. In other words, the Wiki-Model can be integrated into a representative system of democracy as opposed to a direct one. Implementing it that way could serve to alleviate to some extent the worry associated with allowing full and direct public control of the political decision-making process.³⁸

Notwithstanding the above mitigating factors regarding the problem, here is one aspect of the Wiki agenda-setting process that could plausibly be viewed as a disadvantage when compared to monocentric institutions such as Jeffrey's or to crowdsourcing methods as those mentioned earlier. Unlike in the case of peer-to-peer production, monocentric and crowdsourcing structures leave in place some central expert arbiters who can control the agenda both in terms of the number of proposals and in terms of their content. In Jeffrey's case, the experts may have complete control of these factors. In crowdsourcing, experts may have partial control. In conceptual terms, as we move further toward monocentrism, the problem of limiting the number of proposals dissipates. As we move further toward polycentrism, the problem intensifies. My claim is that accepting this problem is a worthwhile trade-off given the other benefits of polycentric agenda-setting. More specifically, moving toward less polycentric organization, as previously argued, increases the potential for capture.

³⁸ It is also possible to combine Wiki agenda setting with top-down setting. For example, we could create an agenda with six proposals, three of which are derived from the Wiki process, the other three from the administrative agency. Exploring the potentialities of such mixed agenda-setting systems is beyond the scope of this paper.

We turn next to the second feature of Wikipedia (*ii*), according to which each individual can offer revisions and additions to any existing entry. Applying this principle to the agenda-setting process is straightforward. We simply allow any authorized individual (through some digital identification) to edit, revise, and extend any proposal on offer. As in the case of Wikipedia, some community measures will have to be put in place to protect the content of proposals from spammers and individuals seeking to sabotage the collaborative effort. As in the case of Wikipedia, therefore, the Wiki agenda-setting platform will need to assign certain frequent contributors the authority to prevent such abuse by blocking and/or removing certain things. Those contributors could be identified, as they are in the case of Wikipedia, on the basis of reputation among the online community.

Granting limited editorial authority to contributors raises a significant worry, namely that the agenda-setting process will be captured or shaped by certain interests which will use limited editorial authority in order to block political content they disapprove of. Such a result will defeat, the worry goes, the purpose for which the peer-to-peer framework is established in the first place. Here as well, the methods of crowdsourcing and specialized institutions have built-in ways of dealing with the problem. The Wiki-Model of agenda-setting appears, therefore, to be at a disadvantage.

Though worrying, there are sensible ways to mitigate this type of problem. Firstly, we can design the editorial authorities such that they are subject to overrule by the broader community. In other words, if an editor marks certain pages or content as spam, members of the community (or other members of the editorial team) can disagree with the editorial decision. We could then define certain thresholds, where given sufficient dissent the editorial decision is revoked. This would be a solution endogenous to the editorial process. Secondly, we could

subject editorial decisions to legal oversight, as is already the case with regard to much of our current political process. This would be a solution more exogenous to the Wiki agenda-setting process.

Another aspect regarding *(ii)* that needs to be addressed is the question of time. In the case of Wikipedia, the revision process never stops, each entry may be continuously revised. In the case of Wiki agenda-setting, however, the revision process needs to stop at some point so that the voters get to choose what policy to go with from among those who qualify to appear on the ballot. This means that a certain date and time must be clearly set out from the outset as the stopping point of the agenda-setting process.³⁹ Nonetheless, an attractive feature about Wikipedia that could be carried over to the Wiki agenda-setting process is that users can view the entire history of an entry in terms of its revisions. Thus, voters who are interested in some proposal will be able to freely explore the history of how the final product was produced. They can therefore find suggestions that weren't accepted in terms of how to shape the policy proposal. They can also find justifications for the policy that weren't included in the final proposal. This leads us to our next and final point regarding the content of the proposals.

Each proposal page can be expected to contain two basic elements. The first is the precise details of the proposal. For example, if the proposal concerns tax policy, the first part of the proposal should contain all the relevant tax brackets and figures, all the relevant exemptions (if there are any), all the relevant legal details (if there are important ones to indicate), and any other detail relevant to understanding what the policy is. In other words, the first element of each proposal should use descriptive language. The second element each proposal page should contain

³⁹ It is foreseeable that spamming and other malicious activities will intensify significantly as the final date and time approach. This is certainly a problem, but as before it seems to be one that seems manageable via both the endogenous channels of editorial action as well as through the exogenous channels of legal oversight.

are the reasons to favor this proposal as compared to alternatives. Here there is room for normative language, where the contributors to the proposal page can put forward goals they deem desirable and explain how the proposed policy will achieve them. In terms of comparing the policy to its alternatives, those working on the proposal page can insert links to competing proposals where needed in order to alert the reader to important areas of differentiation between proposals.

This concludes my proposal for how to design Jeffrey's agenda-setting institutions along open source Wiki-Model lines. As this relatively brief discussion indicates, there is much room for further reflection on some of the important and more fine-grained details of this institutional architecture. This discussion also shows that there are legitimate concerns and vulnerabilities one can point to vis-à-vis the Wiki-Model. That having been said, the goal of institutional design is not to find and implement a perfect system. As Elinor Ostrom correctly emphasizes in much of her work, when it comes to social problems and solutions, there are no panaceas. Nonetheless, the task of institutional designers is to compare and contrast different possible architectures and to see what trade-offs each of them contains. Ultimately, one must come up with an all-things-considered judgement about which institutional design captures more of what we care about from a normative perspective. In that spirit, the next section suggests that the Wiki-Model satisfies some of the central desiderata of both democrats and epistocrats and is thus attractive from a normative perspective as compared to alternative hybrid models of limited epistocracy.

6. Evaluating the Wiki-Model

The previous section specified some of the details of my proposal. The core idea of the Wiki-Model is to design the “expert” part of Jeffrey's limited epistocracy, i.e., the agenda-setting

process, as a peer-to-peer network akin to Wikipedia. The task of this section is to point out the ways in which polycentric limited epistocracy satisfies some of the key desiderata of both democrats and epistocrats while avoiding the problems of selection and incentives.

Turning first to the desiderata of democrats. The proceduralists want the political process to embody and express the equality and freedom of all citizens. Typical epistocratic proposals fail to meet these procedural virtues because they draw sharp distinctions between the “experts” and the public. They further involve excluding the latter from some (or all) aspects of the political process. Unlike other forms of epistocracy, however, the Wiki-Model draws no sharp boundary between “experts” and the uninformed public. Furthermore, it does not officially exclude any member of the public from any part of the political process. All citizens are recognized and encouraged to contribute to any stage of the collaborative decision-making effort.

That said, although the agenda-setting process excludes no one in official or *de jure* terms, it will foreseeably tend to exclude the uninformed in *de facto* terms. Nonetheless, by retaining Jeffrey’s two-tiered framework for political decision-making, the arrangement ensures that each and every member of the public will have equal say in terms of voting to choose between the available options generated by the Wiki mechanism. They will also, as we have seen, have equal say in terms of endorsing proposals to appear on the ballot. In general, therefore, the Wiki-Model appears to satisfy much of what procedural democrats find desirable about the democratic process.

We turn next to the desiderata of epistemic democrats. Epistemic democrats believe it is desirable to make the political decision-making process more inclusive and more deliberative for two main reasons. First, deliberation which includes more perspectives will make all those involved better informed about relevant data and considerations and more empathetic to other

viewpoints. Second, there are certain mathematical features of vote aggregation that are highly attractive, in terms of choosing the correct alternative, if certain assumptions hold with regard to the voters.

The Wiki-Model revolves centrally around the idea of joint deliberation. It is therefore designed in a way that accommodates epistemic democrats who believe in the virtues of deliberation. As a matter of fact, it is possible to argue that the Wiki-Model, by virtue of the fact that deliberation proceeds through joint continual revision of proposals, better satisfies the goal of democratic deliberation than do more traditional forums for such discussion. The reason for this is the following. We noted, in section 2, that epistocrats appeal to the empirical literature on public deliberation to undermine the claims of epistemic democrats about the value of deliberation. Even if the epistocratic assessment is true, the Wiki-Model offers an alternative framework for joint public deliberation. Importantly, the Wiki framework for deliberation will likely not be subject to all the problems plaguing traditional face-to-face forums. Factors such as good looks, charisma, rhetorical trickery and others will be far less salient in the context of a temporally extended, digitally anchored, process of continual examination, revision, and extension of ideas. In short, the Wiki-Model satisfies the goals of deliberative democracy in a manner that avoids many of the problems toward which the epistocratic opposition point.

The second dimension of democratic procedure that epistemic democrats find attractive is the tendency of vote aggregation, under certain assumptions, to produce epistemically optimal outcomes (given the options available). These ‘wisdom of crowds’ arguments for epistemic democracy draw upon formal models such as the Condorcet Jury Theorem. The Wiki-Model accommodates these goals insofar as it involves two stages of collective voting. First, in order to select which options (from those put on the Wiki platform) will appear on the agenda, and then,

in order to choose from among the available options. In both cases, if the voters meet the conditions specified by the CJT, we can expect the results to track the political truth (however that notion is cashed out).

Another model epistemic democrats appeal to is the Hong-Page Theorem. Here the key idea is that we want to maximize perspectival diversity among the decision-making group so that intragroup communication can allow everyone to find better solutions to the social and political problems the group aims to address. The Wiki-Model accommodates the HPT insofar as all perspectives on the issue are encouraged and incentivized to participate in the agenda-setting process and the collaborative effort involved in putting proposals together. In fact, here, as before, the Wiki mechanism can plausibly be thought to be superior to the more traditional forums for democratic deliberation. For the HPT to obtain, participants have to find common ground in terms of their evaluative standards; they have to agree on what solutions better address the problems. The HPT also requires participants to be able to clearly communicate to one another the solutions they found. Both of these requirements will be harder to realize in offline settings where a variety of factors, not least of which would be lack of time, might prevent the participants from effectively communicating their solutions to one another and sorting out their evaluative standards so that they can find common ground in that regard. The Wiki mechanism affords participants greater scope for reaching evaluative consensus and effective communication.⁴⁰ It is therefore superior in terms of trying to capture institutionally the Hong and Page result.

Finally, we turn to what epistocrats want from the political process. Stated simply, epistocrats want expert opinion to take political precedence over the input of the uninformed. As

⁴⁰ For one thing, participant A could help explain to participant B what participant C had in mind.

we saw, the same could correctly be said of the compilers of encyclopedias. Yet, in the case of encyclopedias, creating an open source framework where all, including the uninformed, can contribute, produces epistemically respectable results. The reason for this, as was mentioned, is that the gradual process of iterated revision tends to filter out less apt information and to retain expert input. The Wiki-Model applies the same rationale to the process of constructing the political agenda. Epistocrats can find desirable the mechanism of iterated revision as a filtering mechanism of a piece with their proposed methods for distinguishing expertise from ignorance. Even better, the Wiki-Model can be expected to produce expert knowledge that is much more accessible and understandable to the lay public. Like Wikipedia, the Wiki-Model can draw on the expertise not only of those who have pertinent information, but also on those who can contribute to sorting and presenting this information in a reader-friendly way. In short, the Wiki-Model offers a fully distributed filtering mechanism for generating expert and reader-friendly political information.

A further way of articulating the desirability of the Wiki-Model from the epistocratic perspective is to focus on the public's incentive vis-à-vis political information. Epistocrats find democracy epistemically problematic because the incentives of rational voters lead them to be ignorant or irrational about politics.⁴¹ The Wiki-Model meets the epistocratic challenge not by denying the problem of *voter* ignorance, but rather by allowing the public to meaningfully participate in the political process by means other than *voting*.⁴² The Wiki platform for agenda-setting creates a different set of incentives for the public. The expected influence of one's vote, regardless of how much one studied the political situation, is effectively zero. The expected influence of one's contribution to a Wiki proposal could track to a significant degree one's level

⁴¹ The classic model of voter ignorance is Downs (1957). The voter irrationality model is Caplan's (2007).

⁴² I owe this insight to Noveck (2015, 80-84).

of pertinent information.⁴³ The point can also be stated in terms of opportunity costs: unlike casting a vote, an activity with relatively low opportunity costs, editing a Wiki proposal involves more substantial costs. Consequently, the Wiki procedure, by raising the opportunity costs for certain kinds of political participation, functions as a sorting mechanism that incentivizes only the knowledgeable to participate by revealing their information. As a result, the Wiki-Model will foreseeably lead *rational* citizens to become well-informed about politics. A result that should certainly be attractive to epistocrats.

7. Conclusion

This paper set out to develop and justify the Wiki-Model, a polycentric arrangement for setting the political agenda. I have argued that the Wiki-Model satisfies the desiderata of both democrats and epistocrats. I argued that it does so in a way that avoids the selection and incentives problems plaguing alternative hybrid models (specifically Anne Jeffrey's). In the course of sketching my proposal, I have also offered an analytical framework for thinking about organizational structures ranging from monocentric, through crowdsourcing, to fully polycentric peer-to-peer networks. The ultimate purpose of this paper is not to adjudicate all of the many trade-offs and complexities contained in these different arrangements. Instead, the goal is rather to put another idea on the table. There is, in my view, much to be gained by combining questions in political philosophy with growing research on the intersection between organizational structures and technology.

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⁴³ The same goes regarding the prospect of starting a new proposal.

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