Strengthening the epistemic case against epistocracy and for democracy.

Jeroen Van Bouwel

Abstract: *Is epistocracy epistemically superior to democracy? In this paper, I scrutinize some of the arguments for and against the epistemic superiority of epistocracy. Using empirical results from the literature on the epistemic benefits of diversity as well as the epistemic contributions of citizen science, I strengthen the case against epistocracy and for democracy. Disenfranchising, or otherwise discouraging anyone to participate in political life, on the basis of them not possessing a certain body of (social scientific) knowledge, is untenable also from an epistemic point of view. Rather than focussing on individual competence, we should pay attention to the social constellation through which we produce knowledge to make sure we decrease epistemic loss (by ensuring diversity and inclusion) and increase epistemic productivity (by fostering a multiplicity of perspectives interacting fruitfully). Achieving those epistemic benefits requires a more democratic approach that differs significantly from epistocracy.*

Keywords: epistocracy, epistemic inclusion, citizen science, scientific pluralism

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Funding: (none).
Disclosure statement: T*here are no financial or non-financial interests to declare*.
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1. Introduction

At a moment in which our societies face major challenges like the climate breakdown, biodiversity loss, a pandemic as well as growing economic inequality, the exact place scientific knowledge and expertise should occupy in addressing these challenges is the subject of heated debate. In this paper, I build on the contributions of Julian Reiss (2019) and Cyril Hédoin (2021) to scout the ways in which science and politics (should) interact in addressing those challenges, in particular with respect to social scientific knowledge. One can think of a wide range of different positions about the role of social scientific expertise in political decision-making in our democracies, going from defending an increased role for expertise –sometimes defended as a least bad option, in combination with acknowledgments of the limitations of expertise– to opposing a greater role for expertise –pleading for institutions to keep experts in check or incentives that preclude expert overreach as well as expert failures– to approaches that argue for ignoring expertise altogether –which rings through in UK minister Michael Gove's much-commented statement, "I think the people of this country have had enough of experts".

Reiss argues against epistocracy, in favor of keeping social science experts in check, rather than giving them more power (2019: 183).[1] Hédoin (2021) labels Reiss' critique of epistocracy as an *epistemic critique* and considers it to be at best inconclusive, arguing that, if at all, the case against epistocracy is to be made on *political or moral grounds*. In his discussion, Hédoin distinguishes between on the one hand, "the political", the questions and considerations of power and morality, and, on the other hand, "the epistemic", the questions and considerations of generating and possessing knowledge. While considering "the political" in relation to epistocracy, you can, for instance, examine whether an epistocracy is incompatible with liberal principles, or, is an ineffective and unstable regime since it does not consult/reflect the population's values and normative judgments. Considering "the epistemic" might lead to questions like: Does an epistocracy actually deliver more apt knowledge about policies? Do social scientists (or epistocrats more generally) generate knowledge to solve or prevent problems that is always superior to the knowledge possessed by ordinary citizens? Can social

[1] *Epistocracy* is characterised by Reiss as follows: "(…) all forms have in common that voting power is roughly proportional to the voter's knowledge of social science facts and principles. An epistocracy suppresses the voices of incompetent individuals by banning them from voting altogether, by giving fewer votes to them than to more competent individuals, or by blocking incompetent decisions through a body of experts with veto power." (2019: 184). In general, one could think of systems in which political influence is distributed in accordance with citizens' knowledge levels. This could be done, e.g., via a plural voting scheme, the disenfranchisement of citizens unable to pass a competency test, or, outsourcing important political decisions to experts.

science offer what epistocrats suggest it does, for instance, making good predictions, or reliably estimate the effects of policy interventions on the problems they seek to address? If epistocrats turn out not to be epistemically more qualified to design public policy than average citizens, there is no reason to give them more power than ordinary citizens have. It might underpin having policies decided in more democratic ways.

In this paper, I aim to strengthen the *epistemic case against epistocracy* and *for democracy*. In Section 2, I revisit some of the critiques of Hédoin on Reiss. Section 3 reflects on whether possessing social scientific knowledge makes you an expert on what the public policy goals should be as well as on how these policy goals and related questions are to be formulated or specified. I then explicate what it implies for *values-only voting*, one of the alternatives suggested by epistocrats. Section 4 discusses the controversiality of social scientific knowledge and the epistemic benefits of scientific pluralism (and calls for more attention to the knowledge dynamics often neglected by epistocrats). Taken together, sections 3 and 4 broaden the epistemic case *against epistocracy*. In section 5, I strengthen the case *for democracy* as being epistemically superior by discussing the empirical support for diversity and inclusion in section 5.1 as well as reviewing the epistemic contributions of citizen science in section 5.2. In section 6, I conclude with an evaluation of potential voter qualification exams to track the alleged incompetence of citizens. It also clarifies what that implies for epistocratic proposals of weighted voting.

2. Reiss's *epistemic critique* of epistocracy

In arguing against epistocracy, Julian Reiss (2019) defends two theses. First, he questions the idea of superior political judgment possessed by some individuals, those in the knowing, but not others, and argues that there is no such thing as superior political judgment; the supposed link between social science knowledge and superior political judgment is not only not obviously true, it is most likely false. Political judgment is to be distinguished from technical judgment: In the former, in political matters, "the existence of a multitude of goals is the norm, and there are always conflicts and trade-offs between different goals" (Reiss 2019: 185), while in the latter, technical judgment, "there is a unique or overriding clear-cut goal the expert and his or her client agree on" (Ibid.). Therefore political judgment cannot be left to a technical expert. In political judgments means-ends relationships are not as well understood as in technical problems, there is always uncertainty, even if there would be agreement on which goal to pursue and what pursuing that goal would actually mean.

Second, Reiss argues that there is no such thing as uncontroversial social scientific knowledge. The link between the first and this second thesis is the alleged correlation between social scientific knowledge and superior political judgment. Reiss (2019) points to this correlation in the work of Jason Brennan (2016), where the epistocrats with presumed superior political judgment are the ones who are (better) educated in social science. If uncontroversial social scientific knowledge does not exist, the superiority of the epistocrats' political judgments is definitely undermined. In arguing for his second thesis concerning the controversiality of social science, Reiss refers to the deep fact/value entanglement in social science, the persistent disagreement about values, which feeds through to factual opinions due to fact/value entanglement, and, the absence of widely shared evidential standards in the social sciences.

Cyril Hédoin (2021) questions Reiss's two theses and characterizes Reiss's epistemic arguments against epistocracy as "at best inconclusive". Hédoin states that the case against epistocracy should rather be made on moral or political grounds. I will not discuss Hédoin's critique in detail here, just advance three general observations:

(1) In addressing Reiss's first thesis –concerning epistocrats having no superior political judgments– Hédoin develops a critique that concludes with: "All in all, I think there are serious grounds to reject the strongest version of Reiss's first claim and to accept the notion that political judgments can be informed by technical judgments." (2021: 504) I doubt Reiss would disagree that some technical information might go into political judgments sometimes. However, Hédoin neither addresses the disagreement among expert judgments, there being multiple goals, and their trade-offs, central to Reiss' argument, nor the less clear means-end relationships in political judgments that Reiss highlighted – which raises doubts over the superiority of specific political judgments by epistocrats.

(2) Discussing Reiss's second thesis, the controversiality of social scientific knowledge, Hédoin suggests a way round by assigning *degrees of confidence* to social scientific propositions and determining a *minimum threshold of confidence* if we are to ground decisions on social scientific knowledge. Some propositions will have a degree of confidence above the minimum threshold, and this would be enough to claim that social scientific knowledge is only moderately controversial. I doubt Hédoin really refutes Reiss's second thesis here. While Hédoin ponders whether Reiss's take would be that "the very notion of confidence in beliefs is misguided" in social science or "*as a matter of fact* social scientific knowledge is unreliable" (2021: 506), it seems to me that Reiss is less defeatist when he writes: "Relative to a set of value judgments and a full specification of the question at hand (…), there may

well be a fact of the matter." (2019: 189). Of course, social scientists might disagree about value judgments and possible specifications of the question, but Reiss is not claiming that we might well "get rid of" (in Hédoin's 2021: 507 wording) social scientific knowledge in order to find solutions to our problems or to get from our questions to the best answers possible, as I will elaborate below.

(3) Hédoin also considers another way to make an epistemic argument against epistocracy, namely by emphasizing that epistocratic institutions would have an epistemic cost that would not have to be paid if those institutions were democratic. He considers in particular the cost of the lack of epistemic diversity and the costs of epistemic avoidance/dominance. This Epistemic Costs Argument against epistocracy is at best inconclusive, according to Hédoin. The possible cost of a lack of diversity relates to the (positive or not) impact of the epistemic diversity of members of a group on its epistemic/truth-tracking qualities; including more diverse members would *à la limite* end up in democracy, with diversity and inclusion trumping competence and epistocracy. I will return to this discussion in section 5. The epistemic avoidance/domination issue highlights that "persons belonging to socially advantaged groups may be unwilling or unable to engage with the specific problems faced by members of socially less advantaged groups." (Hédoin 2021: 509) Hédoin considers the epistemic cost of avoidance/dominance to be proportional to the presumed controversiality of social science, i.e. the more controversial one considers social science to be, the stronger the Epistemic Costs Argument is. In its most extreme version, scientific knowledge is just completely relative to one's social identity, which would clearly delegitimize epistocracy. Central in this discussion is how we understand social science, what kind of knowledge can it provide us with? In Section 4, I will address that question and review some important findings of scientific pluralism, how to deal with different perspectives, and the importance of making your questions as specific as possible. It does open a path to avoid, on the one hand, the extreme relativism of an 'epistemology of identity' as well as, on the other hand, caricatures about science uncontroversially delivering general truths and univocal policies for the public to be 'led by science'. Ultimately, Hédoin raises the question of whether a democratic approach would do any better on these epistemic costs than epistocracy.[2] I will argue below that it does.

[2] Obviously there are different understandings of what *democracy* is, a quick glance at the democratic theory literature will tell you that. In this paper, I will understand *democracy* in general terms as more inclusive (including the entire *demos*) in contrast to the more exclusive epistocracy, without going into different versions of democracy. My arguments will present the benefits of having more democracy –epistemically speaking– rather than more epistocracy (it might also imply that we need more democratic epistemic processes than we currently have).

3. Strengthening the epistemic critique against epistocracy: Informed political judgment

Having sketched the positions of Reiss and Hédoin, I now want to strengthen the case against epistocracy (in sections 3, 4, and 6) and in favor of a more democratic approach (in section 5). The agenda of societal questions to be addressed –and the knowledge to be acquired in relation to it– does not write itself. Can the epistocrats claim that they have the knowledge (exclusively) about what the important societal questions and political goals are, and, more generally, how to organize society or how to live well? I consider three moments in which it seems hard to defend that epistocracy would lead to superior political judgments: **(a)** the selection and prioritization of concerns to be addressed; **(b)** the specification of questions and the trade-off between values involved; and, **(c)** the interactions between science and citizens as well as the (trans)formation of the public (and its problems) through dialogue. Reflecting on these three moments raises doubts about the presumed link between possessing social scientific knowledge or expertise on the one hand and possessing superior judgment in political-evaluative matters – which involves, inter alia, deciding on what the most urgent important societal questions to be addressed are or what goals society should pursue – on the other hand. Can epistocrats really claim that they possess better political judgment?

(a) Citizens may have diverse concerns or interests as well as different ways of framing or understanding those. Setting the agenda of societal questions to be answered as well as formulating the specific problems to be solved and the public policy goals to be reached, are not straightforward, uncontroversial exercises. One wonders how epistocrats can be sure that their way of deciding what the most important (or urgent) questions to be addressed are, is the right one; how is it responsive to the lived experience of the citizens who confront them as well as the epistemic interests and goals of all of those involved. Is there no cost of exclusion? We will see in section 5 that scientific experts do miss out on important citizens' concerns. Besides missing out on important concerns, the epistocracy also fails in maximally taking advantage of citizens' situated knowledge; citizens having different experiences of problems and policies, experiences that might contribute to finding and evaluating solutions. The more inclusive we are, the more we can benefit from this pooled information in developing solutions.[3]

[3] One mystery to me in the epistocrats enthusiastically going after the less well-informed and less rational population and discussing ordinary people's bad choices at length, is how they go about feedback from those people on whose behalf they decide? And how would epistocrats possibly improve or make better choices without feedback, without pooling information from the non-epistocrats?

(b) Besides the epistemic impact of the exclusion of some citizens (and their concerns), we should also highlight the impact of values in specifying the questions and the goals of addressing a question in a particular context. As I elaborated in earlier research (Van Bouwel 2003), values influence the questions that get asked, even if in many cases researchers might not be aware of the way values influence their decisions to specify questions in one way rather than another (and, consequently, serve the epistemic interests of some individuals, groups, or institutions rather than others).

Specifying questions does not only involve a decision on what the central topic or concern should be, but also on the choice of contrast[4], the time frame, the setting or place of relevance, the context of application, and so on. Different values, interests, and goals could lead to very different questions about the same topic. When looking at the social sciences, for instance, often (seemingly) competing explanations are actually answers to slightly different explanation-seeking questions (cf., Van Bouwel 2003). Similarly, (seemingly) competing policy proposals might be due to slightly different formulations of the policy question at hand – and might lead to disagreement due to different specifications of what the question is (or should be). These specifications are not a given, they involve trade-offs of multiple values and goals (e.g. a quick fix or a long-term structural solution, prioritizing freedom or equality or security, an individual or a collective approach). While experts –or epistocrats– might know more about the many aspects of the trade-offs involved, the extent to which one or the other goal should prevail is not part of their expertise. Why would experts be better at deciding where the actual trade-off should land? Excluding some citizens' perspectives (as done in epistocracy) skews the distribution of values represented in the formulation and specification of the questions deemed important (thus certain sets of values and goals might not be represented or underrepresented, with others being overrepresented). It leads to one-sided epistocratic specifications of questions, rather than better informed political judgment.

(c) Pleas for epistocracy seem to presuppose that it is not too hard to distinguish who is in the knowing and who is not. However, paying attention to the dynamics of knowing, the interactions between science and citizens (and their concerns) as well as the transformative nature of these, raises questions about the epistocrats' presupposition. Often new developments in science contribute to issues becoming public concerns – as they contribute to expressing a problem that could not be expressed

[4] When specifying questions, we do not simply ask 'Why *f*?', but rather 'Why *f* rather than *c*?' We choose a contrast class. This insight is often illustrated by an anecdote regarding the bank robber Willie Sutton. When asked why he robbed banks, Sutton replied: "Because that's where the money is." While the questioner might have had the following question in mind: "Why do you rob banks, rather than leading an honest life?" Sutton answered a question with a different contrast class: "Why do you rob banks, rather than grocery stores?"

adequately before. This ranges from presenting convincing evidence about the toxicity of a chemical substance to new terminology helping people interpret experiences in their lives, a well-known example being "sexual harassment."[5] These scientific developments enable communities to understand the challenges they face as well as the common interests they have in addressing these challenges. In Deweyan terms, they help new publics to come about (cf. Dewey 1927). Scientific research provides us with new terminology, evidence, the identification of complex webs of interdependence in social and political life, and so on. These results might be useful to publics, to newly emerging publics enabling them to identify their common interests as well as to existing publics who can benefit from accessible scientific research to (re)define their goals and the means to achieve them.

However, this does not imply it is a one-way street in which scientists (those in the knowing) remedy a knowledge deficit and that is the end of it. Rather we see citizen engagement influencing the direction that research takes as well as citizens participating in the production of knowledge. Let us look at an example of citizens engaging in scientific research via the French Muscular Dystrophy Association (AFM - *l'Association française contre les myopathies*, see Rabeharisoa and Callon 2002). Parents of children with muscular dystrophy were long told by scientists that the causes of the condition were not yet understood, so not much could be done for their children. However, parents insisted that a lot could be done for their children, perhaps not curing them, but prolonging and improving the quality of their lives, facilitating the care-taking by family members, and so on. Therefore, parents started up an association, AFM, with scientists and experts organized in an advisory scientific council, subordinated to a Board composed of parents. This Board controls the direction of research as well as insists when it is time to move from fundamental research to developing applications, notwithstanding remaining uncertainties. Judgment about what the goals, the objectives of research, should be, lies in the hands of the parents, the ones with lived experience, not in the camp of the traditional "epistocrats", the scientific experts. This results in an institutionalized dialogue between parents and scientists, sustaining a process of co-production, which changes both sides for the better.

Thus, the goals of the public and the best means to achieve those goals are defined and redefined in response to experiences –expert judgment being corrected by citizens with lived

[5] This example was elaborated by Fricker (2007). The introduction of the term "sexual harassment" in the 1970s implied alleviating a form of *hermeneutical injustice* – an injustice that refers to lacking a shared terminology to aptly convey one's experiences. It is not easy to adequately convey thoughts or feelings without having an accurate shared language to express them, thus the introduction of an apt term enables turning those thoughts and feelings into a public concern.

experience– resulting in a continuing dialogue involving both experts and citizens. Rather than exclusive unilateral agenda- and goal-setting by those traditionally considered to be in the knowing, it requires inclusion and joint goal-setting and co-production of knowledge in new domains with new publics. The public and its problems are continuously being (trans)formed and the better informed, superior political judgment does not exclusively lie in the hands of those (traditionally) considered to be in the knowing.

Some might suggest that one of Brennan's (2016: Ch. 8) forms of epistocracy, namely *values-only voting,* would address the three concerns (a)-(c) raised here. The idea of values-only voting is to divide political labor, distinguishing the political goals from the political means. Voters are considered being competent to deliberate about and choose the *goals* of government, but not about the *means* to achieve those goals, the policies meant to realize these goals. They vote on values only, not on policies.

As we have discussed above, a political judgment involves trade-offs between different goals, which could be put to vote. However, *value-only voting* seems to fall short in (at least) three respects. First, a vote on very general goals – Brennan mentions the example of protecting the environment versus economic growth – does leave a lot of uncertainty about how these goals are to be specified in context. Second, even if the goals to be achieved would be well-specified, there seems to be a presupposition that the knowledge about the means to pursue those goals is readily available to experts. This seems to be based on an understanding of knowledge (and means-goals relationships) that neglects recent findings about plurality and disagreement in social science (discussed in section 4). Third, the dynamics of knowing and the process of co-production between experts and public show a deep entanglement of means and goals, as was illustrated in the AFM case discussed above. An inquiry about goals seems inextricably bound to the inquiry into means; a goals-means separation is often false since "policy goals are often defined in terms of the available means" and "when goals are vague or ambiguous and outcomes difficult to measure, the instruments used acquire a significance that goes well beyond their purely instrumental value" (Majone 1989: 117).

It should be mentioned that Brennan (2016: 211) himself also highlights entanglement and wonders how much we can disentangle normative –the general principles of justice, values we prioritize– and empirical –the social scientific knowledge to implement those values– considerations. However, he draws a different conclusion, namely that most citizens lack the necessary knowledge to discuss the means, and, by entanglement, the goals (incl. possible trade-offs and opportunity costs). I would rather conclude that given the entanglement the citizens also have to be involved in discussions about the means, so *values-only voting* is not a satisfying answer to my concerns (a)-(c) above.

Moreover, it shows that we should take a closer look at the epistocrats' understanding of scientific knowledge (and its generation).

4. Strengthening the epistemic critique against epistocracy: The benefits of plurality in social science

Implicit in many defenses of epistocracy is that we have uncontroversial social scientific knowledge easily available. Reiss quotes, for instance, Brennan who writes "there is … a wide range of agreed-on views, such as that we should have free trade and avoid price controls" (Brennan 2016: 377). One can think of other topics immediately relevant to policy-making like minimum wage (cf. Reiss 2020) or the positive impact of multilateral institutions promoting international free trade (cf. Van Bouwel 2022). There is a lot more disagreement on these topics among social scientists than Brennan, and other defenders of epistocracy, presuppose. This disagreement poses a problem for epistocrats as Reiss (2019) highlights. Simply put: if there are no uncontroversial social-scientific facts, then how can we identify epistocrats (who are supposed to know more of these facts) from non-epistocrats (who do not know these relevant facts)?

It might be helpful to briefly mention some findings from the philosophy of social science over the last decade or so. Where Hédoin (and to a lesser extent Reiss) emphasizes the problematic parts of controversiality and disagreement in social science, we could focus on the positive aspects of having plurality and the benefits for epistemic productivity.[6] The plurality we encounter in social science (and the sciences more broadly) is rooted in the partial character of maps, models, theories, measurement instruments, and so on aiming at representation: (a) The complexity of social phenomena makes abstractions, idealizations, and choices (selection and deselection) within the causal landscape unavoidable, thus *epistemic or cognitive economy* results in a plurality of approaches and social scientific knowledge that is partial; (b) Each approach in this plurality might have its respective strengths, constraints, and weaknesses with respect to addressing particular problems or questions, which invites for an *epistemic division of labor* as well as for mutual criticism between approaches; (c) This plurality is linked to the variety of questions, *different epistemic interests, and goals,* that drive social scientific practice.

[6] *Epistemic productivity* is being understood here in terms of our capacity to answer our questions effectively, i.e. answering important questions in the best way possible (cf. Van Bouwel 2022).

There are many epistemic benefits to this plurality in science if cultivated wisely, as has been highlighted in numerous defenses of scientific pluralism (see e.g. Kellert et al. 2006, Chang 2012). One example I analyzed concerns the plurality of explanatory standards in social science (see e.g., Van Bouwel 2003, 2014). I explicated the benefits thereof and argued in favor of explanatory pluralism. A key aspect of my account is the importance of making the different possible explanation-seeking questions as explicit as possible. By doing so, the motivation, the explanatory interest, and the exact explanatory information required are made visible. Given that one social phenomenon can be the subject of different questions (cf. the formulation and specification of questions discussed in section 3), and that we want to answer these different kinds of explanatory questions *in the best possible way*, different forms of explanation, different explanatory standards are indispensable (Van Bouwel 2014).

Hédoin hopes to identify some parts of social science that are less controversial on which we can find agreement, and as such save the epistemic defense of epistocracy (at least partly). He uses degrees of confidence of social scientific propositions. The extent to which Hédoin's proposal is really a solution depends on how general he wants the social scientific propositions to be. However, he does not pay attention to the contextuality and different goals in specifying questions, where a solution for controversiality might lie. Reiss (2019), on the contrary, does pay attention to the context-dependence of social-scientific facts. According to him, these depend on (at least): "time and place of application (…); whether the focus is on the short-run or the long-run; the choice of contrast; the choice of measure or indicator." (Reiss 2019: 188) Reiss talks about fragile facts in this sense, sensitive to the four dimensions listed: "I call them fragile because what is true in one fully specified context often does not tell us very much about what is true in an only slightly altered context." (Reiss 2020: 236) Thus, when addressing policy questions, correct answers will depend on the specification of the questions along those dimensions.

This does however not imply that we might just as well get rid of social scientific knowledge. Reiss writes: "I want to emphasise that I do not seek to argue here that there are no facts in the social sciences. Relative to a set of value judgements and a full specification of the question at hand (with respect at least to the four dimensions mentioned above), there may well be a fact of the matter." (Reiss 2019: 189) If there is agreement upon the most relevant specification of the question, that is. This might not be the kind of general social scientific knowledge that Brennan or Hédoin would prefer to see (i.e. the more general, decontextualized, one-size-fits-all policies, e.g. concerning free trade or minimum wages), but it seems to be an understanding of social scientific practice well in line with recent findings in the philosophy of social science and in line with scientific pluralism.

Not only does this pluralism enable us to maximize the number of *questions* answerable, but it also fosters *a multiplicity of perspectives* which ensures mutual criticism –a second epistemic benefit that might be lost if we exclude groups of citizens as epistocracy does.[7] The benefits of the inclusion and fostering of multiple perspectives were apparent, for instance, when a parental perspective was added to the scientific perspective (in AFM, see above). Similarly, to look at an example in the economic sphere, one could consider developments within poverty studies. There is a dominant scientific discourse finding the poor themselves to be at fault, pointing at their deficiencies, their errors, and their ignorance in order to explain poverty meanwhile going over the heads of the poor time and again. The consequence often is that the poor who are talked about -but not talked with- get locked into silence, they become themselves convinced of their not-knowing, their ignorance. There exist however reactions against this dominant discourse that emphasize the importance of including the poor in studying poverty. Consider, for instance, the approach of Joseph Wresinski (founder of the International Movement ATD Fourth World) who opened a field of grass-roots reflection that set the stage for scientific disciplines to rethink poverty with people who experience it as well as to start elaborating an inclusive, actionable knowledge to overcome poverty (cf. Tardieu et al. 2020). This alternative approach also looks at the courage, resistance, resources, intelligence, and knowledge of people facing poverty and invites them to analyze their own experiences with respect to the questions raised and discuss them in group with others.[8]

Defending epistocracy –and the exclusion it implies– risks losing the epistemic benefits linked to different perspectives. Paying attention to and fostering the multiplicity of significantly different perspectives is important for two reasons. First, the history of science teaches us how possibly important perspectives are often overlooked or underrepresented. This implies another way in which scientific findings are not uncontroversial. Not only are the actual social science findings controversial, but the research agenda that led to those findings is also often partial. Some perspectives and questions are absent in the current scientific findings, some epistemic interests remain unaddressed. This often starts with the setting of research agendas – for some, it is up to experts to set the agenda,

[7] In such a way that we could say that epistocracy limits epistemic productivity by excluding. For the importance of representation of different groups in science and the connection to epistemic productivity, see Van Bouwel 2022.

[8] This might serve as a good example of a way to address *testimonial injustice* (cf. Fricker 2007) – an injustice that questions the capacity of a person to be a producer of knowledge and that is often based on prejudices assigning a lower level of credibility to a speaker's testimony. The discussion of their experiences in a group setting might also be a way to overcome *hermeneutical injustice* by finding words, an apt terminology, to put to their experiences.

to decide what the research priorities are, for others it should be controlled by larger parts of the population or done more democratically (cf. Kitcher 2001).[9] Considering more perspectives increases epistemic productivity, answering more questions in the most adequate way possible (Van Bouwel 2014). Moreover, in a democratic society, it seems important that the questions, values, and epistemic interests of diverse sets of the population are represented in science –some of which are clearly underrepresented nowadays. When science becomes more sensitive to the variety of citizens' concerns, it is able to better address societal needs and help to achieve correct outcomes through the democratic process (cf. Fuerstein 2021: 92).

The second reason for which the fostering of a multiplicity of perspectives is important is to assure mutual criticism between perspectives. Assuring mutual criticism does not only require adding more perspectives that are sufficiently developed, it also demands fruitful interaction between perspectives. Quite a lot of recent work in philosophy of science and social epistemology deals with how social interaction and mutual criticism have an impact on knowledge (see e.g. Longino 2002; or many contributions to this journal). It stipulates what social norms are to be followed to optimize knowledge generation, clarifies how exclusion or a hierarchical organization –like an epistocracy that distinguishes between those possessing enough knowledge (of the wanted kind) to participate and others that do not– might hinder the mutual criticism required for self-correction and the development of new knowledge, or for new methods and topics of inquiry to gain attention.[10]

Hampering the elaboration of a plurality of perspectives and methods will result in less epistemic productivity, while, on the contrary, knowledge that survives the pressure from criticism and new ideas coming from diverse perspectives is less likely to be false. However, just fostering diverse perspectives or maximizing inclusion as an alternative to epistocracy is not enough; it should also be part of a social organization of knowledge generation that respects certain social norms that ensure substantial mutual criticism and allow for a wide range of important questions to be answered, wants

[9] This might circle back to how one understands science (and the need to democratize it or not): some understand it as solving a puzzle where scientists know themselves which pieces of the puzzle are still missing and should be looked for, so scientists know what the research agenda should be. Some, *i.a.* defenders of scientific pluralism, understand science more like mapmaking, where it is less obvious that scientists would decide all by themselves what kind of maps (i.e. what concerns, whose epistemic interests) should be prioritized.

[10] This plea for including more perspectives has a methodological pendant in that the current methodological conventions about standards of evidence and causal inference risk silencing local and contextual knowledge that arises from lived experience. Methods like historical and ethnographic research as well as case studies are needed to avoid ignorance about questions and topics that are not well suited to quantitative social science.

it to achieve the epistemic benefits of plurality, increase epistemic productivity, and, optimize the collective epistemic outcome. This means that potentially dissenting perspectives should not only not be discounted, but they should also be cultivated (cf. Longino 2002: 132). This is an aspect of pluralism that might not get enough attention. Pluralism is often understood to be tolerant of many of the perspectives already existing, kind of non-committal. However, when one is unable to participate in the discussion as fully as one would like to, does not know where the discussion is being held, cannot (afford to) join the platforms where discussions are taking place, is inhibited by feelings of social or epistemic inferiority from speaking their piece, or for any other reason, then how can we optimize the collective epistemic outcome? We might need a collective effort to foster alternative perspectives, to create platforms or social constellations that allow for their development.[11] That might turn our attention from the controversiality of social scientific knowledge to the benefits of its plurality.

This understanding of pluralism is a far cry from the epistocrats who seem to presuppose that we already have the best knowledge or at least we already know who has or will provide us with the best knowledge and judgments. Epistocracy errs on the side of conservatism, endorsing a closed/static idea of knowledge (that is to be checked by a list of questions, cf. section 6), not promoting or fostering the benefits of pluralism. It is also important to consider how epistocracy's lack of pluralism plays out over time. Landemore points at it in her discussion of epistemic democracy: "oligarchies tend to lose over time whatever (generally more limited) cognitive diversity they started from and, as a result, are more likely to err in the pursuit of the common good over the long term." (2017: 288) Therefore, I do think the epistocracy discussion would benefit from paying more attention to knowledge generation, knowledge dynamics and their characteristics. For many epistocrats, the knowledge they want to rely on for public policies is assumed to be ready on tap – something prior to politics – and not the product of processes of knowledge generation that are often intertwined with political processes, not something that is continually produced, co-produced (in reciprocity by knowledge institutions and political bodies) and/or reproduced. This also involves what questions in the social sciences that inform policymaking get full attention and funding, and where ignorance is created or allowed (cf. McGoey 2020). One can see how knowledge institutions and political bodies help to sustain one another's functioning. Therefore, it is important to question not only whether scientific knowledge is available in the way epistocrats think it is, but also how epistocratic institutions (and their science policies) would produce knowledge (differently from democratic institutions). In the next section, I

[11] Defending this position obviously does not imply that every perspective should be considered just as epistemically successful or productive in addressing specific questions; often there will be both strengths and weaknesses. Important is the openness of perspectives for being corrected or fine-tuned via mutual criticism.

will defend that more inclusion and democracy (rather than exclusion and epistocracy) is required to optimize the processes involved in the generation of scientific knowledge.

5. Strengthening the epistemic case for democracy: Empirical support for the democratic approach being epistemically superior to epistocracy

After having highlighted the epistemic downsides of epistocracy, I would like to emphasize some epistemic benefits of producing and using knowledge in a democratic way, relying on empirical findings.

5.1. Empirical contributions about the impact of epistemic diversity and inclusion

In his critique of the epistemic argument against epistocracy, Hédoin also discusses *formal* arguments for more inclusion and diversity. These formal results indicate: "that, under some conditions, the truth-tracking properties of collective judgments of some population is not merely a function of the truth-tracking properties of the individuals' judgments in this population but also depends on its size and/or the epistemic diversity of its members. In particular, they tend to show that the larger and/or the more diverse (in terms of individual judgments) the population is, the higher the probability that particular mechanisms of aggregation issue the correct collective judgment. Because presumably, a democracy would aggregate the judgments of a larger and more diverse population of individuals than an epistocracy, it can be argued that a democratic system of political governance would be better at tracking the truth than an epistocracy, in spite of the fact that by assumption the latter benefit from more reliable individual judgments." (Hédoin 2021: 508)

The conditions set under the different theorems about collective judgments that Hédoin discusses are seldom met in practice, according to him and he concludes that "the results of these theorems are far from being decisive and in any case are probably weaker than most proponents of the epistemic vindication of democracy had initially thought." I do agree with Hédoin's evaluation of these *formal models*, however, I am surprised that he pays no attention to the *empirical research* discussing the epistemic effects of diversity. It might be because this research with respect to the effects of diversity in science, in particular, is sparse, but there is a rich empirical literature on these effects in areas like business and management. It seems unfruitful to disregard this work when discussing the epistemic benefits of inclusion and diversity.

The first question one might have when starting to consult the empirical diversity literature is what kind of diversity it talks about? Scott Page (2017), for instance, makes a distinction between *cognitive* and *identity diversity*, where *cognitive diversity* refers to what people know, life experiences, education, expertise, knowledge structures, and so on, and *identity diversity* refers to aspects like race, gender, age, physical capabilities, sexual orientation, etc. Katherine Phillips makes a distinction along similar lines using different terms, distinguishing *informational diversity* and *social category diversity* (Phillips 2017: 226-28). *Informational diversity* points to differences in information, opinions, perspectives, and modes of thought and action relevant for the task to be completed by the group. *Social category diversity* relates to demographic characteristics that people use themselves to identify as being part of a group (with people who are like me) or not being part of it (not like me), for instance, race, gender, nationality, or age. (Others also talk about *task-related* vs *demographic* diversity.)

Distinguishing these two kinds of diversity does not imply that they are unrelated. Page (2017: 2) writes that "Identity diversity will contribute to cognitive diversity, but will not be the only cause." That is also the first benefit of identity diversity that Phillips highlights, namely that it is a source of cognitive diversity. "People who have different identities walk through the world having different experiences, being exposed to different opportunities, different knowledge, and different mental models. Cultural differences, gender role expectations, marital status, parenthood, and a myriad set of other identities all influence the cognitive models an individual develops." (Phillips 2017: 229) The second benefit Phillips spells out is that identity diversity –simply seeing differences on the surface– makes people assume more cognitive differences and therefore enhances the elaboration of information shared. People will work harder than they do in homogeneous environments to elicit and examine cognitive diversity: "Identity diversity triggers expectations that cognitive diversity may be present in groups and legitimizes the expression of unique perspectives and knowledge from both identity insiders and outsiders. In addition, the presence of social category diversity can decrease conformity to socially similar others in a group, which ultimately leads *everyone* to voice unique perspectives more confidently. Finally, the desire to restore social ties with identity-similar others can benefit groups by increasing the discussion of differing information and knowledge." (Phillips 2017: 235) She also discusses the empirically tracked psychological processes supporting these claims.

Summarizing Phillips's second benefit, when we have noticeable diversity within a group, the expectation of cognitive diversity also being present increases. This motivates group members to present their views more thoroughly and to assess the information shared more carefully, given that the expectation of there being cognitive diversity present implies that others might not have the same

information or perspective you have. This is different from more homogeneous groups, where you expect the other group members to have a lot of background assumptions in common with you which may lead to less thoroughly processed information and mistakes in interpretation never spelled out – in homogeneous groups, the members are disinclined to express dissenting views and are putting (too) much trust in the information provided by others. Thus, identity diversity and the expectations it creates can improve the exchange and assessment of information as well as reduce mistakes and inaccurate interpretations. (As emphasized above, it also requires the right social setting or norms to be respected in order to provide a sufficiently supportive environment for diverse individuals to express dissenting or novel perspectives with greater confidence.)

Phillips offers empirical evidence for the benefits of diversity. Elizabeth Anderson (2006: 11) nicely summarizes how diversity and inclusion contribute epistemically: "Most of the problems democracies are asked to solve are complex, and have asymmetrically distributed effects on individuals according to their geographic location, social class, occupation, education, gender, age, race, and so forth. Since individuals are most familiar with the effects of problems and policies on themselves and those close to them, information about these effects is also asymmetrically distributed. Surely an important part of the case for the epistemic merits of democracy rests on its ability to pool this asymmetrically distributed information about the effects of problems and policies so as to devise solutions that are responsive to everyone's concerns. We therefore need a model of democracy in which its epistemic success is a product of its ability to take advantage of the epistemic diversity of individuals."[12]

5.2. Citizen engagement in science as an epistemic case for a democratic approach

For a second set of empirical findings demonstrating the epistemic benefits of diversity and inclusion, let us have a look at the epistemic engagement of citizens in science – this could involve participation

[12] I use Phillips' work as an argument for the epistemic benefits of diversity. Anderson's quote clarifies how including more individuals might maximize these benefits. This results in a case for inclusion and democracy, and against epistocracy and the exclusion it implies. It does not say anything about the ideal size of a diverse, inclusive epistemic democracy though. Biological research suggests that there might be a maximum size of a group in which collective intelligence flourishes: "Work from the collective intelligence literature suggests intermediate optimal group sizes in complex environments and highlights the difficulty of wise decision making in large groups. Evolutionary mechanisms that encourage cooperation or coordination may be scale dependent, requiring institutions such as religion and governance to maintain these properties as group size increases. (…) changes in scale alone have the potential to alter a group's ability to make accurate decisions, reach a clear majority, and cooperate." (Bak-Coleman et al 2021)

in knowledge production (e.g. biodiversity monitoring), activist research (by e.g. patient groups), co-creative methods (e.g. in migration studies), and so on. These forms of engagement are often discussed under the label of *citizen science*. C*itizen science* is more than citizens (merely) contributing by, e.g., counting birds, with agendas mainly set by scientists and citizens just helping out. It can also be conceived as a (sometimes collaborative, sometimes oppositional) dialogue between scientists and citizens in which scientists are expected to be responsive to citizens' questions and critiques. Citizen science can then be seen as a platform, a social setting in which to make the democratic "stance" epistemically productive; an emblematic example where citizens who are not in the knowing in academic terms contribute epistemically, correct or complement the ones that are considered to be in the knowing.

The epistemic contributions of citizen science could involve:

- foregrounding understudied issues or formulating original research questions grown directly out of the questions and concerns of citizens, scientific topics citizens stumble upon in their daily life which may not be on scientists' radars;
- providing testimonies of local experiences (one might otherwise not have access to) that might significantly differ from scientists' experiences;[13]
- identifying relevant variables and sources of data, informed by local knowledge, that professional scientists would miss – non-scientists can have access to relevant information that the scientific field might not even be aware of;
- knowledge and evidence about the local efficacy of instruments, technologies, and policies; the citizens actually using these might have that knowledge;
- using innovative methods, including DIY instruments; and,
- reflection on citizens' questions and methods that often, implicitly or explicitly, challenge the adequacy of standard scientific approaches, make previously unnoticed bias visible, highlight local knowledge, etc.[14]

[13] Chick 2021 writes the following about the epistemic benefits of testimony: "First, it introduces new information about how events are experienced, or how they are felt. Second, it helps hearers connect their individual experiences to experiences that speakers convey. Third, it can serve as an invitation to conceive of entirely new experiences. (…) These three epistemic benefits of testimony can work together to produce two additional advantages. They can prompt hearers to recognize that their own experiences are not universal or generalizable, promoting "awareness of their own positionality." And they can deepen a hearer's capacities to apply what they learn through testimony to related new cases, promoting understanding."

[14] For a good intro into citizen science, see Cavalier and Kennedy 2016.

It goes beyond the scope of this paper to illustrate each of these epistemic contributions, but one could think of the interactions between the Cumbrian sheep farmers, scientists, and bureaucrats described by Wynne (1992), the patients influencing AIDS research (Epstein 1996), The Louisiana Bucket Brigade monitoring air toxics (Ottinger 2010), the two examples discussed above on parental involvement (AGM) and poverty studies (ATD Fourth World), and more generally, social movements charting undone science and ignorance (cf. Frickel et al. 2010). These examples show how citizens document forms of environmental pollution, contest biased measurements of its impact on local residents, introduce alternative ways of measuring and new angles based on local knowledge, mobilize attention to unaddressed problems, resist sites of disposal of hazardous materials imposed by scientists claiming that there are no other choices, or medics that there are no treatments available yet, … and often turn out to be correct and help scientists to advance.

This suggests that (a) including the citizen's voices in matters of governance might lead to epistemically superior (or epistemically more productive) results than when they are excluded, which gives pause to the epistocracy's angle. (b) The examples are also arguments in favor of a more dialogical model for science and knowledge, rather than the deficit model – the latter being a top-down way where those in the knowing (unilaterally) inform the ones that have a (presumed) knowledge deficit. This deficit model fails to give credit to what uncredentialed citizens know, rather devaluing other ways of knowing, speaking of incomprehension, incompetence, and ignorance, and assessing non-scientists' knowledge using scientists' standards and decontextualized knowledge claims (with no mechanisms in place for integrating feedback from the public). (c) The dialogical model for citizen science, on the other hand, dovetails with the dynamical view of knowledge and publics as well as the importance of mutual criticism between different perspectives I discussed in Sections 3 and 4. Knowledge is being (re)made, ever again, and not only by epistocrats. Citizen engagement explicates and questions (often implicit) value influences in current scientific research as well as diversifies the interests and values that inform scientific inquiry. It makes science more open and deliberate about its own interests and values.[15]

Let me also emphasize once again that a commitment to dialogue among diverse groups as well as to addressing questions of broad layers of the public entails a deep commitment to *relative equality* among the participants in these epistemic processes, so as to prevent socially powerful groups from blocking or taking-over the process. Be it obtained via deliberation-enhancing democratic norms,

[15] This can be both critical and constructive. However, the inclusion of citizens in science and governance bodies is no panacea. It opens up for abuse as many corporations have understood, see, e.g., Fernández Pinto (2018).

institutional set-ups, or otherwise, it requires voices not to be easily discounted as well as paying attention to other asymmetries of power that might hinder participation. Therefore, merely pleading for inclusion seems to be insufficient, these voices have to be empowered, enabled to dialogue, communicate, vote, and, represent, in order to optimize the collective epistemic outcome. All of this seems to be the complete opposite of what epistocrats are pleading for. Thus, if we want to minimize epistemic losses and maximize epistemic productivity epistocracy is not the way to go.

6. Concluding with the alleged incompetence of citizens.

One of the main arguments of epistocrats points at the alleged incompetence and ignorance of many citizens concerning policymaking. They imagine potential qualifications exams in which some minimal understanding should be proven in order to participate in political life, failing the exam would result in disenfranchisement. Such a competency test to be taken by each citizen does raise a couple of questions: **(a)** who will decide on the questions of the test, what kind of knowledge has to be tested, and how; **(b)** why test individual competence – in which every individual is supposed to know the same – rather than collective competence in which aspects like diversity and social-epistemic norms play a role; **(c)** should the evaluation in terms of competency eventually not be made on the societal level where many different publics should be satisfied with the outcome of the political decision-making instead of evaluating competency at the start?

(a) The first issue has to do with how to restrict participation and who decides what knowledge is the *sine qua non* to participate? In section 3 (c), I showed that knowledge is very dynamic. The examples of citizen science in section 5 also show that useful knowledge is often found in places where one does not expect it. These aspects of knowledge raise questions about the competency tests epistocrats envision. As they often imagine potential qualifications exams with respect to voting in elections, let us have a look at something similar that has been done with respect to economic literacy.

Among economists, there is a vocal epistocrat-like group that considers the public not to be trusted as judges of economic policies presuming they are poorly informed about economic matters, so the judging is better left to economic experts (cf. Caplan 2007; Brennan 2016). In order to prove the lack of knowledge on the side of many citizens (cf. the “deficit model” discussed above, thus economic principles should be taught more widely), they refer to poor results in systematic surveys of economic literacy.

Dekker and Kuchar (2020) examine two major surveys used to examine the economic literacy, the *Minimal Economic Knowledge Survey* from Germany and the *Standards in Economics Survey* from the United States. Although the results of these tests seem to confirm a considerable lack of economic knowledge among the participants, Dekker and Kuchar demonstrate how these tests actually fail to test the economic knowledge of the public and are closer to an Economics 101 exam, with many questions testing the knowledge of definitions or being formulated on a very abstract (decontextualized) level. In that sense, it does not really inquire about what the public knows or the economic understanding of the public, but rather its knowledge of economic theory.

In their discussion of the actual questions raised in those surveys, Dekker and Kuchar notice that the answers given are sometimes "practically right even if theoretically 'wrong'" (2020: 7). They highlight several instances where participants answer questions 'wrongly' but do demonstrate solid economic reasoning (often informed by practical experience). Dekker and Kuchar interpret these responses as proof of economic literacy rather than of ignorance. Yet many economists act with disdain, convinced that theirs is the only type of economic knowledge worth having, and are quick to fault the public, rather than engaging to understand why perspectives differ, let alone which perspective is the most relevant (in a given situation). Dekker and Kuchar see different types of economic knowledge and expertise, and argue for the simultaneous existence of these different types, held by economic actors (the public) or economists (the experts). Economics should search for convergence between them, with the analysis of economic actors (the public) being an untapped resource for the improvement of economic knowledge. Their conclusions about these surveys seem to be well in line with what I have defended in sections 4 and 5 on the importance of considering different perspectives, including the ones that traditionally are not cultivated among epistocrats**.**

(b) A second aspect that can be questioned about the competency exam is its focus on the individual. Why is every individual supposed to know the same? The competency exam seems to rather aim for the epistemically non-diverse – preferring individuals that have at least the contents of their qualifications exam in common. Should we not rather focus on variation among individuals and how the combination of different kinds of knowledge can be maximally being benefitted from, e.g. via assuring that certain social-epistemic norms are being respected, than on the knowledge of each individual separately? Why not reason from a social-epistemological perspective –as in sections 4 and 5 above – keeping an eye on the collective epistemic outcome, focussing on the structural factors that shape knowledge, e.g. promoting interaction between different approaches, deliberation-enhancing norms, perspective-taking; minimizing coercion, domination, oppression; avoiding groupthink, bandwagon effects, confirmation biases, and so on.

To illustrate this point, let us look at another form of epistocracy described by Brennan (2016), namely *government by simulated oracle*. In this form, every citizen is allowed to vote, but votes are weighted by political knowledge – voters must take an exam concerning basic political knowledge at the same time as they vote. Next, you would only consider, for instance, 1/3 of the votes (the ones of citizens with the highest exam score) and, thus, the votes of members of the electorate with a lower exam score would be "corrected".[16] Brennan has an original take on issue (a), how to decide what knowledge should be tested in the exam. He suggests that the operationalization of the competence principle might be decided *democratically* by delivering a legal definition of political competence (understood as standards for what makes someone a competent voter, 2016: 224-26). Whether it would be a one-time decision or a recurrent one (which might make the difference between democracy abolishing itself or shifting towards indirect democratic elections), he does not mention. As concerns issue (b) here, Brennan does keep things individually (knowledge as a property of individuals), while I emphasize the importance of taking the social-epistemic set-up through which knowledge is produced into account as well as the quality of epistemic interactions involved in collective decision-making.

(c) The third issue can perhaps be summarized as *cui bono*, who stands to gain from these competency exams? The motivation of epistocrats is to increase the influence of those who are considered to be more knowledgeable relative to the ones that are considered less knowledgeable (understood in a very traditional way). The level of traditionally understood political knowledge is positively associated with socioeconomic status (see e.g. Althaus 2003). So, in practice, this epistocratic idea of organizing competency exams would diminish the political influence of the worse-off (as well as the incentive of politicians to take the interests of the worse-off into account). This is of course a *political* reflection, not an *epistemic* one (if we follow the distinction made in the introduction).

Epistocrats might object and reply to the *cui bono* question that everyone will benefit from only selecting those in the knowing to participate in political decisions. But how would we know that we are all better off in an epistocracy? This requires some way of evaluating societal outcomes of political decision-making. Such a way of outcome measurement would have to deal with many of the issues we discussed in section 3 about better political judgment, who decides what policy goals (including their precise formulation and specification) are to be reached, and so what has to be measured in an evaluation? Imagine one would prefer to measure political-decision making in terms

[16] Brennan also adds: "perhaps while statistically controlling for the influence of race, income, sex, and/or other demographic factors." (2016: 15). While sophisticated, it also raises a lot of questions about the choice, definition and relative weight of the different demographic factors.

of wellbeing. Here as well we would have some tending towards the rule of expertise (with generalized, a-contextual wellbeing measures), while others might prefer more locally, contextual approaches.

One way to measure well-being would then be, for instance, to take the life satisfaction measure of psychologists as an indication and measure to what extent your government maximizes the level of overall life satisfaction (in this psychologist's understanding), while another way of addressing it would be to start from what you think matters in life, what the community as a whole in a deliberation decides what should be done, or what really matters to them as members of the community. A more contextual approach to measuring wellbeing could consider different notions of wellbeing, a variety of formulations and specifications of these notions as well as diverse measures in different contexts. This requires dialogue, participation, inclusion, and a more pluralist debate (cf. Singh and Alexandrova 2020). The tension between the epistocratic and the democratic approach reappears.

Concluding, I hope to have demonstrated that disenfranchising, or otherwise discouraging anyone from participating in political life, on the basis of them not possessing a certain body of (social-scientific) knowledge, seems untenable also from an epistemic point of view. Rather than focussing on individual competence, we should pay attention to the social constellation through which we produce knowledge to make sure we decrease epistemic loss (by ensuring diversity and inclusion) and increase epistemic productivity (by fostering a multiplicity of perspectives that interact fruitfully). That requires a democratic approach that differs significantly from epistocracy.

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