

Kitcher on Well-Ordered Science: Should Science Be Measured against the Outcomes of Ideal Democratic Deliberation? *

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ABSTRACT: What should the goals of scientific inquiry be? What questions should scientists investigate, and how should our resources be distributed between different lines of investigation? Philip Kitcher has suggested that we should answer these questions by appealing to an ideal based on the consideration of hypothetical democratic deliberations under ideal circumstances. This paper examines possible arguments that might support acceptance of this ideal for science, and argues that neither the arguments presented by Kitcher (2001, 2011b) nor traditional arguments for democracy succeed in justifying its acceptance.

Keywords: Philip Kitcher; Democracy; Science; Philosophy of Science.

RESUMEN: ¿Cuáles deberían ser las metas de la investigación científica? ¿Qué cuestiones deberían investigar los científicos, y cómo deberían distribuirse nuestros recursos entre diferentes líneas de investigación? Philip Kitcher ha sugerido que deberíamos responder a estas preguntas apelando a un ideal basado en la consideración de deliberaciones democráticas hipotéticas en circunstancias ideales. Este artículo examina los posibles argumentos que podrían apoyar la aceptación de este ideal para la ciencia, y defiende que ni los argumentos presentados por Kitcher (2001, 2011b) ni los argumentos tradicionales para la democracia logran justificar su aceptación.

Palabras clave: Philip Kitcher; democracia; ciencia; filosofía de la ciencia.

Introduction

Philip Kitcher has been at the forefront of two of the more significant developments in the philosophy of science over the last few decades, of two distinct kinds of social turns. First, he has contributed to the socializing of the philosophy of science by studying the significance of the social division of cognitive labor. Second, in his more recent writings, he has sought to focus the philosophical community's attention on questions about the social impact of science and on the collective good which science ought to pursue. Thus he has placed a previously neglected set of questions on the agenda of the philosophy of science, and attempted to provide the basis for answering these by articulating an ideal of a 'well-ordered science'. It is on this ideal, an ideal of science properly functioning to serve the attainment of proper collective goals, that I focus here.

There is a sense in which these neglected questions which Kitcher (2001) places on the agenda of the philosophy of science are more difficult to answer than some of the

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more traditional questions of the discipline. These questions do not merely require us to determine how science can obtain certain specified goals—such as truth and knowledge; they require that we determine what goals science ought to pursue, and what truths scientists should seek to know. Kitcher's suggestion is that the answer to these questions be determined procedurally on the basis of an ideal hypothetical democratic procedure: The goals that science ought to pursue, and the questions which scientists ought to study should be those that would have been selected by a hypothetical democratic procedure under ideal circumstances.

In this paper I evaluate the merits of Kitcher's proposed democratic ideal and his reasons for adopting it. I focus on the way in which this ideal is developed and defended in Kitcher (2001),¹ and in particular, on its application to the question about the way the scientific agenda should be set: on the idea that the scientific agenda should conform to what would be decided upon, if the decision about the agenda would be made through ideal hypothetical democratic deliberation.² I argue that while we do need to articulate a standard against which we can evaluate the organization of science and its agenda, this ideal should not be set by the kind of hypothetical democratic procedure envisaged by Kitcher. For the reasons for insisting on our communities being governed by democratic decision-making procedures do not require that the scientific agenda be set by a hypothetical democratic procedure.

The next section briefly defends Kitcher's claim that philosophers of science need to articulate a standard against which scientific institutions can be evaluated. Section 2, presents Kitcher's (2001) reasons for suggesting that this standard should be specified in terms of the decisions adopted by a hypothetical democratic procedure, and explains why these are lacking. The main part of the paper then examines whether the kind of considerations appealed to by traditional arguments for democracy can provide us with reasons for adopting Kitcher's democratic ideal. I argue that neither instrumental arguments for democracy (section 3), nor egalitarian principles (section 4) support adopting it as an ideal for science. Section 5 argues against an alternative way of supporting this ideal, suggested in Kitcher (2011b). Section 6 suggests that the hypothetical democratic procedure described by Kitcher can nonetheless play a role, albeit a more modest one, in our evaluation of scientific institutions.

¹ While my main focus here is on Kitcher (2001), in section 4 I briefly address the way Kitcher supports his suggested ideal in Kitcher (2011b).

² I am thus following Kitcher (2001) in focusing primarily on the scientific agenda, and not on other questions to which the discussion of the proper goals of science might be relevant. Thus, some would suggest that certain moral values have a legitimate role not only in determining what questions scientists study, but also in determining what answers to accept. However, that such values have a legitimate role in the former context is much less controversial, and it is for this reason that I focus on it here. While I will not address here the question whether hypothetical democratic procedures should play a role in other contexts, such as that of the decision which scientific theories to accept, a similar argument to the one presented here would seem to apply to them too.

1. *The Need for a Standard*

There are many goals which we might hope to obtain through scientific inquiry. Scientific inquiry allows us to obtain practical benefits, such as life-saving drugs and cost-saving technologies, as well as knowledge and understanding, which may be valuable for their own sake. At the same time, scientific inquiry can also have negative effects: from the proliferation of new forms of lethal weapons to the strengthening of biases and prejudices (Kitcher 2001, 93-108). In light of these different benefits and harms that scientific inquiry might engender, what should the goals of scientific inquiry be? Which questions should scientists investigate? And in the investigation of which questions should our resources be invested?

Consider the agenda of biomedical research and what is known as the 10/90 gap: It has been argued that only ten percent of the resources invested in health research are devoted to addressing diseases that are responsible for ninety percent of humanity's burden of disease. Significantly more resources are invested in the study of diseases of the rich than of the poor (Reiss and Kitcher 2009). Several critics have thought that this relative neglect of diseases of the poor is wrong. Kitcher does of course agree. What sets his discussion apart is his attempt to articulate a standard against which the distribution of resources to scientific and biomedical research can be evaluated, and which supports this criticism of current research agenda.

One need not accept Kitcher's suggested standard to accept his claim about the need for some kind of standard. Even if one thought that the current way in which science is organized and the scientific agenda is set is as good as any other, or even better, one must be able to point at some kind of standard against which the organization of science can be evaluated. Kitcher's important claim is that philosophers of science have failed to articulate an adequate standard against which the organization of science can be judged.

2. *Kitcher's Argument for a Democratic Ideal*

It might be thought that there is no question about the proper goals of science, truth or knowledge being its recognized goals. However, Kitcher (2001) rejects this idea. His rejection of it is based, first, on the observation that to the extent that science is aimed at the attainment of truth, it is not aimed at the attainment of all truths, but only of significant truths. Moreover, he argues, there is no contextually independent concept of epistemic significance. So we cannot specify the kinds of truths that ought to be sought, unless we take into account the various concerns, interests, and circumstances of various groups and individuals. Furthermore, the goal of science should not even be the unrestricted attainment of epistemically significant truths. Other harms and benefits that are produced by scientific inquiry must also figure in the determination of the goals of science.

If the philosophy of science is to address questions about the goals that science ought to pursue, as Kitcher rightly insists that it must; and if Kitcher is right in rejecting the idea that we can answer such questions by saying that truth, or knowledge, ought to be the goal of science, then it would seem that a whole set of questions has

been left out of traditional philosophy of science. To correct for this neglect, philosophers of science must face questions and difficulties which often seemed to be the business of moral and political philosophers and which philosophers of science often sought to avoid. In addition to more traditional questions about good ways of seeking significant truths, philosophers of science must ask themselves, "What is the collective good that inquiry should promote" (Kitcher 2001, 116). Answering this question may require addressing questions concerning the relations between individual and collective good, in addition to meta-ethical questions about the very status of claims about the Good. As Kitcher admits, there is therefore a sense in which the questions towards which he draws our attention are more difficult to answer than more traditional ones (2001, 114).

It is partially because of these difficulties that Kitcher suggests that the scientific agenda should be measured against an ideal democratic procedure (2001, 116).³ The way the scientific agenda is set will differently affect different members of society, and so, to determine what the scientific agenda should be like we must somehow balance the diverging interests and views of different segments of the community. But how are these different interests to be weighed against each-other? Kitcher expresses doubts about the possibility of defending an objective conception of well-being, and has no solution to the problem of aggregating the interests of different individuals into a measure of collective well-being. Because of that, he seeks to circumvent these difficulties, and proposes to answer the question of the scientific agenda by relying on the fact that in our community democratic ideals are taken for granted. As long as our discussion concerns the questions that scientists ought to pursue within societies that honor democratic ideals we can determine what the scientific agenda should be like by consulting an ideal democratic procedure: by considering what would be decided upon if the scientific agenda would be determined by properly informed citizens who must make a decision through ideal democratic deliberations.

Kitcher, it is important to note, does not suggest that the scientific agenda be determined by actual majority vote (2001, 123). He is well aware of public ignorance about scientific matters (Atchison 2012; Anderson 2011), and is wary of "tyranny of the ignorant" (Kitcher 2001, 2011b). It is for this reason that Kitcher suggests that the scientific agenda not conform to actual majority vote, but that it be evaluated against an ideal determined by considering a *hypothetical* procedure that is free from some of the obvious drawbacks of vulgar democracy. Thus we are to measure the agenda of science against a hypothetical decision that is both democratic and informed: we are to consider the hypothetical decision arrived at on the basis of the votes of hypothetical individuals who, starting with different preferences about the scientific agenda, are provided with relevant information about the practical and epistemic significance of possible lines of inquiry; who converse with each other about these lines of inquiry; who all aim to arrive at a consensus which fairly represents the preferences of all parties; and who are prepared to revise their personal tutored preferences in recognition

³ Kitcher (2011b) presents a very different way of motivating a similar democratic ideal. See section 5 for a discussion.

of the needs of others (2001, 118-123). It is against the hypothetical decision of such ideal deliberators that actual scientific institutions and their agenda should be measured.

As noted above, Kitcher attempts to justify reliance on a democratic ideal on the basis of the fact that commitment to democracy is a common currency of our public lives. However, this line of argumentation faces an obvious challenge. Just as unanimous recognition of the value of truth need not imply that the goal of science should be the attainment of truth, so recognition of the value of democracy does not mean that the goals of science should be specified by democratic procedures. Even if we all agree on the value of democracy, surely we should also agree that other things but democracy are valuable, and that the attainment of these is not always best served by the institution of democratic procedures (Keren 2011). To determine whether we should accept a democratic ideal for science, we should consider the reasons that justify our commitment to democratic institutions, and the way these and other reasons apply in the case of science.

3. Kitcher's Ideal and Instrumental Arguments for Democracy

Different kinds of considerations have been proposed in support of the moral desirability of democracy. In general, these fall under two types: instrumental arguments and those based on claims about the intrinsic worth of democracy (Christiano 2003). However, since Kitcher advocates an ideal determined by a hypothetical democratic procedure, and not one based on actual democratic voting, not all of these arguments are applicable to the recommended procedure. Indeed, as I shall presently argue, instrumental considerations that support actually instituting democratic decision-making do not seem to favor a hypothetical democratic procedure.

Instrumental arguments for democracy are based on claims about the causal effects of democratic decision-making. But the causal effects of actually implementing democratic decision-making procedures and of merely considering hypothetical procedures and acting accordingly are obviously quite different. For instance: one historically important type of argument in favor of democracy is based on claims about the positive effects of participation in democratic decision-making on the character of citizens (Mill 1861/1991). Obviously, running institutions by considering hypothetical democratic voting procedure would not have similar effects on the character of community members.

Other instrumental arguments for democracy also do not favor a hypothetical democratic procedure. The point is not that all causal claims which are true of actual democratic procedures do not hold in the case of hypothetical democratic procedures and institutions guided by them. We can describe hypothetical democratic procedures that would lead to the same kind of good effects attributed to actual procedures, albeit through alternative causal chains. The point is, however, that even if we can imagine such hypothetical procedures, this may not give us reason to design institutions that are guided by our considerations of them. At least not, if instrumental arguments for democracy are sound. Thus consider the claim that democratic decision-making is more likely than other forms of decision-making to pick out the best policy (Estlund

2003). We can imagine a hypothetical democratic procedure that will be even better than actual democratic procedures in this respect—one that by definition satisfies all the conditions of *Condorcet's Jury Theorem*. However, the fact that we can imagine such a procedure provides us with no good reason for guiding institutions by our considerations of such a hypothetical procedure. For while such a procedure is very good at picking the best policy, we are not very good at predicting what policy such a hypothetical procedure would pick.

To show that no instrumental argument for democracy supports adopting Kitcher's democratic ideal, we ultimately need to evaluate all plausible instrumental arguments for democracy, and examine the extent to which each of them can support a hypothetical democratic procedure. Obviously this is something that I cannot do here. However, there are *prima facie* reasons to believe that the point made here does not apply only to epistemic arguments for democracy, or to arguments based on the effects of democracy on the character of individuals. If instrumental arguments for democracy are sound, then there are reasons to think that the point generalizes. For such instrumental arguments hinge on the claim that we don't have the ability of guaranteeing the same good result obtained by democracy without implementing actual democratic procedures. Indeed, if we could obtain the same good results attributed to actual democratic decision-making by letting consideration of hypothetical democratic procedures guide our institutions, this would constitute a powerful argument against the claim that the state should be governed by actual democratic procedures. For were this the case, then we could get all the good consequences of democratic voting and deliberation, while avoiding some of the familiar shortcomings of modern democracies.

4. *Equality and the scientific agenda*

The idea that instrumental arguments for democracy can justify acceptance of Kitcher's suggested ideal thus seems unpromising. Indeed, the same is also true of at least some arguments that point to intrinsically valuable features of democracy. Of the various claims about the kind of intrinsic value attributable to democratic decision procedures, some, such as liberty and self-governance, do not seem to be enjoyed by merely hypothetical decision procedure. Arguably, if any form of argument which supports our commitment to democracy can be thought to support adopting an ideal of science set by a hypothetical democratic standard, it is an egalitarian argument. Indeed, many of the details of Kitcher's discussion suggest that he would see his proposed ideal as being supported by egalitarian considerations (Kitcher 2001, 2011b; Flory and Kitcher 2004; Reiss and Kitcher 2009).

If this is correct, then the way to justify the proposed democratic ideal is different from the official justification suggested for it in Kitcher (2001). If acceptance of a hypothetical democratic ideal for science is justified, what justifies it is not the consensual commitment to some kind of value, democratic or egalitarian. For there is "a wide menu of answers to the question: equality of what?" (Sen 1982), as there is also a wide menu of answers to the question: democracy for what? Many of the answers on these menus do not support adopting a hypothetical democratic procedure. And even if

some of the answers on the menu do support adopting such an ideal for science, there is arguably no consensual commitment to them. Accordingly, if we are to justify the proposed ideal for science, we should not appeal to the consensus within our society. Instead, we should show that there is some egalitarian principle that supports adopting this ideal, and argue that this egalitarian principle is plausible, whether it is widely accepted or not.

If this is the way the argument should proceed, then we can see the force behind some of Kitcher's more important criticisms of contemporary scientific agenda. Arguably, certain features of contemporary science, such as the neglect of certain diseases affecting the poor, would not survive scrutiny against any plausible version of egalitarianism. Such neglect would be deemed unjustifiable whether it is judged against a total-utility conception of equality, or against a Rawlsian conception; against an equal-consideration conception of equality or against an equal-say conception. And while it is controversial which kind of conception of equality is most plausible, it is quite plausible that at least one of these is a valid conception of equality.

However, if this is the structure of the best argument for the proposed ideal for science then, I want to argue, we should ultimately reject this ideal. For no plausible egalitarian principle would require that the actual scientific agenda conform to the agenda selected by a hypothetical democratic procedure. Indeed, no plausible egalitarian principles would require this, even if it suggested that we should allow a hypothetical democratic procedure to determine our decision with respect to some of the most principled, fundamental questions facing our community. Even if an egalitarian principle, such as a principle of equal say, would require that the principles that govern our societies conform to those that would be decided upon by an ideal democratic procedure, the principles thus decided upon would not require that we determine the scientific agenda in the same way. For plausible moral principles, including egalitarian principles, provide us with reasons against allowing majority vote to determine our decision on many issues, including the way the scientific agenda is set.

Thus, any moral principle that requires equal rights to all would lead to such a conclusion, if according to this principle, the bundle of rights to which all are entitled contains a right to property. Because I have a right to my own property, the way it is used should not be determined by a democratic vote, actual or ideal. Surely, within certain constraints, I should be the one who determines how my property is used. Since one thing that individuals might want to do with their own property, resources, and time, is to invest these in scientific research, principles assigning equal rights to all would arguably allow them to do so in ways that do not conform with actual or ideal democratic vote.

Utilitarian principle of equality would also lead to similar conclusions. First, such principles arguably support assigning certain property rights to individuals, and so, as suggested above, would allow individuals to determine how their property is used for the promotion of scientific inquiry. Moreover, such principles would not require giving everyone an equal say when it comes to questions about the scientific agenda because sometimes such questions have a greater effect on one group of individuals than on another. To see this, let us focus on questions about truths of pure epistemic sig-

nificance: truths, whose knowledge both is inherently valuable and has no foreseeable instrumental value.⁴ In as much as we must decide between two proposals for the agendas of science that differ only in their ranking of scientific questions of pure epistemic significance, should the decision between these be made in a democratic fashion? The fact of the cognitive division of labor is of some significance here. Obviously not all members of the community participate equally in the pursuit of such truths. Arguably, because of that, the lives and well-being of those who do actively pursue them—call these *pure scientists*—is impacted in a more significant way when it comes to decision about which truths of pure epistemic significance to pursue. This is so both because pure scientists actively participate in the pursuit of such truths, and because knowledge of such truths is for them an important personal goal. In contrast, laypersons and scientists who do not pursue such truths often choose not to do so at least partially because they have other personal goals that are more important to them. Unless we accept an account of well-being that completely divorces between one's well-being and one's preferences and personal goal—an account that Kitcher (2001) rightly considers as implausible—we should recognize that decisions about which questions of pure epistemic significance to invest in tend to have a greater effect on the well-being of pure scientists, than on that of laypersons and other scientist.⁵ Accordingly, in deciding between proposals that differ only in their ranking of questions of pure epistemic significance, a utilitarian principle would not suggest that everyone should be given an equal say. Instead, it would arguably give greater say to those whose well-being would be affected by the decision, namely pure scientists.⁶

It might be thought that some other egalitarian principle might support a hypothetical democratic ideal for science. Or that we should accept a hypothetical democratic ideal for science, but apply it in a more restricted way: not to the determination of the scientific agenda at large, but only to the determination of the agenda of scientific inquiry funded by the public, and perhaps only to the pursuit of truths which are not of pure epistemic significance. But I think that the line of reasoning suggested here applies quite generally: no egalitarian principle would demand that the scientific agenda be measured against a hypothetical democratic ideal; not even when it comes to scientific research with foreseeable instrumental value funded by the public. Egalitarian principles can be broadly divided into ones that require substantive equality in

⁴ Of course, science does not pursue only truths of pure epistemic significance, and there is no reason to think that such truths are of special importance. Arguably, most significant truths studied by science, including those that it is inherently valuable to know, have practical significance. Often, as in the study of question concerning climate change, the practical value of such knowledge far exceeds its inherent value.

⁵ I am not claiming that decisions about the scientific agenda will generally have a greater impact on the well-being of scientists. The claim is only true in as much as the significance of the truth pursued is owed to the inherent value of knowledge, rather than to its practical significance.

⁶ Note that what I say here in no way commits me to “the myth of purity”, according to which moral and political concerns are irrelevant to the evaluation of “pure science” (Kitcher 2001). On the contrary: What I am exploring here are the implications of moral principles such as utilitarianism to the investigation of questions of pure epistemic significance.

the distribution of some kind of goods, resources, or of wellbeing; and procedural principles that require some kind of equality in the political power different individuals enjoy. And there are reasons to think that both kinds of principles would not require that the scientific agenda conform to what would be decided by a hypothetical democratic procedure.

Consider first why egalitarian principle of the former substantive kind would not demand that the actual scientific agenda be measured against that adopted by a hypothetical democratic procedure. Unlike a hypothetical decision situation of the kind described by Rawls' original position (1971), where all rational individuals are supposed to agree in their decision, a hypothetical democratic procedure is one in which rational individuals can differ in their decision under the hypothetical choice situation. As a result, the options selected by such a democratic procedure would depend on contingent features of the community. There is no reason to believe that the option selected by such a procedure would generally fulfill the kind of distribution required by any substantive egalitarian principle; and therefore no reason to think that substantive egalitarian principles would suggest that a hypothetical democratic procedure would set the right standard for evaluating the scientific agenda.

But if substantial egalitarian principles would not demand that the scientific agenda be evaluated against a standard set by such a procedure, then the same would be true of egalitarian principles requiring equality in political power. Even if principles of the latter kind would require that the principles that govern our societies be determined by a democratic procedure, actual or ideal, the principles decided upon in this way may not require that the scientific agenda be determined in the same way. A community of individuals with equal political power might decide in a democratic way that its public institutions are to be governed in accordance with certain substantive principle. And as suggested in the previous paragraph, such substantive principles would not suggest that a hypothetical democratic procedure would set the right standard against which to measure the scientific agenda.

I conclude therefore that familiar arguments for the claim that the state should be governed by democratic institutions, do not suggest that the scientific agenda be determined by considering a hypothetical democratic procedure. Instrumental arguments for democracy, I have argued, do not support hypothetical democratic procedures. And egalitarian principles that require that the state be democratically governed, even those that require giving all an equal say, need not entail giving everyone an equal say *regarding science and its agenda*.

5. Democracy and the Ethical Project

In his most recent writings, Kitcher (2011b) has proposed a very different way of supporting the adoption of a democratic ideal for science that does not appeal to traditional arguments for democracy. Instead, the argument is based on a nontraditional meta-ethical account developed in Kitcher (2011a). To end my discussion of the proposed ideal for science, I will briefly explain why the reasoning offered in the previous sections also appears to undermine this argument for the proposed ideal for science.

Kitcher (2011a) defends a pragmatic, naturalistic account of morality and proposes a general method of investigation of values, which closely resembles the method suggested in Kitcher (2001) for determining the goals of science:⁷ In general, he suggests, decisions about norms and values should accord with those that would be reached through ideal egalitarian deliberation involving all of humanity, under conditions of mutual engagement. It is on the basis of this account of the method of investigation of values in general that Kitcher suggests that the goals of science in particular should conform to what would be decided upon through a process of ideal democratic deliberation (2011b, 114).

Kitcher's (2011a) non-traditional meta-ethical account, which is supposed to motivate acceptance of the proposed method of ethical investigation, rejects much of the received view about such notions as ethical authority, ethical truth, and ethical progress. It rejects the very ideas of independent moral truth, and of ethical experts who have some special access to such truths. And it offers an account of ethical truth in terms of a more basic concept of ethical progress, thus reversing the traditionally-perceived relations between these concepts. The proposal of a method of ethical investigation based on ideal egalitarian deliberations emerges from this understanding of the notion of moral truth and from the rejection of the very idea of ethical expertise.

Obviously, I cannot do justice here to this highly original and ambitious meta-ethical picture. However, even if we were to accept it, I doubt whether this would mean that we should accept Kitcher's suggested ideal for science. Even if we understand the notion of ethical truth in the way suggested by Kitcher, this still leaves open the question, which ethical principles are true. And even if by following Kitcher's egalitarian method of investigation, we come to accept some ethical principle as true—call it *EP*—this does not mean that we should determine the scientific agenda by following the same egalitarian method of investigation. After all, *EP* might require a very different division of labor when it comes to determining how to prioritize different lines of scientific inquiry. Utilitarianism can again serve as a case in point: Following Kitcher's egalitarian method of investigation, we might perhaps come to accept the utilitarian principle as true. Once it is accepted, the principle would arguably not suggest that everyone should have an equal say when setting the scientific agenda. Such a principle might give those who invest their resources in scientific inquiry greater say about the priorities of such inquiry, if this would motivate beneficial investment in scientific inquiry. Or, as suggested in the previous section, it might sometimes give pure scientists greater say about the priorities of scientific inquiry in as much as such inquiry is valuable because of its inherent value. Therefore, even if Kitcher is correct that we should determine whether utilitarianism is true by considering ideal egalitarian deliberations, this does not entail that we should determine how to prioritize scientific lines of investigation by likewise considering the results of ideal egalitarian deliberations.

⁷ While the general method of ethical investigation suggested in Kitcher (2011a) resembles the method of determining the goal of science, it is not obvious that the former is merely a generalized version of the latter. Majority vote, for example, has an important role in determining the agenda of well-ordered science (Kitcher 2001, 2011b), but it is not obvious if it has a similar role in the proposed method of investigation of values in general.

6. *Conclusions: A Role for Democracy?*

In asking about the proper goals of science, and in articulating an ideal in terms of which the question can be answered, Kitcher's main task appears to be that of placing this fundamental question on the philosophical agenda, and of showing that it is worthy of, and amenable to, philosophical discussion. Kitcher has no pretensions that his proposed answer is *the* correct one. Instead, his explicitly stated task is that of "providing *an* answer," one that would help us "delineate the area in which a plausible answer may be taken to lie" (2001, 116).

I have argued here that we should reject this suggested answer. Neither traditional arguments for democracy nor Kitcher's non-traditional meta-ethical account support the adoption of a hypothetical democratic ideal for science. This does not mean that the ideal should be determined by an alternative procedure, through actual democratic voting, or by a committee of expert scientists, or of renowned philosophers. In as much as our question concerns the ideal standard, against which scientific institutions and their agenda should be measured, I doubt whether any proposed procedure would provide us with *the correct answer*. For while we face deep and difficult questions in our attempt to find this answer, I doubt whether we can avoid these difficulties by employing a procedural conception of this sought after moral ideal. Instead, we have no choice but to admit to our lack of clarity and to our moral uncertainty, while attempting to minimize them.

Admitting to our uncertainty suggests an alternative way in which a hypothetical democratic procedure of the kind envisaged by Kitcher might help us in delineating the area in which a plausible answer lies. Instead of thinking of such a procedure as what determines the correct answer, we should think of it as a device, perhaps a heuristic device, which might serve along with other methods in our search for the correct articulation of the ideal. If we were to find that scientific institutions follow an agenda that would not be approved by the kind of ideal deliberations envisaged by Kitcher, this is a possible indication that something has gone wrong with these institutions. And if we were to find that our own view about the priorities of science does not correspond to what would be approved by such ideal democratic deliberations, this should give us reason to reexamine our own view. Does this fact indicate that we have not taken into account the interest of all relevant parties, or that we have given too much weight to our own interests? Knowledge that we disagree with others, and in particular, with ideally situated and numerous others, provides an important resource for coping with our known epistemic infirmities and an opportunity for epistemic self-improvement (Christensen 2007). Thus I do think that the kind of hypothetical deliberations envisaged by Kitcher can play an important role in our consideration of the scientific agenda. But if my argument is sound, then the role that such hypothetical democratic deliberations should play within our consideration is different, and more modest, than that suggested by Kitcher. Knowledge of what would be approved by such hypothetical deliberations does not settle the question about what the scientific agenda should be like, but it might help us get closer to the correct answer.

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