

The Epistemic Basic Structure*

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1. Introduction

Would raising the minimum wage help or harm the worst-off? Should I vaccinate my child against measles, mumps, and rubella? Is genetically modified food bad for me? These are typical questions we face in public and individual deliberation. They are also impossible to answer by ourselves. If we as individuals or a society are to make up our minds on such questions in an informed way, several social conditions need to be met. There needs to be well-conducted research on these questions. This research needs to be disseminated in a manner we can comprehend and through channels we can access. Finally, we should have the education and intellectual skills necessary for understanding and evaluating the findings presented to us. If even one of these conditions is not fulfilled, then our choice will be one likely to fail us.

The satisfaction of these conditions depends on the well-functioning of a number of diverse institutions that together make up what I shall call *the epistemic basic structure of a society*. It consists of those institutions that have the greatest impact on individuals' opportunity to obtain knowledge they need to deliberate about the common good, their individual good and how to pursue them. These are the institutions that play a central role in the production and dissemination of knowledge and in determining people's ability to assimilate the knowledge disseminated. It includes institutions of science and education, the media, search engines, libraries, museums, think tanks, and various government agencies.¹

The institutions that belong to the epistemic basic structure are bound by the principles of justice that apply to all social institutions. They are not allowed to discriminate on the basis of people's sex, race, or religion. Scientists have to respect the rights of individuals when they carry out experiments. Institutions of education have a crucial role in ensuring fair equality of opportunity. But beyond these, are there requirements of justice that apply

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¹ Faik Kurtulmus and Gürol Irzık, 'Justice in the Distribution of Knowledge', *Episteme*, 14, 2 (2017): 129-146, p. 129.

specifically to the institutions of the epistemic basic structure in their role as producers and disseminators of knowledge?

In this article, I identify two such requirements based on Rawls's theory of justice. First, the epistemic basic structure of a society is required to serve citizens fairly and provide them with the opportunity to gain knowledge on issues they need to be informed about. This requirement has two grounds: citizens' exercise and development of their moral powers depends on knowledge about the common good, their individual good and the pursuit thereof. For this reason such knowledge should be considered a primary good and its fair distribution a matter of justice (Section 3). Moreover, citizens will enjoy the fair value of the political liberties and full autonomy, as Rawls understands them, only if the epistemic basic structure of their society serves all of them fairly and is well-functioning (Section 4). Thus, Rawls's theory can be extended to help us theorize *distributive epistemic (in)justice*.² Even though some philosophers have discussed the idea, it remains under-theorized.³ Existing discussions offer an incomplete account of why distributive epistemic (in)justice matters. They also do not address how it should be incorporated into existing theories of justice, which institutions are responsible for bringing it about, and what its policy implications are.

Second, justice requires that the epistemic basic structure produce and disseminate the expert knowledge necessary for the design and effective implementation of just laws and policies (Section 5). I discuss some policies that would follow from these considerations in section 6. In Section 7, I

² Miranda Fricker introduces the concept, but not the term, at the beginning of her groundbreaking book—but only to signal that it is not what she is interested in. Miranda Fricker, *Epistemic Justice: Power and the Ethics of Knowing* (Oxford: Oxford University Press, 2007), p. 1. In a later article she helpfully distinguishes between discriminatory epistemic injustice, which includes both hermeneutic and testimonial injustice, and distributive epistemic injustice. She argues that both fall under the “umbrella concept epistemic injustice”. Miranda Fricker, ‘Epistemic Justice as a Condition of Political Freedom?’ *Synthese* 190, 7 (2013): 1317–32, p. 1318. Kurtulmus and Irzik 2017 op. cit. offers an account of distributive epistemic justice without employing the term.

³ Laura Beeby, ‘A Critique of Hermeneutical Injustice’, *Proceedings of the Aristotelian Society*, 111, 3 (2011): 479–486; David Coady, ‘Two Concepts of Epistemic Injustice’, *Episteme*, 7, 2 (2010): 101–113; Don Fallis, ‘Epistemic Value Theory and the Digital Divide’ in E. Rooksby and J. Weckert (eds.) *Information Technology and Social Justice* (Hershey, PA: Information Science Publishing, 2007), pp. 29–46; Jeroen van den Hoven and Emma Rooksby, ‘Distributive Justice and the Value of Information: A (Broadly) Rawlsian Approach’ in J. van den Hoven and J. Weckert (eds.) *Information Technology and Moral Philosophy* (New York, NY: Cambridge University Press, 2008), pp. 376–96. Van den Hoven and Rooksby discuss distributive epistemic (in)justice in relation to Rawls's theory. However, their approach is limited to the distribution of “informative objects” and does not address the role of the epistemic basic structure in the production, dissemination and assimilation of knowledge.

respond to the worry that ensuring that the epistemic basic structure serves the public in a reliable and fair way requires illiberal measures. People's opportunity to acquire knowledge is shaped not only by the epistemic basic structure but also by how the rest of the basic structure is organized. Given my focus on the epistemic basic structure, the account of distributive epistemic (in)justice I offer is partial. I discuss what a fully comprehensive account would also need to address in Section 8.

I offer my arguments within the Rawlsian framework, but they can be generalized to cover other liberal egalitarian theories. I adopt this framework because it is much more explicit about what goods are being distributed and which institutions are responsible for their distribution than other theories. Moreover, Rawls discusses the demands of justice that apply to some of the institutions that belong to the epistemic basic structure. Thus, it is easier to document the deficiencies of Rawls's account, which I do in the next section. Theories of distributive justice that employ different metrics of justice, such as various welfarist accounts, implicitly take the same institutions and the same goods to be their focus in thinking about the implementation of their principles. Insofar as this is the case, the arguments offered here provide a corrective to them as well—not in terms of the metric of justice but in terms of what other goods and institutions matter for the pursuit of justice as they understand it.

One final clarification. By “knowledge” I shall mean what Alvin Goldman, in his veritistic social epistemology, calls weak knowledge. Weak knowledge is just true belief: it does not incorporate requirements such as justification, warrant or conditions to rule out Gettier cases, that are necessary for what Goldman calls strong knowledge.⁴ I opt for Goldman's definition primarily because my arguments rest on the instrumental benefits of true beliefs, which do not readily generalize to the other requirements for strong knowledge. Furthermore, on most accounts, strong knowledge contains an element of individual cognitive performance. This is the responsibility of individuals and not the institutions that I shall be concerned with—even though the relevant cognitive abilities are shaped by the epistemic basic structure.

2. Rawls on knowledge and the epistemic basic structure

Rawls notes the significance of knowledge for individuals at several points. He often speaks of “the full and *informed* exercise” of the two moral powers and takes freedom of thought and speech to be a primary good for that reason.⁵ He

⁴ Alvin I. Goldman, *Knowledge in a Social World* (Oxford: Clarendon, 1999), pp. 23–24.

⁵ John Rawls, *Political Liberalism*, *new edn.* (New York: Columbia University Press, 1996), p. 308, 310, 314, 319, 324, 332, emphasis added.

notes that ignorance as well as poverty can undermine the worth of basic liberties⁶ and explicitly mentions access to knowledge about political issues as a requirement of equal political participation.⁷ His discussion of education also recognizes the importance of knowledge. He observes that the importance of equal access to education is not limited to its role in achieving fair equality of opportunity. Beyond this, it helps secure individuals' sense of self-worth by enabling them to take part in the cultural life of their society.⁸ It also prepares them for taking part in the political process by informing them of their rights and encouraging political virtues.⁹ It is for these reasons as well as for ensuring fair equality of opportunity that he advocates publicly funded education. Yet, his account neglects the role of the rest of the epistemic basic structure and the joint cooperation of all of its components in ensuring that people are well-informed. He seems to assume that public education and freedom of expression are sufficient.¹⁰

Even though its impact is also “profound and present from the start”, the epistemic basic structure is not a part of the basic structure, which, for Rawls, is the primary subject of justice.¹¹ While he notes the importance of universities and “learned and scientific societies” as being “a vital part of the background culture”, he maintains that they do not have any duties of justice that specifically apply to them.¹² They are bound by the demands of justice that apply to all associations. Thus, they “may be restricted in various ways, for example, by what is necessary to maintain the basic equal liberties...and fair equality of opportunity”, but that is all.¹³ Even more tellingly, Rawls maintains that public funding of sciences is not required by justice.¹⁴ His discussion of the media, another central component of the epistemic basic structure, also fails to address the significance of its organization. Except for one passing reference to the importance of assuring “even access to public media” for realizing the fair value of the political liberties, his discussion is limited to

⁶ Rawls 1996 op. cit., p. 325.

⁷ John Rawls, *A Theory of Justice, revised edn.* (Oxford: Oxford University Press, 1999), p. 198.

⁸ Rawls 1999 op. cit., pp. 86-7, 91-2.

⁹ Rawls 1996 op. cit., pp. 199-200.

¹⁰ With a few exceptions, political philosophers working within the Rawlsian framework have also neglected the institutions that make up the epistemic basic structure. There are two notable recent exceptions. Carl Fox, ‘Public Reason, Objectivity, and Journalism in Liberal Democratic Societies’, *Res Publica*, 19, 3, (2013): 257-273; and Zeynep Pamuk, ‘Justifying Public Funding for Science’, *British Journal of Political Science*. 49, 1, (2019): 1-16.

¹¹ Rawls 1999 op. cit., p. 7.

¹² Rawls 1996 op. cit., p. 215.

¹³ Rawls 1996 op. cit., p. 261.

¹⁴ Rawls 1999 op. cit., p. 291. For an excellent discussion, see Pamuk op. cit., pp. 6-9.

freedom of the press.¹⁵ Thus, while Rawls recognizes the importance of knowledge and some of the institutions that belong to the epistemic basic structure, he does not think that it has specific duties of justice.

As my summary of Rawls's treatment of the importance of knowledge and my discussions in the next sections should make clear, I do not argue that there is a fundamental philosophical error in Rawls's theory. On the contrary, I think his theory can help us think about what a just epistemic basic structure would look like. The error lies in Rawls's social theory. And this is understandable. He was writing at a time when universities and other institutions of science enjoyed substantial public funding and freedom from commercial pressures; the news media was not as heavily monopolized or short of resources; and social media was non-existent. The corporate machinery to mislead the public on important scientific issues, such as the harms of tobacco or climate change, had not reached the same levels of sophistication. Things have changed. There is now an urgent need to think about the duties and the proper organization of the epistemic basic structure in a liberal democratic society.

Theorizing about the requirements of justice that apply to the epistemic basic structure matters for four reasons. Most obviously, the epistemic basic structure has a profound impact on society and the lives of its citizens. Not to address it in a theory of justice is a serious omission.

Second, it is important to address society's and citizens' need for knowledge systematically. The institutions that belong to the epistemic basic structure serve non-epistemic as well as epistemic ends. Institutions of education, for instance, prepare individuals not only to reason well and acquire knowledge but also to participate in the economy. Scientific research not only provides us with knowledge about the world but can also help develop new technologies that have economic benefits. Such contributions of the epistemic basic structure are much more tangible and apparent than its epistemic contributions. They can overshadow other considerations and this can, ultimately, distort the functioning of the epistemic basic structure. An accurate sense of why the epistemic benefits that a well-functioning epistemic basic structure provides matters can guard us from such errors.

It is also critical to see that the epistemic needs of individuals and society ground requirements of *justice*. This matters because measures that serve epistemic needs of citizens will sometimes compete with other requirements of justice. To cite an obvious example, the financial resources that go to scientific research could be used to economically benefit the worst-off. Therefore, it is important that the epistemic needs of individuals and society enter into our deliberations as considerations of justice so that they are not outweighed by other considerations.

¹⁵ John Rawls, *Justice as Fairness: A Restatement* (Cambridge, Mass: Harvard University Press, 2001), p. 149.

And finally, we need to think about the duties of the epistemic basic structure holistically. Thinking about the institutions within it in isolation will mislead us. They mutually influence each other and it is their joint operation that determines what citizens and public officials know. Practices that seem unproblematic when viewed individually can have negative outcomes in the aggregate. Here is one instance of this complex interaction. As one might expect, the research that makes it into the news media is more likely to be cited.¹⁶ This, in turn, creates incentives for scientists to pursue research that will be picked by the media. It also leads scientists and university press offices to disseminate results in an exaggerated fashion which is then relayed, in the same fashion, to the public by journalists.¹⁷ When, in the end, members of the public are misinformed about, for instance, the benefits of a health intervention this will not be down to any single actor. Measures to address such failures should, accordingly, be designed with the epistemic basic structure as a whole in mind.

3. Knowledge as a primary good

The idea of primary goods, as set out in Rawls's later works, relies on a normative account of the person. According to Rawls, individuals have two moral powers: a capacity for a sense of justice and a capacity for a conception of the good. The former is the capacity to reflect and act on the demands of justice. The latter is the capacity to rationally reflect and act on one's individual ends.¹⁸ Primary goods are the means necessary for developing and exercising these two moral powers as well as pursuing diverse conceptions of the good.¹⁹

Though absent from Rawls's list of primary goods, knowledge should be considered a primary good because it is necessary for the development and exercise of both moral powers.²⁰ In order to form a conception of the good life and to revise it rationally, people need knowledge of various conceptions of the good life, the knowledge that is relevant to evaluating them and various intellectual skills.²¹ Knowledge plays an indispensable role in our deliberations about which ends to pursue. If we have made our life plans in light of false beliefs, only knowledge can help us make the necessary revisions. Having more

¹⁶ Phillips, D. P., E. J. Kanter, B. Bednarczyk, and P. L. Tastad, 'Importance of the Lay Press in the Transmission of Medical Knowledge to the Scientific Community', *The New England Journal of Medicine* 325, 16 (1991): 1180–83.

¹⁷ Petroc Sumner et al., 'The Association between Exaggeration in Health Related Science News and Academic Press Releases: Retrospective Observational Study', *BMJ*, 349 (2014): g7015.

¹⁸ Rawls 1996 op. cit., p. 19.

¹⁹ Rawls 1996 op. cit., p. 307.

²⁰ This section develops an argument briefly sketched out in Kurtulmus and Irzik op. cit., p. 141.

²¹ This observation is also made in van den Hoven and Rooksby op. cit., pp. 382–3.

of other primary goods can enable us to pursue our life plans more effectively but it cannot substitute for lack of knowledge. Once people have drawn their life plans, they also need knowledge to pursue them effectively. In the absence of an accurate conception of the world, their plans in life will be thwarted even if they have resources such as income, wealth and basic liberties.

Rawls's understanding of the capacity for a conception of the good gives us a further reason to be concerned with knowledge. For Rawls, this capacity has a "regulative nature". People have an interest in "affirming [their] way of life in accordance with the full, deliberate, and reasoned exercise of [their] intellectual and moral powers".²² Such exercise of rationality depends on the possession of various intellectual skills, conceptual resources and knowledge provided by the epistemic basic structure.

Knowledge is also necessary for the exercise and development of people's sense of justice through participating in the political process and deliberating about the common good. As Charles Mills has emphasized, systemic ignorance about different social groups and their lives, or the nature of one's society, can facilitate and sustain injustice and relations of domination.²³ In order to deliberate well about the common good, citizens should know about the experiences, needs and condition of other citizens. They also need to know numerous social and political facts such as how their society is performing with regard to issues that bear on the common good and which policies can further it. If the epistemic basic structure of our society does not function properly, there is always the risk that we will end up supporting unjust laws and policies due to our ignorance despite our individual efforts.

The epistemic basic structure is not our only source of knowledge. Some of the knowledge that bears on our individual good or the common good, for example knowledge about what activities one enjoys or the everyday experiences of people in our society, is fairly local, non-formal and, often, first-hand.²⁴ It does not depend on extensive and institutional epistemic collaboration. In contrast, knowledge about the conduct of the current government, the likely outcomes of various policies, the existing distribution of income and wealth, the workings of the criminal justice system, the efficacy of various drugs, environmental risks our society faces and so on require extensive and systematic social cooperation. It is this latter kind of knowledge that the epistemic basic structure is primarily responsible for.

²² Rawls 1996 op. cit., p. 313.

²³ Charles W. Mills, 'White Ignorance' in S. Sullivan and N. Tuana (eds.) *Race and Epistemologies of Ignorance* (Albany: State University of New York Press, 2007), pp. 11-38.

²⁴ For a discussion of the importance of knowledge that comes from first person experience of disadvantage and interaction with people from different social groups, see Elizabeth Anderson, 'Fair Opportunity in Education: A Democratic Equality Perspective', *Ethics* 117, 4 (2007): 595-622, at pp. 606-614.

There is also an implicit limit on the domains of knowledge that grounds claims of justice. Since knowledge should be treated as a primary good because of its role in the exercise and development of the two moral powers, it is only knowledge that is needed for these purposes that ground claims of justice. Not all questions that people are curious about make claims of justice on the epistemic basic structure of a society. However, given that knowledge in different domains tend to be interrelated, forming, as Quine puts it, a web of belief, the knowledge that bears on the exercise of the two moral powers can be fairly extensive.

While it is knowledge that is a primary good, the principles of justice should deal with the opportunity to acquire knowledge. Justice demands that people enjoy equal opportunity to acquire knowledge they need as individuals and citizens unless there are overriding reasons for an unequal distribution.²⁵ Other demands of justice are, of course, among these possibly overriding reasons. Inequalities of opportunity to acquire knowledge are also justified when they are necessary for an efficient division of epistemic labor in society that benefits everyone, or for the effective pursuit of public ends. Thus, it is not unjust if scientists or public officials enjoy better opportunities to acquire knowledge because of the nature of the tasks they carry out.

Focusing on the distribution of the opportunity to acquire knowledge rather than the distribution of knowledge makes room for individual choice and responsibility. If someone has the opportunity to acquire knowledge about a certain matter but remains ignorant through their own fault or choice, then this does not constitute an injustice. It also accommodates the fallibility of inquiry. Even if the epistemic basic structure functions well and individuals do their best, it is impossible to guarantee that people end up with true beliefs. Research, even when it is conducted well, cannot guarantee truth. But it can be reliable in the sense that it has a high objective probability of being true. By ensuring that there is reliable research, the epistemic basic structure can maximize people's opportunity to acquire knowledge. Thus, while the ultimate goal is to provide citizens with the opportunity to acquire knowledge, the policies that aim at it will seek to promote reliable inquiry.

Insofar as they pay attention to equality of opportunity to acquire knowledge, political philosophers focus on inequalities or failings in education. Our vision needs to be broadened and take in the epistemic basic structure as a whole. It has to encompass the production and dissemination of knowledge as well. Production and dissemination of knowledge that caters only to the needs of certain groups or is unreliable can also undermine equality of opportunity to acquire knowledge. Thus, the requirement that people ought to

²⁵ This is not unique to knowledge. The same point applies to other primary goods like the powers and prerogatives of offices and positions of responsibility. Even though they are primary goods, the principles of justice apply not to them but to the opportunity to hold them. Rawls 1996 op. cit., p. 6, 181, 308; and Rawls 2001 op. cit., p. 58.

enjoy equal opportunity to acquire knowledge amounts to the following. First, there should be reliable research responsive to everyone's needs for knowledge about the common good, their individual good and their pursuit. Second, this research should be disseminated accurately and in a way accessible to everyone. And finally, everyone should receive the education they need to benefit from this knowledge.

4. Political liberties, full autonomy and knowledge

In the previous section, I argued that knowledge is a primary good and its distribution is a matter of justice. There are reasons to be concerned with the distribution of knowledge to citizens and the organization of the epistemic basic structure even if that argument is rejected. Citizens will enjoy full autonomy and political equality only if the epistemic basic structure of their society functions well and serves them fairly.

People's chances of democratic participation and influence in the political process depend on the knowledge they possess as well as the financial and other resources they have. People who know more about their social world, how their political system works, and what policies will further their ends will be in a better position to influence the political process. Therefore, inequalities in access to such knowledge—whether they are due to unfairness in the production or dissemination of knowledge or in education—can produce significant inequalities in political power that undermine the fair value of the political liberties in much the same way that inequalities of income and wealth do.

The epistemic basic structure also affects the value of political liberties by shaping what is common knowledge in a society, which, in turn, influences the process of democratic deliberation and the citizens' levels of political influence. If the epistemic basic structure neglects certain groups and favors others, then facts about the neglected group will be less likely to become common knowledge, because there will not be sufficient research on them, or it will not be disseminated widely. This will be an impediment to members of groups neglected by the epistemic basic structure. In order to make their case they will have to carry out research and inform the public themselves whereas members of groups favored by the epistemic basic structure can simply make their case with reference to what is common knowledge in their society. It will be as if the democratic playing field in their society is epistemically tilted against them.

An unfairly organized epistemic basic structure can undermine the fair value of the political liberties and the integrity of the democratic process in other ways too. If certain actors enjoy more influence over the production or dissemination of knowledge, this can give them more political power, because they can shape the public's views. They can make sure that the public is exposed to more evidence that favors their agenda by funding such research, selectively

publishing results that favor their agenda and disseminating it widely.²⁶ By doing so, they can successfully mislead the public without directly lying to them. Actors who want to mislead the public can also do so by merely altering the accessibility of evidence available to the public. For instance, just by altering search engine rankings, they can change the voting preferences of undecided voters.²⁷ Thus, the quality of public deliberation and whether citizens enjoy the fair value of the political liberties depend critically on the organization of the epistemic basic structure.

Recent developments exacerbate this threat posed by powerful actors to the democratic process and the quality of public deliberation. Thanks to the availability of big data about individuals, improved computational methods and powers and developments in the behavioral sciences, political campaigners can collect and process individual level data about voters which enable them to carry out “deep and individualized profiling and targeting”. This provides political campaigners and those who own this data immense political advantages.²⁸ Furthermore, by enabling politicians to send out tailored messages to potential voters it undermines joint public deliberation where politicians appeal to whole public and openly debate issues of concern to all. Instead, political campaigners can target specific individuals and rely on non-rational means of influence.

Let me now turn to the relationship between the epistemic basic structure and full autonomy. According to Rawls, citizens enjoy full autonomy when they affirm and act on the basis of principles of justice “they would give to themselves when fairly represented as free and equal persons”.²⁹ He maintains that citizens can enjoy full autonomy only if the full publicity condition is satisfied.³⁰ This condition is satisfied when: (a) Citizens accept and know that others accept the principles of justice, and know that their society is just according to these principles; (b) Citizens know the facts that underlie the choice of principles of justice in the original position; and (c) Citizens know, or can come to know if they choose to, the philosophical justification for the principles of justice.³¹ This is a demanding ideal. Rawls maintains that it is appropriate for free and equal people, because “if the basic structure relies on

²⁶ James Owen Weatherall, Cailin O’Connor, and Justin P. Bruner, ‘How to Beat Science and Influence People: Policymakers and Propaganda in Epistemic Networks’, *The British Journal for the Philosophy of Science*, forthcoming.

²⁷ Robert Epstein and Ronald E. Robertson, ‘The Search Engine Manipulation Effect (SEME) and Its Possible Impact on the Outcomes of Elections’, *Proceedings of the National Academy of Sciences of the United States of America* 112, 4 (2015): E4512–21.

²⁸ Zeynep Tüfekçi, ‘Engineering the Public: Big Data, Surveillance and Computational Politics’, *First Monday* 19, no. 7 (July 2, 2014).
<http://firstmonday.org/ojs/index.php/fm/article/view/4901>.

²⁹ Rawls 1996 op. cit., p. 77.

³⁰ Rawls 1996 op. cit., p. 78.

³¹ Rawls 1996 op. cit., p. 66–7, Rawls 2001 op. cit., p. 121.

coercive sanctions... the grounds of its institutions should stand up to public scrutiny".³²

There are two underlying thoughts here. First, in a just society citizens' adherence to the principles governing their society does not depend on false beliefs or ignorance. Second, citizens can see for themselves that their society embodies principles that treat them and their fellow citizens as free and equal persons. Thus, they comply with the laws of their society in light of an accurate conception of their social order and the normative principles that guide it.

The ideal of full autonomy and the condition of publicity place significant demands on the epistemic basic structure of a society. These demands are not limited to providing citizens with an education that enables them to understand the justification of the principles of justice that governs their society. Whether a society satisfies Rawls's principles of justice is not something that one can just see.³³ It requires substantial research done by social scientists and journalists. It is only if there is such research that is disseminated to the public through the news media and other channels that they can see for themselves that their society is just and thereby enjoy full autonomy.

This last argument suggests a sufficiency standard for the distribution of knowledge, i.e. people ought to be able to acquire the knowledge they would need for the realization of Rawls's publicity condition. Can a similar sufficiency principle be formulated to cover the other reasons offered in this and the previous section to care about the distribution of knowledge? I think this cannot be done. In the case of knowledge necessary for political equality, it is not just what people know that matters. It is also how their knowledge compares to others: knowledge is, in this context, a positional good.

If, as I argued in the previous section, knowledge is a primary good and we remain within the Rawlsian framework, a principle of equal distribution with allowance for inequality in light of other requirements of justice and considerations of efficiency suggests itself. In order to recommend a different distributive standard for knowledge, there would have to be a feature of knowledge that distinguishes it from other primary goods that requires treating it differently. Moreover, there does not seem to be a plausible threshold for sufficiency. Setting a threshold would require determining which facts and

³² Rawls 1996 op. cit., p. 68.

³³ While very far from a just society, beliefs of Americans regarding public services provides useful illustration. A significant portion of Americans who have benefited from government social programs think they have not. Moreover, when they receive high quality public services they are likely to attribute this service to the private sector due to its quality. Suzanne Mettler, 'Reconstituting the Submerged State: The Challenges of Social Policy Reform in the Obama Era', *Perspectives on Politics*, 8, 3 (2010): 803–24; Amy E. Lerman, *Good Enough for Government Work: The Public Reputation Crisis in America (And What We Can Do to Fix It)* (Chicago: University of Chicago Press, 2019), pp. 89-115.

known with what level of certainty is enough for the development and exercise of the two moral powers. I doubt that this can be done in a principled way.

5. The pursuit of justice and the epistemic basic structure

Much of the knowledge that the epistemic basic structure produces is highly technical and of no direct use to citizens. It is employed by legislators, policy makers, judges, teachers, doctors, social workers and other public officials. It is crucial to the effective pursuit of justice and benefits citizens indirectly. Thus, the second duty of the epistemic basic structure of a society is to produce and disseminate knowledge needed for just legislation, effective design and implementation of laws and policies,³⁴ and for ensuring the protection and effective exercise of people's basic rights. The realization of Rawls's principles of justice, or for that matter, any principle of justice, depends on a well-ordered epistemic basic structure. I offer three illustrations.

The vital role played by the epistemic basic structure in the pursuit of justice comes out most clearly when we consider the knowledge necessary to implement Rawls's second principle of justice. The difference principle can only be successfully implemented if we have correctly identified the worst-off group, understand how the economy is currently performing and know the outcomes of different economic policies. This requires economics research that focuses on these questions and research in disciplines that inform or underlie it, such as mathematics, statistics and psychology.

Research in a wide array of scientific disciplines is relevant to the pursuit of fair equality of opportunity as well. Understanding the diverse mechanisms through which families pass on their advantages to their offspring and certain groups are held back, and what can be done to remove the obstacles disadvantaged groups face will not only depend in research in economics, but also in psychology, sociology, and anthropology. Following Norman Daniels, Rawls has suggested that the provision of healthcare should be taken as a requirement of fair equality of opportunity.³⁵ This will require reliable research in medicine, pharmacology, epidemiology and biology as well as research carried out by public health bodies.

The protection of basic liberties hinges on a properly functioning criminal justice system.³⁶ If the courts are not to infringe on individual liberties by falsely convicting people, they should base their verdicts on reliable evidence. The epistemic basic structure plays a crucial role here. Much of the evidence the courts rely on, such as forensic evidence, has the significance it has because of the scientific research underlying it. If this research is biased or unreliable

³⁴ This is also noted by Pamuk, op. cit., pp. 10-1.

³⁵ Rawls 2001 op. cit., pp. 174-176. For Daniels' view see Norman Daniels, *Just Health: Meeting Health Needs Fairly* (Cambridge: Cambridge University Press, 2008).

³⁶ Rawls notes the connection between liberty and a well-functioning legal system in his discussion of the rule of law. Rawls 1999 op. cit., pp. 206-214.

then it can result in people being falsely convicted and losing their liberties.³⁷ Scientific research can also help the courts determine the reliability of non-scientific evidence and guide its use. For instance, scientific research can inform the courts on how to draw testimony from witnesses and how trustworthy their testimony is.³⁸ Courts that rely on unsound research or faulty assumptions can be a significant threat to liberty.

6. Policy implications

(i) I have argued that justice requires that there is reliable research on questions that citizens and society need to be informed about. Such research is not only carried out by institutions of science, such as universities and research centers. Journalists and governmental agencies like the Centers for Disease Control and Prevention, the Food and Drug Administration, the Environmental Protection Agency and the Bureau of Labor Statistics in the United States also carry out vital research. Research required by justice is also not restricted to research in the natural and social sciences. Research in the humanities contributes significantly to the exercise of the two moral powers and the pursuit of justice by directly informing our reflections about the ends we ought to pursue as individuals and as a society and providing us with the resources to articulate our concerns.

What are the causal levers that can be used to make the production of knowledge more in line with the demands of justice? The research agendas of researchers are shaped by what counts as significant questions given the current states of their disciplines, their sources of funding, and personal factors such as the social groups they belong to.³⁹ While it is difficult to directly alter what counts as significant questions for a discipline, the other determinants can be changed.

Public and democratically controlled funding of research can support and incentivize research on issues required by justice. The principles of justice offer some guidance on how research agendas should be set and how resources should be allocated. However, these are fairly broad guidelines. More specific decisions will require judgements about the moral priority of different research areas and topics. These judgements will involve tradeoffs among competing values and will need to be made in light of the comparative epistemic potentials and benefits of alternatives. Making such decisions is the task of public

³⁷ Indeed, systematic reviews find much of the forensic evidence used in courts to be unreliable. See, National Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (Washington, DC: The National Academies Press, 2009).

³⁸ For a discussion see, Adam Benforado, *Unfair: The New Science of Criminal Justice* (New York: Broadway Books, 2016), pp. 108-132.

³⁹ For a discussion scientific significance and how it shapes research agendas see Phillip Kitcher, *Science, Truth and Democracy* (Oxford: Oxford University Press, 2003), pp. 63-82.

deliberation. Thus, there needs to be mechanisms for people to influence the setting of research agendas in an informed and fair fashion such as the deliberative polls proposed by the philosopher of science Philip Kitcher.⁴⁰

Diversity among researchers can also contribute to the promotion of research agendas that serve the whole public. The increasing inclusion in research institutions of previously excluded groups such as women, ethnic and racial minorities, and members of the working class have transformed the social sciences, the humanities and the medical sciences. Their inclusion has given rise to new disciplines, such as African American and Gender Studies, and put neglected questions and approaches on the agendas of existing disciplines, such as the Women's Health Movement's contributions to medicine. There is, thus, a strong reason beyond fair equality of opportunity for promoting the inclusion of historically excluded groups among researchers.

It is not enough that there is research on questions that the public needs to be informed about. The research needs to be reliable. Reliability is not only a matter of choosing the appropriate research design and executing it successfully. It also depends on adherence to the ethical norms of science—such as intellectual honesty, impartiality (which requires avoiding conflicts of interests), and openness.⁴¹ Recent studies suggest that the commercialization of science, especially in biomedical sciences, facilitated by an expansive regime of intellectual property, tends to undermine these norms. The erosion of these norms undermines the reliability of scientific research by causing “funding bias”⁴² and unprecedented conflicts of interests, breeding secrecy and narrowing the scope of intellectual commons.⁴³ To the extent that the regime of intellectual property rights is relevant to the reliability of knowledge production, it becomes a matter of justice over and above the standard considerations that apply to property rights.

⁴⁰ Philip Kitcher, *Science in a Democratic Society* (Amherst, NY: Prometheus Books 2011), pp. 222-6.

⁴¹ The *locus classicus* for the norms of science is Robert K. Merton, *The Sociology of Science: Theoretical and Empirical Investigations* (Chicago and London: University of Chicago Press, 1973), pp. 267-278. For a more recent statement see David Resnik, *The Price of Truth: How Money Affects the Norms of Science* (Oxford: Oxford University Press, 2007), pp. 35-52.

⁴² Several individual studies and systematic reviews have established that trials funded by the pharmaceutical industry are considerably more likely to produce results that favor the sponsor than independently funded trials. For a recent systematic review see Andreas Lundh, et al., ‘Industry sponsorship and research outcome’, *Cochrane Database of Systematic Reviews*, 2, (2017): 1-140.

⁴³ Derek Bok, *Universities in the Marketplace* (Princeton, NJ: Princeton University Press, 2003), pp. 66-71; Sheldon Krinsky, *Science in the Private Interest* (Lanham, MD: Rowman and Littlefield, 2004), pp. 27-52; Hans Radder, ‘Mertonian Values, Scientific Norms, and the Commodification of Academic Research’ in Hans Radder (ed.) *The Commodification of Academic Research* (Pittsburgh, PA: University of Pittsburgh Press, 2010), pp. 231-258; Resnik, op. cit., pp. 77-108.

Scientists' incentives also influence the reliability of research. According to the current incentive structure of science, prestige accrues solely to original research. As a result, researchers carry out few replication studies even though they can increase the reliability of research by checking previous findings and discouraging fraud or questionable research practices. Nevertheless, groups of scientists in several fields have recently mobilized to overcome this state of affairs and carried out replication studies. The results in psychology, cancer research, and economics have not been encouraging and many landmark studies have failed to replicate.⁴⁴

A key reason for these failures is the incentive to publish positive results and the difficulty of publishing negative results.⁴⁵ Another oft-cited source of failure is the low statistical power of many studies. A study with high statistical power will be less likely to be erroneous but will need more resources and time. Researchers, who are incentivized to publish a lot, will be drawn to study designs with low statistical power.⁴⁶ In both cases scientists acting in ways that are rational given their incentives leads to results that are harmful for the community. What needs to change is the existing incentive structure.⁴⁷ Public funding bodies can take active steps to facilitate this change by funding replication studies and open data initiatives and in general supporting better epistemic practices.

The recent history of medical research on women's health illustrates how the epistemic basic structure can be unfairly organized and what can be done about it. In her book *Doing Harm*, Maya Dusenbery argues that for much of the twentieth century, biomedical research in the United States

“was disproportionately benefiting men. Science simply knew less about women's bodies and diseases that befell them—and, worse still, the medical community was not attuned to this failure and seeking to correct it.”⁴⁸

⁴⁴ Open Science Collaboration, 'Estimating the reproducibility of psychological science', *Science*, 349, 6251, (2015): aac4716-1-8; C. G. Begley and L. M. Ellis, 'Drug Development: Raise Standards for Preclinical Cancer Research', *Nature*, 483, (2012): 531–533; Monya Baker and Elie Dolgin, 'Reproducibility project yields muddy results', *Nature* 541 (2017): 269-270; Colin F. Camerer et al., 'Evaluating Replicability of Laboratory Experiments in Economics', *Science* 351, 6280 (2016): 1433–36.

⁴⁵ Daniele Fanelli, 'Do Pressures to Publish Increase Scientists' Bias? An Empirical Support from US States Data', *PLoS ONE* 5, 4, (2010): e10271; Brian A. Nosek, Jeffrey R. Spies and Matt Motyl, 'Scientific Utopia: II. Restructuring Incentives and Practices to Promote Truth Over Publishability', *Perspectives on Psychological Science*, 7, 6 (2012): 615-631.

⁴⁶ Paul E. Smaldino and Richard McElreath, 'The natural selection of bad science', *Royal Society Open Science* 3 (2016): 160384.

⁴⁷ Marcus R. Munafò et al., 'A manifesto for reproducible science', *Nature: Human Behavior*, 1, (2017): 10.1038/s41562-016-0021.

⁴⁸ Maya Dusenbery, *Doing Harm: The Truth About How Bad Medicine and Lazy Science Leave Women Dismissed, Misdiagnosed, and Sick* (New York: Harper One, 2018), 23–4.

As Dusenbery shows, women were under-represented in or altogether excluded from most clinical trials. Since the prevalence and symptoms of some diseases as well as the effects of some medical treatments differ for men and women, this exclusion mattered. To cite one example, up until recently the standard test used to diagnose heart attacks was not as sensitive in women as it was in men. As a result, women's heart attacks were misdiagnosed and undertreated.⁴⁹ Lack of research also causes women to be less informed about their health and the measures they can take. The Physicians' Health Study, a major study with 22,071 subjects, had concluded in 1989 that taking aspirin in low-doses reduced heart-disease risk for those over fifty. This was, surely, an important piece of information that individuals could make use of. For women, though, there was a snag: all experimental subjects were men. It was not until 2005 when a new study, which included female subjects, was published that women were in a position to make an informed decision about whether to take aspirin or not. This study found that only women over sixty-five would benefit from taking aspirin daily.⁵⁰

There has been some progress on the production of knowledge about women's health thanks to measures similar to the ones I have proposed. The measures taken include (a) increased funding for diseases more prevalent in women that were previously neglected; (b) funding bodies insisting on the inclusion of women and racial minorities in clinical trials; (c) changes in journal practices, such as making gender analysis of the data mandatory, and (d) improvements in the representation of women in the profession.

(ii) The news media carries out research on public issues and plays a central role in the dissemination of knowledge.⁵¹ How fairly and reliably it functions will be one of the main determinants of people's access to knowledge.

The media's sources of revenue shape the issues it covers and how it covers them. Insofar as the media depends on sales and advertisement, it has incentives to provide more coverage of issues of concern to groups that have a larger advertising potential.⁵² Thus, it will fail to serve the epistemic interests of minority groups and those who are less well off. A financially dependent

⁴⁹ Dusenbery op. cit., p. 120.

⁵⁰ Dusenbery op. cit., p. 42.

⁵¹ A comprehensive account would have to address the role of social media and other online media in addition to traditional news media. I set them aside because they are in flux and our current understanding is comparatively limited.

⁵² David Strömberg, 'Media and Politics', *Annual Review of Economics*, 7 (2015): 173-205, p. 178; Ben H. Bagdikian, *The New Media Monopoly*, (Boston, Beacon Press: 2004), pp. 218-232.

media will also be hesitant to publish stories that harm the interests of their advertisers or their owners, who own companies in other industries.⁵³

The financial resources of the media have shrunk in the last decade. This has undermined the quality of news coverage as it depends on reporters with the training, experience and time to develop stories. Lack of resources can also introduce bias to news coverage, because it makes journalists more dependent on stories provided to them by government officials and public relations firms. As a result, what the public is informed (or misinformed) about is shaped in light not of their interests but in those of the elite. Journalists' dependence on these sources also makes it more difficult for them to offer critical news coverage since doing so may hurt their access to their primary news sources.⁵⁴ Regulating the ownership of media and making them financially more independent through public funding can improve their coverage. There is a further reason for regulating media ownership, in particular, limiting concentration of ownership: High concentration of media ownership is incompatible with media pluralism and democratic equality.⁵⁵

Journalistic norms and practices also bear on the public's opportunity to acquire knowledge. One of the most strongly held journalistic norms is the norm of balance. It is commonly interpreted to require presenting the competing sides to contentious issues irrespective of their epistemic merits. The coverage of the alleged causal link between the MMR vaccine and autism in the UK, and of climate change in the US are prominent examples of how this norm has done significant damage. In both cases, the proponents of the scientific consensus and those challenging it received roughly equal coverage, thereby giving the public a deeply misleading view of both the relevant facts and the distribution of views within the scientific community.⁵⁶

Along with the factors discussed above, the demographic composition of journalists influences both which issues they cover and how they cover them. Women, ethnic and racial minorities, and people from working class

⁵³ Bagdikian op. cit., pp. 233-256; Edward S. Herman and Noam Chomsky, *Manufacturing Consent: The Political Economy of Mass Media* (New York: Pantheon Books, 2002), pp. 14-18.

⁵⁴ Herman and Chomsky op. cit., pp. 18-9; Robert W. McChesney, *The Political Economy of Media: Enduring Issues, Emerging Dilemmas* (New York: Monthly Review Press, 2008), pp. 40-1.

⁵⁵ For a sustained defense of the latter claim see C. Edwin Baker, *Media Concentration and Democracy: Why Ownership Matters* (Cambridge, Cambridge University Press: 2006).

⁵⁶ For a critique of the coverage of climate change in the US see Maxwell T. Boykoff and Jules M. Boykoff, 'Balance as bias: global warming and the US prestige press', *Global Environmental Change*, 14 (2004): 125-136. For the coverage of the MMR vaccine and the putative link with autism see Tammy Boyce, *Health, Risk and News: The MMR Vaccine and the Media* (New York, Peter Lang Publishing: 2007), pp. 71-94.

backgrounds are underrepresented in the journalism profession.⁵⁷ This is to the detriment of disadvantaged groups leading to, for instance, lack of coverage of poverty⁵⁸ and racialized coverage of crime.⁵⁹ Improving diversity in journalism can also be expected to improve how well it serves the public.

(iii) My discussion of education will be brief given that most political philosophers, including Rawls, accept that access to education is a requirement of justice. Moreover, Rawls's reasons for this position, which I discussed in Section 2, are in line with the reasons offered for taking knowledge to be a primary good.⁶⁰ Thus, ensuring individual capability for assimilating the knowledge that has been produced and disseminated by the epistemic basic structure is already a requirement of Rawls's theory. However, thinking about education by itself and neglecting other institutions of the epistemic basic structure gives us an incomplete account. Suppose that production of knowledge is unreliable. Or, suppose that the production of historical knowledge favors the dominant social group in society: history textbooks gloss over injustices that determined how different groups currently fare; and there is extensive research on the dominant group's cultural achievements and little research on those of other groups. In such cases, educational equality will only mean that everyone gets to "learn" the same claims based on faulty research or distorted and incomplete picture of the past.

There are further benefits to thinking about education with the rest of the epistemic basic structure in mind. While there may be a core set of intellectual skills that citizens need under all circumstances, many of the skills they need depend on how the rest of the epistemic basic structure operates. Consider, first, changes in scientific practices. As new methods and technologies change scientific practices, the background knowledge that laypeople need to understand scientific findings of relevance to them will also change. For instance, the increasing availability of data and technological tools for data analysis results in more research shared with the public using statistical methods. This in turn makes greater demands on the public's statistical

⁵⁷ American Society of News Editors, 'How Diverse Are US Newsrooms?', <https://gogetrends.github.io/asne/> accessed 10 January 2018. The Cabinet Office, *Unleashing Aspiration: The Final Report of the Panel on Fair Access to the Professions*, 2009. The data for women, ethnic and racial minorities comes from the US. The data on class comes from the UK, but the patterns in both countries are likely similar.

⁵⁸ Dan Froomkin, 'It Can't Happen Here Why is there so little coverage of Americans who are struggling with poverty?', *Nieman Reports*, 66, 2, (2013): 40-43.

⁵⁹ Travis L. Dixon and Daniel Linz, 'Overrepresentation and Underrepresentation of African Americans and Latinos as Lawbreakers on Television News', *Journal of Communication*, 50,2 (2000): 131-154.

⁶⁰ For a perspicuous account of the goods that education provides see Harry Brighouse, Helen F. Ladd, Susanna Loeb and Adam Swift, *Educational Goods: Values, Evidence, and Decision Making* (Chicago: The University of Chicago Press, 2018), pp. 19-29.

literacy. Similarly, the channels of dissemination are transformed by advances in technology. The critical skills that citizens need in an environment where social media is their main source of news is not the same as those they need when their main source is the print media with its gate-keeping function. This account also emphasizes the importance of opportunities for life-long learning. Since the skills individuals need are changing due to changes in the rest of the epistemic basic structure, they will need access to further education in their later years to be able navigate the changing informational environment.

Finally, thinking about education with the rest of the epistemic basic structure in mind can inform the distribution of educational resources at all educational levels—including the graduate level. The epistemic basic structure will serve the epistemic needs of different social groups fairly only if their members can take part in the production and dissemination of knowledge. Since their ability to do so depends on the education they receive, this consideration should also figure in the distribution of educational resources.

7. The Illiberalism Worry

It may be thought that pursuing a more just distribution of opportunity to acquire knowledge requires the state deciding what is true, promulgating it and making sure that everyone learns these truths—setting up a ministry of truth, as it were. Alternatively, it may be thought that the pursuit of a more just epistemic basic structure requires intrusive interventions in the institutions that belong to it. The policies discussed in the previous section suggest that these worries are unfounded and the objectives put forth in this paper are compatible with basic liberal commitments.

Note first that many of the measures for making the epistemic basic structure of a society fair and reliable, such as public funding for certain kinds of research, operates through offering incentives rather than criminalizing behavior. These measures do not significantly restrict the range of actions available to citizens.⁶¹ Second, people should only be provided with the

⁶¹ What if incentives are not enough to get scientists or journalists to work on topics that the public needs to be informed about? This strikes me as a remote possibility. Both professions already have intrinsic rewards and work serving the public would bring the further reward of social recognition. Coupled with financial incentives, which need not be very large since their primary role is to coordinate research efforts and solve coordination problems, they should be sufficient. But suppose incentives are not sufficient, or scientists and journalists will do such work only if they are offered large incentives that lead to unfair inequalities. While both possibilities raise important questions, they are not unique to the provision of scientific research or journalism. As Stanczyk has observed these issues arise whenever justice demands the provision of some goods and services. The same issues would arise, for instance, in the provision of health care as well. See Lucas Stanczyk, 'Productive Justice', *Philosophy & Public Affairs*, 40, 2, (2012): 144-164.

opportunity to acquire knowledge. They are free to decide whether they do so or not. Thus, this account does not impose a perfectionist ideal on them. Third, some of the measures I proposed, such as designing intellectual property rights in a way that does not erode the ethos of science and undermine the reliability of scientific research, or regulating media ownership to limit monopolies, are ones that the state inevitably takes a position on. Property rights depend on state enforcement; the question is which property rights the state should be enforcing.

Consider the determinants of how well and fairly the media serves the public considered in the previous section. They include the media's sources of revenue, the absolute amount of resources available, ownership patterns, journalistic norms and practices, and the demographic composition of the profession. Improving the media from the normative perspective defended in this article by tackling these variables does not require heavy handed intervention that would violate freedom of expression or other basic liberties. Many liberal democratic societies, such as Finland and Denmark, already have media systems—which incorporate stricter regulations, public subsidies to newspapers and well-funded and autonomous public broadcasting— that perform considerably better than *laissez faire* media systems, such as the American system, in terms of informativeness, diversity and fairness.⁶² Finally, ensuring diversity in the profession of journalism to counteract bias and making sure that the epistemic needs of different groups are addressed is continuous with the pursuit of fair equality of opportunity.

In the previous section, I suggested that the norms scientists and journalists adhere to affect the reliability of their work. It may be thought that ensuring that they adhere to a set of norms will entail micromanaging them and constantly interfering with their activities. However, such measures are not the only, or the most effective, way of promoting norms. Providing the background conditions that would sustain desirable norms and incentivizing adherence to them is all that is required by this account. Setting up intellectual property rights in a way that does not harm the norms of science, or altering the incentives scientists face through funding are not restrictive measures. A similar point applies to improving journalistic norms. Epistemically more responsible journalistic norms can be promoted through incentives by either having public media agencies adhere to such norms or providing subsidies to media institutions that adhere to them. Norms in journalism can also be addressed by taking on the demand side of the problem. The education a well-ordered epistemic basic structure provides its citizens would create a citizenry that would be critical of journalism that does not follow certain norms and would indirectly promote better journalism.

⁶² See James Curran, Shanto Iyengar, Anker Brink Lund and Inka Salovaara-Moring, 'Media System, Public Knowledge and Democracy: A Comparative Study', *European Journal of Communication*, 24, 1 (2009): 5-26.

8. Conclusion

In this article, my question was what the duties of the epistemic basic structure were. For this reason, I focused on propositional knowledge that is due to formal institutions. This is not the only type of knowledge that matters from the perspective of justice. Neither is the epistemic basic structure people's only source of knowledge.

People develop a sense of what they can make of their lives by observing role models. They reflect on how to live by conversing with others. They find out about job opportunities through informal networks. They develop a sense of their collective interests by getting together in associations. Their political participation depends on their listening and expressive skills. They find out about the everyday experiences and needs of fellow citizens through individual interactions with them or through social movements that inform the public. Or they remain ignorant of how their fellow citizens fare, because, as Fricker argues, they discount their individual testimony or because the conceptual resources that would make their social experiences intelligible to others is missing. Thus, the knowledge that the epistemic basic structure is responsible for is only a subset of the knowledge that people need to live justly and to lead flourishing lives. How the rest of the basic structure is organized also deeply influences what they know. For instance, Elizabeth Anderson has argued spatial and social segregation can make it difficult for disadvantaged groups to find out about job opportunities.⁶³ It also makes advantaged groups ignorant of the problems of the disadvantaged.⁶⁴ Thus, my account does not address every form of injustice in the distribution of knowledge. A fully comprehensive account of justice in the distribution of knowledge would have to address the demands of epistemic justice on the rest of the basic structure as well.⁶⁵

⁶³ Elizabeth Anderson, *The Imperative of Integration* (Princeton, Princeton University Press: 2010), pp. 33-4.

⁶⁴ Anderson op. cit., p. 98-9.

⁶⁵ I am grateful to one of the referees for this journal for suggesting this formulation. I have not addressed the role of the rest of the basic structure on the opportunity to acquire knowledge in this paper, because it raises complex causal and normative issues that require separate treatment. It is difficult to ascertain the ways in which the organization of the basic structure, by itself, influences the opportunity to acquire knowledge. (Consider, for instance, how difficult it is to determine the epistemic consequences of economic inequalities allowed by the difference principle.) Its role is also much more context-sensitive: arrangements that are fine, say, in Sweden may be problematic in the U.S. given their different histories and cultures. Finally, modifications to the basic structure of a society, which is just according to Rawls's principles of justice, that aim to improve people's opportunity to acquire knowledge will be likely to be in tension with other requirements of justice.