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Asymmetrical Irrationality: Are Only Other People Stupid?

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Abstract It is commonly observed that we live in an increasingly polarised world. Strikingly, we are polarised not only about political issues, but also about scientific issues that have political implications, such as climate change. This raises two questions. First, why are we so polarised over these issues? Second, does this mean our views about these issues are all equally ir/rational? In this chapter I explore both questions. Specifically, I draw on the literature on ideologically motivated reasoning to develop an answer to the first question. Put briefly, we exhibit "directional biases" in our information processing: we try to assimilate new information into our existing webs of beliefs. This means that those who are predisposed to accept the case for climate change end up accepting it, whereas those who are predisposed to reject it end up rejecting it. Based on this answer, I then address the second question. I look at some reasons for thinking that, because we all exhibit such biases in our thinking, we are all equally rational (or, as the case may be, irrational). I also suggest some ways you might try reject these reasons.

1.1. Introductory Remarks

My topic is public irrationality about political issues and certain scientific issues that have become politically contentious, like climate change (I call these "hot" scientific issues). More specifically, my question is: are there partisan asymmetries in the rationality (or lack thereof) of views about these sorts of issues? In the literature on this question it is common to frame things in terms of the "political divide" between liberals and conservatives. So the question becomes: are conservatives *more* irrational than liberals, or vice versa?[i] If there are such asymmetries, then the *epistemic asymmetry thesis* is true:

> The epistemic asymmetry thesis: One side of the "political divide" generally has rational views about political and "hot" scientific issues, whereas the other side generally has irrational views about such issues.

In the empirical literature some claim that the epistemic asymmetry thesis—or something like it—is true (Baron and Jost, 2019; Hodson and Busseri, 2012; Iyengar et al., 2008; Jost et al., 2003; Kanazawa, 2010; Nisbet et al., 2013). But others reject it (Ditto et al., 2019; Kahan et al., 2011a; Lewandowsky and Oberauer, 2016; Stanovich, this volume). In this chapter I give an overview of the empirical and philosophical literature pertaining to the epistemic asymmetry thesis. I focus on arguments *against* the epistemic asymmetry thesis because my impression is that

the "standard" view in the empirical literature is that the epistemic asymmetry thesis is false (see Ditto et al. 2019). It therefore makes sense to consider whether the case against it stands up. I don't take a stance on whether the epistemic asymmetry thesis is true but I point to some places where philosophy—and in particular epistemology—can offer resources for defending the epistemic asymmetry thesis. Thus, this chapter should have something to offer both to those who reject the epistemic asymmetry thesis and to those who accept it.

Here is the plan. First, I clarify the epistemic asymmetry thesis (§2). Second, I run through two arguments against it and identify lacunae in both arguments (§§3-4). I finish by considering some recent work by Dan Kahan which suggests that, while there may not be partisan asymmetries in rationality, there are some interesting asymmetries in rationality between those who possess and those who lack certain character traits (§5).

1.2. Epistemic and Cognitive Asymmetries

You might think the epistemic asymmetry thesis is clearly true because conservatives are more "anti-science" than liberals. Just consider climate change denial, which is largely the preserve of conservatives (Hardisty et al., 2010; Kahan et al., 2011a; Tranter and Booth, 2015). Now, one way of responding to this is would be by simply denying that conservatives are more anti-science than liberals (this is the route taken by Keith Stanovich in his chapter in this handbook). While this possibility cannot be dismissed, I want to set it to one side. This is because some critics of the epistemic asymmetry thesis think the thesis is false even if conservatives are more anti-science than liberals. As two critics put it:

> [T]he rejection of specific scientific evidence across a range of issues, as well as generalized distrust in science, appears to be concentrated primarily among the political right. It does not follow, however, that there are any fundamental differences in the cognition between people of differing political attitudes and values. Quite to the contrary, the cognitive shortcuts that drive the rejection of scientific evidence appear to be politically symmetrical (Lewandowsky and Oberauer, 2016, p. 218).

While "science denialism" may be more prevalent among conservatives than liberals, this is not due to "fundamental differences in cognition". Both conservatives and liberals utilise the same heuristics in their thinking and are subject to the same sorts of biases. But these heuristics and biases lead them in different directions. It leads conservatives to (often) reject science, whereas it leads liberals to (generally) accept science. As Lewandowsky and Oberauer put it:

> [T]he basic cognitive processes implicated in the rejection of science—namely, cognitive shortcuts, differential risk perception, and conspiracist cognition—

> appear to be universal and engaged on both sides of the political aisle (2016, p. 220).

Thus, while there may be a kind of epistemic asymmetry between liberals and conservatives when it comes to their views about issues like climate change—one side has largely true beliefs, whereas the other has largely false beliefs—this is not an asymmetry in rationality. So the epistemic asymmetry thesis is false. Further, it is false because there is a sort of *cognitive symmetry* between liberals and conservatives. Members of both groups form their views about these issues in the same sorts of ways.

What do I mean when I say there is a cognitive symmetry? Here are two—simplistic but suggestive—ways of understanding it. First, as inquirers, we need to make decisions about how to gather the information and evidence we need to make judgements and form beliefs. This includes decisions about who to ask for information, and who to trust. These are decisions about how to structure our inquiries. We can say that there is a cognitive symmetry between two inquirers (or groups of inquirers) with respect to some issue when their inquiries into that issue are structured in the same sort of way.

Second, we are all biased in various ways, if not to the same extent (e.g. some of us are more likely to "pause" and engage in reflective System 2 reasoning than others). We can say that there is a cognitive symmetry between two inquiries with respect to some issue when they exhibit the same sort of biases in their thinking about that issue.

Putting this together, one reason why the epistemic asymmetry thesis might not be true, even though one side of the partisan divide seems to have more false beliefs about science than the other, is that there are underlying cognitive symmetries between liberals and conservatives. While one side happens to get things right more often than the other, both sides form beliefs about these issues in the same sort of way. In the next two sections I will look at attempts to cash this line of thought out.

1.3. Kahan Ideologically Motivated Reasoning

Empirical work on motivated reasoning suggests our judgments are influenced by our wants, desires and preferences (Kahan 2016; Lord, Ross, and Lepper 1979; Molden and Higgins 2012; Taber and Lodge 2006). I am interested in the impact of our political ideologies on our assessment of arguments pertaining to political and "hot" scientific issues. Call this *ideologically* motivated reasoning (IMR for short). In particular, I focus on Dan Kahan's work on IMR, because he is a vocal critic of the epistemic asymmetry thesis (Kahan, 2016, 2014; Kahan et al., 2011a, 2011b).[ii]

Here is Kahan explaining the basic idea:

> Even among modestly partisan individuals, shared ideological or cultural commitments are likely to be intertwined with membership in communities of one sort or another that furnish those individuals with important forms of support … If a proposition about some policy-relevant fact comes to be commonly associated with membership in such a group, the prospect that one might form a contrary position can threaten one's standing within it. Thus, as a form of "identity self-defense," individuals are unconsciously motivated to resist empirical assertions … if those assertions run contrary to the dominant belief within their groups (Kahan, 2013, p. 408).

Kahan has found that ideologies influence our information-processing when it comes to several political and scientific issues, including climate change, nuclear power, concealed carry laws, nanotechnology and perceptions of protestors (Kahan et al., 2012, 2011a, 2009). When it comes to these sorts of issues, we all tend to make judgements and form beliefs that cohere with our ideologies. The way in which we process information pertaining to political and "hot" scientific issues exhibits a "directional bias": we happily take on board information that coheres with our existing beliefs and values, but look for ways to reject information that conflicts with them.

There are two crucial points to note about Kahan's work on IMR. The first is that he thinks *both* liberals and conservatives engage in it. So, for instance, conservatives tend to under-estimate the risks posed by global warming, whereas liberals tend to over-estimate the risks posed by nuclear power (Kahan et al., 2011a). Thus, both liberals and conservatives exhibit directional biases in their information-processing.

Second, one might expect the influence of IMR to decrease as scientific comprehension, scientific literacy and numeracy increase. Kahan finds that, in fact, it is more like the reverse: the influence of IMR increases as scientific comprehension, scientific literacy and numeracy increase. Importantly, this goes for both liberals and conservatives (Kahan, 2013; Kahan et al., 2017b, 2011a).[iii] Thus, conservatives who score highly on scientific comprehension, scientific literacy and numeracy are *more* skeptical about global warming than conservatives who score lower on these things.

Putting this together, Kahan doesn't deny there are important differences between liberal and conservative attitudes towards science. He may even agree that conservatives generally have more false beliefs about "hot" scientific issues than liberals and so there is a kind of partisan epistemic asymmetry. But the crucial point is that this is not an asymmetry in rationality because it is not due to cognitive asymmetries between liberals and conservatives. Rather, there is an underlying symmetry between the ways in which liberals and conservatives make

judgements and form beliefs about "hot" scientific issues: both engage extensively in IMR. So the epistemic asymmetry thesis is false.

I want to finish this section by highlighting a lacuna in Kahan's argument against the epistemic asymmetry thesis. One might argue that, while both liberals and conservatives engage in IMR, conservatives engage in it *more* than liberals, or that it has more of an impact on the thinking of conservatives than of liberals. This may be borne out in the fact that Kahan's studies generally find that conservative skepticism about issues like climate change is more pronounced than liberal skepticism about issues like the safety of nuclear power (Kahan, Jenkins-Smith, and Braman 2011). So while there may be no *cognitive asymmetry in kind* between liberals and conservatives, there is an *asymmetry in degree*.

Crucially, this cognitive asymmetry in degree may support a range of epistemic asymmetries between the attitudes of liberals and conservatives about "hot" scientific issues. For instance, it may be that liberal acceptance of the scientific consensus on climate change is *more* rational than conservative rejection of it, because liberal acceptance is less influenced by IMR than conservative rejection. Now, to say that some belief A is more rational than some belief B is not to say that A is rational whereas B is irrational. Rationality comes in degrees, and A can be more rational than B while still being irrational. But one could supplement what I have said here with an argument that the influence of IMR on liberal political cognition does not impugn the rationality of beliefs liberals form about issues like climate change, whereas conservative political cognition is influenced by IMR to such a degree that conservative views about issues like climate change are irrational.[iv]

1.4. Levy and Rini on Partisan Epistemology

In this section I look at two recent papers in political epistemology, Neil Levy's "Due Deference to Denialism" (Levy, 2019) and Regina Rini's "Fake News and Partisan Epistemology" (Rini, 2017). I focus on these papers because they are prime examples of empirically informed political epistemology and because I think they usefully complement each other. We can start with Levy, who tells us:

> While we are apt to accept testimony—to defer to others—we reject testimony from sources that signal unreliability by evincing cues of incompetence or lack of benevolence. When science becomes politicized, expression of the scientific consensus may itself come to serve as a signal of lack of benevolence to those on one side of the issue, leading to rejection of the testimony. On all sides, filtering mechanisms may be working as designed, but for reasons beyond the purview of the individuals involved, warrant may accrue to one side alone (2019, p. 314).

We use two criteria to assess the reliability of testimony: the competence of the testifier, and the extent to which they are benevolent towards us. Levy thinks we often use political affiliation as a proxy for benevolence. If someone agrees with us on fundamental political issues, we will (all else being equal) regard them as benevolent; if they disagree with us on these issues, we (all else being equal) won't. Applying these criteria leads individuals with divergent political positions to form divergent views on "hot" scientific issues. Given the divergent attitudes of liberals and conservatives towards scientific expertise, we find that:

> Liberals are epistemically luckier: they are disposed to defer to the most competent individuals and institutions, because these individuals and institutions pass tests for benevolence as well as for competence. Liberals defer to sufficiently large groups of sufficiently expert deliberators to ensure that their beliefs have a high degree of warrant; conservatives defer to a much smaller group of genuine experts and their chains of deference trace back as much or more to non-experts. These facts (which are outside the purview of the individuals at the end of each chain) entail that one set of beliefs is very much better warranted than the other. Biased assimilation may thus be individually rational, whether it leads toward better or worse warranted beliefs (pp. 322-3).

Levy says that both liberals and conservatives are "individually rational". But his argument is based on the descriptive claim that we *have* a general tendency to trust people we share a political outlook with (cf. Marks et al., n.d.). The fact that we have a tendency does not show that it is *rational*. So why think that the tendency Levy highlights is rational?

This is where Rini comes in. In her paper she defends this claim:

> It is sometimes reasonable to assign more credibility to testifier A than testifier B just because you agree with A (but do not agree with B) on a range of central political issues (Rini, 2017, p. 50).

If this claim is true, then the partisan patterns of deference highlighted by Levy are rational. Of course, it is clearly not reasonable for a liberal to listen to a liberal journalist and ignore a conservative physicist when it comes to testimony about physics. Rini's view is rather that it is reasonable when the testimony either concerns a straightforwardly normative issue (such as the morality of abortion), or an issue with a normative dimension. It is plausible that many "hot" scientific issues have a normative dimension, though what that dimension is will depend on the issue at hand. Rini's example is crime rates. Is crime rising or falling? To answer this question, we need to first define "crime", and then figure out how to measure how much of it there is. It is hard to see how this could be done without taking any stance on some normative issues. Rini's thought is that it may be

reasonable for me to regard A's testimony about crime rates as more credible than B's testimony because I agree with A on these normative issues.

Rini doesn't discuss issues like climate change. But one can argue that, while the question whether human activity is causing the Earth's climate to change is a scientific question, the more general issue has a clear normative dimension. We need to decide *inter alia* the extent to which we are *morally* responsible for protecting the Earth's climate, whether the evidence we have is sufficient to warrant action (and, if it is, which courses of action are appropriate), on whom the greatest burdens should be placed (all countries? all developed countries?), and whether the potential benefits outweigh the risks of economic catastrophe. However clear you may think the answers are to these questions, they are clearly normative, not purely scientific.[v]

If we combine Rini's claim with Levy's, we get this argument:

1. We—both liberals and conservatives—tend to defer to our fellow partisans about political and "hot" scientific issues [from Levy].
2. It is (often) rational to defer to fellow partisans about such issues [from Rini].
3. Therefore, while we generally end up with divergent views about such issues, these divergent views are (often) rational.

Take Catriona, who thinks crime rates are rising, and Laurie, who thinks they are falling. They have formed these beliefs because they have listened to what like-minded partisans say about the issue. But Catriona leans conservative, whereas Laurie leans liberal. Catriona agrees with the conservative narrative on law and order; Laurie agrees with the liberal narrative. If the above argument is correct, it may well be that they are both reasonable in doing so. Now, it must be the case that one of them is wrong: crime can't both be rising and falling. But it is less clear there is any asymmetry in rationality here. Both Laurie and Catriona have formed their beliefs in much the same way (by listening to like-minded partisans). This point will generalise beyond Catriona and Laurie. Many disagreements about political issues, or scientific issues with a political resonance, will have the form of Catriona and Laurie's.

How does this fare as an argument against the epistemic asymmetry thesis? Even if we grant that there is a sense of "rational" in which liberals and conservatives are equally rational (for critical discussion see Worsnip, 2018), there is a potential lacuna here, which Levy notes. He allows that there may be a sort of epistemic asymmetry between liberals and conservatives—an asymmetry in what he calls "warrant". We can explore this point further by considering the literature on epistemic rationality. I am going to suggest that whether the argument goes through might depend on what we mean by "rational".

It is standard to distinguish between *internalist* and *externalist* approaches to epistemic rationality (Pappas, 2017). Put roughly, on an internalist approach, whether one's beliefs are rational depends only on facts that are cognitively accessible to one whereas, on an externalist approach, whether they are rational depends on a combination of cognitively accessible and cognitively inaccessible facts. Put crudely, for the internalist, it matters whether you are in a position to recognise when you have got it wrong, whereas, for the externalist, what matters is whether you generally get things right or wrong.

My suggestion is that the tendencies adverted to by Rini and Levy are rational in the internalist sense of epistemic rationality. As Levy puts it, facts "outwith the purview of the individual" mean that, while liberal views about "hot" scientific issues are (largely) correct, conservative views about such issues are often incorrect. Both liberals and conservatives look for indications of competence and benevolence, and judge of these things as best they can. But one side often gets it wrong, whereas the other often gets it right. Thus, while both liberals and conservatives defer to individuals they take to exhibit signs of competence and benevolence, liberals tend to form correct beliefs about "hot" scientific issues, whereas conservatives tend to form incorrect views about such issues.

You might ask: why care if liberal and conservative views about political and "hot" scientific issues are rational by the lights of internalist conceptions of rationality? The short answer is: because such conceptions capture the idea that rationality is connected with the notion of *blame* (Steup, 1999). On an internalist conception of rationality, you must, at least in principle, be able to recognise what it is about the way in which you formed the belief that makes it irrational. This seems to permit blaming you when you form irrational beliefs. After all, you were in a position to recognise that your beliefs are irrational. If it turns out that many climate skeptics—and about science in general—are rational in the internalist sense, then it makes no sense to blame them for having these attitudes.

You might also ask: what about the externalist sense of rationality? Can we argue that there are important partisan asymmetries in this sense? I lack the space to fully answer this question here, but I want to make a few preliminary points.

First, on an externalist conception of rationality, anyone who generally forms false beliefs in some domain is not going to have rational beliefs about that domain. This is because, for the externalist, what matters is whether one (generally) gets things right. So, in virtue of the fact (which we are assuming) that many conservatives have a lot of false beliefs about "hot" scientific issues, those beliefs are going to be irrational. The crucial question is whether liberals (who we are assuming generally have true beliefs) satisfy externalist conditions on rationality.

Second, "externalism" isn't a single view, but a family of views. Whether liberals (generally) have rational beliefs is going to depend on the specific conditions we put on rationality. It is important to note that, for the externalist, it isn't enough that one generally form true beliefs about some domain. After all, one can form true beliefs through pure luck. Different externalists try to capture this point in different ways. Here are two ways:

1. S's true belief B is rational just in case, were it false, S wouldn't have B.[vi]
2. S's true belief B is rational just in case, if things had been (a bit, but not too) different, S would still have had B.[vii]

The idea behind the first proposal is that, if you would have had the belief if it were false, then your belief isn't sufficiently sensitive to what is actually the case. As for the second proposal, there are many other ways the world could be that are consistent with your belief being true. The idea behind this proposal is that, if you wouldn't have had the belief if things had been one of these ways, then it is a happy accident that you nonetheless managed to form a true belief about the world. Of course, the crucial question is: how different? In the present case, it might look like things would have to be very different for liberals to have different beliefs about, say, climate change. The point of the empirical work discussed above that it is in an important sense *no accident* that liberals accept the science on climate change: it fits with their political predispositions.

Can we argue that there are partisan asymmetries in rationality using either of these externalist accounts? On the one hand, I doubt we have any empirical evidence that could directly decide the issue. On the other, we can perhaps extrapolate from the existing work and argue that it is (at best) unclear whether liberal beliefs about science satisfy the first externalist condition. If you take someone with liberal political dispositions and ask what they would believe if climate change were in fact a myth, then it is plausible to say that they would still believe as they do.

When it comes to the second externalist condition, things are less clear. We can also extrapolate from the existing work and argue that, if you took someone with liberal dispositions and somehow managed to fundamentally shift their dispositions, then their beliefs about climate change would shift accordingly. But does this mean they fail to satisfy the second condition, given that we are now imagining that the individual in question is very different to how they in fact are?[viii]

1.5. Asymmetries in Intellectual Virtue?

I finish by looking at some recent empirical work by Dan Kahan which suggests that there is an intellectual virtue that minimises the impact of IMR. Thus, individuals who exhibit this virtue may be at an epistemic advantage when it comes to political and "hot" scientific issues. But, as we will also see, it is not clear that

this virtue has a partisan dimension. If this is right, then there is an important class of epistemic asymmetries that do not neatly line up with a partisan political divide.

In a recent paper Kahan and collaborators present evidence that individuals who score highly in *science curiosity* are less prone to IMR. They define science curiosity as "a general disposition, variable in intensity across persons, that reflects the motivation to seek out and consume scientific information for personal pleasure" (Kahan et al., 2017a, p. 180). They found that subjects who scored highly on science curiosity had more accurate risk perceptions (e.g. about global warming), regardless of their political ideology. They also found evidence that this is because subjects who scored highly on science curiosity were more willing to expose themselves to information running contrary to their political views and values. Thus, science curiosity appears to be a trait that de-activates one of the central biases that drives IMR: a preference for attitude-congruent over attitude-incongruent information (Taber and Lodge, 2006). They therefore hypothesise that the scientifically curious: "have a reason to engage information for truth seeking that those who are low in science curiosity don't have: to experience the pleasure of contemplating surprising insights into how the world works" (2017a, p. 195).

While this is just one study, it is worth reflecting on its ramifications. First, it suggests there may be asymmetries in tendencies to rely on IMR between groups that can't be characterised in simple political terms. There may be an important class of epistemic asymmetries that don't have a clear political dimension. While this isn't the epistemic asymmetry thesis, it is clearly in the same ballpark.

The second reason is that it allows us to draw some connections between the empirical literature on political cognition and the burgeoning field of *virtue epistemology*.[ix] This field can be split into two camps. The first camp focuses on what are called "faculty virtues", such as perception, intuition and memory (Sosa, 2007). The second camp focuses on character traits such as open-mindedness and curiosity (Baehr, 2011; Zagzebski, 1996). The connection that will concern me here is between the literature on political cognition and the second camp, which is called "responsibilist virtue epistemology" (RVE).

What connections can we draw between Kahan's work on science curiosity and RVE? First, in the RVE literature curiosity is construed as a character trait that involves a disposition to seek out new and worthwhile information (Watson, 2019). We can view science curiosity as a species of curiosity so understood. The scientifically curious person is characteristically motivated to acquire new and worthwhile scientific information.

Second, within RVE there is a debate about whether the intellectual virtues need to be *truth-conducive*: if you are intellectually virtuous, must you thereby be more likely to get things right (Carter and Gordon, 2014; Kwong, 2017)? This issue is surely

amenable to empirical investigation: is the intellectually virtuous individual more likely to get things right? We can see Kahan et al.'s study as a small part of that investigation: they present evidence that (scientifically) curious, open-minded individuals are more likely to form accurate views about issues like climate change.

Third, a central question in the RVE literature is why be intellectually virtuous. One striking feature of this literature is that it focuses on the benefits that might accrue to the virtuous individual (Baehr, 2011). Kahan et al.'s work might be used as a corrective to this individualistic focus. One might think that virtues which mitigate against a tendency to engage in IMR and other forms of bias are particularly important for the wellbeing of society at large, given that they lead to a reduction in polarisation about political "hot" scientific issues, thereby increasing the potential of reaching consensus on public policy decisions. We can thus view science curiosity (and perhaps curiosity in general) as a *civic-intellectual virtue*: It has a civic aspect insofar as its cultivation is important for the wellbeing of society at large. Thus, there is an answer to the question of why be intellectually virtuous at the societal level.

1.6. Conclusion

In this chapter I have looked at some arguments against the thesis that there are asymmetries in rationality between liberals and conservatives. I have also looked at some recent work by Dan Kahan and collaborators which suggests there may be some asymmetries in rationality that lack a clear political dimension. My aim has been to show that philosophical reflection can reveal potential lacunae in arguments against the epistemic asymmetry thesis. First, while it may be the case that we all engage in IMR, this is consistent with there being asymmetries in the extent to which we rely on IMR. This may have implications for the rationality of our beliefs. Second, while there may be a sense of "rational" in which liberal and conservative attitudes are equally rational, there are other senses of "rational" on which the status of the epistemic asymmetry thesis is a little less clear.[x]

Bibliography

Baehr, J., 2011. The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology. Oxford University Press.

Baron, J., Jost, J.T., 2019. False Equivalence: Are Liberals and Conservatives in the United States Equally Biased? Perspectives on Psychological Science 14, 292–303.

Carter, J.A., Gordon, E.C., 2014. Openmindedness and Truth. Canadian Journal of Philosophy 44, 207–224.

Ditto, P.H., Liu, B.S., Clark, C.J., Wojcik, S.P., Chen, E.E., Grady, R.H., Celniker, J.B., Zinger, J.F., 2019. At Least Bias is Bipartisan: A Meta-Analytic Comparison of Partisan Bias in Liberals and Conservatives. Perspectives on Psychological Science 14, 273–291.

Hardisty, D.J., Johnson, E.J., Weber, E.U., 2010. A Dirty Word or a Dirty World? Attribute Framing, Political Affiliation, and Query Theory. Psychological Science 21, 86–92.
Hirvelä, J., 2019. Global safety: how to deal with necessary truths. Synthese 196, 1167–1186.
Hobson, K., Niemeyer, S., 2013. "What sceptics believe": The effects of information and deliberation on climate change scepticism. Public Understanding of Science 22, 396–412.
Hodson, G., Busseri, M., 2012. Bright Minds and Dark Attitudes: Lower Cognitive Ability Predicts Greater Prejudice Through Right-Wing Ideology and Low Intergroup Contact. Psychological Science 23, 187–195.
Iyengar, S., Hahn, K.S., Krosnick, J.A., Walker, J., 2008. Selective Exposure to Campaign Communication: The Role of Anticipated Agreement and Issue Public Membershio. Journal of Politics 70, 186–200.
Jost, J.T., Glaser, J., Kruglanski, A.W., Sulloway, F.J., 2003. Political Conservatism as Motivated Social Cognition. Psychological Bulletin 129, 339–375.
Jost, J.T., Hennes, E.P., Lavine, H., 2013. "Hot" Political Cognition: Its Self-, Group-, and System-Serving Purposes, in: The Oxford Handbook of Social Cognition. Oxford University Press, New York, pp. 851–875.
Kahan, D., 2016. The Politically Motivated Reasoning Paradigm, Part 1: What Politically Motivated Reasoning Is and How to Measure It. Emerging Trends in the Social and Behavioral Sciences 1–16.
Kahan, D., 2014. Making Climate-Science Communication Evidence-Based--All the Way Down, in: Boykoff, M., Crow, D. (Eds.), Culture, Politics and Climate Change. Routledge, New York, pp. 203–220.
Kahan, D., 2013. Ideology, Motivated Reasoning, and Cognitive Reflection. Judgment and Decision Making 8, 407–424.
Kahan, D., Braman, D., Slovic, P., Gastil, J., Cohen, G.L., 2009. Cultural Cognition of the Risks and Benefits of Nanotechnology. Nature Nanotechnology 4, 87–91.
Kahan, D., Hoffman, D., Braman, D., Evans, D., Rachlinski, J., 2012. "They Saw a Protest": Cognitive Illiberalism and the Speech-Conduct Distinction. Cornell Law Faculty Publications Paper 400, 851–905.
Kahan, D., Jenkins-Smith, H., Braman, D., 2011a. Cultural Cognition of Scientific Consensus. Journal of Risk Research 14, 147–174.
Kahan, D., Landrum, A., Carpenter, K., Helft, L., Jamieson, K.H., 2017a. Science Curiosity and Political Information Processing. Political Psychology 38, 179–199.
Kahan, D., Peters, E., Dawson, E.C., Slovic, P., 2017b. Motivated Numeracy and Enlightened Self-Government. Behavioural Public Policy 1, 54–86.
Kahan, D., Wittlin, M., Peters, E., Slovic, P., Ouellette, L.L., Braman, D., Mandel, G.N., 2011b. The Tragedy of the Risk-Perception Commons: Culture Conflict, Rationality Conflict, and Climate Change. Temple University Legal

Studies Research Paper No. 2011-26; Cultural Cognition Project Working Paper No. 89; Yale Law & Economics Research Paper No. 435; Yale Law School, Public Law Working Paper No. 230.
Kanazawa, S., 2010. Why Liberals and Atheists Are More Intelligent. Social Psychology Quarterly 73, 33–57.
Kunda, Z., 1990. The Case for Motivated Reasoning. Psychological Bulletin 108, 480.
Kwong, J., 2017. Is Open-Mindedness Conducive to Truth? Synthese 194, 1613–1626.
Levy, N., 2019. Due deference to denialism: explaining ordinary people's rejection of established scientific findings. Synthese 196, 313–327.
Lewandowsky, S., Oberauer, K., 2016. Motivated Rejection of Science. Current Directions in Psychological Science 25, 217–222.
Lord, C.G., Ross, L., Lepper, M.R., 1979. Biased Assimiliation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence. Journal of Personality and Social Psychology 37, 2098–2109.
Marks, J., Copland, E., Loh, E., Sunstein, C.R., Sharot, T., n.d. Epistemic Spillovers: Learning Others' Political Views Reduces the Ability to Assess and Use Their Expertise in Nonpolitical Domains. Harvard Public Law Working Paper No. 18-22.
McKenna, R., 2019. Irrelevant Cultural Influences on Belief. Journal of Applied Philosophy 36, 755–768.
Molden, D.C., Higgins, E.T., 2012. Motivated Thinking, in: The Oxford Handbook of Thinking and Reasoning. pp. 390–409.
Nisbet, E.C., Hart, P.S., Myers, T., Ellithorpe, M., 2013. Attitude Change in Competitive Framing Environments? Open-/Closed-Mindedness, Framing Effects, and Climate Change. Journal of Communication 63, 766–785.
Nozick, R., 1981. Philosophical Explanations. Harvard University Press.
Pappas, G., 2017. Internalist vs. Externalist Conceptions of Epistemic Justification. The Stanford Encyclopedia of Philosophy (Fall 2017 Edition).
Pritchard, D., 2012. Anti-Luck Virtue Epistemology. Journal of Philosophy 109, 247–279.
Rini, R., 2017. Fake News and Partisan Epistemology. Kennedy Institute of Ethics Journal 27, 43–64.
Sosa, E., 2007. A Virtue Epistemology: Apt Belief and Reflective Knowledge, Volume I. Oxford University Press.
Stanovich, K., this volume. The Irrational Attempt to Impute Irrationality to One's Political Opponents, in: deRidder, J., Hannon, M. (Eds.), Routledge Handbook of Political Epistemology. Routledge.
Steup, M., 1999. A Defense of Internalism, in: The Theory of Knowledge: Classical and Contemporary Readings. Wadsworth, Belmont, CA, pp. 310–321.
Taber, C.S., Lodge, M., 2006. Motivated Skepticism in the Evaluation of Political Beliefs. American Journal of Political Science 50, 755–769.

Tranter, B., Booth, K., 2015. Scepticism in a Changing Climate: A Cross-National Study. Global Environmental Change 33, 154–164.
Turri, J., Alfano, M., Greco, J., 2018. Virtue Epistemology. The Stanford Encyclopedia of Philosophy (Summer 2018 Edition).
Walker, I., Leviston, Z., 2019. There are three types of climate change denier, and most of us are at least one. The Conversation.
Watson, L., 2019. Curiosity and Inquisitiveness, in: Battaly, H. (Ed.), Routledge Handbook of Virtue Epistemology. Routledge, Abingdon, pp. 155–166.
Williamson, T., 2009. Reply to John Hawthorne and Maria Lasonen-Aarnio, in: Greenough, P., Pritchard, D. (Eds.), Williamson on Knowledge. Oxford University Press, Oxford, pp. 313–329.
Worsnip, A., 2018. The Obligation to Diversify One's Sources: Against Epistemic Partisanship in the Consumption of News Media, in: Fox, C., Saunders, J. (Eds.), Media Ethics: Free Speech and the Requirements of Democracy. Routledge, Abingdon.
Zagzebski, L., 1996. Virtues of the Mind: An Inquiry Into the Nature of Virtue and the Ethical Foundations of Knowledge. Cambridge University Press.

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[i] Because most of the literature has a US-focus, I use these labels in their US senses, and assume a US-centric framing of political debate.

[ii] Classic papers on motivated reasoning include (Kunda, 1990) and (Lord et al., 1979). For overviews see (Jost et al., 2013) and (Molden and Higgins, 2012).

[iii] This result fits with the general result that more knowledgeable individuals are more rather than less prone to engage in motivated reasoning (Taber and Lodge, 2006).

[iv] For an attempt to resist this move see (McKenna, 2019).

[v] For an accessible discussion of different varieties of climate skepticism see (Walker and Leviston, 2019). For a more academic discussion see (Hobson and Niemeyer, 2013).

[vi] This is modelled on "sensitivity" accounts of knowledge (Nozick, 1981).

[vii] This is modelled on "safety" accounts of knowledge (Sosa, 2007), though I've expressed the basic idea in a rather crude way for the sake of simplicity.

[viii] Making progress on this question will require looking into the details of how "safety" conditions should be formulated. For relevant literature see (Hirvelä, 2019; Pritchard, 2012; Williamson, 2009).

[ix] For an overview of this field see (Turri et al., 2018).

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