AN EPISTEMIC THEORY
OF DELIBERATIVE DEMOCRACY

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Abstract

Democracy has been encountering an increasing number of critics. Whether it comes from a sympathy for autocrats, free-markets, or the more knowledgeable, this increasing democratic scepticism often takes an epistemic form. Democracy’s critics argue that democratic procedures and institutions are unlikely to make good decisions or produce good outcomes in terms of justice or the common good, and should, therefore, be restricted if not completely rejected in favour of its more able alternatives.

In the face of such scepticism, this thesis develops an epistemic theory of deliberative democracy. This theory has two principal aims. The first is to analyse and define the epistemic properties of deliberative democracy, and the second is to clarify the possible role epistemic values can play in a wider justification of democratic rule. In accordance with the first, the thesis analyses the ability of deliberative democratic institutions to make good or correct decisions in comparison to a broad range of prominent alternatives. These include traditional rivals such as autocracy and aristocracy, but also more modern and less considered alternatives such as free-markets, limited epistocracy and forms of technical calculation. Through these comparisons, it is argued that we have no good or clear epistemic reason to reject democracy. Deliberative democracy is found to be epistemically superior to many of its alternatives and epistemically equivalent to even its best competitors. The thesis, therefore, mounts a strong reply to democracy’s epistemic sceptics. The analysis, however, also helps clarify which form of deliberative democracy is epistemically most valuable, pointing to the value systems approaches which give a prominent role to direct citizen deliberation.

The epistemic theory of deliberative democracy also aims to clarify what role epistemic values can play in a wider justification of democratic rule. The thesis argues that deliberative democracy is epistemically superior to many of its rivals and no worse epistemically than even its best alternatives. This suggests that although epistemic values cannot mount a stand-alone defence of democracy, democrats would only be required to defend very weak non-epistemic values to produce a mixed justification. Far from being ‘rule by the incompetent many’ and therefore highly reliant on procedural values, the thesis will demonstrate that epistemic values can carry significant weight in an argument for democratic rule.
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1 Introduction: Democratic Scepticism & the Epistemic Dimension of Democracy

Democracy distributes political power equally among a community with little more thought to the ability or competence of those it includes than that they are of adult age. For many who have an eye on the outcomes of political decisions, this seems like a very strange idea. Why should we expect a regime with such low requirements for participation to produce good decisions and provide valuable goods to society? This is an old line of questioning which has been pursued by many critics of democracy, going back at least to Plato. Recently, however, it has started to receive an increasing amount of attention from a number of sceptical perspectives. With the rise of China and other non-democratic countries, some have started to question whether democracy is really the most effective political regime, while the dominance of economic liberalism has convinced many that the market knows best and can efficiently provide what bloated political institutions cannot. Others have begun to ask whether democracy is really the best set of institutions to deal with increasingly complex political issues, such as global climate change and economic crisis, which seem to require ‘the experts’ and their technical calculations, not the opinions of lay citizens. Whether it is in favour of autocrats, free markets or the more knowledgeable, there is a growing scepticism that democracy is really the best system to make good decisions and deliver valuable outcomes.

These general concerns about the abilities of democracy have also been gaining attention within the theory and study of democratic politics. Social scientific research has shed light on the limited political knowledge of the average voter and ignited a significant debate on whether citizens are really able to cast their votes in an informed and considered way (Achen & Bartels, 2016; Caplan, 2007; Somin, 2013). Some theorists within this debate take the findings of voter ignorance to be so damning as to justify the restriction of voting rights to the more knowledgeable, or a much greater role to experts determining laws (Brennan, 2016). Others criticise not just the ability of citizens to vote but also to deliberate and discuss political issues. They argue that such deliberation is likely to be

1 Three journal articles were published while completing this these and can be found in appendix 1, 2, and 3.
2 Some democracies also disenfranchise those convicted of a crime and/or those with certain cognitive disabilities.
swayed by emotions and social dynamics, and fail to track the facts and arguments. Some even claim that engagement in politics is more likely to corrupt citizens and turn them against each other, than it is to benefit the production of good public policy (Brennan, 2016; Pincione & Teson, 2006; Sunstein, 2000, 2002, 2009). Yet another line of democratic scepticism comes from pro-market political theorists and economists. Drawing on the tradition of Friedrich Hayek, they argue that only a decentralised and spontaneous market can deal with the complexities of providing goods in a large society, something which is necessarily outside the competency of conscious democratic planning (DeCanio, 2014; Pennington, 2003, 2011). Although they differ in their reasons, these political theorists and scientists point in the direction of restricting, if not completely abandoning, democratic forms of government.

Democratic theorists, on the other hand, have often placed less emphasis on the outcomes of political decisions. Perhaps fearing the force of these kinds of critics, they have tended to focus on the fairness of democratic procedures and how they express intrinsic values such as freedom or equality. These are certainly valuable features of democracy which should not be ignored. However, too exclusive a focus on intrinsic values leaves instrumental questions about outcomes to be answered by democracy’s critics (Gunn, 2014). As a result, democrats end up lacking the tools they need to combat the mounting apprehension about the ability of democracy to provide the goods that its citizens value, whether this comes from sympathy for experts and elites or from sympathy for the market. More recently, however, there has been what some have called an ‘epistemic turn’ in democratic theory (Jorke, 2010; Landemore, 2017; Palumbo, 2012; Urbinati, 2014). Democratic theorists have started to take a greater interest in how democracy might not only represent a fair set of procedures for addressing political disagreements, but also a set of institutions with the epistemic ability to solve social problems and make good decisions (Anderson, 2006; Cohen, 1989; Estlund, 2008; Knight & Johnson, 2011; Landemore, 2013a, 2013b). Theorists, such as David Estlund (2008), have argued that the value of democracy cannot rest solely on the fairness of its procedures, but to some extent must also rest on its ability to make good decisions and achieve good outcomes for society. If only fairness was at stake, Estlund argues, we should be just as happy settling political disagreement with a flip of a coin. Others, such as Helen Landemore (2013a), have taken this discussion in a more practical direction, arguing that democratic institutions can actually achieve normative epistemic standards...
by pointing to their capacity to utilise collective intelligence in order to solve social problems. Although epistemic defences of democracy have a long history going back to the Greeks, they have seen a revival in contemporary democratic theory.

The focus of many of these ‘epistemic democrats’, however, is often overly narrow. Following a long tradition in political philosophy, they have tended to consider only the traditional opponents of democracy such as autocracy and aristocracy. With the rise of autocratic regimes around the world, these traditional opponents are still pressing rivals of democracy even in the present day. However, in current political debates challenges come just as much, if not more, from proponents of free markets who aim to transfer the provision of many social goods away from democratic control, or economists and decision-theorists who believe that their technical calculations produce better decisions than citizens. These more contemporary alternatives have increasingly been replacing more democratic procedures even in generally democratic countries. Since the 1980s markets have been rapidly expanded to become the dominant mechanisms in social life (Crouch, 2004), while instruments such as cost-benefit analysis have become significant, and in some cases mandatory, components of policy making (HM Treasury, 2003; Smith, 2003). So, although democratic theory has seen an increased interest in epistemic issues, its focus is often too narrow to combat today’s critics of democracy. Given the rise of democratic sceptics, any ‘epistemic turn’ in the theory and study of democracy must also be seen as at best mixed and highly contested. There has certainly been an increased interest in the ability of democracy to make good decisions and increased recognition that this has some role to play in the question of whether democracy is a justified political regime. The extent to which epistemic values support or undermine such a justification is, however, greatly disputed.

This thesis aims to contribute to these debates, and respond to democratic sceptics, by developing an epistemic theory of deliberative democracy which takes account of a broad range of challengers, both traditional and contemporary. Deliberative democracy is one of the most dominant approaches to both the theory and practice of democracy and has been pointed to as a promising conception to respond to democracy’s critics (Bächtiger et al, 2018). This thesis will explore this possibility by developing an epistemic theory of deliberative democracy with two principal objectives. The first is to analyse and define the epistemic properties of deliberative democratic institutions as compared to their alternatives, and the second is to investigate and clarify the possible role these
epistemic properties can play in a wider justification of democratic rule. Through the development of such a theory, this thesis will argue that we have no clear epistemic reasons to favour alternative institutions to those of deliberative democracy. Deliberative democracy will be shown to be epistemically superior to many of its rivals, and even in the cases of its best competitors, it will be shown that there are no convincing epistemic grounds for rejecting it. This will be a very unexpected conclusion for democracy’s sceptics, but also to many democrats who believe that democracy’s value can only rest in the intrinsic virtues of its procedures. Contrary to these views, this thesis will argue that a purely epistemic analysis of political institutions gives us no reason to reject democracy in favour of any of its prominent alternatives. Perhaps even more unexpected to many, the thesis also makes an epistemic case for a form of democracy which gives a prominent role to deliberation between citizens and therefore forms of direct democracy. As well as producing a strong reply to democracy’s rising critics, the epistemic theory of deliberative democracy will also have important implications for democratic theory. It will demonstrate that epistemic values can play a very significant role in a justification of democratic rule. Far from being ‘rule by the incompetent many’ and therefore highly reliant on procedural values, democracy will be shown to require only very thin non-epistemic values given the strength of its epistemic properties.

The rest of this introduction will set out in more detail the aims of the thesis, and the approaches it will use to peruse them. It will start by introducing the deliberative and epistemic conceptions of democracy which will be the predominant focus of this research. It will not attempt a full defence of these conceptions, but rather an account of their central tenets and importance so that they can form the conceptual background against which the rest of the thesis will be set. The introduction will then go on to describe what an epistemic theory of deliberative democracy aims to achieve, and therefore what is required of the thesis when developing such a theory. Finally, it will end with an overview of the structure and key arguments of the thesis.

1.1 What is an Epistemic Theory of Deliberative Democracy?

This thesis aims to contribute to debates on the epistemic value of democracy, and respond to rising democratic scepticism, by developing an epistemic theory of deliberative democracy. Before we can say more about the aim of such a theory, we must first consider the two conceptions of democracy which are central to it. The first is
deliberative democracy which has become one of, if not the dominant conception of democracy in democratic theory. It is a conception which is rooted in the practice of reasoning and argumentation among free and equal citizens (Chambers, 1996; Cohen, 1989; Dryzek, 1990, 2000; Elster, 1986; Forst, 2001; Habermas, 1976, 1996, 1994a; Gutmann & Thompson, 2004; Mansbridge et al, 2012; Rawls, 1996). This focus on reason and argument represent the centre of the ‘deliberative turn’ in democratic theory which saw a move away from standard liberal or economic accounts of democracy (Dryzek, 2000). These later conceptions are purely aggregative, in the sense that they focus on the summing up of individual preferences through procedures such as voting (Riker, 1982). Casting a vote is merely a matter of stating one’s individual preferences with the ‘same structure as the acts of choice made by participants in a market’ (Habermas, 1994b: 3). These preferences are therefore taken as given and unquestioned, and the purpose of the democratic process is to provide a fair and equal procedure to aggregate these preferences into a social choice. Deliberative democrats, alternatively, argue that a purely aggregative conception of democracy misses the importance of democratic debate and discussion which precedes voting. Preferences and values should not be seen as given or exogenous to the democratic process but are rather formed and transformed through democratic procedures of discussion and argument themselves. Through deliberation, the values and preferences are not only aggregated but formed and possibly transformed in relation to the arguments and values of others. Deliberative democracy does not exclude or ignore the importance of voting, but rather highlights the importance of the prior discussion and debate which informs voting. It is, therefore, ‘talk-centric’ as opposed to ‘vote-centric’ (Chambers, 2003).

Democratic deliberation is not, however, just any kind of ‘talk’ about political matters. Rather it is ‘talk’ which is free, equal and inclusive. It is free in the sense that it should generally not involve strategic forms of behaviour such as bargaining, bribery or threats (Chambers, 1996, 2003; Cohen, 1989; Dryzek, 1990, 2000; Habermas, 1984, 1996). Instead, deliberation is a non-coercive discussion where participants attempt to give reasons which can convince others of their particular view. They should attempt to justify their positions to their fellow citizens. As well as this reason-giving component,

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deliberation involves listening and the genuine consideration and reflection of reasons by others. Deliberation is not haggling over political ends, but rather a process in which participants aim to convince each other and come to some form of mutual understanding. It involves communicative rather than strategic action (Habermas, 1984). This is not to say that bargaining has no place in a deliberative democracy, but rather that the role of bargaining must either be determined by or justified in relation to deliberation. The talk in democratic deliberation should also be equal. It should be conducted on the basis of political equality, and therefore everyone included should have an equal opportunity to speak or influence the decision. A discussion where a few people or their views are allowed to dominate, while others are silenced, is not democratic debate. Deliberation, as found in deliberative democracy, is therefore distinct from Athenian forms of deliberation which endorse a strong distinction between those whose role it is to speak and those whose role it is to listen (Remer, 2008; Yack, 2006). Instead, participants should engage and their views should be considered in terms of political equality. Finally, deliberation should also be inclusive. A group of oligarchs can engage in deliberation as a communicative exchange of reasons on the basis of equality. What makes deliberation democratic, however, is that it is inclusive of the demos. Unlike oligarchic or aristocratic deliberation, democratic deliberation aims to include, either directly or through representation, all those who are either affected by or subjected to the political decisions being taken (Kuyper, 2016).4

Although deliberative democrats would agree that deliberation should be free, equal and inclusive, they do of course differ in other respects. One disagreement is over what role forms of speech other than rational argument can legitimately play in democratic deliberation (Bachtiger et al, 2010). On the one side, there are classical or type 1 deliberative democrats who endorse a conception of deliberation which emphasises appeals to logic and reason and is sceptical of the inclusion of rhetoric and emotions which may lead deliberators away from rational argument (Habermas, 1996). On the other side, there are type 2 deliberative democrats who argued for a less restrictive conception of deliberation. This conception leaves more space for forms of rhetoric, emotional appeals, self-interest and storytelling, alongside rational reasoning (Dryzek, 2000; Mansbridge et al, 2010; Young, 1990). Most deliberative democrats will not fall neatly

4 This introduction will stick to a broad account of deliberation. However, more specific definitions will be adopted at different stages in the thesis.
into one of these general types. However, they do help clarify two sides of a debate, with most theorists placing more or less emphasis on rational argument and therefore falling somewhere in between the two. Another key disagreement among deliberative democrats is over the sites of deliberation, and how deliberation should be institutionalised. For a long time, particularly in the empirical turn in deliberative democracy, the major focus was on small-scale deliberation within single institutions. On these accounts, deliberation takes place in structured forums such as representative parliaments or mini-publics, and the quality of deliberation is examined internally to these institutions (Fishkin, 1997, 2009; Smith, 2009). The aim of deliberative democracy on the unitary account is to produce genuine and authentic deliberation at the institutional level. Key issues in this approach involve, for instance, whether deliberation should be conducted directly by citizens (e.g. mini-publics) or by their representatives (e.g. parliamentary assemblies). More recently deliberative democracy has experienced a ‘systemic turn’ which has moved away from a focus on single sites of deliberation (Dryzek, 2016; Mansbridge et al, 2012; Owen and Smith, 2015; Parkinson, 2006). On this view the focus should not be on anyone individual forum, but rather on how many institutions contribute to a larger deliberative system. A deliberative system is made up of many different components each of which does not need to be fully democratic, but all should interact and connect in ways that produce democratic deliberation at the system level. Unlike unitary approaches then, the aim of deliberative democracy is to produce genuine and authentic deliberation at the level of the system rather than the level of a single institution5. The debate between citizen and representative deliberation, therefore, becomes a debate about the particular roles these groups should play within the larger system. Although the systems approach is seen as the most recent ‘turn’ in deliberative democracy, in many ways, it is a return to some of its early roots which placed emphasis on deliberation within civil society and mass participation (Chambers, 2009; Habermas, 1996).

This thesis will not take a position on these or other debates within deliberative theory from the outset. That is, it will not adopt any one position for its analysis. Rather, as the epistemic theory of deliberative democracy develops through this thesis, it will make contributions to these debates by clarifying what epistemic reasons we have for favouring particular positions. For instance, it will often stick to a type 1 form of

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5 System theorists still value the quality of deliberation within single institutions, but think that the system deliberation takes priority over the individual level.
deliberation, but at several stages point to the epistemic benefits of including a wider set of speech acts, such as appeals, storytelling and trust (chapters 2 and 6). It will also argue that from an epistemic perspective, deliberative democracy is best conceived in systemic terms, but with very important roles for the structured deliberations of mini-publics within the deliberative system (see chapters 2, 3 and 5). It will advocate a systems approach with a large role for direct citizen deliberation. The thesis will, therefore, begin from a broad conception of deliberative democracy as free, equal and inclusive, and then through an engagement with its alternatives clarify what bearing epistemic values have on these prominent debates within deliberative theory.

What, however, do we exactly mean by epistemic values? This question moves us on to the second conception of democracy which will be central to the thesis, epistemic democracy. An epistemic conception of democracy is a particular account of the way that democratic institutions are justified. There are of course a number of different approaches to the justification of democracy. Two prominent approaches to deliberative democracy come from liberalism, which focuses on a process of justification between free and equal citizens, and from communitarianism which sees deliberation as a process of expressing common values and the common good (Forst, 2001). The key claim of epistemic democrats is that the justification of democratic institutions rests, at least in part, on the ability of democratic procedures to make good or correct decisions (Anderson, 2006; Estlund, 2008; Marti, 2006; Landemore, 2017). Importantly, the goodness of a decision is defined by some standard which is itself independent of the procedure which produced it, such as a conception of justice or the common good. For epistemic democrats then, the justification of democracy involves an important instrumental component, and is, therefore, most usefully contrasted with purely procedural accounts of democracy. Pure proceduralism holds that the value of democracy rests solely on the fairness or the intrinsic values of democratic procedures (Dhal, 1989). What matter is that democracy embodies or expresses important values, such as equality, freedom or autonomy, and not that it can make good decisions and lead to good outcomes. The only way to evaluate the quality of a decision is therefore to refer to the procedures which produced it – in other words, was the decision taken fairly. In contrast, epistemic democrats think it is also

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6 One may want to define epistemic democracy more broadly, as any approach which involves an epistemic component (i.e. a concern for knowledge and informed preferences) but not necessarily independent standards (see Chambers, 2017a). The thesis will, however, take the narrower definition so as to more clearly distinguish the epistemic approach from purely procedural ones.
important to evaluate the quality of decisions in relation to non-procedural standards, such
their ability to promote justice, the common good, or basic human needs. Unlike pure
proceduralism then, epistemic democracy takes there to be procedure-independent
standards by which we can judge the quality of a political decision procedure.

To better understand this idea, it is useful to consider Rawls’ (1971) concepts of
‘perfect’ and ‘imperfect procedural justice’, the latter of which is analogous to the
epistemic conception of democracy. Both perfect and imperfect procedural justice take
there to be independent criteria which define whether an outcome is correct or better in
terms of justice and fairness. They are therefore distinct from ‘pure procedural justice’
(analogous to pure proceduralism) where only the procedure itself can be used to judge
the outcomes. Perfect procedural justice, however, takes there to be a procedure which
can guarantee or always produce the most just outcome. For example, if we want to share
a cake, and all want to maximize their share, then the perfect procedure would be to have
the person who cuts the cake be the last person to choose their slice. Alternatively,
imperfect procedural justice takes there to be a procedure which can achieve better
outcomes to some level of reliability, but there is no procedure which can guarantee or
always get the best outcomes in terms of justice or fairness. An example of this would be
criminal trial by jury. In such trials, the guilt or innocence of the defendant determines
the standard of correctness independent of the procedure which the jury aims for in their
decision. There is not, however, any guarantee that their decision will be correct in terms
of that standard. We hope that juries tend to convict the guilty and not the innocent, but
they will not always produce the right decision.

Epistemic democracy is analogous to imperfect rather than perfect procedural
justice. There are independent standards which constitute the correctness of a decision,
but there is no procedure which can guarantee that the correct decision is always picked.
Any argument for the epistemic merits of democratic procedures (or their alternatives) is,
like those for criminal trials, probabilistic. They claim that democracy ‘tends’ to produce
better or correct decisions. That although it can be expected to make mistakes and get
things wrong, democracy can be seen on average to produce good decisions. Any
comparative claim about these merits is also then probabilistic. To say that democracy is
epistemically superior (or inferior) to autocracy is to claim that democracy tends (or tends
not) to produce more good decisions than autocracy. Claims about relative superiority do
not have to suggest a very high level of absolute epistemic ability as an epistemic analysis
does not look for the perfect procedure but rather the best imperfect procedure. In Churchillian fashion, democracy may be the worst form of government, except for all the others.

Because it sees independent standards as an important part of democracy, epistemic democracy must then reject any form of pure proceduralism which takes intrinsic values to be the only relevant ones. This does not mean, however, that it rules out or denies the existence of procedural values or their importance. Although they hold that epistemic values must pay some role in the justification of democracy, they are not necessarily the only values, and many epistemic democrats see procedural fairness as important (e.g. Estlund, 2008; Landemore, 2013a). Arguments about the ability of democracy to achieve independent standards are freestanding and conceptually independent of procedural arguments. Some have argued against this consistency on the basis that an epistemic reading of democracy corrupts normative standards, such as political equality, because they subordinate them to instrumental values (Urbinati and Maria, 2013). However, there is no reason why epistemic democracy must see non-epistemic values as subordinate to epistemic ones, nor does it appear that epistemic democrats do in fact do this. It is possible to value something instrumentally and intrinsically at the same time and for independent reasons. For example, I can value a person intrinsically as an autonomous agent, while also valuing them instrumentally as someone who can teach me mathematics. Valuing democratic procedures instrumentally because they can reach good decisions does not rule out, and nor does it subordinate, valuing them intrinsically because they express political equality or freedom (Landemore, 2017). The epistemic values of democracy are conceptually independent of procedural values so that epistemic democracy can be consistent with either pure instrumentalism or mixed approaches which combine epistemic and procedural values.

Deliberative democracy is often taken to have not only intrinsic but also instrumental values, and it is argued to produce many positive effects (Mendelberg, 2002; Kuyper, 2018). These instrumental values are, for instance, often taken as a reason to prefer deliberation over pure aggregation (Chambers, 2017b). These positive effects include the ability to achieve rational agreement (Cohen, 1989; Elster, 1986), foster tolerance of other views (Gutman & Thompson, 1996), improve people’s understanding of their own preferences and social problems (Chambers, 1996), and improve citizen
knowledge and beliefs (Fishkin, 1997, 2009; O’Neill, 2007)\(^7\). The main concern of epistemic democracy is not so much for the benefits to deliberators themselves but rather the ability of democratic procedures to make correct or good decisions, and therefore produce good outcomes\(^8\). It, therefore, assumes that there are independent standards by which decisions can be judged and that they are, at least in principle, identifiable by a decision procedure. What, however, are the independent standards which define good and bad, correct and incorrect, or better and worse decisions? The epistemic conception of democracy as a broad category does not presuppose any particular answer to this question nor does it commit one to any particular account of these standards. It does not, as some may think, require an endorsement of moral realism about the existence of objective moral facts (Marti, 2006; Landemore, 2013a). Although the standards must be independent of the actual decision procedure, they are not necessarily independent of everything else. They may, for instance, depend on some idealised procedure, such as Rawls’ (1971) original position or Habermas’ (1996) ideal speech situation, or alternatively on the norms and practices of a particular community, such as in forms of communitarianism or moral relativism (MacIntyre, 2007; Taylor, 1989). Assuming that there are standards independent of the actual decision procedure does not, therefore, commit one to a strong form of moral realism and it is consistent with a number of meta-ethical positions. Nor does it, as some might think, commit one to any crude form of consequentialism as the independent standards may themselves involve deontological or virtue constraints, such as respect for basic human rights. Nothing is assumed about the nature of standards by which decisions are judged except that they are independent of the actual decision-making procedure and that they can to some extent be identified or approximated. There is, therefore, a range of possible positions an epistemic democrat may take on what constitutes independent standards (more will be said about this below).

It is difficult for deliberative democrats to reject the assumption that there are independent standards of some kind which can be to some extent identified. This is because of the important place reason and argument are given within the deliberative conception of democracy (Estlund, 1993a, 1993b, 1997; Marti, 2006). If there is to be

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\(^7\) See Kuyper (2018) for a discussion of many of these and the empirical evidence for them.

\(^8\) Benefits to deliberators may of course also affect the ability of democracy to make good decisions, and therefore these concerns may still be related.
deliberation about a political issue, it must be assumed that there is some possibility of knowing better and worse decisions or approaches to this issue. Without such an assumption there cannot be a meaningful discussion or argument. As Martí (2006: 29 original emphasis) puts it, to “argue in favour of decision A means, briefly, to show that decision A is the right decision, or at least, that A is better in terms of rightness than other decisions being compared”. Participants in deliberation must assume some independent standard of correctness, and appeal to such standards in order to argue that one policy or strategy is better than another. If the only mark of a decision was the decision-making procedure itself, then there could not be any argument or reason for making any particular decision, as making arguments and giving reasons means to appeal to some standard independent of the process and at least somewhat independent of the participants beliefs and desires (Estlund, 1993a). It is the appeal to such standards which distinguishes deliberation from a process of pure bargaining. If deliberators are not to engage in strategic behaviour, then they must be able to produce reasons for the rightness and wrongness of alternative positions. They must orient themselves to justice or the common good and aim to convince their fellow deliberators of the rightness or correctness of a particular decision. For deliberation and communicative action to be possible and conceptually coherent, there must be some independent standards to which participants can appeal when giving and considering reasons.

Some deliberative democrats may, however, worry about the consequences of including independent standards as an important part of democratic politics, as it opens democracy up to the epistemic critics who argue that exclusive, expert or market institutions will produce better outcomes. Such a fear does not seem to be a good reason for denying or excluding epistemic concerns. Firstly, as we have already seen, taking there to be independent standards does not exclude the force of non-epistemic or procedural values. Elitist alternatives such as epistocracy or expert rule may still be rejected on non-epistemic grounds, and may, therefore, be no more of a threat to epistemic democracy than they are to pure proceduralism (see for example Estlund, 2008). Furthermore, responding to democratic sceptics only on procedural grounds may not be the best strategy given that many are not committed to, or explicitly reject, procedural values such as political equality. The strategy would also result in leaving an important dimension of politics only to democracy’s critics. Including a role for independent standards may somewhat open the door to elitist objections, but fear of such objection is
not a good reason for keeping this door shut if this means abandoning an important part of politics. Rather than giving up the fight over epistemic values before it has even begun, and therefore implicitly assuming that democracy will lose, it is important to demonstrate that democracy does not necessarily lack the ability to achieve valuable political outcomes. Excluding independent standards removes the opportunity to argue that elitist alternatives are in fact no threat to democracy at all.

Developing an epistemic theory of deliberative democracy, therefore, involves combining the deliberative and epistemic conceptions of democracy. It is deliberative in the sense that it focuses on the importance of free, equal and inclusive deliberation to democracy, and it is epistemic in the sense that it takes the ability to make good decisions, as defined by procedure independent standards, to be at least one important factor in the justification of democratic deliberation.

1.2 The Aim of an Epistemic Theory of Deliberative Democracy

What exactly are the aims of an epistemic theory of deliberative democracy and what does it attempt to achieve? Broadly there are two possible forms such a theory could take: one is purely normative and the other more practical. A purely normative theory would be concerned with establishing the relevance or importance of independent standards to the justification of democratic rule, and their relationship to other values. It would, therefore, be particularly concerned with engaging with and rejecting pure procedural conceptions of democracy. This has been, for example, the aim of David Estlund (2008) in putting forward his account of ‘democratic authority’9. Another kind of epistemic theory is more practical. It assumes that the ability to achieve independent standards is an important part of democratic politics, and then aims to determine the particular epistemic properties and abilities of deliberative democracy. It would analyse these properties, compare them with alternative institutional forms, and establish how far they can take us in grounding democratic procedures. This has been, for example, the predominant aim of Helen Landemore (2013a) in putting forward her account of ‘democratic reason’1011. The epistemic theory developed in this thesis is of the second, more practical, kind. It therefore

9 For this debate also see Christiano (2009), Estlund (1993b; 1997), Peters (2007, 2008).
10 Landemore at times also engages with the purely normative question when defending the relevance of procedure independent standards (see Landemore, 2013a, chap8; Landemore, 2017).
11 It is also the main aim of those concerned with the purely aggregative procedures and jury theorems (see Dietrich & Spiekerman, 2014; List & Goodin, 2001)
assumes that the ability to make good decisions by independent standards is at least one important dimension of democracy, and it aims to investigate this dimension in particular. This investigation has two sub-aims which will be explained further below. The first is to develop an account of the particular epistemic properties of deliberative democracy as compared to its alternatives, and the second is to investigate and clarify what role, if any, these epistemic properties can play in a wider justification of democratic rule.

1.3 The Epistemic Properties of Deliberative Democracy

The first aim of the epistemic theory of deliberative democracy developed here is to investigate the particular epistemic properties of deliberative democratic institutions. This will be done through a series of institutional comparisons between deliberative democracy and a number of its most prominent alternatives. To date, epistemic democrats have tended to be rather constrained in their choice of institutional comparisons. Some, for instance, confine their comparative approach to different forms of democracy, asking whether deliberative or purely aggregative approaches are more epistemically valuable (Chambers, 2017b; Marti, 2006). Others have gone beyond democratic institutions, but have tended to follow a convention in political philosophy of comparing democracy only to its traditional alternatives of aristocracy, oligarchy and autocracy (Anderson, 2006; Landemore, 2013a, 2013b). All of these democratic and non-democratic institutions are certainly important comparisons to deliberative democracy. However, alone they significantly limit insights which can be gained from an epistemic analysis and they limit the ability of such an analysis to respond to the contemporary sceptics of democracy discussed above. Firstly, it limits the analysis to only two kinds of decision-making mechanisms, deliberation and vote aggregation. Aristocracy, for example, changes who gets included compared to democracy, but it still makes decisions via one or both of these two procedures and therefore leaves the decision-making mechanism untouched. Secondly, confining the set of institutional comparisons to these alternatives leaves many important institutional forms out of the analysis despite their prominence in modern political debates. For these reasons, this thesis will expand the institutional comparisons to include both markets and forms of decision-theoretic approaches. Both of the alternatives represent a completely different decision mechanism, either price signals or decision rules, and therefore widen the scope of the epistemic analysis. Both have also found a considerable role as alternatives to more democratic procedures even in largely democratic countries. Markets, alongside democracy, are one of the most pervasive and
dominant mechanisms for providing goods and have been greatly expanded to many areas which were previously reserved for political or social institutions (Crouch, 2004). Alongside these trends are a growing number of theoretical critiques of democracy being made by pro-market theorists (DeCanio, 2014; Pennington, 2003, 2011). Similarly, decision-theoretic approaches form the basis of very prominent policy tools, such as cost-benefit analysis and precautionary principles, which dictate many policy decisions. In the United Kingdom, for instance, cost-benefit analysis became a mandatory requirement for ‘all new policies, programmes and projects’ with the introduction of the Government’s Green Book, whilst in the United States it became mandatory under the Reagan administration for all major government regulations (HM Treasury, 2003; Smith, 2003).

Including these alternatives, alongside the more traditional ones, will increase the insights which can be gained from an epistemic analysis while increasing its ability to respond to a wide range of democratic sceptics and alternatives.

In reality, politics mostly involves mixed systems rather than pure forms of any one institutional design. This fact can make institutional comparisons difficult as it is hard to determine whether problems and achievements are due to one particular institutional form and not another, or whether they are the result of an institutional design not being implemented in the fullest or best way. For example, are the benefits or problems of markets the result of market mechanisms themselves or are they due to regulation by democratic institutions? The thesis will take a more theoretical approach which compares alternative institutional ‘models’. This involves considering purer or more idealised versions of alternative institutions and examining their respective mechanism in isolation from each other. Although this approach may reduce the realism of the analysis, it allows it to investigate institutional design separately, making it easier to identify the particular epistemic properties which come through their decision mechanism and forms of inclusion. Consistent with a thesis in democratic theory, the epistemic analysis of these models will be mostly theoretical and philosophical. However, where empirical evidence is relevant and available, the thesis will appeal to it in order to substantiate its claims. Evidence from deliberative mini-publics, for instance, will be relevant at a number of stages in the thesis’ argument in order to provide evidence of the ability of citizens to deliberate (see chapters 3 and 5). Where the epistemic theory of the thesis makes empirically testable claims, but empirical evidence is currently unclear or absent, the theory will aim to be hypothesis generating. It will make claims about the relative
epistemic abilities of different institutional models and the mechanism behind these differences, and these can then go on to inform the basis of future empirical work on the topic.

One of the main tasks of the thesis will, therefore, be to conduct a series of theoretical comparisons between models of deliberative democracy and models of its prominent alternatives. As we have seen, epistemic democracy is not committed to any particular account of procedure-independent standards by which these comparisons are made. There are therefore a couple of general approaches the thesis could take. The first is to specify a particular account of the independent standards and then analyse the ability of different institutions to achieve it. This could involve selecting a particular conception of justice or the common good – for example, which institution can best achieve equality of welfare – or selecting less contested standards which may be accepted by many with different views – for example, which institution can best avoid famines or war\textsuperscript{12}. The second approach the thesis could take is not to select a particular account of the independent standards but instead remain agnostic. This approach would analyse which institutions have epistemic abilities which can be seen as valuable irrespective of the particular independent standards of correctness\textsuperscript{13}. The thesis will adopt the second approach when making its institutional comparisons. The main reason for this is that remaining agnostic on the independent standards allows the epistemic account of deliberative democracy – and its possible epistemic justification – to avoid a reliance on any controversial and contested conception of justice or the common good. There is widespread and reasonable disagreement about such concepts, so to select any particular one would make the epistemic analysis dependent on a controversial foundation. It would, therefore, fail to give reasons for supporting any particular institution to those who do not accept these standards. It also, unlike a focus on uncontroversial negative outcomes such as famine and war, allows for the possibility that democratic procedures may be able to produce positive outcomes rather than only avoiding very negative ones. A further reason against specifying particular standards is that the thesis aims to investigate if epistemic properties can play a role in the justification of democracy. Selecting a particular conception of good outcomes, however, seems to undermine one's commitment to democracy from the very start, as it necessarily removes the question of what constitutes

\textsuperscript{12} This approach can be seen, for example, in the arguments of Sen (1999) and Kant (1897).

\textsuperscript{13} For example, Anderson (2006), Brennan (2016) and Landemore (2013a)
a valuable end from democratic discussion (Peters, 2008). Alternatively, remaining agnostic about the independent standards allows the thesis to give reasons for supporting particular institutions even to those who reasonably disagree about justice and the common good, while also not excluding issues of what constitutes good outcomes from democratic debate.

The thesis will, therefore, analyse which institutions have epistemic properties or abilities which can be taken to be valuable irrespective of any particular standards being aimed for. These properties can be split into different categories. The first is ‘knowledge gathering’, which refers to the extent to which an institution can access and collect the relevant knowledge it needs to address a given political problem. No matter what the preferred standards, a decision procedure will need to be able to get hold of relevant knowledge to achieve them. The second is ‘decision-making’, which refers to the ability of an institution to make effective decisions on the basis of previously acquired knowledge. If a decision procedure cannot make effective decisions on the basis of knowledge, then again it will not be able to achieve any independent standard. These two categories of ‘knowledge gathering’ and ‘decision-making’ will be the main epistemic areas by which alternative institutions will be compared. A third category is ‘motivations’. This refers to the extent to which decision-makers are motivated towards achieving independent standards such as justice or the common good. Motivational arguments are common to many instrumental arguments for democracy as it is taken that elites are more likely to act in their own self-interest than in the interests of all. Motivational issues will, however, take a back seat for much of this thesis. As Fuerstein (2008) has argued, motivational arguments are limited in the sense that they do not provide any reason why we should expect democracy to achieve the good outcomes it may aim for. All the good intentions in the world will not produce good decisions if the decision-making is also ignorant and incompetent. The majority of the thesis will, therefore, focus on establishing whether democracy has the other necessary epistemic properties of knowledge gathering and decision-making, and will leave motivations constant across institutions. Motivational issues will only be returned to in the later part of the thesis (chapter 5) in order to evaluate the ‘all things considered’ epistemic abilities of deliberative democracy.

The approach of the thesis is a form of what Elizabeth Anderson (2006: 8) has called ‘institutional epistemology’, which is concerned with how alternative institutional designs ‘gather and make effective use of the information they need to solve a particular
The problems in question here are political and social problems about how to provide valuable goods, as defined by our independent standards, to a political community. It is possible for a political community to be very small and involve very small numbers of people, such as a village or a neighbourhood. In such cases, political problems may not be very difficult problems to solve for any of the alternatives under consideration. What we will generally have in mind then is a political community of some size and complexity. It is with this assumption that the epistemic issues discussed by the thesis, such as the problems of gathering diverse and distributed knowledge and making decisions under uncertainty, become prominent and interesting. The kinds of problems we are concerned with then are political problems. Does making an epistemic argument for democracy (or one of its alternatives), therefore involve making the claim that it is always the best institution for all kinds of problem? Such a claim would seem to be too strong. Instead, an epistemic argument for democracy (or one of its alternatives) claims that it is the best primary political institution and that it should have priority over others. A case for the epistemic superiority of democracy, therefore, aims to show that democracy should be the most fundamental political institution, which may decide when or when not to use other institutional forms (such as markets, expert decision-making, etc.).

The thesis therefore aims to give a general epistemic theory of deliberative democracy in the political sphere. An example often referred to throughout the thesis, however, will be environmental problems and environmental policy. There are a few reasons for giving particular attention to this example. The first is that environmental policy is an area where epistemic issues, such as specialised knowledge and high levels of uncertainty, are particularly prevalent. Epistemic issues have therefore received attention in environmental debates which they have not elsewhere, and this will give the thesis a useful literature to engage with. Secondly and relatedly, the prominence of significant epistemic problems in this policy area makes it a particularly rigorous testing bed for our different institutional models. It will allow us to see the epistemic values of these institutions in relation to particularly difficult cases, which involve a number of interesting epistemic challenges. Thirdly, the question of institutional design has also

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14 Institutional epistemology has a long history, although not always recognised by this name. Prominent proponents of the approach include Friedrich Hayek (1948a, 1948b, 2013), Michael Polanyi (1962a) and John Dewy (1981a, 1981b).

15 Knight & Johnson (2011) put their case for democracy in similar terms. Landemore (2014) has also suggested that her argument is best seen in this way.
received much attention in environmental debates, and it is, therefore, possible to find advocates of all the main institutional alternatives considered in the thesis (Dryzek, 2013). For example, deliberative democracy has been given considerable attention in environmental debates and many approaches to environmental democracy take a deliberative form (Dryzek, 1987a; Dryzek & Stevenson, 2011; Jacobs, 1997; O’Neill, 2007; Smith, 2003; Stevenson & Dryzek, 2014). Advocates, however, can also be found for eco-authoritarianism (Heilbroner, 1974), environmental markets (Cordato, 2004; Pennington, 2001, 2005; Sagoff, 2008), cost-benefit analysis (GCEC, 2014; Stern, 2006) or precautionary principles (Gardiner, 2006; Lempert et al, 2006). Environmental policy will therefore be a common example in the thesis, although its central aim will be to give a general epistemic theory of deliberative democracy. It will therefore give many other examples and pay attention to how its arguments generalise across political and social problems.

1.4 The Epistemic Justification of Democracy

The first aim of an epistemic theory of deliberative democracy is to provide an account of the particular epistemic properties of deliberative democratic institutions. Its second aim is to investigate and clarify the extent to which democracy can or cannot be justified on the basis of these epistemic properties, and the possible role that epistemic values can play in a wider justification of democratic rule.

There are a number of different possibilities for the role of epistemic values in a justification of democracy. It may be, for instance, that deliberative democracy can be fully defended on purely epistemic grounds, as some form of inclusive deliberation is the best procedure for making good decisions. If this is true, then epistemic values can carry all the weight in a justification of democracy without any need for procedural values. Alternatively, deliberative democracy may be epistemically inferior to its main rivals. Epistemic values could then play no role in a justification of democracy which would become completely reliant on procedural values. Yet another possibility is that deliberative democracy is found to be epistemically better than other democratic institutions (principally pure vote aggregation) but worse than its non-democratic alternatives. In such a case as this, procedural values would be required to defend democracy, but epistemic values could be relied on to justify deliberative democracy as the best of the democratic alternatives. These examples are not exhaustive, but they
illustrate that there are a number of possible rules epistemic values may be able to play in a justification of democratic rule.

The purpose of an epistemic theory of deliberative democracy is, therefore, to first determine its epistemic properties and then clarify the possible role these epistemic values can reasonably play, or what weight they can reasonably carry, in a wider justification of democratic rule. Importantly, this is not done with the aim of establishing or defending an ultimate or all things considered justification of democracy. Rather it is done with the aim of determining possibilities for the epistemic dimension of democratic politics in a wider justification of democracy. If, for example, the epistemic properties the thesis identifies can support the position that democracy can be completely justified on epistemic grounds, then a purely epistemic argument for deliberative democracy would be possible. This does not, however, mean that the best all things considered justification of democracy would not include any procedural values. Even if democracy can be defended in purely epistemic terms, we may still think that a complete account of democracy would be deficient without reference to values such as freedom or equality. The thesis is, therefore, agnostic on the ultimate account of democratic legitimacy and instead aims to map the possibilities that exist for the role of epistemic values in the justification of democratic rule.

The epistemic theory advanced in this thesis will argue for the position that there are no good epistemic reasons to reject deliberative democracy in favour of any of its prominent alternatives. It will argue that deliberative democracy is epistemically superior to many of its alternatives and no worse epistemically than its best competitors. This suggests that although epistemic values cannot mount a full or stand-alone justification of democracy, epistemic values can play a very significant role. Deliberative democracy will not be shown to be the superior epistemic procedure, but it will be argued that there are no clear epistemic reasons to reject it in favour of any alternative. It is, therefore, possible for epistemic values to play a very large role in justifying democratic rule. In fact, a wider justification would only require very thin additional non-epistemic values. Whether the best ‘all things considered’ account of democracy should only include thin non-epistemic values rather than thicker ones is not a question for this thesis. What this thesis will claim is that thin procedural values are sufficient to justify democracy, given the considerable weight that can be carried by epistemic values. The other implication of this conclusion is that the epistemic theory of deliberative democracy can act as a
powerful response to the democratic sceptics discussed at the start of this introduction. By showing that a purely epistemic analysis can find no clear reason for rejecting deliberative democracy, it therefore produces a powerful reply to those who criticise democracy on the basis that alternatives will produce better decisions.

1.5 Thesis Structure & Overview

The structure of the thesis can be divided along a couple of dimensions. One dimension is along the kind of epistemic property being considered, with the first half of the thesis (chapters 2 and 3) dealing with knowledge gathering and the second half (chapters, 4 and 5) with decision-making on the basis of given knowledge. The other dimension is the kind of institution to which deliberative democracy is compared, with each chapter focusing on different alternatives. Chapter 2 will focus on markets, chapter 3 on stakeholder/interest group deliberation, chapter 4 on decision-theoretic approaches, and chapter 5 on exclusive forms of deliberation, such as aristocracy or epistocracy.

The next chapter will start our discussion of knowledge gathering by considering the epistemic case for markets over democracy. There is a significant tradition, associated with figures such as Friedrich Hayek (2013), which has critiqued democracy and defends markets on the basis of latter’s superior ability to utilise dispersed information. Despite the prominence of this school of thought, epistemic democrats have tended to remove markets from their analysis (Anderson, 2006; Landemore, 2013a). The chapter engages directly with the epistemic argument for markets over democracy and argues that we have good epistemic reasons to grant a much greater role for democracy. Firstly, the chapter critiques the epistemic ability of markets by developing a new category of goods called low feedback goods. These goods are common to political and social problems but cannot be dealt with by markets due to the particular epistemic burdens they create. Secondly, the chapter then argues that deliberative democracy can deal with these goods while also overcoming the challenges produced by pro-market critics. This is done by drawing on the systemic approach to deliberative democracy. The chapter develops an epistemic model of a deliberative democratic system to demonstrate the knowledge gathering abilities of democracy and its superiority over markets when it comes to political and social problems. It then ends by drawing out the implications of the chapter’s argument for direct democratic voting through referendums.
Chapter 3 continues the discussion of knowledge gathering by more closely analysing how knowledge is gathered and communicated within a deliberative system. The second chapter considered a deliberative system in quite idealised terms, while the third explores its imperfections and challenges. It argues that these imperfections point to a need for an epistemic filter which can determine which knowledge claims should influence binding political decisions and which should not. The focus of the chapter then becomes a consideration of which kind of deliberation can provide such as filter within the wider system. It firstly considers deliberation about truth-values within a mini-system. Although not considered before, a mini-system aims to represent the different institutions within the wider deliberative system and most closely resembles stakeholder or interest group forms of deliberation. The chapter develops a critique of this form of deliberation, claiming that it cannot deal with the knowledge relevant to political problems which is specialised, tacit or situated knowledge. It cannot, therefore, provide an effective epistemic filter. A second form of deliberation is then advocated which is concerned with trust-evaluations of knowledge sources rather than the truth-value of knowledge claims themselves. Importantly, this move from truth to trust is argued to radically change the form of inclusion which should be preferred in epistemic terms. It suggests that citizens can play an important role in determining trustworthy knowledge sources and therefore a form of inclusion closer to a mini-public, which aims to represent lay citizens in the general population, than to a mini-system. The first half of the thesis therefore claims that deliberative democracy, conceived in systemic terms, has good knowledge gathering abilities, and that citizens can play an important role in this process.

The second half of the thesis then moves the discussion away from knowledge gathering, and towards decision-making on the basis of a given amount of knowledge. Although a deliberative system is well-placed to gather knowledge, why should final decisions be taken in a democratic way rather than any other? Chapter 4 starts this discussion by engaging with decision rule approaches to decision-making. Decision theory and neo-classical economics have developed a number of analytic decisions rules which can be followed in order to arrive at rational or correct decisions. These rules have gained a prominent place in public policy making as they form the basis of common policy tools such as cost-benefit analysis and precautionary principles. It is argued, however, that political decision-making cannot be reduced to a matter of following predetermined rules, because the complexity of political problems can cause decision
rules to make unreasonable and bad decisions. Instead, there is a need for some prior decision-making process which can exercise judgment in the application and creation of rules to fit the problem which is being faced. The chapter then ends by putting forward an epistemic account of judgment which distinguishes it from rule following and demonstrates what is required of this prior decision-making procedure.

Chapter 5 continues the discussion of decision-making and is principally concerned with deliberation. It begins by drawing a link between the need for judgment described in the previous chapter, and deliberation. The majority of the chapter is then dedicated to analysing the epistemic value of inclusive forms of deliberation, as opposed to more exclusive deliberation involving only a subset of the demos. The latter kind of deliberation includes forms of aristocracy and epistemology which excluded many from decision-making. The chapter critiques two prominent epistemic arguments for inclusive deliberation, made by Bohman (2006) and Landemore (2013a), arguing that they cannot explain the epistemic properties or the superiority of democratic deliberation. It then develops a new argument in their place. This new account makes a original case for the importance of cognitive diversity to political decision-making, and then combines this with motivational arguments to make the case for the epistemic value of democratic deliberation. Interestingly, the kind of democratic deliberation advocated is also deliberation among randomly selected citizens, such as in a mini-public, and therefore for a form of direct democracy. The chapter concludes that these epistemic abilities show that deliberative democracy is epistemically superior to its very elite traditional alternatives (such as autocracy and aristocracy) and of similar epistemic value to other less elite alternatives (that is, limited forms of epistocracy). This is concluded even if we grant the generous assumption that these alternatives can actually select for high ability members.

Taken together, the epistemic theory of the thesis claims that although purely epistemic arguments for democracy fall short, we have no good or strong reason to reject it in favour of even its best alternatives. The conclusion of the thesis then discusses what this means for the increasing number of democratic sceptics, the role of epistemic values in a justification of democratic rule, and for future directions of research.
2 The Epistemic Limits of Markets

As we saw in the last chapter, an epistemic theory of deliberative democracy involves making a comparative epistemic analysis of social institutions. Such an analysis, however, is predominantly associated with a different school of thought in social sciences than epistemic democracy. This is the pro-market school of figures such as Friedrich Hayek (1948, 2011, 2013)\(^1\). Hayek, and those following in his tradition, place issues of knowledge and communication at the centre of their economic and political theory. Unlike epistemic democrats, however, these market theorists produce an analysis which is highly critical of the epistemic value of democracy. They argue that there are good epistemic reasons to favour market mechanisms over any kind of democratic institution and that wherever possible markets should have priority over democratic procedures. Hayek and his contemporaries have argued for this conclusion in relation to the first epistemic property of interest to this thesis, ‘knowledge gathering’. While political institutions face the significant challenge of gathering and communicating large amounts of dispersed knowledge to decision-makers, a decentralised market allows individuals to act on their own knowledge and be co-ordinated by price signals. It can therefore utilise dispersed information without requiring that it first be communicated to some political institution. The market is also argued to significantly reduce the amount of knowledge required by decision-makers, and therefore deceases the epistemic burden facing knowledge gathering. In the kind of society these arguments justify, markets become the primary social institution for achieving outcomes and good decisions, while the political...

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\(^{16}\)A version of this chapter was published as an article in Political Studies, see appendix 2: “Knowledge and Communication in Democratic Politics: Markets, Forums and Systems”, Political Studies, Forthcoming, https://doi.org/10.1177/0032321718772711

\(^{17}\)Other key figures in this tradition include other Austrian School economists such as Carl Menger (1976), Ludwig von Mises (2003, 2012) and Böhm Ritter von Bawerk (1890). These figures were prominent in the calculations debates over the respective merits of markets and socialist planning. On the other side of this debate were figures such as Otto Neurath (2004) who defended the epistemic abilities of market alternatives. In many ways, as also noted by DeCanio (2014), this debate was an antecedent to the debate of this chapter between markets and democracy. Many of the critiques of democratic procedures draw directly on the epistemic critiques of economic planning advanced in the calculations debates (i.e. Pennington, 2003). Given the importance of this debate in economic history, and its relevance to the epistemic abilities of political institutions, it is strange that it has generally not been engaged with by epistemic democrats in any significant way. To the extent that this chapter defends democracy against the Hayekian tradition, it will be helping to fill this gap.

\(^{18}\)The calculations debates have also greatly informed debates in environmental economics and green political economy such as those touched on here (for overviews of these influences O’Neill (2004), and O’Neill & Ubel (2015)). Environmental debates often revolve around the limits of markets and the need for political forms of intervention and planning to correct for environmental damage. They therefore have a strong connection to the arguments pursued in the calculations debates.
institutions of democracy are restricted to only those areas where property rights and markets cannot be established\textsuperscript{19}.

The ideas of this pro-market tradition and their scepticism of political institutions have been highly influential in the last four decades which have seen the rise of economic liberalism. Particularly since the 1980s, markets have been rapidly expanded to become the dominant mechanisms in social life. Market mechanisms have spread into many areas which had previously been a matter of political control and where they were already present; they have been significantly deregulated in order to allow greater space for markets forces (Crouch, 2004; Harvey, 2007). More centralised political institutions, such as democracy, were increasingly seen as ineffective and incapable of providing valuable goods to their societies, while free-markets came to be viewed as the best mechanism for providing positive outcomes. The work of Hayek and others helped to influence this belief in the superiority of markets. Prominent think tanks, such as the Institute of Economic Affairs in the UK and the Cato Institute in the USA, supported the spread of Hayekian ideas and key political figures, such as Margaret Thatcher, would talk of the influence of these ideas on their worldviews. Generally, the epistemic arguments of Hayek and his followers have helped to bring about the now commonplace belief that ‘the market knows best’\textsuperscript{20}.

Despite the considerable influence of this tradition, the epistemic case for markets has generally not been considered by epistemic democrats who often remove markets from their analysis. Hélène Landemore (2013a: 86), for instance, states that ‘the market is not a political decision procedure’ and therefore ‘does not offer an alternative’ to democracy. She then restricts her arguments to other forms of decision-making such as autocracy and aristocracy\textsuperscript{21}. Similarly, Elizabeth Anderson (2006: 9) constrains her analysis to problems of ‘public interest’ which are said to exclude consideration of

\textsuperscript{19} Some in the tradition go further and argue for a Hayekian form of anarchism or private governance systems, where political and democratic institutions are completely removed (see Stringham & Zywicki, 2011; Stringham, 2015). This approach does not, however, represent the vast majority of this tradition so it will not be the focus of this chapter. Many of the arguments this chapter makes do, however, also affect free-market forms of anarchism.

\textsuperscript{20} I do not want to understate the role of power in this move towards greater marketisation. My only claim is that these intellectual ideas played a role in producing and justifying this move, and that this is a reason for giving them consideration.

\textsuperscript{21} Similar claims have also been endorsed by advocates of economic liberalism (see Tebble, 2016: 20).
markets which are confined to private matters. She then removes any consideration of Hayek from the rest of her analysis. As we will see in more detail below, the arguments of market theorists directly challenge those of epistemic democrats and directly underline democracy on epistemic grounds. In fact, if they are correct, then in epistemic terms there should be little space for democratic or other political institutions, as priority should be given to decentralised market orders. Epistemic democrats are, therefore, yet to develop a reply to a significant epistemic challenge to the value of democracy. Failing to engage with pro-market theorists also excludes an interesting comparison to democratic deliberation. The market’s epistemic value is said to derive from the fact that it decentralises decision-making to individuals and relies on the price mechanism to communicate information. The way that knowledge is utilised and communicated, and the way that decisions are taken are therefore radically different from that in democratic institutions. While an aristocracy may differ from democracy by changing who gets included, it still involves the mechanism of deliberation. Markets, alternatively, offer a completely different mechanism for gathering knowledge and making decisions. This chapter will, therefore, start our discussion of knowledge gathering, by directly engaging with the Hayekian tradition. It will develop an original defence of democratic institutions against a prominent form of democratic scepticism which has so far gone unanswered by epistemic democrats. In doing so, it will also open up a new and interesting comparison in an epistemic analysis, by looking at the respective values of deliberation and market mechanisms.

The chapter will focus on two key arguments for the epistemic superiority of markets over democracy which have been developed by two prominent theorists in the Hayekian tradition, Mark Pennington (2003, 2011) and Samuel DeCanio (2014). Although Hayek’s original work will be referenced as well, these more recent contributions will be the focus as they have been directly aimed at democratic procedures. The next section will lay out these pro-market arguments and use the example of environmental problems to demonstrate their significance and application to political problems more generally. The chapter will then respond to these arguments in two stages. The first is to analyse the epistemic limits of markets. To do this, the chapter will develop

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22 Knight and Johnson (2011) do consider markets in their discussion of democracy. Although highlighting Hayek early on in this discussion, they do not engage deeply with his arguments but rather focus on neoclassical models which report to show that markets led to equilibrium under specific conditions.
for the first time a new category of goods – termed *low feedback goods* – which will be argued to represent a broad range of goods which cannot be accounted for by markets or the epistemic arguments for them. These goods are disconnected from the individuals who pursue them and do not provide market actors with the feedback information they require. As a result, individuals will face significant burdens for explicit forms of knowledge which markets will be shown to be unable to deal with. Low feedback goods will, however, be shown to be central to many social and political problems, and therefore represent a significant epistemic limit to markets as the primary institution for dealing with such problems.

The second stage of the chapter’s argument is to argue that deliberative democracy can overcome the critiques of market advocates and deal with the low feedback goods. Deliberative democracy will be shown to be able to gather and utilise the knowledge which markets cannot by drawing on the systems approach to deliberation. Epistemic democrats have not often engaged with the systems framework. However, here it will be argued that a systemic view is vital to responding to the democracy’s pro-market critics and understanding the knowledge gathering abilities of democracy. The chapter will put forward a new epistemic account of a deliberative system and argue that it provides the tools required to overcome the pro-market critiques. This epistemic reading of a democratic deliberative system will then be compared and contrasted with an alternative market-based deliberative system. To my knowledge, the idea of a market deliberative system has yet to be explored in the deliberative democracy or Hayekian literature. However, such a system represents an important challenge to democratic systems, and it is in line with some of the arguments of market theorists (e.g. Pennington, 2003, 2011). The chapter will argue that there are a number of good epistemic reasons to prefer a democratic system where decisions are taken by democratic forums, to a market system which levels decisions to individuals.

Altogether then, this chapter will develop a defence of democracy against the epistemic critiques of market theorists. It defines the epistemic limits of market mechanisms and the need for a democratic deliberative system. Although markets will be

23 For an exception see Kuyper (2015). Others, influenced by John Dewy, also appear to view democracy not in unitary terms, but rather as a democratic society which involves such things as a free press and public debate, as well as formal institutions of election and parliaments (Anderson, 2006; Knight and Johnson, 2011). However, they have not explicitly engaged with wider work in the systems approach to deliberative democracy as this chapter does.
the focus of the chapter, it will end with a discussion of the implication of its arguments for another approach to political decision-making, direct democratic voting such as referenda.

2.1 The Market Critique of Democracy

This section will lay out two key epistemic critiques of democracy made by market advocates which relate to the epistemic property of knowledge gathering. It will then use the example of environmental goods to demonstrate their significance and application to political and social problems more generally. Given that the aim of the thesis is to develop an epistemic theory of deliberative democracy, this section will focus on how these pro-market critiques affect decision-making within deliberative forums, such as representative parliaments and citizens assemblies. Although the pro-market arguments also have implications for the decisions of voters in elections and for other non-democratic political institutions, these will not be our focus given the aims of this thesis (although voting will be discussed again at the end of the chapter). Decision-making forums will also be critical to the reply to market critiques developed later, so it is most helpful to start considering them from the beginning.

The first pro-market critique has been made directly against deliberative democracy by Mark Pennington (2003, 2005), and draws on Hayek’s analysis of ‘the division of knowledge’ in society. This argument is based on a distinction Hayek (1948a, 1948b, 2011) made between two forms of knowledge. The first form is general knowledge. This kind of knowledge is abstract or formal knowledge, the most prominent example of which is the knowledge produced in the sciences. There is, however, another important kind of knowledge which is not general or abstract but is rather about the ‘particular circumstances of time and place’. This is ‘local knowledge’ about the specific conditions at specific times and in specific areas. The important aspect of this distinction between general and local knowledge is about who is likely to possess these different kinds of information, and how they are distributed in society. As far as general scientific knowledge is concerned ‘a body of suitably chosen experts may be in the best position to command all the best knowledge available’ (Hayek, 1945b: 80). Local knowledge, however, does not exist in any such coherent whole but is rather spread throughout society. It includes such things as knowledge of the conditions of resources, as well as preferences...

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for and uses of different goods. This kind of information is not known to any group of experts in the academy but is rather dispersed in the minds of those on-the-spot individuals who have direct experiences of local conditions. It is knowledge of the particular circumstances and is therefore only known to those ‘people who are familiar with these circumstances’ (Hayek, 1945b: 84).

Pennington (2003, 2011) takes this Hayekian analysis of the ‘division of knowledge’ and argues that it creates important epistemic problems for the kinds of decision-making favoured by deliberative democrats. Democratic institutions, such as representative parliaments or citizens assemblies, take decisions within deliberative forums. The result of this is that they will require that all relevant knowledge necessary for making effective decisions be centralised in those forums. From the Hayekian perspective, however, this requirement does not account for the way knowledge is socially distributed in society. The information relevant to addressing social problems includes a large body of local knowledge, which does not exist in any coherent whole ready to be utilised by democratic decision-makers. Instead, such knowledge is only known to particular individuals spread throughout society and is, therefore, fragmented and dispersed. This fact will frustrate the ability of democratic institutions to gather the relevant knowledge they need to make good decisions, as it would require that they somehow communicate the knowledge of vast numbers of dispersed individuals to some centralised forum. Hayek and Pennington argue that there is an immediate problem with the way that democratic institutions are structured and the way that knowledge is distributed in society. Decisions are taken centrally, but the knowledge required for them does not exist in any single centralised whole. Even if democratic institutions take place at the local level, as opposed to the state or national level, knowledge which is only known to on-the-spot individuals must still be transmitted to its more centralised (relative to the knowledge itself) decision procedures. Decentralising democratic institutions would appear to help reduce the problem of the division of knowledge, as it reduces the amount of local knowledge that would be required for a decision and because it brings democratic decisions closer to individuals, therefore reducing issues of communication. Such decentralisation does not, however, solve the problem as there is still a requirement to centralise dispersed information.

For Hayekians, the division of knowledge is not solved by ‘first communicating all this knowledge to a central board’ or forum, but rather through a greater ‘form of
decentralization’ (Hayek, 1948b: 84; Pennington, 2003, 2011). The advantage of market mechanisms is that they decentralise decision-making to the level of the individual. They, therefore, allow individual market actors to make decisions on the basis of their own local knowledge without the need to centralise such information. Instead, the individual actions of market actors are co-ordinated through the communicative function of the price mechanism, which spreads their dispersed and local knowledge throughout the economy. Through acts of buying and selling, individuals influence the formation of market prices which then allows others to adjust their actions. If, for instance, the actions of many individuals change the demand or supply of tin, then this will be reflected in its price (Hayek, 1948). This price decreases or increases then communicates to market actors that they should consume more or less of the good. Importantly, prices do not communicate the reasons behind any changes so do not allow individuals to come to know this information explicitly. Rather they act as ‘knowledge surrogates’ which allow individuals to adjust their use of goods in response to price changes ‘as if’ they possessed such information (Horwitz, 2004). The market, therefore, removes the need to gather and centralise large amounts of information as is required by democratic institutions. Instead, they allow individuals to act on their own local knowledge and be co-ordinated by the communicative capacity of the price mechanism. Individual decision-makers require only their local knowledge and the relative prices of different goods, so there is no need to communicate large amounts of information to particular decision-makers. When it comes to utilising necessary dispersed information, markets are argued to be superior to democracy25.

A second epistemic argument for markets has been developed by Samuel DeCanio (2014) which strengthens and complements those just considered26. In order to make good democratic decisions, DeCanio argues, it is necessary to make predictions of the outcomes of alternative policies and plans in order that they can be compared. Because of the singular and exclusive nature of democratic decisions, only one plan can be chosen and implemented at any one time. Democratic institutions have the sole right to provide certain goods or solve certain problems within their jurisdiction, so will only implement

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25 Hayek’s arguments against the possibility of centralising information was based not just on the local and dispersed nature of social knowledge, but also on its often tacit nature (Hayek, 1948b, 1978; also see Pennington, 2003). This problem will, however, be taken up in the next chapter (also see Benson, 2018c).

26 DeCanio mostly discusses the decision of voters in elections. However, his argument focuses on the singular and exclusive nature of democratic decisions so also applies to deliberative forums.
one plan in that area. Predictions must therefore be bad about the outcomes of alternative plans in order to make effective decisions about which should be chosen. Such predictions, however, require a large amount of knowledge about the causal relationships involved in the given social or political problem. They require knowledge of the relationship between the different elements of the rival policies and how these elements affect the different kinds of outcomes being aimed for. A simple example can illustrate this point. Consider making decisions about how to produce a car, where the independent standards are that the car drives as comfortably as possible. To make such a decision, democratic forums would need to make accurate predictions about how alternative car designs would impact on this criterion. For instance, they will need to predict whether making a car out of different materials contributes more or less to comfort than changing the engine design. This, however, requires having enough information about the causal mechanisms which determine how these different car designs impact on the comfort of the car. Effective decisions in democratic forums require relevant knowledge about the causal relationships between alternative policies and plans and the independent standards aimed for.

Alternatively, DeCanio argues that markets reduce this need for predictions and therefore knowledge of the causal relationships. In markets, multiple firms can implement many alternative policies and plans simultaneously so that individual consumers are able to make comparisons of outcomes without the need for predictions. Consider the example of car design again. In a market, multiple firms produce a number of different car designs and put them into the market simultaneously. Consumers can then make side-by-side comparisons of their relative comfort and make their decisions on the basis of this information. To make their decision consumers do not need to know the reasons why one car is more comfortable than another or the causal relationships which produced these outcomes, as they can make decisions based on the outcomes themselves. Markets, therefore, reduce the epistemic burden faced by decision-makers, and therefore the amount of knowledge that needs to be gathered and communicated to them. They do not need to be aware of how causal relationships produce different outcomes because they can make side-by-side comparisons of the outcomes themselves. As in the case of the division of knowledge argument, decentralisation can help democratic institutions to address this problem, but it cannot solve it completely. Having multiple local forums increases the number of policies which can be implemented at one time. However, the singular and exclusive nature of these local forums still limits the number of plans which
can be implemented in the same area or jurisdiction, while the number of decision points, and therefore the number of plans, is still reduced compared to markets\textsuperscript{27}. The advantage of markets is that they reduce the epistemic burden and therefore the amount of knowledge which needs to be communicated to decision-makers in order that they can make good decisions.

We have now considered two epistemic arguments for market mechanisms. Both of these arguments make a strong case for giving priority to markets for democracy when it comes to social and political problems. The epistemic case for markets has for example, received a lot of attention in environmental debates about how best to address problems surrounding environmental goods (Cordato, 1992, 1997, 2004; Greenwood, 2007, 2008, 2012, 2015; O’Driscoll & Rizzo, 1985; O’Neill, 2012; Pennington, 2001, 2005, 2011; Sagoff, 2008; Shahar, 2017). It is worth considering the application of these arguments to environmental problems in order to illustrate their wider significance for political decision-making. Environmental problems are a subset of social and political problems which are concerned with environmental goods. These goods can be defined as any natural or ecosystem goods and services, which are valued through experience, use or consumption (Díaz et al., 2015). The definition is broad in the fact that it includes any goods or services which are produced by natural systems – for instance, forests, wetlands, mountains, air, biodiversity and the primary resources which can be exploited from ecosystems. However, it is also broad in the sense that it is not restricted to any particular account of good outcomes and independent standards. These goods could, for instance, be valued because of their contributions to human welfare, their intrinsic value, or relational value to particular ways of life\textsuperscript{28}. Much political theory and economy is highly sceptical of markets when it comes to environmental goods (Barry, 1999; Dryzek, 1987a; Greenwood, 2007; O’Neill, 2007, 2017; Pascual et al, 2017; Zografos and Howarth, 2010). This is for a variety of reasons, many of which are non-epistemic. However, it is a common view in these debates that markets and property rights cannot be relied on to provide such goods and produce positive environmental outcomes. Instead, democratic institutions are often favoured when it comes to environmental problems. This can be seen, for instance, in the emergence of deliberative and participatory approaches to

\textsuperscript{27}If there are high levels of market concentration, such as monopoly or oligopoly, then the number of decision points might not be higher in markets.

\textsuperscript{28}In fact, this definition would be consistent with a set of independent standards which saw the best outcomes as one where as many environmental goods are destroyed as possible.
environmental decision-making (Meadowcroft, 2004). Although not the only democratic approaches to the environment, deliberative forums such as citizens assemblies and juries, mini-publics, roundtables and deliberative forms of valuation have received significant support in both the theory and practice of environmental politics.

In light of the epistemic argument just considered, however, market theorists claim a much greater and even primary role for markets in the provision of environmental goods (Pennington, 2001, 2005, 2011). From a Hayekian perspective, the knowledge required to make decisions about environmental goods is dispersed throughout society. Knowledge of the conditions of particular environmental goods, local management regimes and individual preferences for environmental goods are only known to certain on-the-spot individuals who have direct experience of local conditions. Local knowledge, such as that of indigenous people or eco-system managers, is often recognised to be very important to environmental problems and not just by advocates of markets (Fazey et al., 2005; Fazey et al, 2006a; Raymond et al, 2010). For example, failure to account for local conditions and practices has been argued to have caused significant problems for the regulation of UK sheep farming after the Chernobyl nuclear accident (Wynne, 1989). Calculations of radiation levels did not account for local soil types, leading to unreliable predictions about how long radiation would contaminate livestock, while guidance given to farmers about when to sell the sheep failed to account for the significant experience farmers have of determining the optimal moment to take a lamb to market. From the Hayekian perspective, however, such knowledge does not exist in any coherent whole but is dispersed throughout society. The democratic forums favoured by many would, therefore, have to gather all this dispersed knowledge in its decision procedure in order to make effective decisions. Good environmental decision-making would require that all of this knowledge be somehow transferred from dispersed individuals a centralised democratic forum. This burden to communicate large amounts of knowledge is then exacerbated by the need to make policy predictions. Making predictions about the outcomes of alternative environmental policies or management practices requires being aware of the causal relationships between a chosen policy and the environment. The relationships between human actions and the natural world, however, are highly complex and require a large amount of both scientific and local knowledge in order to be properly understood. Deciding between particular environmental policies or regulations, therefore, requires gathering a very large amount of knowledge about complex causal relationships.
Markets, however, have been argued to overcome these challenges through the communicative capacity of price signals and the possibility of comparisons of outcomes. If this is the case, then it ‘follows that the most appropriate way to communicate environmental information would be to allow the development of markets in environmental goods’ (Pennington, 2001: 183). By establishing property rights and markets in environmental goods, decisions are reduced to the level of the individual who can then make their own decision about their use of environmental goods. The co-ordination of their individual actions is then achieved through the price mechanism without any need to centralise information (Hayek, 2013). Market actors peruse valuable environmental goods, and their individual actions are then co-ordinated with others through the changing prices of these goods. By not reserving the management of environmental goods to the exclusive control of a democratic institution, markets also allow alternative approaches to be implemented simultaneously. The need for large amounts of predictive knowledge is therefore decreased as individual market actors are able to observe the outcomes produced by alternative providers of environmental goods. There are of course some environmental problems for which property rights and markets cannot be established. These are usually externality or public good problems where it is not possible to internalise them with property rights, such as global climate change. Market advocates recognise these limitations. However, their claim is that when they can be established there are good epistemic reasons to think that markets will make better decisions when it comes to environmental problems than democratic institutions. This example of environmental goods, therefore, helps demonstrate the implications of the epistemic case for markets over democracy, even in an area where markets are often met with considerable scepticism. These arguments can be applied to many other kinds of political problems, and Hayekians argue that the conclusions are the same. Markets should be given priority, and it is only in those few cases where they cannot be established that alternative political or democratic institutions should be allowed.

These arguments of market theorists have yet to be replied to by epistemic democrats who, as we have seen, have tended to exclude markets from their analysis. Despite this, the pro-market critiques of democracy directly challenge many of the

Elsewhere I discuss cases where even when property rights are established, markets may struggle to solve environmental problems because of the problems of determining causation between property owners (see Benson, 2018a)
epistemic arguments for democracy. Helen Landemore (2013a, 2013b), for instance, argues that democratic deliberation can draw on the benefits of cognitive diversity in order to more effectively solve social problems than more exclusive forms of deliberation which take place in aristocracies or autocracies. This argument is considered in more detail in chapter 5; for now, it is just necessary to see that it is affected by the epistemic arguments for markets. Even if we accept that democratic deliberation has the abilities Landemore claims they do, the arguments of market advocates suggest that it will be unable to gather the dispersed knowledge relevant to solving social problems and will require decision-makers to make information-intensive predictions. Although democratic deliberation may be able to utilise cognitive diversity, this will not be to produce good decision-making if such deliberation cannot access the knowledge it requires to make such decisions. Landemore assumes that alternative institutions have access to the same amount of knowledge, so this problem does not arise in her analysis. However, when we consider the arguments of market theorists, then the ability of democracy to acquire the knowledge they need comes into question. Their arguments suggest that even if democratic deliberation may outperform other collective forms of decision-making, it will be less effective than a decentralised market which can utilise dispersed knowledge and allow for comparisons of outcomes. Elizabeth Anderson (2006), alternatively, draws on John Dewey (1981a, 1981b) to argue for an experimental account of democracy. On this account democracy’s epistemic value is that it can try out and test different policies, and then the inclusion of all allows for the greatest level of feedback so that policies can be revised in light of the evidence. However, according to the arguments explored in this section, this experimentation is likely to be inferior to that found in the market. In Anderson’s experimental democracy, citizens would need to be aware not only of the effects of different policies, but also the reason why they have these effects. If they do not, then they will not be able to identify a better alternative to advocate in the political process. Markets, however, are able to implement many more policies than democracy at any one time. They, therefore, allow individuals to compare the outcomes of different alternatives side-by-side, and choose between them on that basis. The market will, therefore, make adjustments and revision to different places based on the decisions of consumers, rather than citizens who require much larger amounts of knowledge. Epistemic democrats, therefore, need new arguments if they are going to address the challenge that Hayek and other market theorists present for democracy.
2.2 Low Feedback Goods & the Limits of Markets

In the previous section, we saw two epistemic critiques of democracy which argued that, wherever they are possible, markets should be preferred to democratic institutions. Democratic control should, therefore, be reserved only for areas where markets and property rights cannot be established. This chapter responds to these arguments in two steps. The first is to argue for the epistemic limits of markets in order to show why markets cannot be seen as the primary institutional mechanism, and why there may be more space for democratic control even when markets can be established. One immediate epistemic objection to the arguments of the last section is that inequalities present in the markets will disrupt its communicative process. The ability to communicate in markets is equivalent to the ability to buy and sell, which means that not all individuals will have the capacity to communicate their knowledge in markets. The knowledge of those with few resources will be silenced and lost, while the knowledge of those with large resource will be amplified (Benson, 2018c; O’Neill, 1998). This line of argument will not be pursued here. The reason for this is not to dismiss the importance of inequalities, but rather to identify a deeper problem with market mechanisms and the epistemic arguments for them. This problem is deeper in the sense that it exists even if there was complete equality between market actors. If a certain level of inequality is a problem for markets, then this can, at least in principle, be addressed through redistribution rather than moving away from market mechanisms. The argument of this chapter, however, will focus on the epistemic limits which are essential to the reduction of decision-making to individuals and market prices.

What is central to the pro-market arguments is that markets reduce the need for explicit knowledge. Explicit knowledge is knowledge which needs to be consciously known to decision-makers. It is scientific or local knowledge which decision-makers must be explicitly aware of in order to make good decisions. Markets are argued to reduce the need for explicit knowledge by allowing individuals to pursue goods and make decisions without centralising large amounts of dispersed knowledge, and by allowing comparisons of outcomes. This section will argue that there is a large class of goods, where this pro-market argument fails even when property rights and markets can be established. It will

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30 DeCanio (2014) allows for the redistributive function of democracy and may, therefore, be consistent with certain levels of equality. Pennington (2003), alternatively, defends market inequality on epistemic grounds.
develop the concept of *low feedback goods* and argue that individual market actors will face large burdens for explicit knowledge when it comes to these goods, and that such burdens cannot be met by market forms of communication. Decision-makers in markets will not, therefore, be able to access the knowledge they require to make good decisions about such goods. The result of this is that markets cannot be seen as the primary institution in epistemic terms. Making decisions about political problems involves making decisions about low feedback goods, and therefore cannot be reduced to a matter of markets and property rights.

To understand the problem of low feedback goods, we must first see the importance of feedback signals to the epistemic case for markets. Consider the outcome comparisons highlighted by DeCanio. An individual can only make such comparisons if they receive feedback information about the outcomes of different alternatives. By testing different cars, a consumer will receive clear feedback allowing them to determine which is the most comfortable. It is this feedback about their relative comfort which reduces the consumers’ need for explicit knowledge and allows them to make decisions in line with this standard. Similarly, market actors can only pursue goods in the market if they know the extent to which their decisions result in them achieving these goods and, therefore, meet their independent standards. An individual making decisions about food goods with the independent standard that the food be spicy, can buy different food products on the market and receive clear feedback about the extent to which they met this standard. The epistemic case for markets then requires feedback signals about the effect of individuals’ actions on the goods they aim for.

As should be clear from the examples just given, feedback information will be available for many kinds of goods. What will be argued here, however, is that this is not the case for a broad range of goods which we can call low feedback goods. The defining feature of these goods is that they are in some way separated or disconnected from individuals making decisions. They may, for instance, be separated in terms of time or space. The result of this disconnection is that individuals will not be provided with direct feedback information about the effect of their decisions and the extent to which they achieve the good they pursue. Consider an individual who wants to make market decisions which improve or maintain their personal health. Often, although by no means always, individuals will not receive feedback information about how their market decisions affect their health. Take the decision of which supplier of water to choose. Many
of the health effects which may result from pollutants or chemicals in different supplies of water will not be easily recognisable by consumers. They may, for instance, take long periods of time to take effect or may only increase an individual’s risk of contracting a health problem. These factors create a disconnection between the individual and the good they aim to achieve, and this disconnect removes the feedback signal. It will, therefore, be very difficult for individuals to tell what, if any, effect a certain supply of water has on their health. The result of this lack of feedback information is that market actors will require large amounts of explicit knowledge in order to make their decisions. They will, for instance, need to be aware of all the pollutants and chemical contents of different supplies of water, and of the different health effects these substances can have, and in what quantities. This is a large epistemic burden which further increases when we consider that an individual will require knowledge relating to all their other market decisions which could impact their health in similar ways. Contrary to the epistemic arguments for markets then, in this example, individual market actors will face a very large burden for explicit knowledge due to a lack of feedback.

Low feedback goods are in some way disconnected from individuals, the result of which is that they will not receive feedback about the effect of their decisions and will, therefore, require large amounts of explicit knowledge. Such goods are not, however, confined to the issues of health but are actually a very large and important category of goods. Their greater significance can be seen when we move from considering personal goods (such as health) to ethical goods. Personal goods are goods which directly related to the personal interest of the individual pursuing them and making decisions about them. The comfort of a car, the taste of food or a person’s own health are all examples of personal goods. Although there are examples of personal goods which are low feedback goods, such as health, the problem of low feedback goods will be less prevalent for personal goods. Because such goods relate to the personal interests of the individual pursuing them, there will often be a connection to those individuals which allows for feedback. Low feedback goods are, however, much more prevalent when we move to consider ethical goods. Ethical goods are not directly related to the interests of the individual market actor making the decisions. Rather they involve wider ethical, moral or justice-based concerns about such things as the welfare of others or the relations between them. When it comes to political and social problems, our independent standards will often include such concerns. Independent standards include conceptions of justice and the
common good and will therefore involve ethical goods. They will include such things as concerns for resource or wealth distributions, human rights, or cultural practices. A large part of dealing with political and social problems will, therefore, involve dealing with ethical goods. Ethical goods are, however, prime candidates for being low feedback goods. They do not have a strong direct relationship to the individual decision-maker and will therefore very often lack any kind of feedback signal. In large societies, individual market actors are unlikely to receive feedback about the effect of their market decisions on many kinds of ethical goods.\(^{31}\)

We can return to the case of environmental problems to help illustrate this wider problem of low feedback goods. Consider an individual market actor making decisions with the independent standard that we preserve the Amazon rainforest. This independent standard may result, for instance, in ethical or justice-based concerns for the intrinsic or relational value of the Amazon.\(^{32}\) Whatever the exact reason, the individual market actor will want to make decisions which help to preserve it and not ones that damage it. Now those who live or work within the Amazon may receive feedback information about their impact on it. They may receive signals about the way this ecosystem is changing. However, the market individuals making decisions relevant to the Amazon are not confined to these individuals but include many people who are significantly disconnected from it. You do not need to be in close proximity to the Amazon to have an impact on its condition from your market transactions. You could, for example, be in another country entirely. There is, therefore, no set or given list of low feedback goods as they are in a particular respect agent-relative. Something can be a low feedback good to some people but not to others depending on their position. The Amazon may not be a low feedback good to those who live and work within it while being a low feedback good to others who are more distant. What is important to our example, however, is that there will be a very large number of people taking relevant decisions but who have no direct connection to the Amazon itself, and will therefore not receive any feedback signals. Through the products these distant individuals buy and sell, they can have significant effects on the Amazon but receive no feedback information about their effects due to this separation.

\(^{31}\) It may be argued that individuals are less motivated to act on ethical values in markets relative to democracy. Here such motivations are assumed to be equal in order to focus on the epistemic question.

\(^{32}\) This example remains neutral on the independent standards of correctness. In fact, the example works just as well if we consider individual who aim to destroy rather than preserve the Amazon, and who have independent standards which claim that nature is evil.
Market actors may be provided with information about goods such as the comfort of cars or the taste of food, as these goods are closely connected to the individual making decisions. For an ethical good, such as the Amazon, however, there can be significant separation between the good and many individuals, resulting in a lack of feedback signals. In order to achieve such a good, market actors will, therefore, require large amounts of explicit knowledge. They will need to be consciously aware of the relationship between their market decision and the Amazon. This relationship, however, can be highly complex and involve a large amount of scientific and local knowledge. It includes knowledge of the production and consumption of all the different products they buy and sell, the kinds of waste they produce and the different effects this can have on this environmental good.

It is important to see that this problem is distinct from the externalities problem. Even if the whole of the Amazon rainforest, for instance, was privately owned and all of its owners were consenting to its exploitation and pollution, others who value it as an ethical good will want to make market transactions which do not contribute to this. They will want to decrease their consumption of goods which damage its valuable biodiversity even if its current owners are allowing it to be damaged. However, the lack of clear feedback signals means these individuals will require large amounts of explicit knowledge to do this. This problem is also distinct from issues surrounding the international/global nature of certain goods and problems. Although many who value the Amazon as an ethical good will live in other countries, this is not necessary for there to be a lack of feedback information. There may be many environmental goods in the same country as you, which you never the less receive very little feedback from. The problem of low feedback goods is, therefore, a distinct problem for markets.

Contrary to the epistemic case for markets, in the absence of feedback signals, market actors will face very significant burdens for explicit knowledge. This fact produces an important epistemic problem for markets. Social and political problems involve concerns about justice and the common good. This means that they involve low feedback ethical goods whether they are environmental goods, resource or wealth distributions, human rights, animal rights, cultural values and practices, or any number of ethical goods from which individuals are disconnected. Consider, for instance, fair labour practices, such as working conditions or wage levels. These actors will aim to buy products which are produced by certain labour standards and not by others. However, in large societies, market actors are often greatly separated from the production of the good.
they consume and will, therefore, not be given feedback information about the effect of their decisions on labour practices. As a result, they will require a large amount of explicit knowledge about the production of all the different products they buy and the resources which go into them. The same things can be said of other human rights or things such as the distributional effects of different kinds of consumption. There may, of course, be some market actors who will receive feedback information about certain ethical goods, and some goods can be low feedback for certain individuals and not others. However, given the size of modern societies, people will often be disconnected from many ethical goods, and they will, therefore, require large amounts of explicit knowledge.

The size of this burden for explicit knowledge can be further appreciated once we recognise that there will be many low feedback goods in social and political problems. Individual markets actors will, therefore, require explicit knowledge relevant to all of these goods. The Amazon, for instance, is not the only environmental good which may be valued for ethical or justice based reasons. In that case, individual market actors will need to make decisions which relate to a whole host of environmental low feedback goods rather than just one. In large complex societies, the market decisions of individuals will affect many environmental goods which they are greatly separated from but which they still value. Individuals will, therefore, require large amounts of explicit knowledge about the relationship between the production and consumption of the different products they buy and a host of environmental goods from which they will not receive feedback signals. This burden for explicit knowledge is then increased further when we add other low feedback goods, such as resource or wealth distributions, human rights, animal rights, and cultural values or practices. Each one of these goods will require explicit knowledge about each market decision an individual will make.

Importantly, this burden for explicit knowledge which low feedback goods create necessarily cannot be dealt with by price signals. For Hayekians, price signals are the key communicative mechanism in markets. However, they provide only an implicit form of communication and do not communicate knowledge so that others become explicitly aware of that information. Instead, they allow people to adjust their actions without the need for such knowledge. If there are changes in the price of tin, market actors do not learn the reason behind those changes but instead adjust their consumption of tin without such information (Hayek, 1948). For this reason, Horwitz (2004: 314) refers to the price mechanism as a ‘knowledge surrogate’ rather than a mechanism for full communication.
Prices do not allow people to ‘know what other people know’ but rather allow people ‘to act as if we knew what others knew’. This means that price signals differ from explicit forms of communication, such as speech, which allow people to become explicitly aware of knowledge. The price mechanism is an implicit, rather than explicit, form of communication and therefore cannot deal with burdens of explicit knowledge. There is then a wide range of goods, for which market individuals will not be able to make good decisions because they will not be able to overcome the particular knowledge burdens they produce.

Low feedback goods, therefore, present very significant limits for markets and the epistemic arguments for them. There is a very wide range of goods which will be common to social and political problems and which cannot be dealt with by markets due to the particular epistemic burdens they create. This epistemic case for markets as the primary social institution is therefore critically undermined by the recognition of the importance of low feedback goods to social and political problems. For the moment, however, this critique of markets is still incomplete. The critique needs to show not only that markets face epistemic limits, but also that these limits can be overcome by an alternative institutional form, and in particular, deliberative democracy. In a comparative institutional analysis it is not enough to show that a particular institutional form faces challenges. There is also a need to show that an alternative can overcome them.

2.3 A Possible Objection

Before moving on to consider the case for deliberative democracy, there is a possible objection to the argument made so far which needs to be considered. Market advocates may argue that an alternative form of market communication, other than price signals, can deal with burdens for explicit knowledge which are produced by low feedback goods. Markets could be said to present firms with clear incentives to provide explicit knowledge to consumers. If, for instance, a firm produces a product which is environmentally friendly, they will have the incentive to signal this, through such things as labelling, advertising or branding, in order to gain the custom of those with environmental values. The same incentive will be present for firms producing products with positive health
effects or with high labour standards. Although price signals cannot communicate explicit knowledge, firms have the incentive to provide this information to individual consumers.\footnote{Dealing with this objection requires that we consider the question of ‘motivations’ which is mostly left on hold in the thesis. However, it is necessary to consider them in the section to address this objection.}

There are significant limitations to communication through such things as product labelling which will be considered later. For now, however, this reply can be seen to face a more immediate problem. Although firms may have incentives to provide positive information about their products, they also face significant incentives to withhold negative information or even spread misleading or false information about their products. If their products have negative environmental or health effects, for instance, they will have every incentive to conceal information about such effects from consumers who may take this as a reason not to buy them. The incentives facing firms can, therefore, lead to the concealment rather than the communication of important information relevant to low feedback goods. Oreskes and Conway (2010), for instance, have documented how tobacco companies and those linked to the production of acid rain and carbon emissions, have attempted to conceal damaging scientific information from their consumers and even actively aimed to spread doubt and misinformation in order to mislead them. Firms have incentives to communicate positive information about their products, but this will often run counter to the provision of reliable information which consumers can use to make good decisions about low feedback goods. Firms will, for instance, also face incentives to present this information in certain ways and not others. They will have an incentive to adopt a permissive definition of terms such as ‘environmentally sustainable’ or ‘good labour practices’ in order to present a more positive image of their products. Such definitions can produce significant communication problems as there can often be large differences in the way they are interpreted by consumers. What a consumer takes the term ‘fair trade’ or ‘free range’ to mean may greatly differ from that of firms, particularly when firms face strong incentives to adopt certain definitions over others. It should also be noted that the problem of concealment of misinformation by firms in markets cannot be effectively checked by consumers when it comes to low feedback goods. If a company conceals the fact that their car is uncomfortable, then the consumer can quickly find this out through feedback signals. The firm may then be penalised in terms of repeat business or reputational loss. If the good in question is a low feedback good, however, consumers will not be provided with the information they need to check
firms’ claims. If a firm conceals that their product is environmentally harmful or promotes it as environmental friendly when it is not, then the lack of feedback signal to consumers will stop them from finding this out.

2.4 Deliberative Democracy & Knowledge Gathering

We have seen that market actors will face significant burdens for explicit knowledge when it comes to low feedback goods, and that market communication cannot deal with these burdens, as prices only provide an implicit form of communication. There is, therefore, a broad class of goods which will be common to social and political problems, which the epistemic case for markets cannot deal with and where individuals will not make good decisions. Market advocates may still respond that markets do not face any greater problems in relation to these goods than democratic institutions. The second stage of this chapter will, therefore, argue that deliberative democratic institutions have epistemic properties which allow them to deal with burdens for explicit knowledge and therefore low feedback goods. Importantly, it does not need to be shown that deliberative democracy can deal with all low feedback goods or get hold of all explicit knowledge. Rather, in a comparative epistemic framework, what it needs to do is establish that democracy is better able to do this relative to markets.

Deliberative democracy at first seems well placed to deal with burdens for explicit knowledge. Such a conception of democracy bases decision-making on a free and open discussion among participants. It is a ‘talk centric’ account of democracy which focuses on the giving of rational arguments in a forum, such as a parliament or an assembly (Chamber, 2003). Deliberative democracy is, therefore, based on the explicit communication of speech. Unlike the market, which is based on the implicit communication of price signals, deliberative democracy is based on an explicit form of communication which can convey explicit knowledge. This is certainly a positive for deliberation when it comes to low feedback goods. Alone, however, it is not enough, as deliberative democracy will still face the challenges posed to it by market theorists. Hayekians have argued that knowledge relevant to addressing social and political problems includes the local knowledge of individuals which is spread throughout society. This will be as true for low feedback goods as much as any others. Much of the knowledge required to deal with these goods will, therefore, be dispersed and fragmented, and deliberative institutions will need to centralise such information in the forum. So although
Deliberative forums are based on explicit communication, this does not in itself establish how such forums can obtain explicit knowledge which is dispersed throughout society. As we have seen, decentralising democratic forums can reduce this problem but cannot solve it. Deliberative democracy must, therefore, be able to overcome the problem of the division of knowledge.

The first thing to recognise is that the knowledge relevant to low feedback goods will not only be local knowledge but also scientific knowledge. Decisions about environmental goods, for instance, require lots of scientific information. You cannot make decisions about the Amazon unless you know how different pollutants produced through production processes affect it, and this has a necessary scientific component. The same thing can, for instance, also be said of health where fields such as medical science are highly relevant. So although Hayek and his followers are right to point to the importance of local knowledge, general scientific knowledge will often also be crucial. Hayek (2011: 494) himself recognised that scientific knowledge would often be important, but argued that there will always be ‘an even greater store of knowledge of special circumstances that ought to be taken into account in decisions’ which only individuals will possess. It is, for Hayek then, more critical to access local bodies of knowledge as they represent the greater proportion of relevant information. Even if it is true that local knowledge forms the greater part of the relevant knowledge, it does not seem that the amount of knowledge is the epistemically relevant factor when it comes to decision-making. Surely the extent of its relevance or its significance to the problems is more important than its size (O’Neill, 2012). The relative significance of local versus general scientific knowledge does not need to concern us much here, and we can assume that it will almost certainly vary from issue to issue. However, when it comes to considering the problem of knowledge gathering more generally, it should be seen that institutions will need to be able to access both kinds of information. Deliberative democracy must be able to gather explicit knowledge which is both local and dispersed, and explicit knowledge which is scientific and centralised to relevant experts.

Although deliberative theorists have not addressed the Hayekian division of knowledge problem directly, the tools required to overcome it can be found in recent deliberative theory and particularly in its systemic turn (Christiano, 2012; Dryzek, 2016; Mansbridge et al., 2012; Parkinson, 2006). The systemic approach has expanded deliberative democracy away from deliberation within the forum to deliberation within a
wider system and has been influential in areas such as environmental democracy (Dryzek and Stevenson, 2011; Stevenson and Dryzek, 2014). Epistemic democrats have not yet fully engaged with the systems approach. However, it is through this approach that we can start to see how the problem of the division of knowledge may be addressed by deliberative democracy.

A deliberative system ‘encompasses a talk-based approach to political conflict and problem-solving’ (Mansbridge et al., 2012: 4–5). It is, therefore, based on the explicit communication of speech and can communicate explicit forms of knowledge. The fact that it is a ‘system’, however, means that speech is not confined to decision-making forums. These forums only account for the ‘empower space’ of a system. Empower space refers to formal democratic institutions, such as parliaments or citizens assemblies, which have the power to make binding decisions on the population. Although it is a very important part of a deliberative system, empowered space is not its only part and deliberation is not confined to these institutions. Instead, a system involves a large number of ‘differentiated yet linked components’ which also include institutions within ‘public space’ (Stevenson and Dryzek, 2014: 27). Public space refers to more informal and open deliberations which take space in civil society. These deliberations are connected to those in empowered space but do not themselves have final decision-making power. Institutions within public space include universities, trade unions, think tanks, social movements, businesses, voluntary associations, newspapers, television and other media, non-governmental organisations (NGOs) and charities. Each of these components makes its own contribution to deliberation within the wider system. So although they are differentiated, discussion and talk within each component is connected and integrated so that it makes up a large system. Each can, therefore, ‘consider reasons and proposals generated in other parts’ (Mansbridge et al., 2012: 23). Deliberation is not, therefore, something which takes place in a single institution or forum, but is rather distributed across a number of institutions within both empowered and public spaces. Importantly, however, these two spaces are themselves linked through mechanisms of ‘transmission’ and ‘accountability’ (Stevenson and Dryzek, 2014: 27–29). Transmissions refer to different roots through which the deliberations with public space come to influence the deliberation and final decisions within empowered space. Through campaigns and lobbying, for instance, discussions in NGOs or think tanks can come to influence the final decisions of parliaments. Alternatively, the final decisions of empowered space are also
said to be accountable to public space through a number of alternative mechanisms, the most common of which are elections.

A benefit of this systems approach to deliberative democracy is the epistemic benefits which can be discovered by considering the wider system\textsuperscript{34}. The important epistemic benefit for our discussion is that a system model can help explain how the decisions of empowered deliberative forums can access relevant knowledge which is, to different extents, dispersed throughout society. This is because public space acts as an intermediary between this knowledge and empowered space, which gathers and aggregates dispersed information so that it can be utilised in political decision-making. This particular epistemic account of a democratic deliberative system is represented in figure 1. In the centre of this system model, there are many different institutions in public space which gather and aggregate different forms of dispersed knowledge, and who then, through transmissions, communicate this knowledge to empowered democratic forums. Each institution can be concerned with different forms of knowledge, but all aim to gather it and have to come to influence the decisions of empowered space. Consider, for instance, the connection between the scientific deliberations of the Intergovernmental Panel on Climate Change (IPCC) and international negotiations on carbon emission reductions. The former technical deliberation provides detailed scientific knowledge of the cause and effects of climate change, which then feeds into the latter’s empowered deliberations about emissions policy and reductions. Alternatively, campaign groups, charities and social movements can be seen to gather knowledge on the local effects of social problems which can then influence decisions within empowered spaces. Institutions such as Oxfam or Shelter, for instance, provide information which can be used in deciding government policy.

\textsuperscript{34}Epistemic consideration, defined as increase the quality and diversity of reasons is often seen as important in the systems approach (e.g. Christiano, 2012; Mansbridge et al., 2012).
When we move to a system model of deliberative democracy, deliberative forms are no longer seen as they are in the Hayekian critiques, as isolated islands of decision-making greatly separated and disconnected from the knowledge which is dispersed throughout society. If such forums really were so isolated, then they would appear to fail to access the relevant knowledge they require for making good decisions. From a systems perspective, however, democratic forums are far from isolated. Instead, they are connected to a host of different components within a wider system. These components gather and aggregate different forms of knowledge which are dispersed throughout the system and then aim to communicate this information to democratic forums. These institutions include scientific bodies, campaign groups, academic groups, unions, charities and social movements which are each concerned with different kinds of knowledge. Empowered democratic forums are then connected to a wider deliberative system, and this fact helps us to better understand the knowledge-gathering abilities of deliberative democracy. As we have already seen, decentralisation can help to reduce the problems highlighted by market advocates, so we can also imagine that the empowered space of an effective deliberative system will involve a number of decision-making forums (as shown in figure 1).

There will, of course, be many imperfections in this deliberative system which will affect the way in which knowledge is gathered and aggregated, and these
imperfections will have an impact on its epistemic value. These issues will be considered further in the next chapter. For now, however, the main aim of this epistemic account of a deliberative system is to show that deliberative forums of decision-making can overcome the division of knowledge problem analysed by Hayek and is followers. Local knowledge which is dispersed among individuals, and scientific knowledge known to experts, can both be gathered for decision-making in deliberative forums through institutions within public space. Deliberative democracy is then, well placed to access the knowledge required for low feedback goods.

As it currently stands, however, deliberative systems run up against a significant problem when making a comparison to the market. What needs to be shown is that a democratic deliberative system is better able to gather explicit knowledge than markets. However, the different knowledge gathering components of a deliberative system can communicate explicit knowledge to individual market actors as well as to democratic forums. As Mansbridge et al. (2012: 7–8) point out, there can be deliberative systems which are not democratic. Instead, they can terminate in many different forms of decision-making, such as autocratic or aristocratic forums (these are considered in chapter 5). There is another possibility, however, which is not considered by Mansbridge and her co-authors. This is the possibility of a market-based deliberative system as represented in figure 2. In such a system, final decisions are not taken in deliberative forums but rather by individual market actors. Within such a system, institutions within public space would aim to communicate their explicit knowledge to individual consumers rather than democratic forums. For instance, many environmental groups make information campaigns aimed directly at consumers, attempting to provide them with information about the effect of their market transactions on valued environmental goods. Similarly, many health charities attempt to communicate the conclusions of scientific research to market actors, in order that they can make more informed consumer choices. A deliberative system may, therefore, help markets to overcome the epistemic burdens produced by low feedback goods. It allows us to see how explicit forms of communication may come to be utilised in a market alongside price signals.

To my knowledge, the idea of a market deliberative system has not been considered before. However, it is in line with some of the arguments and ideas of market theorists. Pennington (2001), for instance, has pointed to advertising, trade magazines, gossip, books and other such media as forms of explicit communication which can be
utilised in market society\textsuperscript{35}. Although they have not gone as far as to put forward a model of a market deliberative system, market theorists have suggested that price signals are not the only mechanism of communication available in markets. Instead markets, just like democratic institutions, are seen to be embedded within a wider system of communication. This idea can be better conceptualised with a model of a market deliberative system such as that considered here. A deliberative system should, therefore, be used to show how individuals in markets can utilise explicit forms of knowledge as required by low feedback goods.

![Diagram of Market Deliberative System](image)

We can then, imagine two alternative deliberative systems which we can call a democratic deliberative system and a market deliberative system respectively. Both deliberative systems involve interconnected deliberations within public space which gather and aggregate different forms of knowledge. However, in a democratic system final decisions are taken in a number of democratic forums, while in a market system final decisions are taken by a much greater number of individual market actors. As it stands then, deliberative systems can be used to support either democracy or markets. In the next section, these alternative deliberative systems will be compared, and it will be argued that a democratic system has a number of significant advantages when it comes to

\textsuperscript{35} Hayek (2011) himself suggested that scientific knowledge could be communicated ‘downwards’ to individual actors through other means than price signals. Although he does not specify how this should be done, he could have had in mind some of the mechanisms involved in a deliberative system.
communicating and utilising the explicit knowledge required for low feedback goods. These advantages give us good epistemic reason to prefer a democratic system to a market system and to see deliberative democracy as the primary institution rather than markets.

2.5 Democratic Systems versus Market Systems

The first advantage of a democratic system is that it reduces the number and distribution of decision-makers to whom explicit knowledge needs to be communicated. In a market system, decision-making is decentralised to the level of the individual, while in a democratic system, decision-making takes place in a smaller number of democratic forums. The radical decentralisation in a market system means that relevant explicit knowledge needs to be communicated to a very large number of highly dispersed market actors, while a relatively more centralised democratic system needs to be communicated to far fewer decision-makers contained within a smaller number of forums. The challenges involved in communicating explicit knowledge are, therefore, dramatically increased in a market system.

These challenges will differ depending on the form of knowledge being gathered. Consider general scientific knowledge. Many low feedback goods will require scientific knowledge. Knowledge concerning environmental goods and human health, for instance, involves a significant scientific component. Scientific knowledge is general knowledge that is often available only to those with significant training. It is then, unlike local knowledge, centralised in the scientific community or academy. As O’Neill (2012) has argued, this more centralised character of scientific knowledge means that communicating it in markets will face the opposite epistemic problems to those identified by Hayekians. Instead of communicating dispersed knowledge to a centralised democratic institution, a market system will need to communicate centralised scientific knowledge to a large number of highly dispersed individuals. The greater the number of decision-makers, the greater the difficulty there will be in communicating centralised scientific knowledge to all relevant parties. A democratic system can, therefore, reduce

36 A simplifying assumption will be made when making these comparisons. This assumption is that the quality of public space is equal for both of the two deliberative systems. It is often claimed that markets have a corrosive effect on civil society, or the institutions of scientific knowledge, and these arguments would suggest to public space will not be equal in both. Such arguments are not, however, necessary to show the superiority of a democratic deliberative system. The following section will argue that even when we assume that public space is completely equal in both systems, the democratic options is epistemically preferable.
such problems compared to a market system, as it reduces the number and distribution of decision-makers to whom knowledge needs to be communicated. Decision-makers are reduced to those participating in a much smaller number of deliberative forums, and scientific knowledge will only need to be communicated to these particular actors rather than the vast number of individuals who are dispersed throughout the market. A democratic system therefore reduces the number and distribution of decision-makers relative to a market system, which decreases the challenges of explicitly communicating scientific knowledge to decision-makers.

Burdens for explicit knowledge include local as well as scientific forms of knowledge. The ways in which a production process affects particular people, for instance, may only be known to certain on-the-spot individuals who have experience of these effects. However, a market system will again face much greater problems when it comes to explicitly communicating such knowledge compared to a democratic system. These problems will be different to those confronting the communication of scientific knowledge, as local knowledge is much more fragmented. When it comes to local knowledge, a market system would need to explicitly communicate a large amount of local information dispersed through society to an equally large number of individuals dispersed throughout the market. Local knowledge is dispersed among many individuals in society, and in a market system it must then be communicated to an equally large number of decision-making nodes spread throughout the market. A democratic system comparatively will greatly reduce this problem as it significantly reduces both the number and distribution of decision-makers relative to a market system. In a democratic system, local knowledge needs to be communicated to a much smaller number of decision-makers distributed among a number of forums. A democratic system, therefore, reduces the challenges of explicit communication relative to markets, for both scientific and local knowledge.

The second advantage of a democratic over a market system is that it reduces the epistemic and cognitive burden placed on decision-makers. Individual market actors will engage in a very large number of market decisions which will affect a whole host of low feedback goods. They will, therefore, require explicit knowledge which is relevant to each of these decisions. Consider, for instance, individuals making decisions about low feedback environmental goods. These individuals will need to be explicitly aware of how the production and consumption of all the products they buy impact on all the
environmental goods which are deemed to be important. This simply places an unreasonable epistemic and cognitive burden on individuals, as almost every market transaction will confront them with a sizeable requirement for both local and scientific knowledge. It also helps us to see why market advocates cannot claim that individuals can merely seek out the information they need. Such a reply fails to recognise the size of the epistemic burden facing individuals. Every individual market actor would, for instance, need to search out information about nearly all their market transactions to determine their effect on low feedback environmental goods. This burden is then greatly increased when we consider the fact that this is just one type of low feedback good among many. The reverse of Oscar Wilde’s quip that socialism would take up too many evenings with meetings is that free-markets would take up too many evenings with research.

A democratic system alternatively, does not require that individuals possess such large amounts of information as there is a division of epistemic labour. The transmission of knowledge to democratic forums can be undertaken by different components within public space which each focuses on particular kinds of knowledge. This knowledge can then be communicated to more specialist democratic forums. Unlike market actors who will make decisions in relation to a large number of low feedback goods, a democratic forum may be tasked with providing a particular good or range of goods. They do not, therefore, place such large epistemic and cognitive burdens on individual decision-makers. Forums may still require information about how the goods they aim to provide affect others. Too analytic an approach can miss important ways in which the resolution of one problem can affect another (Dryzek, 1987b). However, the burden is significantly reduced relative to a market system which leaves decision-making to individuals. The second significant epistemic advantage of a democratic system then, is that it reduces the epistemic burden and therefore amount of knowledge which needs to be communicated to decision-makers.

The third advantage of a democratic system is that it can increase the quality of explicit communication. The vast number of decision-makers in markets means that information must be greatly simplified in order that it can reach large numbers of people. The information which is relevant to low feedback goods is often highly technical, such as scientific information, and difficult to understand. It can often also involve uncertainties, say about the effects of substances on health, which are not easily
quantifiable and can be difficult to apply (Slovic, 2000). This means that the simplification of such information can be highly problematic and lead to large reductions in its quality. Consider, for instance, product labelling as a method to spread health or environmental information to consumers. Communicating information in this way necessarily requires significant simplification: first, so that it can fit on a single label, and second so that it can be easily and quickly understood by consumers. Now compare this to the communication of knowledge within a democratic forum. Knowledge can be explained and communicated at length to decision-makers and in a way which recognises its complexity. Take deliberative institutions such as citizens assemblies. These approaches allow citizens to come into direct contact with experts through structured events such as expert panels and workshops. A deliberative project on kidney donation, for instance, held a ‘specialist fair’ where participants were able to approach any specialist they wished in order to ask further questions and have information further explained (Burgess et al., 2007). Parliamentary assemblies have similar features, such as expert committees, which allow for a higher quality of communication which then informs decision-making. These features of democratic forums can allow for a greater quality of explicit communication compared to a market system. Of course, when it comes to very specialist knowledge, some simplification is inevitable for those without particular training (problems of specialist knowledge will be returned to in the next chapter). However, the need for simplification in a market system is significantly greater than in a democratic system which can allow for a more detailed and complex understanding of explicit knowledge.

A democratic system, therefore, has a number of important advantages over a market system which increases its ability to overcome the burdens of explicit knowledge produced by low feedback goods. It reduces the challenges of communicating explicit knowledge to decision-makers, reduces the cognitive and epistemic burden placed on decision-makers and increases the quality of explicit communication. We have now

37 Some market advocates may object, in reference to Coasean theory, that if forums do in fact possess these advantages, then a process of market competition would itself select for similar institutional structures (Pennington, 2011). In the same way that large firms may prosper if they reduce the costs of individual bargaining, those institutional forms which reduce the costs of acquiring knowledge can also be selected through market competition. I think there are general reasons to be sceptical of the capacity of competition to always select for beneficial institutional forms. However, there are specific reasons for why this reply cannot be made against the problem of low feedback goods. Selection by market competition requires that the benefits of particular institutions can be recognised by individual market actors who can then select for them in their market decisions. If larger firms produce better quality cars, then individuals can recognise and select for this. The problem of low feedback goods, however, is that they are disconnected from
established the second stage of the chapter argument. Unlike markets, deliberative democracy is able to gather the explicit knowledge required to deal with low feedback goods. Low feedback goods will be common in political and social problems but markets cannot deal with the epistemic burdens they create. A deliberative democratic system, however, can gather such information and should, therefore, be given priority over the market. Only a deliberative system where decisions are taken in forums can access the explicit knowledge required to deal with the low feedback goods central to political and social problems. Of course, when such goods are absent or not significant markets may be effective. However, only deliberative democracy can access the knowledge required to determine this in the first place. It is democratic institutions then, which must choose whether or not to deploy markets when low feedback goods are not prominent or to deploy them with significant regulation (such as with labour or environmental standards) in order to account for important low feedback goods. Only a deliberative democratic system, however, can access the information required to make such decisions and must, therefore, be seen as the primary institution over markets.

This chapter has focused on the epistemic issues of knowledge gathering, so no argument has yet been offered for why the final decisions within a deliberative system should be taken democratically. Perhaps these forums should involve autocratic or aristocratic forums of deliberation or perhaps some other producer initially. The question of decision-making itself, however, will be taken up in the second half of the thesis. This chapter has focused on knowledge gathering and has argued for the superiority of a democratic deliberative system over a market system in terms of this property. A defence of the claim that the final decision should be democratic will be pursued in later chapters.

2.6 Implications for Direct Democratic Voting

This chapter has focused on the epistemic property of knowledge gathering and particularly on defending deliberative democracy against the arguments of market theorists in respect to that property. The arguments of the chapter do, however, have implications for another approach to political decision-making, that of direct democratic individuals and do not provide them with clear information. As a result, a particular institution may provide a low feedback good more successfully and yet not have this recognised by market actors due to a lack of feedback. Market competition cannot, therefore, be relied on to select such an institution.

38 There are other problems which may still affect the effectiveness of markets, such as inequalities, externalities or common pool resources.
voting. Democratic decisions do not need to be taken in deliberative forums, such as representative or citizen assemblies, but can be taken by citizens in a large aggregative vote such as a referendum. This section will discuss what the analysis of this chapter has to say for the epistemic value of these latter forms of decision-making and the force of epistemic arguments which are often made in their defence.

If the conception of democracy from which direct voting is advocated is purely aggregative, then the approach would not offer much in the way of tools for gathering relevant knowledge which is dispersed in society. Such a conception of democracy would not allow for a deliberative system, such as the ones explored here, as it would focus exclusively on the aggregative procedure of voting. Procedures such as referenda, however, do not actually occur independently of any kind of deliberation, and there are not many who would advocate mass voting without any kinds of prior deliberation of the issues being decided upon. This position has been attributed to Rousseau, but this is itself contested (see Waldron, 1989). Direct democratic voting can then be advocated from a conception of democracy which is not purely aggregative and would leave space for a possible appeal to deliberative systems for reasons of knowledge gathering. There could be a deliberative system which involves the knowledge-gathering and aggregating institutions of public space and then takes decisions in direct democratic votes, such as referenda, rather than deliberative forums.

According to the arguments pursued in this chapter, however, the direct voting approach would still face significant epistemic problems when it comes to knowledge gathering. This is because the approach has in one important respect a similar structure to the market approach advocated by Hayekians. Like markets, it reduces decision-making to individuals. A deliberative system where decisions are taken in direct referenda would, therefore, look quite similar to the system represented in figure 2. Final decisions would be taken by a very large number of highly dispersed individuals; the only difference is that these are individual voters rather than individual market actors. This latter distinction only refers to the way that individuals make their decisions. Most of us act as both citizens who vote and market actors who buy and sell, and therefore the individuals to whom knowledge needs to be communicated remains about the same in both systems\textsuperscript{39}. The result of this is that it will face similar problems when it comes to

\textsuperscript{39} This will depend on rates of market and referendum participation.
gathering explicit knowledge as those faced by markets, and will be epistemically inferior to a deliberative system where decisions are taken in forums. Having decisions taken by referenda would increase the challenges of communicating explicit knowledge to decision-makers, increase the cognitive and epistemic burden placed on decision-makers, and decrease the quality of explicit communication.

Epistemic democrats who advocate direct voting tend to appeal to one of two mechanisms to defend its epistemic quality. The first is the Condorcet Jury Theorem\(^40\). According to the original jury theorem a choice between two options is best taken by a large group if (1) voters make their decisions independently of each other; (2) voters make their decisions sincerely rather than strategically; and (3) each voter has a probability of selecting the correct answer which is greater than 0.5. If all of these conditions hold, then as the number of voters increases the probability that the procedure will select the correct option moves towards 1. As a result, a democratic vote which includes everyone will be epistemically preferable to a more exclusive vote which involves fewer people. More recent work on the jury theorem has attempted to relax some of these assumptions and make the theorem more clearly applicable to the political and democratic context. For instance, it has been extended to plural voting over multiple options (List & Goodin, 2001), and to cases where voters have lowly correlated votes (Ladha, 1992) or merely make up their minds autonomously rather than being fully independent (Estlund, 1994; Landemore, 2013a).

An immediate issue with the use of jury theorems is the question of how to select the options on offer, and how to ensure that the right answer (or at least good answers) actually appears. This seems to require some other procedure to mass voting and would itself be information intensive (for discussion see Fuerstein, 2008). We can, however, leave this question to one side and instead focus on the competence assumption where the arguments of this chapter are particularly relevant. This chapter suggests that we cannot reasonably expect that all or most voters will be able to select the correct option with an accuracy of above 0.5. Because of the very large number and distribution of decision-makers, a direct voting procedure will face significant epistemic challenges.

\(^{40}\) Of interest here, is the application of the jury theorem to popular referenda rather than the votes of a smaller number of representatives (e.g. Waldron, 1999). The argument made in this section therefore leaves open the possibility of citizens voting for representatives rather than directly for policies. The issue of representative versus citizen assemblies is discussed in chapter 5.
communicating relevant knowledge of high enough quality to all voters. The result of this is that individual voters will likely not have the knowledge required to make effective decisions on a range of political issues. Nor can voters be expected to seek out such information. A voter may be able to acquire enough information to vote on one political issue. However, the share number of issues which they will have to face will present them with a huge epistemic burden which they will not be able to meet. So even if any one voter may be able to become competent enough (that is, above 0.5 probability) on one issue, all or most voters cannot be expected to acquire enough relevant information to become component on all relevant issues\textsuperscript{41}.

This may not be a problem for direct voting if we can appeal to the second mechanism for the epistemic value of voting, the miracle of aggregation (Converse, 1990; Caplan, 2007; Landemore, 2013a; Page & Shapiro, 1992; Surowiecki, 2004). According to this argument, those voters who do not manage to gather the required knowledge will not affect the outcome of the procedure, as they will be distributed evenly among the options. If voters have no information, then they will vote randomly across the different options. When aggregated together then, these voters would simply cancel each other out and have no effect on the end result. The outcome of the procedure would then be determined by the remaining voters who were able to acquire the relevant knowledge for this particular issue, and they would tip the balance in favour of the right answer\textsuperscript{42}. Through the miracle of aggregation then, the problem of getting all or most voters informed should not affect the final vote. As long as a large enough number of voters do get informed on the particular issues and make a good decision, then the procedure will lead to a good answer. This will only be the case, however, if absences of knowledge have no effect on how people vote. The assumption that low information voters will vote randomly, and therefore be evenly distributed among the options, is based on the assumption that a lack of knowledge does not itself influence how one votes. But this is not the case. Lacking certain kinds of knowledge will often influence the direction of a person’s vote on a political issue. If, for example, on the surface of things policy A appears superior to policy B but unbeknownst to lots of voters policy A will actually cost three times as much and risks a budgetary crisis (and therefore the funding of all other

\textsuperscript{41} For other critiques of the relevance of jury theorems to politics see Anderson (2006), Estlund (2008) and Ladha (1992).

\textsuperscript{42} There are a few different readings of the miracle of aggregation, but they all follow the same general logic. For a discussion of the different readings see Landemore (2013a, chapter 6).
beneficial policies) in the long term, then this will have the effect of causing these voters to make bad decisions. An absence of knowledge can and often will affect the direction of an individual's vote, and therefore those without knowledge of the issue cannot be expected to vote evenly across the options\textsuperscript{43}.

The argument of this chapter, therefore, suggests that direct democratic voting, as found in referenda, will face similar problems to markets in not being able to communicate enough high quality knowledge to decision-makers. This fact underlines the epistemic value of large-scale direct voting and the key mechanisms which are argued to explain its epistemic properties. Many democratic sceptics have also questioned the epistemic value of democratic voting. However, it is important to distinguish how their arguments differ from those in this chapter. The arguments of democratic sceptics often focus on levels of voter knowledge and are often made in reference to survey data reporting to show high levels of voter ignorance about politically relevant knowledge (Achen & Bartels, 2016; Brennan, 2016; Caplan, 2007; Simon, 2013). There is, however, much to be debated about the quality of such surveys and what can actually be deduced from them about the epistemic abilities of voters. For example, these surveys often test voters’ knowledge by asking questions which are not directly relevant to making an informed political decision. For instance, they ask those surveyed to do such things as name past presidents or representatives, which is not necessarily relevant to making a good political decision. Alternatively, democratic sceptics often use elitist standards to define correct information and therefore to judge citizens’ information. For instance, they often assume that the opinions of economists are true and take any deviation from these opinions to be a mark of ignorance\textsuperscript{44}.

Democratic sceptics also generally appeal to rational choice theory for a theoretical explanation of low voter knowledge (Brennan, 2016; Caplan, 2007). According to these explanations, the reason for low voter knowledge is a lack of incentives due to a free-rider problem. In large votes, any one individual's vote is very unlikely to be pivotal and affect the outcome, and therefore no individual has an incentive to pay the costs of getting informed or possibly even to vote in the first place. Even if they do vote because it has some expressive value, this value still does not give them an

\textsuperscript{43} Fuerstein (2008) makes a similar argument elsewhere.
\textsuperscript{44} For further discussion see Bennett and Friedman (2008), Landemore (2013a, 2014) and Lupia (2006).
incentive to vote informed (Brennan & Lomasky, 1993). These rational choice arguments for low information voters have also been questioned by alternative theories of voting which suggest voters have a greater reason to vote. This is often because, unlike the rational choice theory of democratic sceptics, they take it to be rational to contribute to the production of public goods rather than free-ride, or because they see the margin by which a particular policy wins to be of some importance (Landemore, 2013a; Mackie, 2012; Tuck, 2008).

The argument of this chapter, however, does not appeal to controversial survey data or to the preferred rational choice explanations of democratic sceptics. Rather it claims that decision-makers in a direct referendum will be unlikely to obtain the knowledge they require because of the very structure of the decision procedure and the way that relevant knowledge is dispersed in society. Because dispersed knowledge needs to be communicated to a very large number of dispersed individual voters, such a procedure will increase the challenges of communicating explicit knowledge to decision-makers, increases the cognitive and epistemic burden placed on decision-makers, and decreases the quality of explicit communication. The grounds for this critique are therefore different from those of the democratic sceptics, and importantly so is its conclusion. The argument of this chapter does not lead to a rejection or reduction of democracy, but rather to a deliberative democratic system where decisions are taken in forums rather than referenda. The critique does not, therefore, question the epistemic value of democracy as such, but rather the epistemic value of a particular kind of democratic procedure.

2.7 Conclusions

This chapter has started the analysis of the epistemic property of knowledge gathering and has done so through an engagement with the epistemic argument for markets. It argued against the ideas of Hayek and his followers that markets should be seen as the primary institution in epistemic terms. By developing the category of low feedback goods, the chapter discovered the significant limits of markets in the areas of social and political problems. Markets and the epistemic arguments for them cannot account for this broad range of imported goods which will be common in political problem as they cannot deal with the epistemic burdens they produce. The chapter then put forward an epistemic model of a deliberative democratic system, to demonstrate that deliberative democracy
can access the required knowledge that markets cannot. Importantly, this model showed how it could gather and aggregate knowledge which is dispersed throughout society. Considering the Hayekian analysis of the decision of knowledge was therefore productive in helping us to better understand the knowledge gathering abilities of deliberative democracy. It was only through an engagement with Hayek and those in his tradition that allowed us to see the importance of a systemic approach to deliberation to understanding the epistemic properties of deliberative democracy.

The analysis of this chapter, however, has a couple of key limitations. Firstly, it has so far just assumed that the decision-making institutions within the empowered space of the deliberative system should be democratic in nature. Why shouldn’t these forums involve aristocratic deliberation instead? A full defence of democratic decision-making, however, will be pursued in the second half of the thesis (chapters 4 and 5). The second limitation is that it considered a rather idealised version of a deliberative system. Such a system is likely to have many imperfections and problems when it comes to knowledge gathering, and these were not accounted for here. The task of the next chapter will therefore be to analyse the deliberative system in some more detail, giving consideration not only to its benefits but also to its imperfections.
3 Knowledge in the System & the Forum

The last chapter focused on the epistemic property of knowledge gathering and argued for the epistemic limits of markets. In their place, a model of a democratic deliberative system was advocated where final decisions were taken within deliberative forums. The chapter did, however, take a rather idealised view of this deliberative system, and compare it to two equally idealised deliberative systems where decisions were taken not in deliberative forms, but rather by individuals in either markets or referenda. This chapter will, therefore, need to further consider how knowledge is gathered in a deliberative system and this includes a consideration of its imperfections and limitations.

There are a number of issues which may affect how knowledge is gathered within a deliberative system, and as a result the chapter must focus. Attention will be given to the problem of determining which of the knowledge claims produced by public space institutions should be allowed to influence final decisions within empowered space. The chapter will show that there are a number of imperfections in a deliberative system which mean that knowledge gathered by public space institutions cannot be taken as given. Instead, there is a need for an epistemic filter which can select which knowledge claims are of good enough quality to be allowed to influence empowered decisions within forums. This chapter’s focus is, therefore, on the need for an epistemic filter in the transmission of knowledge from public and empowered space. Such a focus will, of course, leave other issues unaddressed by the thesis. For example, there may be problems with deliberative quality of public space which mean that some forms of knowledge get lost before they can even be filtered. The epistemic filter is, however, a particularly important issue to consider. No matter the deliberative quality of public space, it will not produce a uniform or fully consistent set of knowledge claims. There is, therefore, an important need for an effective epistemic filter, without which decision-making may come to be made on inaccurate or false information.

The distinctive position the chapter will argue for is that lay citizens can play a significant and important role in providing the epistemic filter require by the deliberative

\[45\text{ A version of this chapter was published as an article in Politics, Philosophy & Economics, see appendix 3: “Deliberative Democracy & the Problem of Tacit Knowledge”, Politics, Philosophy & Economics, Forthcoming, https://doi.org/10.1177/1470594X18782086} \]

\[46\text{ To the extent that it does, there will still be a certain level of idealisation in the system model.} \]
system. This will be an unexpected conclusion for many. When it comes to determining what information should be used in political decision-making, it is often thought that we need to include the more knowledgeable, whether they are traditional experts or stakeholder/civil society groups. This chapter, however, will argue that citizens are in a much better epistemic position when it comes to selecting information than is normally thought.

The reason for this has to do with the kinds of deliberation which can and cannot filter the knowledge relevant to political and social problems. One form of deliberation would attempt to filter knowledge claims in respect to their relative truth-values. Given that it is focused on truth-values, this kind of deliberation would best include the more knowledgeable, as they will be most aware of the content of the knowledge claims being evaluated. Such an approach will, however, be shown to fail to deal with much of the knowledge relevant to political problems which is specialised, tacit or situated. Deliberation cannot determine the truth-value of such knowledge even in ideal conditions and will therefore fail to filter it. An alternative account of deliberation will then be developed which focuses on trust rather than truth. Filtering knowledge claims requires making second-order evaluations of the trustworthiness of knowledge sources rather than first-order evaluation of the truth of the knowledge claims themselves. It is only through trust evaluation that deliberation can filter specialised, tacit and situated forms of knowledge. The chapter argues that recognising this fact radically changes who should be included in deliberation. When trust is seen to be central, knowledge of the content of knowledge claims becomes a less important criterion for inclusion than epistemic independence, which allows one to make judgments of trust without bias or prejudice. Citizens may not be aware of the content of knowledge claims, but they will be shown to possess the epistemic independence required to make effective trust evaluations of knowledge sources.

It is worth reminding ourselves that we are still concerned solely with knowledge gathering rather than decision-making itself. Once knowledge is gathered, decisions can be taken in a number of ways, and it will be the task of the second half of the thesis to argue for democratic deliberation. The purpose of this chapter is to consider the imperfection in the knowledge-gathering ability of a deliberative system, and in doing so, it will produce a distinctive conclusion about the role of citizens in dealing with these
imperfections. The conclusion of the chapter will then consider what the first half of the thesis has to say about the knowledge-gathering abilities of deliberative democracy.

3.1 The Deliberative System & the Epistemic Filter

This section will explore some of the benefits and limitations of knowledge gathering in a deliberative system, and highlights the need for an epistemic filter which can ensure that only high-quality claims influence the decisions of empowered space. The deliberative system of the last chapter is represented again in figure 3, but with an addition which will be returned to below. Following the arrows from left to right in this diagram, we can see how knowledge moves between the different parts of the system. Firstly, there is knowledge which is to differing extents dispersed in society. This includes local knowledge which is dispersed in the minds of on-the-spot individuals and scientific knowledge which is more concentrated in the different elements of the scientific and research community. Secondly, there is public space which is made up of many different components and institutions such as scientific bodies, social movements, charities and NGOs. These components gather and aggregate different forms of knowledge which are found dispersed in society. Lastly, in the final part of the diagram, there is empowered space which has the power to make binding decisions. In this model, empowered institutions take the form of a number of deliberative forums. Knowledge moves from public space to empowered space through transmissions, as institutions in public space attempt to communicate their knowledge so it can come to influence the decisions of empowered forums.

This system model has a number of benefits over a unitary model of deliberation. A unitary model focuses on single sites of deliberation rather than seeing deliberative forums as connected to and situated within a wider deliberative system. A key advantage of the system model, discovered in the previous chapter, is that it is able to show how deliberative decision-making can access knowledge which is dispersed and fragmented. In such a model, forums are not isolated from such knowledge but are rather linked to a number of different components within public space which (1) gather knowledge which is spread throughout the system; (2) aggregate this knowledge through their internal procedures; and (3) communicate this aggregated knowledge to forums within empowered space. The Intergovernmental Panel on Climate Change (IPCC), for instance, collects scientific research of climate change and then aggregates it with the aim of
producing the best overall understanding of why and how the climate is changing. Alternatively, campaign groups or social movements collect information about how political problems are affecting local people in order to produce a picture of the problem. What these two components have in common is that they both gather information which is dispersed in society, aggregate this knowledge through some internal processes, and then attempt to communicate it in order to influence decisions in empowered space. A deliberative system is, therefore, able to show how a deliberative forum can utilise knowledge which is otherwise spread throughout society.

The system approach also shows how a much greater amount of knowledge can be included and utilised. In a unitary conception, it would appear that the only knowledge involved is that knowledge which is known to the individual participants who are actually included. There are, however, inevitable constraints on the number of individuals who can participate in face-to-face deliberation and therefore this is likely to only be a small amount of the overall relevant knowledge (Pennington, 2001, 2005). In a systems approach, however, we can see how the knowledge of many different institutions can come to influence decisions. The system also allows for a complex division of epistemic labour (Mansbridge et al., 2012; Christiano, 2012; Chambers, 2017). The different components within public space do not gather the same kinds of knowledge but rather specialise in different areas of information. The IPCC and other scientific bodies focus on technical scientific information, while campaign groups focuses on local knowledge

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**Figure 3: Democratic Deliberative System with Epistemic Filter**

- **Knowledge in Society**:
  - Scientific Knowledge: Centralised to Experts
  - Local Knowledge: Dispersed among individuals

- **Public Space**: Interconnect deliberation between a number of components
  - Scientific Bodies
  - Social Movements
  - Think Tanks
  - NGOs
  - Unions
  - Campaign Groups
  - Business Groups

- **Epistemic Filter**: Decentralised Network of Forums

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of affected individuals. This division of labour reduces the epistemic burden which is placed on any one part of the system. The system can spread responsibilities across its different parts, reducing the epistemic burden while also allowing for specialisation. There will, of course, be some significant overlap within this division of labour. A social movement, for instance, may be concerned with both scientific research and local knowledge of people’s experiences. It may then draw on the knowledge gathered and aggregated by other components of the system. The components within public space are interconnected in the sense that they can share and draw on the knowledge-gathering work of other components.

Another important aspect of the deliberative system is that public space will be generally undirected by empowered space. Empowered space may set up general rules and regulations which govern public space and it may set up certain knowledge-gathering institutions, such as government statistical bodies. However, public space as a whole will be generally undirected. Institutions such as social movements, campaign groups and unions, will have a large amount of autonomy from empowered institutions. This has some epistemic benefits as it allows the institutions in public space to search out and gather knowledge that empowered institutions would not. A social movement, for instance, is free to organise round issues they determine to be important and discover information about problems which empowered institutions may miss. Similarly, unions may be aware of issues affecting their members which others are not and can conduct research on these issues. Empowered institutions cannot possibly be aware of all the knowledge which needs to be collected so a directed public space would fail to gather certain information. An undirected and unstructured public space allows its institutions a level of autonomy to attend to the knowledge they themselves discover and take to be valuable.

It is the undirected nature of public space, however, which also allows us to see the limitations of a deliberative system when it comes to gathering knowledge. Deliberations within public space and the wider system will be uneven and uncontrolled, and this produces imperfection as well as benefits. There are a number of important imperfections which can be seen in the knowledge-gathering function of public space. Firstly, the different components within public space will not all be equal, and they will have different abilities when it comes to gathering and aggregating knowledge. They will not all be structured identically, and epistemic abilities will, therefore, be distributed
unevenly. For instance, one component focused on scientific knowledge may have well-organised internal procedures and members with relevant specialised training, while other institutions may not. Similarly, civil society groups concerned with local knowledge will have differing levels of inclusivity, so they may or may not exclude certain people’s knowledge. The result of this is that public space will produce knowledge claims of differing qualities. Secondly, the various epistemic procedures within these components may result in different or even contradictory claims. Conclusions drawn by separate institutions can differ depending on the procedures or models used for aggregating knowledge. One think tank or university centre, for instance, may believe the evidence leads in one direction while another may think it leads in a different direction. Thirdly, the component within public space will, to differing extents, have interests or biases which can influence how they aggregate and communicate information. A business association, for instance, can have a vested interest in presenting knowledge in a certain way or in drawing certain conclusions. The knowledge claims produced by public space will not all be the product of an independent and unbiased procedure, and this will also affect their quality. Finally, the unstructured public space will also involve inequalities of voice. Institutions within public space will have different capacities for voice which will affect how they can communicate knowledge to other parts of the deliberative system. There is also no reason to believe that these inequalities will be proportional to the quality of their knowledge. Well-funded groups, for instance, will have greater access to the means of communication purely as a result of their economic resources and not their epistemic abilities.

Although the undirected nature of public space has its epistemic advantages it also has important imperfections. The result of these imperfections, when taken together, is that the knowledge claims which emerge from public space cannot be simply taken as given. The deliberative system will not produce a given set of knowledge which can directly form the basis of binding political decisions in empowered space. It will not produce clear and unambiguous knowledge claims, or clear and unambiguous expertise, which can then be utilised by decision-making institutions within empowered space. It will include, for instance, the knowledge claims of the IPCC as well as that of climate denial groups. What is required in a deliberative system then, is some form of epistemic filter which can determine the quality of knowledge claims and select which ones should influence the decision of empowered space. Between public and empowered space there
needs to be an epistemic filter which can ensure, to some reasonable level of reliability, that high-quality knowledge claims come to influence decisions while low-quality ones do not (see figure 3). This epistemic filter is required due to the imperfections which exist in the knowledge-gathering and aggregating capacity of the deliberative system.

As mentioned in the introduction, the problem of filtering the information transmissions between public and empowered space is not the only issue which may affect the knowledge-gathering ability of a deliberative system. Other problems may, for instance, cause some knowledge to be lost before it can ever be filtered. If deliberative quality in public space is poor, for example because certain actors are silenced or because there are high levels of polarisation and enclave deliberation, then certain knowledge claims may fail to be gathered and therefore not reach the point of transmission to empowered space. The epistemic filter is, however, an important area of the system on which to focus. Without it, empowered space cannot be relied upon to make good decisions, even when the rest of the system is operating at a high level. Even if the deliberative quality of public space is high, it will not produce uniform and consistent knowledge claims to be used in empower decisions. An epistemic filter is, therefore, an important requirement of the system, without which knowledge may come to be based on inaccurate or false information. What kind of deliberation, however, can provide this needed epistemic filter? The rest of this chapter will investigate two different forums of deliberation with respect to their ability to provide an effective epistemic filter. It will look at their ability to filter the different kinds of knowledge relevant to political and social problems, and what kind of inclusion these forms of deliberation should take.

3.2 Deliberating about Truth

The first form of deliberation which may be able to provide the epistemic filter is deliberation about truth-values. This approach would aim to include, as much as possible, the knowledge claims present in the deliberative system, and then determine, through reasoned deliberation, the truth-value of these different knowledge claims. The aim of the deliberation would be to determine which claims are true (or more likely to be true) and which are false (or more likely to be false). It would consider each claim and engage in discussion about its accuracy, consistency and correctness. Those claims which are determined to have the higher truth-values would then be allowed to influence empowered decision-making while those of low value would be screened out. Of course,
some absolute threshold of quality may have to be met as well as relative quality. It is possible that the knowledge claims with the highest relative trust-value will still be of too low a quality to be useful for decision-making. However, generally this approach would aim to determine the truth-values of knowledge claims and filter them on this basis.

This approach to deliberation is actually consistent with much work within the deliberative democracy literature which conceives of deliberation as a process of impersonal reasoning, such as type 1 and Habermasian accounts of deliberation who are sceptical of other kinds of speech (e.g. rhetoric). These approaches base deliberation on the giving of impersonal reasons for and against alternative claims or positions. These reasons are impersonal in the sense that they appeal directly to the value of abstract propositions rather than to any particular speaker or individual. Deliberation should be concerned only with the validity of the claim being made and not with any other fact such as the individuals making those claims. It should consider only ‘inherently’ good reasons for supporting one claim over another – reasons which ‘could convince anyone irrespective of time and space’ (Habermas, 1994a: 52). An important reason for focusing on impersonal reason is that it stops power and coercion from entering deliberation (O’Neill, 2002). Appealing to reasons which are independent of individuals means that persuasion will be independent of people’s individual authority or position. Part of the appeal of this is normative. This kind of reasoning is argued to treat deliberators as ‘autonomous agents’ rather than merely ‘objects of legislation’ (Gutmann & Thompson, 2004: 3). Individuals deliberate freely only when they are swayed by the best reasons which they themselves accept, and not by the authority or power of individuals. By reserving deliberation to impersonal reason protects deliberation from ‘manipulation and domination’ as it will involve only ‘non-coercive’ forums of persuasion (Chambers, 1996: 152). To protect autonomy deliberation should involve ‘no force except that of the better argument’ (Habermas, 1976: 108).

Another part of the appeal of impersonal reason, however, is epistemic. If we want to determine which knowledge claims should influence decisions, then we will want to determine if there are inherently good reasons to support those knowledge claims. Considerations of a person’s position, power or authority are irrelevant to the validity of those claims. The influence of power and status will only distract and take deliberators from real concerns about the true value of any claim or position. Knowledge claims should, therefore, be considered abstractly and reasons for them should be impersonal in
order to determine their respective truth-values. If deliberation is to provide the epistemic filter required of it by the deliberative system, it should be restricted to impersonal reasoning about truth. Only those knowledge claims which are determined to be true (or more likely to be true) by a consideration of the impersonal reasons supporting them should be allowed to influence empowered decisions. Alternatively, those knowledge claims which cannot be supported by independent and impersonal reasons should be rejected.

Who, however, should be included in such a deliberation? Most type 1 deliberative theorists who emphasise impersonal reason do not take a purely epistemic analysis, and therefore appeal to criteria of procedural fairness to answer this question. Here, alternatively, we are strictly concerned with epistemic values, and therefore who should be included for epistemic reasons. In epistemic terms, a deliberation about truth-values should include those persons who can best represent and defend the content of the alternative knowledge claims found in public space. If deliberation is going to be concerned with considering the truth-values of knowledge claims, then it had best include those individuals who are most aware of the content of those claims and therefore best able to offer reasons in support of (or in opposition to) them. It should, therefore, be made up of representatives from all the different knowledge-gathering institutions and components within public space. Representatives from these institutions would be able to put forward knowledge claims produced through the information-gathering and aggregation work of their respective institutions. They will be most aware of the content of these claims and will be best able to give reasons in their defence. A particular kind of ‘knowledge’ should, therefore, determine who gets included. This is not necessarily ‘correct knowledge’ as if we knew who had the correct knowledge we would not need the epistemic filter in the first place. Rather it is knowledge of the content of the knowledge claims made by public space institutions. Determining the truth-value of claims involves engaging with the content of such claims. We would, therefore, want people with knowledge of such content to be included in deliberation.

We can refer to this form of inclusion as a mini-system, as it attempts to include a representation of that wider deliberative system. Unlike a more conventional mini-public which selects lay citizens from the general population, a mini-system selects only those who can represent public-space institutions who play a role in the gathering and aggregating of knowledge for decision-making. Such a mini-system could be
institutionalised in a number of ways. It could for instance, take the form of a deliberative assembly, some kind of independent board, or perhaps be integrated into certain bureaucratic institutions concerned with supplying information to decision-makers. Whichever way it is institutionalised, a mini-system would be made up of representatives of the knowledge gathering institutions in public space. Unlike in the wider system, however, these representatives would deliberate in a more controlled and structured environment. As we have seen, the unstructured nature of public space means that it will face a number of imperfections. A mini-system, in whichever form it takes, would be set up in order to guard against these negative effects. It would, for instance, grant equal voice to its participants so that nothing but reasoned argument would influence the evaluation of knowledge claims. Unlike public space where funding and resources affect the ability of institutions to communicate and debate their claims, in a mini-system participants would engage in deliberation on an equal footing. The mini-system in whichever institutional form, aims to be a more structured site of deliberation which can subject the knowledge claims of public space to a more rigorous process of deliberation in order to filter them in accordance with their relative truth-values.

To my knowledge, the concept of a mini-system has not been considered before. However, it has similarities to forms of stakeholder or interest group deliberation which often involves gathering representatives from civil society (Hendriks et al, 2007). A key difference is that a mini-system is not so much concerned with whether these groups can represent certain interests in society, but rather their ability to represent and defend certain knowledge claims. It would, therefore, include members of scientific and academic institutions as well as those from advocacy groups. It also has similarities, then, with the deliberations of certain kinds of independent boards which include such groups in order to supply or evaluate information for decision-makers. What is important is that those included in a mini-system are included because they have knowledge of the content of knowledge claims, and are therefore best placed to evaluate their truth-values.

47 The issue of how to institutionalise the epistemic filter will be returned to in the conclusions of chapter 6.
48 Deliberative mini-publics, for instance, often include such boards which help to determine expert witnesses.
3.3 Failing to Find Truth-Values

This first truth-value approach to deliberation cannot, however, provide an effective epistemic filter within a deliberative system. One immediate problem it faces is purely practical. An approach based on determining truth-values would need to access claims on a case by case basis. There are, however, likely to be a very large number of knowledge claims emanating from public space about any political issue, so such an epistemic filter will likely be very time intensive. Leaving such practical issues aside, the more problematic issue for the truth-value approach is that it cannot deal with much of the knowledge which is relevant to political and social issues, even in ideal conditions and with no time constraints. In particular, this kind of deliberation will be unable to determine the truth-value of politically relevant knowledge which is (1) specialised knowledge, (2) tacit knowledge or (3) situated knowledge.

The first problematic form of knowledge for the truth-value approach to deliberation is *specialised knowledge*. Specialised knowledge is that knowledge which is only accessible to those with very particular training or experience. Consider scientific knowledge which is separated into highly specialised disciplines. Climatology, for example, is a field which involves aspects of atmospheric science, earth science, oceanography and biogeochemistry. To evaluate the knowledge claims of these disciplines requires a working knowledge of, among other things, their research methods, technical vocabulary, standards of proof, assumptions, and the current state of their literature. However, even those with training in other natural sciences, to say nothing of those without scientific training, will often lack such things as they lack the very specialised training and experience required. Consider the claims of climatology concerning the mean global or regional temperature rise over the next fifty years. These claims will be based on alternative climate models, each of which will be based on its own set of statistical methods and physical assumptions about natural systems. Assessing the truth-values of such claims, therefore, requires an evaluation of the very technical assumptions on which these claims are based, and this cannot be done by those outside of the field who lack the relevant training. The same thing can also be said of any other area of natural sciences, such as medicine or epidemiology, or social sciences, such as economics and political science. Specialised knowledge is also not confined to scientific knowledge. Take, for example, the knowledge of people within certain professions such
as lawyers, accountancy, environmental management or civil servants, which also have their own particular vocabulary and required set of skills.

As we saw in the last chapter, specialised knowledge, such as scientific knowledge, is often relevant to political issues and must, therefore, be subjected to the epistemic filter. Whether it is in the field of environmental science, medical science, public health, epidemiology, economics, or political science, there will often be a large amount of specialised knowledge which is relevant to political issues. However, such knowledge cannot be evaluated by those without the relevant training which not even a small subset of deliberators can be expected to have. A mini-system involves a range of different representatives from public space who cannot be expected to have all the training required to determine the respective truth-values of all the different kinds of specialised knowledge which will be relevant for a given political issue. Such a deliberation will not, therefore, be able to determine truth-values for this kind of knowledge and will not be able to determine which knowledge claims should influence decisions in empowered space. Of course, any one deliberator may have the training and experience to evaluate one kind of specialist knowledge. The problem, however, is that this will often not help them to evaluate all the other kinds of knowledge which deliberation would require them to, and it will certainly not be possible to have all deliberators trained in all of these areas.

Christiano (2012: 38) has suggested a method for communicating specialised knowledge which may be applied as a solution to this problem. This method is based on ‘overlapping’ understandings and is described as follows:

By overlapping understanding I mean the state of affairs in which two or more people share some expertise and do not share other expertise. So for instance, suppose P knows about intellectual disciplines a, b, and c, and Q knows about disciplines b, c, and d. Their knowledge overlaps at b and c. This overlap allows Q to understand some of a because P can translate the ideas of a into b and c.

We can then imagine that these overlapping understandings can extend to more individuals with more fields of expertise so that chains of understanding can be created. These chains can allow specialised knowledge to be communicated to those without

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49 This is not to make any assumptions about the distribution of natural talents or intelligence. Specialised knowledge is a problem because it requires significant training to understand and evaluate. No one person can be trained in all fields, so every person will fail to understand some amount of specialised knowledge irrespective of their natural ability.
particular training in that field. When it comes to evaluating truth-values through deliberation, however, this argument is likely to be very limited. Firstly, there is a limit to the number of participants who can be include in deliberation and therefore no guarantee that there will be complete chains of understanding which can link all the different areas of knowledge. There may not be, for instance, a chain of overlapping understanding which links a medical scientist or economist to a member of an indigenous community or a social worker. Secondly, these chains of understanding may allow knowledge to be translated into the language of another discipline so it can be understood, but this does not mean that it can be evaluated by those in another discipline. The knowledge and skill required to evaluate the truth-value of claims are of a different order to those required for understanding. A talented popular science writer may be able to explain a debate in quantum physics to a non-specialist audience, but this is a long way from allowing that audience to effectively evaluate the different positions in that debate. A chain of understanding is, therefore, different from a chain that allows others to evaluate knowledge claims in terms of their truth-values.

The second form of knowledge which is problematic for truth-value deliberation is tacit knowledge. Tacit knowledge is non-explicit knowledge which is embodied in practical skills and know-how. The important aspect of this knowledge is that it is non-propositional in the sense that it cannot be fully expressed or learned linguistically. It is not learned by listening to a lecture or reading a book but rather through participation in a particular practice or skill\(^\text{50}\). Consider, for instance, knowledge of language and particularly that of a native speaker. Someone can be fluent in a language and still not be able to explain to someone else all the rules and structures of grammar they are using when they speak. Rather, their understanding of these rules is tacit as it is built into their practice of language, rather than consisting of a set of explicit rules which the speaker consciously applies. The implication of tacit knowledge is, as Polanyi (1997: 136) argues, that we “know more than we can tell”. We cannot fully articulate all the knowledge we possess.

\(^{50}\) The distinction is made for example by Polanyi’s (1962b, 1997) and Hayek (1948b, 1978). It is also similar to Gilbert Ryle’s (1971) distinction between ‘knowing what’ and ‘knowing how’ and Oakeshott’s (1962) distinction between ‘technique’ and ‘practical’ knowledge. The concept of tacit knowledge also has a connection to the broader Greek concepts of ‘metis’, as used by Scott (1998), which includes non-propositional knowledge.
Much of the knowledge relevant to political and social problems can involve an important tacit component. Consider, for example, environmental policy which is often seen to benefit from practical tacit knowledge, such as that of environmental managers or indigenous communities. The knowledge of these groups is based on their experience of working, living and interacting within an eco-system. It is, therefore, often practical knowledge as it is built into their experience of the eco-system. For this reason, these groups are often found not to be able to fully articulate their knowledge (Fazey et al., 2005, 2006a, b; Raymond et al., 2010). Their knowledge allows them to do such things as recognise changing and emergent properties within environmental system, and even make predictions. However, because it is based on their experience of a practice, they are often unable to fully articulate the reasons behind their judgments. The knowledge of other relevant professions, such as civil servants or social workers, can also have tacit components. Not all aspects of a job can be learned through reading a manual but are rather acquired by participating in the profession itself. They require learning while doing.

Even scientific knowledge involves a practical and tacit dimension (Hayek, 1978). For instance, a scientist’s ability to derive conclusions from large bodies of data involves a practical component which cannot be expressed propositionally. Rather, learning to do this requires engaging in the practices of science itself. Many people, such as scientists, indigenous people, farmers, care workers, and civil servants may all have specific tacit knowledge because of their social roles which may be relevant to certain policy areas. 51

Although it is possible that engaging in a process of deliberation can help to make some kinds of knowledge explicit, there are likely to be significant components which will remain tacit (see Benson, 2018c in appendix 3). Such knowledge is problematic for an account of deliberation which aims to determine the truth-values of knowledge claims. Determining truth-values requires engaging with the impersonal reasons which support alternative claims. However, to the extent those knowledge claims are based on tacit forms of knowledge, reasons in defence of them cannot be expressed. The central form of communication in deliberation is linguistic. Deliberation is a verbal exchange of 51

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51 The importance of tacit knowledge was a key part of Hayek’s (1948b, 1978) case for markets over political institutions. He argued that if such knowledge cannot be communicated in propositional or statistical forum then it could not be communicated to some centralised political body to make decisions. Instead, decisions should be left to individuals who can utilise their own tacit knowledge and be coordinated by the extra-linguistic forms of communicating found in market prices (also see Pennington, 2003). This chapter will argue later that tacit knowledge can still be included in deliberation through trust evaluations, and therefore also acts as a reply to this Hayekian argument (also see Benson, 2018c in appendix 3).
reasons. This privileging of linguistic communication excludes tacit and practical forms of knowledge which necessarily cannot be expressed propositionally (Pennington, 2003). A verbal process of deliberation will necessarily fail to include knowledge which cannot be expressed linguistically and as a result, it will fail to determine the truth-value of such knowledge. The reasons supporting tacit knowledge cannot be expressed within that linguistic process of deliberation and therefore cannot be evaluated in terms of their truth-value. An epistemic filter which attempts to discover the truth-values through deliberation will therefore fail to filter tacit forms of knowledge.52

The final kind of knowledge which cannot be dealt with by truth-value deliberation is situated knowledge.53 This knowledge is not specialised in the sense that it requires certain training to understand, nor is it tacit in the sense that it cannot be put into propositional forms. Rather situated knowledge is knowledge which is known to certain individuals but cannot be independently evaluated by third parties in a deliberative setting. Consider, for instance, the local knowledge of an individual affected by the problem of crime. Much of this information, about how different aspects of this problem affect their lives, cannot be evaluated by a third party who is not in their situation and does not have access to any other way to evaluate the truth of this claim. If they claim, for example, that they are scared to go outside at night because of fear of being attacked, then no third party can evaluate impersonal reasons for whether this claim is true. There is no independent data to appeal to in order to verify if this is in fact true. Such knowledge is situated in the sense that it is only known to that individual or group of individuals and cannot be evaluated by others. Alternatively, if a care worker claims that since the latest health care reform they have had less time to spend with patients, and there is no independent scientific research on such effects, it can again be difficult for others in a deliberative forum to verify the impersonal reason for the truth of this claim. Knowledge claims which are based on an individual’s experience can often not be evaluated in terms of their truth-value by third parties (although it can be expressed propositionally). This is not to say that all local forms of knowledge are examples of situated knowledge. For instance, if in the case of environmental policy someone claims that they have health condition x as a result of pollutant y, and it is known through rigorous scientific studies

52 The exclusion of tacit knowledge can also produce challenges to procedural fairness (see Benson, 2018c in appendix 3).
53 Anderson (2006) also refers to situated knowledge. However, she uses it to refer to what this thesis calls local knowledge, following Hayek, rather than how it is defined here.
that y simply cannot cause x, then their claim can be falsified. Not all local knowledge is therefore situated knowledge. However, often there will not be independent evidence by which to judge local knowledge, and in those cases that knowledge will be situated. It will only be known to individuals, and other participants in deliberation will not be able to evaluate its content in order to determine its truth-value.

There are then three important forms of the knowledge relevant to social and political problems which cannot be filtered by the truth-value approach to deliberation. The truth-value of specialist, tacit and situated knowledge cannot be evaluated in terms of impersonal reason by participants to deliberation. Importantly, this is true even in ideal conditions. These forms of knowledge cannot be understood, expressed, or accessed by all deliberators. This is necessarily true due to the particular nature of these kinds of knowledge. Therefore, even in ideal conditions with unlimited time and perfect reasoning, deliberation will fail to evaluate their content and determine their truth-values. Deliberation about truth-values cannot, therefore, provide an effective epistemic filter as it cannot deal with much of the knowledge relevant to political issues.

### 3.4 Deliberating about Trust

An important question at this point is: do the issues just described show a fundamental failing of the ability of deliberation to deal with the knowledge required for political problems, or can an alternative conception of deliberation resolve them? Pennington (2003), for instance, considers the former to be true in the case of tacit knowledge. He argues that the tacit component of knowledge shows a fundamental limit to linguistic forms of communication which necessarily cannot deal with non-propositional knowledge. This section will argue to the contrary. It will develop an alternative account of deliberation which can resolve these issues and show that deliberation can provide the epistemic filter required of it. This new account of deliberation changes the subject of deliberation away from questions of truth-values to questions of trust. On this view, deliberators would attempt to filter the knowledge claims produced by public space, not by directly evaluating their truth-values, but by evaluating the trustworthiness of the public space institutions which express them. This form of deliberation would allow only those claims which are expressed by trustworthy sources to influence the decisions of empowered space and would reject those knowledge claims expressed by sources
determined to be untrustworthy. Trust, therefore, is an alternative subject of deliberation which can also filter knowledge claims.

Importantly, trust evaluations do not aim to evaluate the content of knowledge claims themselves, but rather evaluate the sources of such knowledge claims. On the previous approach, deliberators had to consider the content of knowledge claims in order to determine their respective truth-values. On the trust account, alternatively, the subject of deliberation is the trustworthiness of knowledge sources. It is not therefore concerned with first-order considerations about the content of knowledge claims, but with second-order considerations about the source of such claims (Anderson, 2011). It involves a consideration of the characteristics of those institutions making knowledge claims rather than the particular claims themselves. The different factors important to the evolution of knowledge sources will be considered further in the next section. However, deliberators would generally accept or reject knowledge claims based on the honesty, credibility and authority of the knowledge source. This new approach to deliberation is not, therefore, restricted to impersonal forms of reasoning about abstract propositions as in the first approach. It considers features of institutions or individuals, not just abstract claims. Such considerations ‘attend to persons not propositions’ and therefore move deliberation away from impersonal reason (O’Neill, 2002).

This may at first appear to be a problematic approach to deliberation. Surely if we want to determine which knowledge claims can influence empowered decisions, then we should be principally concerned with the truth-value of these claims. We want to base decisions on correct knowledge and not on incorrect beliefs. Concern for the characteristics of institutions would lead deliberation away from this principle concern for truth. Although deliberating about trust does not attempt to determine truth-values directly, it does attempt to track truth-values through the proxy of trustworthiness. As Manson & O’Neill (2007: 160) argue, in ‘placing trust in others’ truth-claims, we aim to place it where their words accurately match the way the world is (or comes to be) and to refuse it where their words do not accurately match the way the world is (or comes to be)’. In deliberating about trust, we aim to trust those who make true claims. When applied correctly then, evaluations of trust will track the truth-values of knowledge claims. If someone is determined to be trustworthy, then this provides us with good reason to accept what he or she is saying as true. Similarly, if we determine that someone is not trustworthy,
then this again gives us good reason to reject what they are saying. Trustworthiness is not
then the same as truth, but it does track truth.\textsuperscript{54}

The fact that this form of deliberation is concerned with truth-tracking via an
evaluation of the trustworthiness of knowledge sources is important for a number of
reasons. Firstly, it allows deliberation to avoid the practical problems facing truth-value
deliberation. Filtering knowledge in terms of truth-values is likely to be very time
intensive as it must attend to each knowledge claim individually. The trust account of
deliberation, however, attends to the institutions expressing knowledge claims and
therefore does not need to attend to each knowledge claim individually. If an institution
is determined to be trustworthy on a subject, then its claims on this subject can be accepted
without necessarily needing to examine each individual claim. Of course, trustworthiness
is evaluated relative to a particular subject matter. Just because a friend is trusted to post
an important letter does not mean they should be trusted to perform open heart surgery.
Similarly, just because a public space institution is determined to be trustworthy in
relation to political science does not mean that they should be trusted in relation to
medical science. If, however, a person or institution is evaluated as trustworthy on a
particular subject, then their claims on that subject can be trusted without the need to
evaluate each individual claim as in the truth-value account of deliberation. Evaluations
of trust are, therefore, less time intensive.

The second and main reason for the move from truth to trust is that it allows
deliberation to filter those forms of knowledge which truth-value deliberation cannot. We
just saw that deliberation would fail to determine the truth-value of knowledge which is
specialised, tacit and situated. This was because determining truth-values requires an
evaluation of the content of knowledge claims, and these forms of knowledge cannot be
understood, expressed, or accessed by deliberators. Deliberation directed towards
evaluations of trust, however, does not face these problems as it does not require an
evaluation of the content of knowledge claims.

To see this, it is useful to consider a non-deliberative example of a doctor and a
patient. When a doctor diagnoses a patient and recommends a treatment, she will do so

\textsuperscript{54} As we saw above, one reason for preferring impersonal reason was because it protected the autonomy of
deliberators. One may therefore worry that trust evaluation compromises autonomy in the procedure. I reply
to such concerns elsewhere (see Benson, 2018C).
by drawing on her specialised medical knowledge acquired through her training, and her tacit practical knowledge acquired through practising medicine itself. In other words, she will draw on knowledge which she cannot fully explain to the patient because it is specialised and knowledge which she cannot express to the patient because it is embodied in her practical experience of diagnosis. The patient is not, therefore, in a position to fully evaluate the truth-value of the doctor's claims. Similarly, to make her diagnosis the doctor will often require the situated knowledge of the patient, which they themselves cannot evaluate in terms of truth-value. For example, their diagnoses may require the patient’s knowledge about the kind and intensity of pain/discomfort they are experiencing. The doctor and patient relationship, therefore, involves knowledge which is specialised, tacit and situated. The reason, however, that this relationship does not break down is that the parties do not discuss on the basis of truth-value alone but rather accept knowledge on the basis of trust. Although the patient cannot assess the knowledge supporting the claim that they have x condition which requires y treatment, they are able to accept and act on such knowledge as long as they trust the doctor. By evaluating the doctor as trustworthy, the patient is able to accept the knowledge claims of the doctor without needing to evaluate their content. They can then act on that claim and all the specialised and tacit knowledge supporting it, without ever engaging with the content of that knowledge. Likewise, if the doctor trusts the claims of the patient, she can base her diagnosis on the patient's situated knowledge without directly evaluating its truth-values.

The example of the doctor and patient allows us to see how trust can deal with specialised, tacit, and situated knowledge. This same logic can then be applied to the more complex case of an epistemic filter attempting to evaluate the knowledge claims which emerge from public space. Trust-based deliberation would attempt to evaluate the trustworthiness of public space institutions rather than the truth-values of their knowledge claims. It would, for instance, look at whether it should accept the knowledge claims of a climatologist given the respective expertise and training, with no need to fully understand their very specialist knowledge. Similarly, it would look to decide whether or not to reject the knowledge claims of a fossil fuel employee given their lack of expertise and/or economic interest, without the need to engage with their knowledge which may be somewhat tacit or situated. By tracking truth-values through second-order consideration about the trustworthiness of knowledge sources, deliberation is able to filter specialised, tacit, and situated knowledge. Of course, this form of deliberation is not fool-proof.
T从容他人总是涉及一种风险,如果这种风险不存在,那么信任就不会被要求。即使在最理想的情况下,也总是存在将信任置于错误来源的风险,因为对知识主张的真值评估也可能被误评。然而,关于信任账户的论辩来说,至关重要的是它允许论辩进入并过滤那种真值账户的论辩将无法在理想条件下处理的特殊知识。这些问题并不突出的是专业化、默示和位置知识,而是表明需要论辩关于信任而不是真理。

3.5 如何评估信任

论辩需要关心关于信任的评估,如果它要提供在更广泛的论辩系统中所需的有效过滤。但目前我们还没有详细研究这些不同的因素。这很重要有两个原因。首先,它将使我们更好地理解通过信任接受知识所涉及的,其次,它将有助于确定哪些人应该参加这种论辩。我们看到,当论辩是关于真值时,包括会取决于知识内容的知识主张的真值,因此会采取微型系统的形式。但现在论辩是关于信任,我们将希望包括那些能够进行有效信任评估的人,因此我们需要更多地了解这种评估涉及什么。

这一部分将论证在信任评估中存在三个主要因素:（1）专业知识，（2）诚实，（3）担保。在考虑这些不同的因素时,这一部分将看看它们如何应用于个人和机构。许多关于信任的哲学文献,特别是社会认知论,往往集中于个人(Anderson, 2011; Collins & Evans, 2008; Goldman, 2001; Guerrero, 2017)。它们从确定哪些个人“专家”值得信赖的角度来看待问题。然而,信任他人知识的问题往往涉及评估机构而不是单一的个人。知识的产生往往是一个集体活动,通常是在特定的机构内进行的,并且知识主张通常代表机构。这在我们在这里发展的论辩系统模型中可以看出来。
institutions in public space have the role of gathering and aggregating knowledge. The task of the epistemic filter in most cases will, therefore, be to evaluate the trustworthiness of institutions rather than individuals.

The first factor relevant to trust evaluation is expertise (Anderson, 2011; Collins & Evans, 2008; Fricker, 2009; Goldman, 2001; Guerrero, 2017; Manson & O’Neill, 2007; Sperber, 2010). This factor concerns the extent to which we can believe an individual or institution actually has the knowledge they claim to have. On the individual level, this would involve considering whether an individual has the training and experience to suggest that they are in a position to know the things they claim to know. A qualified medical scientist, for instance, could be evaluated as being in a position to have knowledge about the effects of certain working conditions on the health of workers, but not in a position to know the role of securitisation in financial instability. This does not mean the medical scientist does not have this information. They may, for instance, have come across such knowledge when having a discussion with a colleague in another discipline. However, they do not have the relevant expertise for others to trust that they have this knowledge. When it comes to formal scientific knowledge, expertise can normally be evaluated in relation to formal qualification or positions. These include things such as PhDs and academic appointments. When it comes to other kinds of knowledge, however, this will not be possible. A member of a local community or local volunteers, for instance, may have knowledge relevant to political issues, but not have gone through any formal training or received any formal qualifications. The same can be said of groups such as indigenous communities whose knowledge can greatly inform environmental policy. Evaluating certain people’s expertise, therefore, involves considering their experience in a particular social or professional practice rather than their formal qualifications.

Considerations of expertise take a similar form at the institutional level. Determining whether an institution has relevant expertise requires one to consider the training and experience of its individual members. Evaluating the trustworthiness of an institution, therefore, requires evaluating more than one individual. It requires looking at how an institution determines its membership and who becomes a member of that institution. An institution such as the IPCC, for instance, can be seen to determine its members in line with experience and expertise in climate science and related fields. Alternatively, the extent to which a campaign group or social movement can be seen to
have expertise on the local effects of a problem may be determined by how open their membership is to those affected. A group which is very exclusive (for example, including only the more educated or wealthy), may not be deemed to have the expertise to talk about the local effects of a social problem generally, while a very inclusive group may. Alternatively, some groups’ exclusiveness may have epistemic benefits as it can promote knowledge which is generally marginalised. A women’s group which focuses on the ways that political problems affect women in particular may allow the group to acquire valuable knowledge which is otherwise missed. At the institutional level then, the factor of expertise involves considering the members of the institution and the ways in which the institution determines its membership.

The second factor relevant to evaluating trustworthiness is honesty (Anderson, 2011; Collins & Evans, 2008; Fricker, 2009; Goldman, 2001; Guerrero, 2017; Manson & O’Neill, 2007; Sperber, 2010). Honesty concerns the extent to which we can believe that an individual or institution is making knowledge claims truthfully. On the individual level, this would involve a consideration of the character, intentions and incentives of the individual. Do they, for instance, have any vested interests in presenting information in certain ways or do they have a history of giving biased or incorrect information? Alternatively, do they act in an explicitly partisan way or do they have a track record of making misleading or incorrect claims? These considerations are also present at the institutional level. Does the institution have interests or bias, for example, because it is founded only by particular kinds of groups? At the institutional level evaluations would also look at whether an institution promotes such biases in its members. Does it, for instance, give them financial incentives or does it use certain hiring practices which bias who gets included? Consideration of trust would also look at whether the institution has been connected to any kinds of malpractice or cases of propagating misleading information. So while the expertise factor is concerned with determining if someone is in a position to have certain knowledge, the honesty factor is concerned with whether they are likely to be expressing it accurately. A research institute concerned with the effects of acid rain or air pollution, for instance, may be evaluated as having expertise if it is made up of appropriately qualified individuals. However, the institute may still not be found to be trustworthy if their funding comes exclusively from big polluting industrials or if they have a record of misusing data or plagiarising the work of others.
The case of scientific research institutions may, of course, be an easier case. Other institutions within public space will have a more explicit political element which can make evaluations of honesty more difficult. Think tanks, unions or social movements, for instance, may lean in a certain direction on the political spectrum, and cannot be seen as neutral actors. Considerations of honesty must then look to see if these political leanings are the result of vested interest or some significant bias, and must judge whether the character of the institution suggests that this political leaning will affect the information they provide. Another way to help deal with these more difficult cases may also be purposefully accepting the knowledge of institutions with the opposite political leaning. If their information is somewhat influenced towards their political position, then this will at least be checked or balanced against the other institution. However, if there is reason to think the institution's information is heavily or completely biased or false then it should be immediately rejected.

As well as consideration of bias and malpractice, the honesty factor is also concerned with the extent to which a person or institution is transparent and open. Do they, for example, open their claims up to the scrutiny by others, through process of peer-review or public debate? Similar, do they make their evidence and data publicly available so it can be used and checked by others in their respective areas? An individual can be taken to be more honest if they adhere to higher standards of openness and transparency, and not if they close themselves and their claims off from the scrutiny of others in public space. This consideration can be particularly important when it comes to evaluating institutions such as think tanks, which may have a political leaning. Evaluating their trustworthiness will involve evaluating whether they are open about their political views and whether they open up their claims, methods and data to other groups who do not share their political leanings. The extent to which an individual or institution meets standards of transparency, as well as considerations of bias and incentives, is therefore relevant to the evaluation of their honesty.

These first two factors of expertise and honestly, are often highlighted as important in evaluations of trustworthiness, although they may go by different names (e.g. Anderson, 2011; Collins & Evans, 2008; Fricker, 2009; Golman, 2001; Guerrero, 2017; Sperber, 2010). Aristotle (1991), for instance, saw them as representing the main epistemic and normative components of trustworthiness. Does a person or institution have the expertise to suggest they have a certain kind of knowledge and do they have the
incentives and character to be expressing that knowledge honestly? Both of these factors are necessary conditions for determining someone to be trustworthy, but neither is by itself sufficient. Knowledge claims should only be trusted if the person or institution expressing them meets both epistemic and normative standards. Someone who is ignorant but honest, or knowledgeable but dishonest, cannot be trusted. Each factor is, therefore, a necessary condition for trustworthiness and failure in terms of either should result in being considered non-trustworthy.

There is, however, a less considered factor which is also relevant to evaluations of trust. This factor is not directly concerned with the epistemic or normative components of trust but rather uses the trustworthiness of others to evaluate an individual’s or institution’s trustworthiness indirectly. This *vouching* factor looks to see if a person or institution is accepted by other persons or institutions which have already been evaluated as highly trustworthy. In other words, it looks at whether other trustworthy sources ‘vouch’ for them. If someone is deemed to be very trustworthy when it comes to knowledge of a particular field, then their evaluation of others is a relevant reason in one’s own evaluation of that third party’s trustworthiness. If I deem the IPCC to be a very trustworthy source of climate science and they accept the work of another scientific institution, then that gives me a reason to be trusting of this other scientific institution. Alternatively, if a think tank is making claims about economic policy but is seen as unreliable and biased by all the other trusted economic institutions, then this is a reason to reject it. In fact, the vouching factor allows some first-order considerations to enter the process as the trusted sources have been judged to have the expertise to allow for some first-order evaluation. Of course, this means the vouching institution must be in a related area. We shouldn’t consider the IPCC’s opinion on the trustworthiness of a social movement who makes claims completely independent of climate science. In the same way as a direct evaluation of trust is always in relation to a particular subject, so are indirect evaluations through *vouching*. Furthermore, the evaluation of just one trusted institution may also not be very weighty on its own. In fact, if that were the case, then it would seem that deliberation would only have to make one direct trust evaluation and then simply follow the judgment of that institution for everyone else. That would not, however, be an epistemically rigorous procedure. That said, if an institution is accepted (rejected) by a number of trusted institutions, then this would be a significant reason to (not) trust it. The vouching
factor, therefore, uses the trustworthiness of others to help evaluate the trustworthiness of another individual or institution.

Unlike the other two, this third factor is not a necessary or a sufficient condition for trustworthiness. It is possible that an individual or institution is determined to be of great enough expertise and honesty that we decide to treat them as trustworthy despite the fact that they are not accepted by other actors. Similarly, it is also possible that an individual or institution is generally accepted but is still evaluated as being too dishonest and incompetent to be trustworthy. These examples may be rare, given that evidence of honesty/dishonesty would normally be a reason for a person or institution to be accepted/rejected generally. However, they show that the vouching factor cannot be logically sufficient or necessary for trustworthiness. Despite this, it will still be a relevant consideration in many, if not most, evaluations of trustworthiness within public space. The acceptance of an individual or institution by other trusted actors in the same area is a reason in support of that individual or institutions trustworthiness. Likewise, the rejection of an individual or institution by other trusted actors in the same area is a reason against that individual or institutions trustworthiness.

We have so far seen three factors which are important to trust evaluations: the expertise, honesty and vouching factors. There are, however, some additional factors which can be found in the literature which need to be considered before we move on. The first of these has to do with the dialogical or argumentative ability of a speaker (Anderson, 2011; Glodman, 2001). When evaluating the trustworthiness of an ‘expert’, it is argued that their ability to make arguments and respond to questions or objections of others is an important way of evaluating if they, in fact, have expertise in an area. If they fail to do such things and therefore lack dialogical ability, then this is a sign that they lack real expertise or authority on a subject. However, there are questions over how this can be done when a person does not themselves have knowledge in the relevant area. As we have already seen, if the knowledge is specialised then it may not be possible for someone without training to evaluate the quality of another’s argument or the extent to which they have meaningfully responded to an objection. For this reason, it is difficult to separate true argumentative or dialogical ability from simple skill in rhetoric or showmanship (Goldman, 2001). Someone may appear to have something to say in response to all objections and to respond to each with confidence, and yet fail to address any of them.
meaningfully. Evaluating dialogical ability without already having knowledge on the subject, therefore, risks confusing showmanship for expertise.

In response to this problem Anderson (2011: 148), suggests that non-specialists can evaluate dialogical ability on the basis of the ‘form’ of an argument and therefore without needing to evaluate the content of the argument. Consider as an example the following exchange between a climate denialist and a climate scientist:

*Climate Denialist:* The climate cannot be warming because we are experiencing more episodes of very cold weather.

*Climate Scientists:* Climate change is causing the mean global temperature to increase while at the same time causing the variance of global temperature to increase. Global warming is, therefore, consistent with more episodes of cold weather.

*Climate Denialist:* The climate cannot be warming because we are experiencing more episodes of very cold weather.

In this case, a non-specialist in terms of climate science can see that the denialist has failed to respond to the arguments of the scientist, without evaluating the content of these arguments. The form of the argument is enough to show that the denialist is failing to respond or even consider the objection. The problem, however, is that this simple case is unlikely to represent most cases of trust evaluation. In most cases, an evolution of content would be required to determine dialogical ability. As long as the denialist attempts to respond to this objection in some way, even in a completely incorrect way, then the form may not be enough to evaluate dialogical or argumentative ability. If, for instance, they had responded by arguing that ‘no climate model predicts that the mean and variance of global temperature will both increase’, they will have responded in form but be completely incorrect in content. Purely considering the form of argument will therefore not be enough in most cases and therefore dialogical ability is not a reliable way of evaluating trust.

Another factor which has not been included here is ‘epistemic responsibility’. Epistemic responsibility is described by Anderson (2011: 146) as concerning whether someone is ‘responsive to evidence, reasoning, and arguments others raise against their beliefs’ and ‘hold oneself accountable to the demands for justification made by the
community of inquirers’. One part of epistemic responsibility is similar to considerations of dialogical ability, which was rejected for the reasons just given. However, epistemic responsibility also includes concerns for the accountability of an individual to the wider epistemic community. This is taken by Anderson to involve things such as, whether they open themselves up for peer-review and public scrutiny. These parts of epistemic responsibility are important to determining trustworthiness. However, these considerations are taken here to fall into consideration of honesty rather than forming a separate factor. Failure to open up to criticism or scrutiny can be taken as a reason to suspect someone’s honesty, in the same way as evidence of misleading statements or the presence of vested interests. Considerations of transparency and acceptability are certainly relevant, but they fall into the factor of honesty rather than forming their own category of epistemic responsibility.

3.6 Mini-System vs Mini-Public

We have now seen that if deliberation is going to provide an epistemic filter, it needs to be based on trust evaluations, and we have seen the three factors most important to such evaluations. Given this, who should be included in such a deliberation? The immediate answer is: those people who can best evaluate trust. Given that the vouching factor is dependent on the ability to first accurately evaluate the trustworthiness on the basis of the first two factors, we can focus on the ability to evaluate expertise and honesty. What then is important to evaluations of expertise and honesty?

On the truth-value approach to deliberation, inclusion was determined in relation to who had knowledge of the content of knowledge claims, and this was why a mini-system was advocated. Trust evaluations, however, consider the characteristics of individuals or institutions, so knowledge of the content of such claims is no longer as important. Of course, having some correct knowledge of the subject under consideration would be relevant to the expertise factor of trust evaluations. Those who are very knowledgeable about medical science will be well placed to evaluate who else has correct knowledge of medical science. Similarly, those with indigenous knowledge will be best placed to evaluate which individuals and institutions also have this indigenous knowledge. However, members of a mini-system are not guaranteed to have correct knowledge on any subject. Representatives of public space are best able to defend the knowledge of the respective institutions, but this does not mean that their institutions have correct
knowledge to begin with. The reason deliberation is required to provide an epistemic filter is that the knowledge claims which emerge from public space will be of different standards and some may, in fact, be completely false. Some of the members of a mini-system will, therefore, have low quality or false beliefs about the subject under consideration which will only lead them astray. Even those in a mini-system who happen to have correct knowledge will also only have knowledge in their respective field. Such knowledge may not, therefore, necessarily be a benefit to evaluating the expertise of others in separate fields. Nor, of course, can we just include only those with correct knowledge as this would beg the question of who really has the correct knowledge, and if this was known we wouldn’t require an epistemic filter in the first place.

Knowledge is no longer a useful criterion by which to determine inclusion. Changing the subject of deliberation from truth to trust has completely changed what good inclusion looks like in epistemic terms. We must then look for another criterion which is more relevant to evaluating the expertise and honesty of knowledge sources. One criterion which is particularly relevant to this is *epistemic independence*. To make an accurate evaluation of someone's expertise and their honesty requires being able to judge them with independence and without bias or prejudice. It requires that only the evidence for their expertise and honesty is considered and the evolution is not influenced by other irrelevant factors. The flip side of epistemic independence is then *epistemic impartiality*. It is to evaluate the relevant features of a person or institution in relation to the evidence, and to the greatest extent possible evaluate any two subjects equally to the extent that the evidence is equal. To evaluate with independence is not to be partial to any particular person or institution being evaluated.

An important aspect of achieving such independence is being removed from close connections or commitments to the subject being evaluated. A close connection to a person or institution causes someone to evaluate that subject in different ways to others and be influenced by irrelevant factors. Normally these influences will create a more positive evaluation of a knowledge source to which people have a connection compared to those they do not. That is, prior connection and commitments will often have the effect – sometimes unconscious – of perceiving the person being evaluated as having greater expertise and honesty than someone who is otherwise equal. The presence of such ‘positive illusions’ or ‘positive biases’, is well documented in the psychology literature. The most immediate place they are found is in studies of self-evaluations (Brown, 2012;
Dunning, Heath, & Suls, 2004). People are found to generally evaluate themselves as above average when it comes to many positive traits. For example, just one per cent of Australian workers believe that their job performance is below average (Headey and Wearing, 1989). Even on issues of chance, such as a coin flip, people tend to evaluate themselves as better at predicting outcomes than others (Langer & Roth, 1975). Positive biases in self-evaluation also include a number of traits which will be relevant to the evaluation of trust. First, people are more likely to evaluate themselves as ‘competent’, ‘capable’ and ‘talented’, and secondly as more ‘virtuous’, ‘moral’ and ‘unbiased’ (Brown, 2012). These two sets of traits map on to the two factors of expertise and honesty which are central to trust evaluation. Self-evaluation is obviously the most extreme case of a lack of independence through having a connection or commitment to the person being evaluated. Similar positive biases have, however, also been found to affect the evaluation of others to whom people have some kind of connection or relationship. In considering the case of evaluating the actions of friends, for instance, Stroud (2006) argues that people will take more time think up favourable interpretation of the evidence or devote more time to scrutinising and defeating unfavourable factors. They are also likely to give extra weight to favourable evidence than they would for a non-friend while giving less weight to the unfavourable evidence. These factors will generally lead people to make much more favourable evaluations of their friends than the evidence suggests they should. The same positive biases have also been found in the evaluation of romantic partners and groups to whom the person evaluating is a member (Polzer, Kramer & Neale, 1997; Murry & Holmes, 1993).

Generally, a connection or commitment to the person or institution being evaluated undermines epistemic independence and causes a lack of impartiality in the evaluation of the characteristics of a person or institution. This new epistemic criterion goes against the ability of a mini-system to provide an effective epistemic filter. A mini-system is made up of representatives of the different knowledge-gathering and aggregating institutions in public space. Its members are therefore partisans in the sense that they all have a close connection or commitment to one or some of the institutions being evaluated. This is not to say that they are all partisans in the sense of having strong ideological commitments to certain political ends. This form of partisanship is independent of the first, although they may often come together. A member of a political party, for instance, will normally have a strong commitment to certain political ends and
a commitment to the political party itself, supporting it even when it takes actions different from those the member favours. This more political form of partisanship will be true of some members of a mini-system, such as representatives of social movements, but not all. Members of a scientific institute which investigates the effect of x chemical on y plant life, for instance, do not necessarily share a common political ideology or a commitment to a shared set of political ends. All the members of a mini-system will, however, be partisans in the sense that they have a particular connection or commitments to certain institutions and not others. This kind of partisanship undermines the epistemic independence and impartiality of a mini-system when it comes to evaluating trust. Its members will be asked to evaluate the expertise and honesty of institutions they themselves are members of, and to whom they have prior commitments and connections. They, therefore, cannot be expected to provide an effective epistemic filter on knowledge claims emerging from public space, when that filter is seen to require trust evaluations.

If members of a mini-system cannot evaluate trust with epistemic independence, then we need another form of inclusion. We want individual deliberators who do not have a strong connection to the institutions of public space. Citizens can possess this kind of epistemic independence. It is not often thought that citizens can play much of a role in determining the kinds of knowledge which should influence political decisions, as this is a task best left to the more knowledgeable. However, although citizens may not have knowledge of the content of knowledge claims, as required for determining truth-values, they do have a level of epistemic independence as required for making effective trust evaluation. Unlike members of a mini-system who come from public space institutions, citizens in the more general population are not members of any particular knowledge gathering institution. They therefore maintain a greater level of independence and impartiality from those institutions they are tasked with evaluating as trustworthy. Perhaps then, the form of inclusion we want is closer to a mini-public than a mini-system. The term mini-public refers to a structured form of deliberation which selects its members through (near) random sortition of the general public. It therefore attempts to be a ‘mini’ representation of the wider public. Usually mini-publics take the form of a deliberative forum, such as a citizens assembly or consensus conference (Smith, 2009). However, we can imagine a number of ways that citizen deliberation could be institutionalised. As was the case for a mini-system, a mini-public may take the form a deliberative assembly, a
citizens jury, some kind of independent board, or it could be integrated into certain bureaucratic institutions.

Whatever form it takes, however, the important factor here is that unlike a mini-system which takes its members from public space, a mini-public takes its members from the more general population. It can, therefore, provide the epistemic independence that a mini-system cannot. Its members have no prior commitment or connection with the knowledge-gathering institutions of public space which must be evaluated for their trustworthiness. This increased level of independence will allow citizens to be more open to the evidence and reasons for and against the trustworthiness of public space institutions, and be able to more fairly and impartially evaluate this evidence. Although they do not study deliberations about trust in particular, experiments in mini-publics lend some support to this idea. It has been found that citizens enter deliberation more open to changing their minds and more open to alternative positions than partisan forms of deliberation (Hendriks et al, 2007). Alternatively, deliberative events containing partisan political groups find that parties are less likely to be open to different views or to change their position because they have strong prior commitments to their groups (Hendriks et al, 2007; Pelletier et al, 1999).

Citizen deliberation may be able to provide the epistemic independence and impartiality which is important to trust evaluations. The process of filtering knowledge claims to be used in empowered political decisions may then include a much greater role for lay citizens than is often thought. An immediate objection, however, is that prior commitments or connections to institutions are not the only things which can undermine epistemic independence. Citizens are not members of public space institutions, but they do have prejudices, biases, and political views which may negatively affect their evaluations of trustworthy knowledge. Perhaps then, citizens will only accept knowledge claims which support their political ideology or only those which come from privileged groups in society. If this is true, then they would fail to live up to any adequate standard of epistemic independence required for an effective epistemic filter. The next section will consider these other sources of partiality and whether they necessarily prohibit effective trust evaluation by citizens.
3.7 Citizens & Epistemic Independence

The first problem facing the independence of citizens has been highlighted by Sanders (1997) and more recently by Fricker (2009). They both argue that evaluations of credibility and authority are highly influenced by the social position, gender and ethnicity of the speaker. Determining whether or not to accept a person’s claims, or to give them weight, will often be explicitly or implicitly affected by how they are perceived by the social group. It will not be done solely on the basis of a speaker’s expertise and honesty, but will also be influenced by such things as the gender and background of the person making the claims. Those from marginalised groups will often be seen to be less credible than those from privileged or advantaged groups simply by virtue of their social positions. A female scientist’s claims about the effects of a public health policy may, for instance, be seen as less credible than the same claims made by an equally well qualified but male scientist. Sanders and Fricker argue that men are generally seen to be more authoritative and credible than women, and therefore more likely to have the claims accepted or supported. This privileging of men may also be greatest when it comes to disciplines or subjects which are traditionally seen as male, such as the hard sciences, politics, and economics. Sanders points to empirical studies on jury deliberations to lend support to the claim that these social influences can corrupt deliberation. Men are, for instance, found to be much more dominant than women in jury discussions and are much more likely to be selected as a head juror. The influences of prejudicial views may be seen as representing particular wrongs or ‘epistemic injustices’ in Fricker’s terms, to those whose testimony is undermined. However, they also present significant epistemic problems to evaluations of the trustworthiness of knowledge sources as they undermine epistemic independence. If such influences are prevalent, then they will lead to evaluations of trust based on irrelevant considerations, such as gender, social position and ethnicity, rather than considerations of a knowledge source’s expertise and honesty. So, although citizens are not members of public space institutions, they may lack independence because they hold, explicitly or implicitly, biases towards certain social groups and not others.

A second problem facing the independence of citizens does not involve biases towards certain social groups, but rather certain political beliefs. Although citizens are not strong political partisans in the sense that politicians or campaigners are, they will still have political views to which they have some strong commitments. Those citizens with, for example, liberal/conservative political beliefs may then lack independence
because they will be more accepting of knowledge claims which are supportive of their liberal/conservative positions or come from liberal/conservative sources. The influence of prior political positions on the acceptance of knowledge is supported by a number of empirical studies in social psychology. A particularly extreme and often discussed example of such influences is known as the ‘backfire effect’ (Nyhan & Reifler, 2010). Researchers observed that in some cases where participants were presented with correcting information for a false belief which they had a strong political attachment to, these participants not only did not accept the correction but actually came to more strongly express the false belief. For instance, indicating that President Obama is a Christian can result in Republican subjects having an even stronger belief that he is a Muslim than they did before the correction. Similarly, when Republicans are presented with information contradicting their belief that the Affordable Care Act did not introduce “death panels” they were found to more strongly believe in their existence (Berinsky, 2015; Nyhan, Reifler & Ubel, 2013). These studies do not, of course, test people’s evaluations in a structured deliberative setting where they have more time for reflection and consideration. However, they do suggest that citizens’ epistemic independence may be greatly reduced due to their prior political commitments. They suggest that rather than being impartial, citizens will tend to accept source and claims based on consistency with their political ideology rather than the evidence for their trustworthiness.

There are a number of things to note about these problems. The first is that they will also affect the deliberation of a mini-system and deliberation about truth-values, and are not therefore confined to citizens’ evaluations of trustworthiness. There is no reason to think that representatives from public space institutions will not also suffer from these implicit social biases or that they will do so to a lesser extent. Similarly, these biases can affect the way that reasons are generally considered and will, therefore, have an effect on deliberation about truth-values as well as trust. Deliberators may, for example, give less weight to the impersonal argument of marginalised groups or individuals with opposing political views. Such problems are therefore ubiquitous. However, even if they are

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55 One could claim that such problems will be greater for the trust approach where evaluation of credibility becomes more significant in the acceptance of knowledge. This may not, however, be the case. Bias and prejudice can be powerful and yet unconscious, and therefore the credibility of a speaker may be significantly undermined even though deliberators aim to evaluate only impersonal reasons for their claims. In fact, making the evaluation of sources explicit may even lower their effect as they force individuals to consciously evaluate a person’s credibility and, therefore, question their otherwise unconscious judgment. However, even if bias and prejudice do turn out to be greater in the trust approach, in what follows it will be argued that such effects can be significantly addressed.
ubiquitous they still produce an important challenge to the ability of citizens to make effective trust evaluations, and therefore still need to be addressed.

The second thing to note about these problems is that they are of a different kind to those facing deliberation about truth-values. Deliberation about truth-values was not able to deal with specialist, tacit and situated knowledge even in ideal conditions. As a result, there is no possibility of addressing them through changes to the structure of deliberation. The problems result from the nature of certain knowledge claims and this cannot be changed by attempting to structure deliberation more ideally. Problems of social bias, alternatively, are not problems in ideal conditions, as they would not affect an ideal deliberative procedure aimed at evaluating trust. This fact is not mentioned in order to retreat into ideal theory or an ideal speech situation. Social biases are real and an important challenge to deliberation which should not be idealised away. However, understanding that they are not challenges to deliberation in ideal conditions allows us to see that they may be addressed or reduced through deliberative design. Unlike the problems facing truth-value deliberation, these problems can be addressed through the structure of deliberation, and there is empirical evidence to suggest that this is the case.

In terms of the influence of things such as gender on credibility evaluations, Fiskin (2009, 2018) has argued that such influence can be significantly reduced by the particular structure of deliberation. For instance, the structural difference between a jury deliberation and a deliberative poll, such as the use of trained moderators and the level of emphasis placed on consensus, are argued to explain why the influence of social positions is much lower in the latter than the former. For example, a study which looked at the influence of such social factors in deliberative polls found that there was no particular pattern of movement towards the positions taken by advantaged or privileged groups (Siu, 2008). In half the cases studied, deliberators moved in the direction of the positions of advantaged groups (white, male and educated), and half the time deliberators moved away from the positions of advantaged groups. This suggests that social influences do not necessarily have to produce a large detrimental effect on the acceptance of reasons and claims, as long as deliberation is structured appropriately. In a more recent study of 21 deliberative pools, Luskin et al (2017) found similar results and concluded that deliberation “barely moves” deliberators “at all toward the attitudes of the advantaged”. This result was again attributed to structural features of deliberative polls and similarly designed institutions, such as the presence of trained moderators. Another structural
feature important to reducing social influences is making sure the deliberating group is diverse, and therefore not dominated by one group. A further set might even be to oversample members of marginalised groups. Increasing the number of women, for instance, may allow their claims to gain acceptance more easily and therefore compensating for social biases within the group. If the result of Si (2008) and Luskin et al (2017) can be generalised, then such oversampling may not be necessary to reduce social bias in deliberation. Factors such as including trained moderators, discussion rules, and placing less emphasis on consensus may be enough to reduce the influence of social bias. If not, however, oversampling is an alternative structural change which could address these epistemic failures in trust evaluations.

Moving to consider the influence of prior political positions, there is also evidence that their effect on deliberation can be reduced through deliberative design. For instance, increase the diversity of the deliberating group can help to reduce bias as it increases the range of reasons and options which are heard in deliberation, and allow deliberators to check one another’s biases (Landemore & Mercier, 2012; Mercier & Landemore, 2012; Mini & Wong, 2017). For example, although one deliberator may be left-wing and support information which either comes from a left-wing source or supports a left-wing position, if they are engaged with other deliberators who do not share their political views then they will have their bias checked as they hear the reasons and views which contradict their own. This is a point noted by Rawls (1971: 358) who argued that ‘the exchange of opinion with others checks our partiality and widens our perspectives’ as it makes us ‘see things from their standpoint’ as well as ‘the limits of our version’. Empirical work has found that politically diverse deliberation is less likely to simply accept one view or polarise/homogenise around one particular view (Chappell, 2001; Fishkin, 2018; Fishkin & Luskin, 2005; Luskin et al, 2017; Mini & Wong, 2017)56.

It has also been argued that increasing empathy in the deliberating group can reduce cognitive biases (Morrell, 2014). If empathy is increased, then people will be less likely only to see things through their own particular viewpoint. They will, therefore, be less influenced by the biases that they bring to deliberation and more accepting of views and information which go against their political commitments. Empathy can be increased for instance, by allowing storytelling as well as rational arguments, and including the

56 Issues of polarisation and homogenisation in deliberation are discussed in more detail in chapter 5.
testimony of those affected by different sides of a debate. Other structural factors such as allowing for compromise and repeated deliberations can also reduce the influence of political positions as it makes it easier for deliberators to accept new information and even change their position on a topic (Mackie, 2006). Empirical studies on mini-publics suggest that people’s prior positions do not completely dominate their acceptance of reasons. Such studies find that people do change their positions as a result of deliberation and that this is mostly caused by being introduced to new information (Goodin & Niemeyer, 2003; Fiskin, 2009; Luskin et al., 2003; Smith, 2009). Including structural factors such as trained moderators and discussion has been found to reduce political bias towards particular positions even within non-diverse and likeminded groups (Grönund et al., 2015).

Evidence from structure mini-publics is supported by a growing literature in cognitive psychology on group reasoning. Studies which point to a large influence of political biases on the acceptance of information have tended to be conducted at the individual level. However, there is increasing evidence which suggests that humans are really group rather than individual reasoners (Mercier & Sperber, 2011, 2017; Sloman & Fernback, 2017). The large effects that are found in studies of individual reasoning may not, therefore, generalise to cases of collective deliberation, particularly when groups are diverse politically. However, even at the individual level, recent studies have argued that the influence of political belief is not as strong as past research suggested, and has raised doubts about particular extreme cases such as the backfire effect (Wood & Porter, 2018). In five studies involving more than 10,100 subjects, participants were presented with factual corrections of false statements made by prominent political figures, such as Hillary Clinton and Donald Trump, on a range of politically charged subjects such as gun control and undocumented immigration. Over 52 different political issues, these studies found that participants across the ideological spectrum were capable of following the correction and changing their beliefs to be more in line with the factual information. This was found to be the case even when this information directly challenged their prior political commitments. Over the five studies, this research also observed no backfire effects where participants became even more committed to a false belief associated with their political position, after being presented with factual information. This new research,

57 For a wider discussion of group reasoning research in relation to deliberative democratic theory see Chambers (2018), Landemore and Mercier (2012), and Mercier and Landemore (2012).
therefore, suggests that the influence of political positions may be less significant than some of the past research suggested, and that very strong effects, such as the backfire effect, are less prevalent than previously thought. In fact, the researchers of this large study concluded that citizens ‘choose just the facts, ahead of their ideology’ (Wood & Porter, 2018: 9).

These studies also lend some indirect support to the claim that citizens are able to evaluate the trustworthiness of knowledge sources, even when strong political factors may be present. What the studies did was present false statements of political figures, such as Paul Ryan and Bernie Sanders, in a mock news article. This article then presented a correction of this false statement citing a neutral source for the correct information (Wood & Porter, 2018). Although the researchers did not interpret the experiment in this way, these studies can be seen to present participants with the task of making trust evaluations of two knowledge sources. The articles they read present them with two alternative sources of information, making alternative knowledge claims about a politically charged issue. The first was a political figure with a clear ideological affiliation, and the second was a more neutral source such as a government statistical body. Now if people allow their political views to adversely affect their evaluations of trustworthiness, then liberals would be found to generally trust the information of liberal political figures, while conservatives would be found to generally trust the information of conservative political figures. However, the result was that participants moved their views in the direction of the more neutral information source. They decided to trust the knowledge claims of the neutral sources, such as an independent statistical body, instead of the source that could be clearly identified to share their political ideology. These studies were also conducted during presidential primary elections and therefore in a particularly partisan political environment. Although these studies again did not investigate trust evaluation in deliberative settings, they at least lend some indirect support to the idea that people are able to identify trustworthy sources of knowledge even when the issues, sources and environment are politically charged.

This section has not argued that social influences such as prejudicial views or political ideology do not or cannot affect citizens’ ability to make trust evaluations of knowledge sources. However, unlike the problems facing truth-value deliberation which apply even in ideal conditions, these problems can be reduced and managed through the structural design of deliberation. As long as deliberation is structured appropriately, these
influences do not necessarily have to significantly undermine a deliberative mini-public’s epistemic independence when making trust evaluations. We can therefore still claim that a mini-public made up of citizens will be better placed to provide an epistemic filter than a mini-system because it has a higher level of epistemic independence.

This will be a surprising conclusion for many. When it comes to deliberation about the quality of knowledge, surely what we need are the more knowledgeable. However, once we recognise that deliberation cannot determine the truth-values of knowledge claims and must make trust evaluations instead, then independence becomes more important than knowledge. Changing the subject of deliberation changes who should be included. Perhaps one would wish to push back and argue knowledge is still relevant and citizens lack it. As Onora O’Neill (2014: 184-5) argues, while ‘those who know cannot judge fairly’, those ‘who can judge fairly know too little to provide an informed judgment’. However, the point of this chapter has been to argue that trust evaluation can be made on second-order consideration of knowledge sources, and therefore does not necessarily require first-order consideration about the knowledge claims themselves. You do not need to be a medical doctor to reliably trust your doctor to treat your illness, nor do you need to know lots about climate science to determine whether to trust the claims of the IPCC. The evaluations of citizens will by no means be perfect, but no procedure can provide a perfect epistemic filter. An alternative objection to deliberation between citizens is not that they are too ignorant, but that they simply cannot deliberate effectively and therefore inclusive forums of deliberation will lack any epistemic value. If this is the case, then we are better off selecting more able and intelligent citizens rather than just any. A reply to these concerns about the ability of citizens to deliberation requires more space, and will be returned to in chapter 5.

3.8 Conclusions

This and the last chapter have explored the epistemic value of deliberative democracy in relation to the epistemic property of knowledge gathering. By exploring the Hayekian case for markets and its limits, the last chapter developed an epistemic account of a democratic deliberative system. It was argued that only a deliberative system model where empowered space took the shape of forums, rather than individual market actors or voters, could explain how different kinds of knowledge could be gather for decision-making. This chapter further analysed the knowledge-gathering properties of this
deliberative system. While finding a number of advantages of a system approach to deliberation over a unitary one, to also found a number of limitations in the way that public space gathers knowledge. These limitations meant that knowledge cannot be taken as given and there is instead a need for an epistemic filter between the knowledge gathering institutions of public space, and the decision-making forums of empowered space.

The chapter went on to consider what kind of deliberation could provide such a filter, and who should be included in it. Through a critique of truth-value deliberation and an argument for the importance of trust, it arrived at the surprising conclusion that citizens can have a significant role in this process. We often think that when it comes to getting quality knowledge into political decision-making what we need are the more knowledgeable, whether they are experts or civil society groups. Once it is realised, however, that the subject of deliberation must be trust and not truth, then this fundamentally changes the epistemic criteria which govern inclusion. Knowledge of the content of knowledge claims ceases to be as important as epistemic independence from those being evaluated as trustworthy. Citizens may not know the content of the knowledge claims which emerge from public space, but they do have the independence to make the second-order evaluations of knowledge sources which are central to filtering knowledge by trust. They can therefore have a much greater role in this process than is normally imagined. As we have mentioned, the role of citizens in helping to determine the trustworthiness of knowledge sources can be institutionalised in a number of different ways and this point will be returned to in chapter 6. What this chapter has claimed, however, is that citizens can play a much more significant role in filtering knowledge for political decision-making than is conventionally thought.

When it comes to knowledge gathering then, this first half of the thesis can conclude that deliberative democracy has strong epistemic value. A democratic deliberative system is able to gather and access diverse and dispersed forms of knowledge, and citizens can play an important role in the process by helping to determine the trustworthiness of knowledge sources. Nothing, however, has yet been said about decision-making itself. Yes, a deliberative system can access the relevant knowledge required for good decision-making, but why exactly should final decisions be taken by democratic deliberation? Perhaps the deliberative system should gather knowledge for economists to take decisions via a cost-benefit analysis, or an aristocratic deliberative
forum. So far then, we only have part of the picture when it comes to an epistemic theory of deliberative democracy. We have seen that it can gather relevant knowledge, but we need to see if deliberative democracy can also make good decisions on the basis of such knowledge and how its compares to its alternatives. Without this part of the picture we cannot make a full assessment of the epistemic properties of deliberative democracy or what role epistemic values can play in a justification of democratic rule. The second half of the thesis will therefore move on to consider the issues of decision-making itself.
4 Decision-Making & the Limits of Rules

The previous two chapters have been concerned with the problem of knowledge gathering. In addressing this problem, they put forward an epistemic model of a deliberative system with an important role for citizens in determining the trustworthiness of knowledge sources before they can come to influence decision-making in empowered space. This chapter moves the discussion away from the issue of knowledge gathering to the problem of decision-making itself. Once we have relevant knowledge for a political problem, there are various ways that decisions could be taken and we are yet to defend the idea that they should be taken in a deliberative and democratic way. This and the next chapter will, therefore, focus on comparing different decision-making procedures and will assume a given set of knowledge which has already been gathered by a deliberative system.

This chapter, in particular, will discuss and critique a prominent alternative to deliberation where the main decision-making procedures are decision rules. Neo-classical economics and decision theory have developed a number of analytical rules which can be followed in order to make rational or correct decisions under conditions of limited knowledge and uncertainty. These decision rules have become common in public policy as they underline key policy tools such as cost-benefit analysis and precautionary principles. Decision rules select between alternative policy options given what is known about their possible outcomes and therefore represent decision procedures which can be applied to political decisions. Despite the fact that they have gained widespread use in public policy, these approaches have generally not been considered by epistemic democrats as an alternative to deliberation (e.g. Anderson, 2006; Landemore, 2013a). When it comes to dealing with value question in public policy, there is a significant literature which engages with these policy tools from a deliberative democratic perspective (Barry, 1999; Jacobs, 1997; O’Neill, 2007; Pascul et al, 2017; Smith, 2003). Epistemic democrats, alternatively, have tended to compare democratic deliberation to more exclusive forms of deliberation, such as autocracy and oligarchy, but not to approaches found in neo-classical economics and decision theory. This restricted set of comparisons limits the insights which can be drawn from an epistemic analysis. Decision rules represent not only an alternative to democratic decision-making but also an alternative to deliberation. Decision-theoretic approaches base decisions on the following of predetermined rules and therefore involve an alternative decision procedure to
deliberation whether inclusive or exclusive. Considering and critiquing such approaches will, therefore, allow us to include a previously ignored but prominent decision-making approach, but also to understand better why decision-making requires deliberation of any kind by comparing it to rule-based approaches.

This chapter will discuss five of the most prominent decision rules and will argue that they face important limitations when it comes to the political domain. General decision rules will be shown to be unable to account for all of the features of political and social problems, and as a result they cannot be relied upon to make good or rational decisions in many cases. This problem is produced because of a significant disconnect between the forums of uncertainty these different rules are designed to deal with, and the forums of uncertainty which often surround political problems. It will be argued that political problems cannot be reduced to a matter of following predetermined rules, and that decision rules cannot, therefore, be our main decision-making procedure. Instead, the chapter will claim that there is a need for some prior process which can exercise judgment in the application and creation of general rules in light of the particulars of the problem actually being faced. Judgment will be defined as a mental activity of applying general rules to particulars and will be argued to be necessary for decision-making in the political domain.

The next section will introduce the decision rule approach to decision-making and the five decision rules which will be considered in the chapter. These rules can be split into two categories: probabilistic rules and non-probabilistic rules. Each type will be taken in turn and argued to face important limitations in their application to political and social problems. A solution to these problems based on meta-rules will also be considered and rejected. After pointing to some ways that decision rules may still be useful despite their limitations, the chapter will then argue that judgment is required in the application of general rules, and that some prior procedure will be required to exercise it. What form such a procedure should take will be an issue for the following chapter. This chapter, however, will end by putting forward an epistemic account of judgment, which will help us to understand how it differs from decision rule approaches. Altogether then, this chapter will critique prominent decision rule approaches to decision-making and suggest that there is a need for a prior or more primary decision-making procedure which can exercise judgment.
4.1 Decision Rule Approaches

The first thing that needs to be recognised when we move to the issues of decision-making is that political decisions will involve dealing with uncertainty. If we had complete knowledge and complete certainty, then from an epistemic perspective selecting the right course of action would be easy. Political problems are hard problems because there is uncertainty surrounding which option is the right one. We cannot perfectly predict the future, and the knowledge gathered by a deliberative system will be incomplete. Political decision-making will then, need to deal with uncertainty about what the right policy is.

Some writers, such as Anderson (2011), have argued that when we evaluate the knowledge claims of ‘experts’ we need to look for consensus, and if consensus does not hold then non-experts should simply reserve judgment. In our context, this would mean that our epistemic filter would only trust those knowledge claims which have reached consensus in their respective field. Anderson points to the consensus among climate scientists about the presence of anthropogenic climate change as a key example of when consensus merits the acceptance of knowledge claims. However, when it comes to decisions about public policy, consensus knowledge will often not be enough. Political problems require action to be taken and there is not always time to wait until all the facts are in and agreed upon, even if such as state can be reached. Take Anderson's example of climate change. There is certainly a consensus among climate scientists that the climate is warming and that human-produced emissions are the key driver behind these changes (Anderegg et al, 2010; Doran & Zimmerman, 2009; Oreskes, 2004). Beyond this, however, there is significant disagreement, for example, about the level of warming that will actually occur and the regional impacts this warming will have (Kriegler et al, 2009; IPCC, 2013; Zickfeld et al, 2010). It is not possible to make decisions purely on the basis that anthropogenic climate change is happening. Rather we need information about the rate of such changes, their magnitude, and where they will fall. Over these factors, however, there is much more uncertainty and disagreement. Given the size of the potential harms, we cannot wait for consensus to emerge but must instead deal with this uncertainty.

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There may be non-epistemic reasons which make decision-making difficult even when there is complete certainty, such as the presence of incommensurable values.

Expert consensus is only epistemically valuable to the extent that it is founded on good reasons. We must, therefore, have grounds for believing that consensus in any particular expert community will likely be founded on good reason and not significantly influenced by other factors.
This is not only true of climate change but all kinds of public policy decisions where knowledge is limited, and there is disagreement over the impacts of alternative policies.

There may often be some form of second-order consensus. Second-order consensus refers to a consensus about the presence of uncertainty and its ranges. For example, climate scientists may disagree about the expected temperature rise resulting from human emissions but agree on the fact that temperature increases are uncertain and no one individual can truly know what they will be. There may, therefore, be no first-order consensus about the level of temperature rise but still second-order consensus about the fact that there is this uncertainty. Recognising the presence of second-order consensus is helpful for understanding political problems and particularly if there is second order-consensus about the range of uncertainty. For example, there could be uncertainty about temperature rises between x and y degrees, or that economic growth is likely to fall between y and z. However, acting on second-order consensus still requires that decision-making deals with the uncertainty about which there is this consensus.

Political decision-making must, therefore, be able to account for uncertainties. One prominent approach to decision-making under uncertainty comes from neo-classical economics and decision theory. These disciplines have developed a number of decision rules which are designed to select between alternative policies in the presence of uncertainty. Decision rules are predetermined general rules which can be followed in practical situations in order to arrive at decisions which are rational or correct. They are decision procedures which determine which course of action should be taken in a particular situation. Below are five of the most common decision rules which will be considered in this chapter:

*Expected Value Rule*: Choose the policy which maximises expected value

*Maximin Rule*: Choose the policy which minimises the worst case outcome

*Maximax Rule*: Choose the policy with maximises the best case outcome

*Minimax-Regret Rule*: Choose the policy which minimises the maximum regret.

*Robustness Rule*: Choose the policy which is robust or is the most robust

Each rule and how it is applied will be explained further below. For now, however, it is important to see that these decision rules are general rules which determine which course
of action should be taken in a particular situation and can be applied across many political problems. The decision rules are therefore decision procedures in this approach. They rank, and select between, alternative policy options and thus determine the outcome of a decision. As a result, decision-making on this approach becomes a matter of rule following. It is reduced to the following of predetermined rules which select between alternative courses of action in particular situations given what is known about that situation.

The five rules considered here can be separated into two types. The first are probabilistic rules which require that probabilities be assigned to different scenarios and include the expected value rule. Such probabilistic rules have found a significant role in public policy as they form the basis of common policy tools such as cost-benefit analysis. Simply, cost-benefit analysis is a form of economic calculation which attempts to calculate the expected costs and benefits associated with a problem and with different policies aimed at addressing it. The expected values of these alternatives policies can then be compared in order to select the most efficient policy. Since the 1980s, cost-benefit analysis has become one of the most dominant policy tools. In the United Kingdom, for instance, cost-benefit analysis became a mandatory requirement for ‘all new policies, programmes and projects’ with the introduction of government’s Green Book, while in the United States it became mandatory under the Reagan administration for all major government regulations (HM Treasury, 2003; Smith, 2003). The second type of decision rules are non-probabilistic rules, which include all but the expected value rule. These rules do not require probabilities to be assigned to different scenarios and include the other four rules listed above. Non-probabilistic rules have also found a significant role in public policy decision-making as many of them have been taken to define versions of the precautionary principle (Chisholm and Clarke, 1993; Gardiner, 2006; Hansson, 1997, 1997; Doyen & Pereau, 2009). The precautionary principle is widely supported as a key principle for policymaking under high uncertainty. In its general form, it is taken to advocate action to prevent harm even when there is significant uncertainty surrounding

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60 The rules can also be separated into those which may require cardinal values, such as expected value and minimax-regret, and those which only require ordinal values, such a maximin and maximax. The chapter will generally not take issues with these requirements. However, these value requirements do have an effect on what can be taken as the independent standards of correctness which does limit these approaches.

61 The one rule considered here which has not been adopted as a definition of the precautionary principle is maximax rule. As will become clear, the maximax rule is unlikely to recommend precautionary polices.
that harm and has received much support and attention particularly in environmental policy debates (for an overview see McKinnon, 2012; Steel, 2015 and Sunstein, 2005).

Irrespective of whether they are probabilistic or non-probabilistic, however, all five decision rules are designed to deal with decisions where there is no certainty about either current or future states of the world, and all aim to determine which policy should be taken. They all, therefore, represent decisions procedures or mechanisms for political problems. The following sections will discuss the two types of decision rules in turn, and the particular limitation each type faces when it comes to political problems.

Before doing this, however, something needs to be said about the problem of ignorance. The rest of this chapter will focus principally on two forms of uncertainty, weak uncertainty and strong uncertainty, which will be defined further below. There is, however, another deeper form of uncertainty known as ignorance. Ignorance generally refers to unknown unknowns (Wynne, 1992). It refers to future scenarios which cannot be unforeseen at the point of decision-making. When chlorofluorocarbons were first produced, for instance, the idea that they could negatively impact the earth’s ozone layer was not even a known possibility. Such a future scenario was an unknown unknown as it was unforeseeable when it came to early decisions about regulation. The problem of ignorance faces any political decisions as there may always be unknown scenarios. The problem, however, is that no decision rule can account for ignorance. We cannot know what we do not know, and therefore no decision rule can take unknown scenarios into consideration in any meaningful sense.

There are, however, two general approaches to dealing with the problem of ignorance, both of which are valuable and both of which can also help deal with other forms of uncertainty. This first of these is to keep decisions flexible. Given that there may be unknown factors down the road which may affect the performance of a policy, whichever policy is chosen it should be left open to revision at a later stage. This flexibility allows a policy to be changed or altered as new and unforeseeable factors emerge. Decision-making should avoid policy lock-in or path dependency where a policy become very costly to change once enacted. The second approach to the problem of

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62 Ignorance is also known as ‘total ignorance’ (Walker et al, 2003).
63 This has also been referred to as ‘adaptive management’ (Norton, 2005). Doyen & Pereau (2009) also argue that keeping policies flexible should not increase the costs.
ignorance is to increase the number of decision-points. Given that there are unknown factors which can affect the outcome of any policy choice, it can be beneficial to have a greater number of decisions being taken. If an unforeseen factor turns out to affect the success of one decision, it may not affect other decisions. By increasing the number of decisions and policies taken, the chance is reduced that some unknown future event causes all of them to fail. The approach is, therefore, equivalent to ‘not putting all your eggs in one basket’. The deliberative system model developed in the previous chapters can help to deal with the problem of ignorance in this very way. This model includes a number of decentralised deliberative forms rather than just one and, therefore, includes multiple decision points\textsuperscript{64}.

Although increasing the number of decisions can help to deal with the problem of ignorance, this approach does not help us determine how decisions should be taken within any one decision point. It does not tell us how decisions should be taken under conditions of uncertainty, but only that there should be more decisions. A similar thing can also be said about the flexibility approach. Flexibility is certainly helpful for dealing with an uncertain future, but it tells us only that we should keep a chosen policy open to revision, and not how we should select this chosen policy in the first place. These two strategies may place constraints on how we take decisions, but they do not tell us how we should actually make decisions about which policy to select. Decision rules, however, attempt to provide an answer to this latter question. They represent particular decision-making mechanisms designed to arrive at particular policy options under conditions of uncertainty.

4.2 Probabilistic Rules

The main probabilistic decision rule is the \textit{expected value rule}. This rule deals with uncertainty by assigning probabilities to the likelihood of different possible scenarios in order to compare the expected value of alternative policies. A policy’s expected utility is a function of both the value of its future outcomes and the probability of those outcomes occurring (Hansson, 1994). If the winner of a coin flip gets £50 then the expected value

\textsuperscript{64} These chapters also demonstrated that there are epistemic limits to decentralisation and the number of decision points which should be preferred. Having a very large number of decision points, as in a market, increases the challenges associated with communicating knowledge to decision-makers. So although increasing the number of decision points helps deal with ignorance it is not necessarily an advantage to always increasing their number.
of that flip, given the probability of winning is 0.5, is £25. The expected value rule then states that the policy option with the greatest expected value should be chosen over the others. The expected value rule is most commonly known as the ‘expected utility rule’ (Hansson, 1994). This is because this rule is mostly used within neo-classical economics and decision theory which normally assume a utility account of value, often expressed in monetary terms. Here, however, the term ‘expected value’ is used in order to leave open which value metric should be used in decision-making. Although cardinal values will often be required in using this rule – apart from simple cases – there is no need to assume that values refer to utility in either a hedonic or preference satisfaction form. There is a range of value metrics which could be used, and we can remain agnostic on the preferred one.

When applied to policy decisions, the expected value rule would determine the probability of alternative scenarios and then use these to calculate the expected costs and benefits (defined by the value metric used) of each policy option. It would then compare these alternatives and select the one with the greatest expected value. A simple policy example can help to illustrate its use. Imagine a city which has two rivers, the West River and the East River, both of which may flood this year. The probability that the West River floods is 0.7 and flooding in that area of the city will cost £10,000. Alternatively, the probability that the East River floods is 0.2 and flooding in that area of the city will cost £30,000. Now the city council has to make a decision about whether to build a flood wall on the West or East River both of which cost the same amount. The expected value rule states that the policy with the highest expected value should be adopted. According to this approach then, the city council should build a flood barrier on the West River as its expected value (0.7 x £10,000 = £7,000) is greater than the expected value of building a barrier on the East River (0.2 x £30,000 = 6,000).

The expected value rule can also be applied to much larger and more complex problems than this simple example. As the basis of cost-benefit analysis, for example, the rule has become one of the most common policy tools in environmental policy. Cost-benefit analysis attempts to calculate the costs associated with an environmental problem, such as biodiversity loss, air pollution or deforestation, and the expected benefits of alternative policies designed to prevent or reduce them. It then compares the expected value of these policy options and dictates that the option with the greatest expected value should be chosen. Perhaps the most famous example of this is the Stern Review (2006).
The Stern Review was a cost-benefit analysis of anthropogenic climate change which attempted to determine the costs (in terms of utilities with monetary units) associated with future temperature changes. It concluded that these costs were equal to a 5% loss in global GDP and a possible 20% or greater loss if a wider range of risks were accounted for. Other uses of expected value aim to calculate the ‘social cost of carbon’, which represents a monetary value of the damages caused by releasing one additional tonne of carbon at any point of time (Pearce, 2003). Nordhaus (2014), for instance, estimated that the social cost of carbon for the year 2015 was $18.6 per ton.

Cost-benefit analysis has been common in environmental policy. However, this is by no means the only policy areas where it has gain widespread use. As mentioned above, the policy tool has even become a mandatory part of policymaking in some countries. Every political problem, from health policy to infrastructure projects to education reform, can be defined in terms of its costs and benefits. They can, therefore, all be the subject of a cost-benefit analysis. Probabilistic decision rules, such as the expected value rules, are therefore said to have universal application across political and social problems.

4.3 The Limits of Probabilistic Rules

There are, however, important limitations to the expected value rule, and other probabilistic rules when it comes to political decisions. This section will argue that these rules cannot account for all features of political and social problems and as a result, cannot be relied upon to make good or rational decisions in many cases. These issues stem from the particular forms of uncertainty these rules are designed to deal with and the fact that political problems will often confront alternative forms of uncertainty. The result of these issues is that probabilistic decision rules cannot be the primary decision-making procedure for political decisions.

Probabilistic decision rules are only effective in cases of weak uncertainty. Weak uncertainty refers to a situation where future events are not certain, but all the possible outcomes are known, and their respective probability distributions can be defined. A coin flip is a clear example of this form of uncertainty. There are two outcomes (heads or tails) with clear probabilities (0.5). Weak uncertainty is also known as ‘statistical uncertainty’.

65 These calculations are dependent on other factors than just the probability and value of costs. For example, they also depend on the discount rate applied to future costs. The Stern Review famously adopted a low discount rate which led it to predict higher future costs than other studies (Nordhaus, 2014; Tol, 2008)
or ‘risk’ (Knight, 1921; Spash, 2005; Walker et al, 2003; Wynne, 1992). Probabilistic rules, such as the expected value rule, are only effective when there are weak forms of uncertainty because they require accurate probabilities in order to make good decisions. In order to select the policy with the highest expected value, accurate probabilities must be determined and assigned to the outcomes of alternative policies, and to current and future states of the world. Without well-defined probabilities, the rule cannot be relied on to make effective decisions as expected values by which it compares alternative policies will not be an accurate representation of reality. Probabilistic rules can only be relied upon if probabilities can be assigned with some level of accuracy.

The problem, however, is that many political problems experience deeper forms of uncertainty than weak uncertainty. Weak uncertainty only applies to problems where we have high levels of understanding about the problems being faced and the systems in which they are embedded. The kinds of systems in which political problems are embedded, whether they be social, economic, or environmental, are however often highly complex and not very well understood. The result of this is that such problems will often, although not always, exhibit forms of strong uncertainty. Strong uncertainty refers to a situation in which the future is unknown, but there are a number of future scenarios to which probabilities cannot be accurately assigned. We know that there is a set of possible futures, but the complexities of the problem and its circumstances mean that well-defined probabilities cannot be assigned to them. This kind of uncertainty is also known as ‘scenario uncertainty’ or just ‘uncertainty’ as opposed to risk (Knight, 1921; Spash, 2005; Walker et al, 2003; Wynne, 1992). When political problems display strong forms of uncertainty, then probabilistic rules will no longer be able to make good decisions, as the accurate probabilities on which they rely cannot be calculated. There will be a disconnect between the form of uncertainty the decision rule is designed for, and that which actually surrounds the features of the political problem in question. Many political problems will have features which cannot be represented probabilistically, and they will, therefore, exhibit strong uncertainty. Probabilistic decision rules will be unable to account for these features and will fail to make rational or good decisions in such cases.

Take, for example, climate change policy where, as we have seen, probabilistic decision rules have found considerable support. An important variable in this area is climate sensitivity. This refers to the change in global mean surface temperature, at equilibrium, which will occur in response to a doubling of atmospheric concentration of
carbon dioxide (IPCC, 2013). This variable is crucial to decision-making as it helps determine how much warming, and therefore how much damage, can be expected. Without it, we would not be able to calculate the expected costs of climate change and therefore the expected benefits of climate policy. Because of its importance, there have been many attempts to assign a probability distribution to climate sensitivity. Predicting methods such as probability distribution, however, require models which are based on an accurate description of the systems being studied, an accurate understanding of physical mechanism within those systems, and date inputs which are reliable representations of the circumstance being studied (Walker et al, 2003). The problem, however, is that the environmental systems relevant to climate sensitivity – such as the atmosphere, oceans, snow and ice, land cover, and the biosphere – are highly complex and have a number of features which produces large ambiguity in estimates of climate sensitivity. These features include ‘multiple driving forces, strong feedback loops, long time lags, and abrupt change behaviour’ (Steffen, 2013: 22).

For instance, changes in these systems are caused by multiple drivers, often operating in opposite directions and to different time scales. Changes in mean global temperature, for instances, can be caused by solar and volcanic activity as well as human emissions, and the effect of greenhouse gases occurs over centuries (IPCC, 2013). There is also the presence of negative and positive feedback mechanisms which create non-linear causal relationships where impacts may not be clearly proportional to changes in drivers. Warming, for example, causes the melting of sea ice which reduces the amount of sunlight reflected off the earth’s surface which further increases warming. Abrupt changes can affect these systems due to uncertain ‘tipping points’ or ‘thresholds’ being reached. For instances, the Amazon could undergo a rapid transformation from rainforest to savannah or grassland, if warming or human deforestation reaches a critical level (Steffen, 2013). There are many unknowns surrounding these tipping points which make predicting when they will be reached highly problematic. Consider, for instance, carbon sinks and sources. Carbon sinks currently absorb over half of the anthropogenic carbon emissions, but it is not known how their future behaviour may change. In terms of sources, new emissions sources, such as large methane stores in permafrost, could be released at some unknown time causing sudden temperature increases. Finally, abrupt and possibly catastrophic changes can be caused by certain ‘wild card’ events. For example, the West
Antarctic ice sheet could completely melt due to temperature increases which could lead to a sea level rise of over 8 metres (Dessai & Van der Sluijs, 2007; Titus, 1986).

These features of environmental systems mean that it is difficult to model climate sensitivity and make accurate predictions about its probability distribution. Figure 4 represents a number of estimated probability distributions for climate sensitivity which have been collated from various studies by Meinshausen et al (2009). As we can see, there is significant disagreement between these probability distributions. Although there is a rough agreement between models around 3°C, there is large disagreement about the possibility of higher temperatures. For example, the probability of climate sensitivity exceeding 4.5°C varies from less than 2% to over 50%. When these studies are taken together, we can see that there is no clear probability estimate for this climate variable and there is large amount of ambiguity between estimates. This is problematic for probabilistic decision rules such as the expect values rule. Without an accurate probability distribution, the expect value rule cannot be relied on to make effective decisions as the probability distributions on which it is based cannot be taken as accurate representations of reality. The large difference between policy distributions actually means that such rules will recommend vastly different policies depending on the probability distribution which

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66 Also see Millner et al (2012)
is used. Probabilistic rules cannot be followed to produce rational or good decisions in this case, and the particular course of action they choose will differ radically depending on the estimate selected. The issue is that probabilistic rules are designed for weak uncertainty, but the problem of climate change exhibits forms of strong uncertainty where accurate probabilities cannot be assigned. It should also be noted that climate sensitivity is a variable at the global level where climate models are at their most reliable. Climate models are less capable at the continental, regional and local scales, so the uncertainty surround probabilities will be even greater at smaller scales\textsuperscript{67}.

Probabilistic decision rules cannot, therefore, be relied on in the case of climate change\textsuperscript{68}. Not all the features of this problem can be represented by accurate probabilities, and therefore these rules will fail to account for these features. Because climate change is such a wide-ranging issue, these problems will affect public policy decisions in a wide range of areas. The problems facing probabilistic decision rules are not, however, confined to political decisions connected to complex environmental systems. The social and economic systems also exhibit many of the same complex features that environmental systems do, and therefore problems of assigning probabilities will be prevalent in these areas as well. In fact, the complexities and uncertainties within social and economic systems are part of the reasons for difficulties in predicting environmental change which is dependent on economic activity and government policy.

Consider, for instance, making predictions about further economic growth rates. Predicting growth rates, particularly in the long term, involves dealing with the economic and social systems which exhibit many of the same features as environmental systems, such as multiple driving forces, strong feedback loops, long time lags, and abrupt change behaviour. There are a number of forces, such as technological change, productivity growth, government spending and financial regulation, which can increase growth rates and many that can surprise it, such as government corruption and the determination of different political or legal institutions. Predicting growth rates with accuracy, therefore, involves making assumptions about these different drivers and suppressors of growth.

\textsuperscript{67} Knowledge of these smaller scales is crucial for determining the expect cost of climate change. Alone, changes in global mean temperatures say little about the impacts of climate change. Instead more local knowledge is required, such as regional temperatures changes, the frequency of extreme weather events, rates of precipitation, and characteristics of local ecosystems (Spash, 2005).

\textsuperscript{68} Defender of precautionary principles, such as those discussed in the next section, also often argue for this conclusion (McKinnon, 2009; Shue, 2005)
This creates uncertainty in the assignment of probabilities to growth rates and can make them highly dependent on the assumptions which are actually made (Christensen et al, 2018). Determining, for instance, whether there will be a leap forward in productive technologies and therefore productivity over the next few years or decades cannot be done with any level of precision. Economic systems also experience strong feedback loops particularly because investment is often based on expectations. For instance, if there is a boom in growth, then this increases market confidence which then increases investment and further increases growth. Alternatively, if there is a downturn, this decreases confidence and investment and therefore further decreases economic activity. As is the case with environmental systems then, economic and social ones also exhibit feedback mechanisms when can produce disproportionate changes from different drives. These mechanisms can also cause abrupt shocks in the systems and therefore large changes in what is being predicted. Other sources of sudden shocks to economic growth include unexpected political crises, international or domestic conflict, and natural disasters (Christensen et al, 2018). Although these shocks will cause very large changes in what is trying to be predicted, they cannot always be foreseen. The assignment of probabilities to different economic scenarios will, then, face many of the same problems as assigning probabilities to climate scenarios. Finally, economic and social systems also involve the actions of many different human and institutional actors. Determining the outcome or effect of any one event or policy therefore requires making assumptions about how different actors will react to it and possibly how other actors will then react to them.

All of these factors lead to significant uncertainty in economic predictions and significant differences between predictions of different models (Christensen et al, 2018; Morgan, 2018). Long term economic growth is, however, an important variable in many different areas of public policy. Problems in assigning probabilities to growth will therefore create significant problems for probabilistic decision rules across a large range of political and social problems. Determining policy around social security or health care, for instance, will be dependent on economic growth in terms of how such policies are funded but also the extent to which they will be demanded. Economic scenarios are also highly relevant to decisions around economic policy, infrastructure policy, and tax policy. All these decisions will, therefore, involve aspects of strong uncertainty which cannot be captured by probabilities as required by decision rules such as the expected value rule.
There will be certain features of these problems which cannot be accounted for by probabilistic decision rules.

Defenders of probabilistic rules may attempt to deal with ambiguity in probability estimates in a few different ways. Firstly, they may argue that for the purpose of decision-making the most valid or accurate probability estimates should be selected, and decisions can be based on that single best prediction. Alternatively, they may argue that an aggregate of different estimates could be made, and this aggregate probability distribution can inform decision-making. The problem with these responses, however, is that it is difficult to determine which estimate is the most reliable or how they can be effectively combined. Consider climate sensitivity again. Each study of climate sensitivity is based on different climate models which represent different understandings of the climate system, different data and different statistical methodologies. Deciding which has more validity requires some metric of model performance relevant to predicting the future. However, there is not one definitive metric for doing this, and it is unclear which factors are most important for model reliability (Tebaldi & Knutti, 2007). The different methodologies and assumptions in the models also mean that it is difficult to know how such studies should be combined and there is not a clear method for doing this (Tebaldi & Knutti, 2007). The similarities the models do have also make it unclear whether our confidence should increase with aggregation, as the models cannot be thought of as independent. The aggregation solution has another problematic consequence. Combined estimates have been found to reduce consideration for more extreme scenarios which have significant costs. For instance, different predictions indicate a substantial probability of climate sensitivity above 4.5°C. However, these temperatures are mostly missing from multi-model predictions (Tebaldi & Knutti, 2007). In terms of decision-making the possibility of high-temperature and high-impact scenarios is an important consideration for mitigation and adaptation policy. However, if decisions are based solely on an aggregated estimate then decisions may fail to be responsive to these possibilities.

A third possible response to the ambiguity in probability estimates involves moving away from model predictions. On this solution we should abandon the estimates of models, and instead base decisions on subjective probabilities. Subjective probabilities are a person’s, normally a relevant expert’s, best estimate of the probability of an event, given their information (Spash, 2005). In terms of climate sensitivity, this would involve accessing the subjective probabilities of climate scientists about the temperature increases.
Alternatively, for something like long-term economic growth it would mean relying on the subjective assessment of relevant economists\textsuperscript{69}. However, the main problem with this response is that subjective probabilities can be affected by all the same complexities and uncertainties that cause models to produce ambiguous estimates. Studies which elicit assessments about future temperature changes, for instance, have found significant disagreement (Kriegler et al., 2009; Zickfeld et al., 2010). Although there is more agreement surrounding lower levels of climate forcing, disagreement increases when predictions are made about higher levels, and there is also disagreement about the factors which are contributing to their uncertainty. The subjective probabilities of economists when it comes to long run economic growth have also found considerable disagreement and large uncertainty (Christensen et al., 2018; Gillingham et al., 2015)\textsuperscript{70}. A solution to this disagreement in subjective probabilities may be to push experts to come to some form of consensus. However, this faces similar problems to aggregating models, as it often risks excluding extreme scenarios around which consensus is difficult to achieve (Stirling, 2010). A move to subjective probabilities does not, therefore, do much to address the problems facing probabilistic decision rules.

The difficulties facing the assignment of probabilities in certain political and social problems will create problems for those public policy tools, such as cost-benefit analysis, which are based on probabilistic decision rules. Stirling (1997, 2010), for instance, has collected and compared a large number of cost-benefit studies which have to attempt to calculate the expected costs, for example to public health, of different energy technologies. Although this is an area where such analyses are highly developed and individually studies present precise estimates of expected costs, when they are brought together these studies were found to have considerable differences. Their expected cost predictions were seen to span ‘many orders of magnitude, and the overlapping uncertainty ranges’ could support ‘almost any ranking order of technologies’ (Stirling, 2010: 1030). There was considerable disagreement between studies about the expected costs of alternative technologies to the extent that a selection of particular estimates could be used to advocate almost any policy option. Policy tools based on probabilistic decisions rules cannot be relied on to make good or correct decisions in cases such as this. In fact, policy

\textsuperscript{69} For a general discussion about the limits of expert prediction see Tetlock (2005).

\textsuperscript{70} There is also evidence that people, including experts, are systematically overconfident, so it may be that the amount of uncertainty in these studies of expert elicitation is underestimated (see Morgan, 2018)
tools may be able to advocate almost any policy given the large ambiguity in their estimates. Although the differences between the studies collected by Stirling will not be initially reducible to the problem of assigning probabilities, this example helps us to see the significant problems facing probabilistic decision rules when forms of strong uncertainty are present. Ambiguity in assigning probabilities means that such rules cannot be relied upon to make rational or good decisions when strong uncertainty surround certain features of a problem.

This is not to say that there will not be some political and social problems, or some aspects of these problems, which can be captured by probabilities. In such situations, a probabilistic rule such as the expected value rule may well be helpful in leading to a good decision. However, given that there will be many features of such problems which cannot be assigned accurate probabilities, probabilistic decision rules cannot be relied on to make good decisions in many cases. Such rules cannot account for these features of political and social problems and cannot be relied on to make rational or good decisions when they are present. As a result, probabilistic decision rules cannot be the primary decision-making procedure for political problems.

4.4 Non-Probabilistic Rules

The last section explored the limitations of probabilistic decision rules when it comes to the political domain. Perhaps non-probabilistic decision rules are therefore a better alternative. These rules do not require probabilities to be assigned to future states of the world but instead compare the performance alternative policy options across a range of possible future scenarios to which probabilities do not need to be assigned. For instance, different levels of global temperature rise can be seen as different possible scenarios, and the performance of alternative climate policies can be evaluated under each scenario. Alternatively, the range of possible scenarios may account for a range of different possible economic conditions. This range of scenarios is known as the scenario set and can be combined with alternative policy options to produce a decision matrix. Non-probabilistic rules then compare the performance of alternative policies within the scenario set and apply their distinctive rules in order to select the best policy. These rules are often taken as definitions of the precautionary principle which have gained significant support in policy debates (McKinnon, 2012; Steel, 2015; Sunstein, 2005). This section

71 Some differences may be due, for instance, to a different choice of discount rate.
will introduce four of the most common of these non-probabilistic decision rules and how they can be applied to political decisions. These are the maximin, maximax, minimax-regret and robustness rules.

A simplified policy decision, represented in matrix 1, can help to illustrate the different rules. In this example, a small town faces the possibility of flooding from a local river. In scenario 1, there will be heavy rainfall resulting in extensive flooding. This extensive flooding will submerge the whole town producing, from the perspective of the town itself, catastrophic costs (c). In scenario 2, however, rainfall will be much lower resulting in only moderate flooding with only moderate costs (e). There are also two policy options the town can take to deal with this problem. The first is the ‘do nothing’ policy which has zero costs but will not prevent any flooding. The second is the ‘flood barrier’ policy which will stop flooding of any amount but has its own construction costs (p). The cost of the flood barrier is less than the costs of extensive flooding but more than the cost of moderate flooding (c > p > e > 0).

<table>
<thead>
<tr>
<th>Matrix 1</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Barrier</td>
<td>p</td>
<td>p</td>
</tr>
<tr>
<td>Do nothing</td>
<td>c</td>
<td>e</td>
</tr>
</tbody>
</table>

The maximin rule states that the policy which minimises the worst case outcome should be chosen (Gardiner, 2006; Hansson, 1997). The chosen policy should have the best worst-case outcome across the different scenarios. In our example, the worst outcome for the ‘do nothing’ policy is extensive flooding (c) while the worst-case outcome for the flood barrier policy is equal to the barriers construction costs (p). Given that the catastrophic costs of extensive flooding are greater than these construction costs (c > p) the maximin rule selects the ‘flood barrier’ policy. The maximax rule alternatively, states that the policy which maximises the best case outcome should be chosen. The chosen policy should be the one with the best outcome across the different scenarios. Applied to the town's decision, the maximax rule will choose the ‘do nothing’ policy because its best outcome of moderate flooding (e) is better than the best case outcome of the ‘flood barrier’ policy (p>e).

The minimax-regret rule differs from the last two rules as it focuses on regrets rather than absolute costs. The regret associated with a policy is the difference between
the cost of that policy in a scenario and the cost of the best policy in that scenario. Matrix 1.1 gives the regret values for our simple example. For instance, the regret of the ‘flood barrier’ policy in scenario 1 is zero because it was the best policy in that scenario. However, the regret of the ‘do nothing’ policy in scenario 1 is its own costs (c) minus the costs of the best policy in the scenario (c-p). The minimax-regret rule then states the policy with the smallest possible regret should be chosen (Chisholm & Clarke, 1993). In this case, the largest regret for the ‘flood barrier’ policy is p-e while it is c-p for the ‘do nothing’ policy. Given that the costs of catastrophe are so great we can assume that c-p > p-e and therefore the minimax-regret rule would choose the ‘flood barrier’ policy.

<table>
<thead>
<tr>
<th>Matrix 1.1</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Barrier</td>
<td>0</td>
<td>p-e</td>
</tr>
<tr>
<td>Do nothing</td>
<td>c-p</td>
<td>0</td>
</tr>
</tbody>
</table>

The final decision rules are robustness rules (Doyen & Pereau, 2009; Lempet et al, 2002, 2004, 2006). Robustness rules compare policies on their ability to meet a predetermined performance or safety target. A certain target must first be set, and then policies are compared by the number of scenarios in which they achieve or meet this target. Robustness rules can differ in a couple of ways. Firstly, the target can either be set in terms of costs or regrets. Secondly, robustness can be defined as either categorical or scaler. On the categorical account, a policy is robust if it achieves the given target in all possible scenarios and is not robust if it does fail to meet the target in any scenario (Doyen & Pereau, 2009). A policy is, therefore, either robust or not robust. Alternatively, on a scaler account, a policy can be more or less robust based on the number of scenarios in which the target is achieved (Lempet et al, 2002). The robustness rules would then choose the policy with the highest level of robustness as defined by the number of scenarios under which can the target is achieved.

Robustness rules are best illustrated with a slightly more complex example, as represented in matrix 2. In this new example, the small town faces four different levels of flooding each with increasing levels of costs. There will either be no flooding (costs = 0),

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72 In this simple example maximin and minimax-regret produce the same result, however in other cases they will differ (Hanson, 1997).
73 Robustness has also been viewed as an alternative account of efficiency; however, here its role as a decision rule will be considered (Steel, 2015).
small flooding (costs = e1), moderate flooding (costs = e2) or large flooding (costs = e3). The town again has the option to ‘do nothing’ which will have zero costs but will fail to prevent any flooding. However, this time there are two different flood barrier policies. There is a ‘weak barrier’ which can stop small and moderate flooding and a ‘strong barrier’ which can stop all levels of flooding. The cost of the ‘weak barrier’ (w) is less than the cost of any flooding, but the cost of the ‘strong barrier’ (s) is less than large flooding but more than small or moderate flooding (e3 > s > e2 > e > w > 0).

<table>
<thead>
<tr>
<th>Matrix 2</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Barrier</td>
<td>s</td>
<td>s</td>
<td>s</td>
<td>s</td>
</tr>
<tr>
<td>Weak Barrier</td>
<td>w</td>
<td>w</td>
<td>w</td>
<td>w+e3</td>
</tr>
<tr>
<td>Do nothing</td>
<td>0</td>
<td>e</td>
<td>e2</td>
<td>e3</td>
</tr>
</tbody>
</table>

Let us assume that the safety target is set in terms of absolute costs and is equal to e, and let us also assume a scaler account of robustness. The robustness rule would then look to see which policy achieves the target in the most number of scenarios. The ‘strong barrier’ fails to achieve the target in any of the scenarios (as s>e), so its robustness level is zero. The ‘weak barrier’ achieves the target in all scenarios except scenario 4, so it has a robustness score of three. Finally, the ‘do nothing’ policy achieves the target in scenario 1 and 2, but none of the others so has a robustness score of 2. The robustness rule would, therefore, select the ‘weak barrier’ in this example.

4.5 The Limits of Non-Probabilistic Rules

There are then, a number of decision rules which do not require the calculation of probabilities. Instead, they compare alternative policies over a number of scenarios to which probabilities do not need to be assigned. These rules, however, also face important limitation when it comes to political decisions. As was the case for probabilistic rules, these non-probabilistic rules cannot account for all the features of political problems. Instead, many features of such problems will problematise the following of these rules, and they again cannot be relied on to make an effective decision in many cases.

Just like the probabilistic rules, the difficulties facing non-probabilistic rules emerge from a disconnect between the forms of uncertainty the rules are designed and appropriate for, and the forms of uncertainty which exist in many political and social problems. Probabilistic rules act as if there is only weak uncertainty and face difficulties
when political problems have features which exhibit strong uncertainty. Non-probabilistic rules, on the other hand, act as if there is pure strong uncertainty and face difficulties as many political problems do not fall into this particular category. Pure strong uncertainty can be defined as a situation where no information at all is available about the likelihood or plausibility of different scenarios. Under this form of uncertainty, decision-makers have no ability to make plausibility claims about the alternative scenarios. A famous example of this uncertainty is the decision faced by individuals in John Rawls’ (1971) original position. These individuals must decide on the rules of justice without any knowledge of who they will be once they leave the original position. They do not, for instance, have any information about the relative plausibility of scenarios in which they are someone with large natural talents, moderate natural talents, or small natural talents. Their decision is therefore taken under conditions of pure strong uncertainty.

The problem with non-probabilistic decision rules is that political issues will rarely confront pure strong uncertainty. Political issues may often be too complex and too little understood to calculate accurate probabilities for all their features. However, there is likely to still be some information about the relative or absolute plausibility of different scenarios. Plausibility claims do not have to take the form of numerical probabilities and can instead take the form of ordinal rankings or qualitative categories. For example, although a well-defined probability distribution can be calculated for climate sensitivity, it can still be reasonable to claim that a climate sensitivity of 3º is more plausible than a climate sensitivity of 8º. Similarly, it may not be possible to assign an accurate probability to the economic growth rate over the next few years but still possible to say that 2% growth is more likely than 6%. The inability to specify accurate probabilities does not, therefore, rule out any claims about plausibility (Shue, 2015). Political problems may face strong forms of uncertainty, but there will normally be some information on which to make non-probabilistic claims about the plausibility or possibility of different scenarios. Decisions must still, as Hansson (1997) has argued, be sensitive to standards of possibility. There will, therefore, be a disconnect between general non-probabilistic decision rules which act as if there is pure strong uncertainty and actual political problems which will often not fall into this category. As a result, there will be many cases where the rules

74 Rawls argued for the adoption of the maximin rule in the situation.
cannot be relied on to make good decisions, as they cannot account for all the features of political and social problems.

Consider, for instance, the presence of extremely costly but very implausible scenarios. For many political problems, there will be a very small and perhaps implausible chance of extreme costs which nonetheless cannot be ruled out. For example, in the regulation of new technologies such as genetically-modified organisms or the internet, there will always be some possibility that the technology will lead to some very costly environmental, health or social impact which cannot be ruled out completely. Similarly, an economic policy, such as an increase in interest rates, may run some very small risk of a bad market reaction leading to a downwards spiral and a prolonged recession. The presence of such extreme but unlikely scenarios can, however, cause the maximin and minimax-regret rules to make unreasonable and bad decisions. Because these two rules only focus on the worst-case outcome of any course of action, and they do not account for any standard of plausibility, they will be significantly skewed by extremely costly scenarios. In such situations, following the maximin or minimax-regret rule would lead to the unreasonable conclusion that very costly precautionary policies be aimed at preventing very implausible harms. They could, for instance, lead to the restriction of greatly beneficial technologies on the basis that they have a very small possibility of harm, or to not enacting a change to the health services because of the very small possibility that it will cause the whole service to fail. Almost any public policy decision will have some very unlikely but very costly outcome which cannot be ruled out. However, such scenarios will cause the decision rules such as the maximin and minimax-rule to make unreasonable decisions.

The maximax rule, on the other hand, will face the same problem but in reverse. Because it focuses only on the best possible outcome and does not account for any standard of plausibility, the maximax rule will be skewed by very unlikely but highly beneficial scenarios. If such scenarios exist, then the maximax rule may fail to take any policies aimed at preventing likely harms. Take, for instance, the scientific evidence for an environmental problem such as climate change and acid rain. There is always some

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75 Harsanyi (1975) makes a similar objection against the maximin rule. Harsanyi, however, uses examples, such as the change of a plane crash, which are better thought of as citation of weak rather than strong uncertainty. Sunstein’s (2005) critique of the precautionary principle more generally, also makes very similar points.
possibility, although very small, that the scientific evidence for these problems is incorrect and the harms which are predicted will never occur. Given this small possibility, however, the maximax rules would decide to do nothing to prevent the costly harms these problems will likely produce. Similarly, there is always the possibility that some new advancement in medical technology or food production will solve all the problems associated with ageing or growing populations. Again then, the maximax rule would enact no public policy aimed at addressing such problems, because of the existence of an extremely positive but unlikely scenario.

Another example of how the particular features of political problems can cause non-probabilistic decision rules to produce unreasonable decisions are situations where the available policy options have some possibility of failure (Chisholm & Clarke, 1993). Consider again the simple flooding example represented in matrix 1. This time, however, let us add a third scenario where the ‘flood barrier’ turns out not to be strong enough and it fails to prevent the extensive flooding. This addition is represented in scenario 3 of matrix 3 below. In this new situation, the maximin rule now fails to recommend the ‘flood barrier’ policy (as $p+c > c$) no matter how implausible the policy failure scenario is. Given that there is a possibility that the precautionary measure will fail, the maximin rule will lead to the counter-intuitive conclusion that no measure should be taken, no matter how unlikely the possibility of failure. This problem is likely to affect the application of the maximin rule to many if not all political problems. Almost any public policy, whether it be environmental, health, economic, regulative, education or crime has some possibility of failing to solve the problem it is meant to address. Such scenarios will again, however, lead some non-probabilistic decisions rules to make bad decisions, as they do not account for any standard of plausibility.

<table>
<thead>
<tr>
<th>Matrix 3</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Barrier</td>
<td>$p$</td>
<td>$p$</td>
<td>$p+c$</td>
</tr>
<tr>
<td>Do nothing</td>
<td>$c$</td>
<td>$e$</td>
<td>$c$</td>
</tr>
</tbody>
</table>

The minimax-regret rule, however, does not face this last problem. The same flooding example from matrix 3 is represented in matrix 3.1 but this time in terms of plausibility.

76 Defenders of the use of a maximin account of the precautionary principle, in the case of climate change, can be seen to ignore the possibility of policy failure (i.e. McKinnon, 2005).
regret. As the catastrophic costs are so large, we can assume that c-p > p and therefore the ‘flood barrier’ policy is still chosen by the minimax-regret rule. However, the minimax-regret rule does face an alternative problem. Imagine that the costs at stake are not catastrophic but rather some smaller costs closer to the value of p. In this case, the minimax-regret rule may lead to an indeterminate decision and paralysis. As the value of c gets closer to the value of p it becomes difficult to determine whether c > 2p and therefore which policy should be chosen. As the costs of the precaution policy get closer to the value of the costs the policy is aimed at preventing, the minimax-regret rule may lead to paralysis (Hanson, 1997). It will be unable to distinguish between alternative courses of action and therefore result in an indeterminate decision.

<table>
<thead>
<tr>
<th>Matrix 3.1</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Barrier</td>
<td>0</td>
<td>p-e</td>
<td>p</td>
</tr>
<tr>
<td>Do nothing</td>
<td>c-p</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

We have so far seen examples of how the maximin, maximax and minimax-regret rules can all be adversely affected by the particular features of certain political problems. Robustness rules also face similar problems. For instances, on a categorical account of robustness, the presence of extreme but unlikely scenarios or the possibility of policy failure can also lead to indeterminate results. This would happen when these problems resulted in all options failing to meet the safety target in at least one scenario. Climate change would be an example of such a problem. All mitigation policies have the possibility of failing to stop temperature increases, and temperature increases have the possibility of catastrophic costs. As a result, no policy will be fully robust. The same can be said of economic policies aiming to address a recession or depression which will have the possibility of failing and therefore ending in extreme costs.

Alternatively, a scaler account of robustness is not affected by either the possibility of policy failures or by the presence of extreme but likely scenarios. These scenarios count as just one scenario where the given target is not met so have little effect on the overall outcome (Millner et al, 2013). Scaler versions of robustness do, however, face alternative problems. A rule which picks the most robust policy may result in

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77 If it is possible to obtain perfect cardinal values for the different outcomes of a decision, then this problem with the minimax-regret rule could be resolvable.
unreasonable decisions because it does not account for the amounts by which targets are missed or for the relative plausibility of the different scenarios. For example, there may be cases where the most robust policy achieves the target in the highest number of scenarios; however, in those scenarios where the target is missed, it is missed by a large amount leading to possibly catastrophic costs. If an alternative policy is less robust but only misses the target by small amounts, then this would seem to be the more reasonable option. Furthermore, the most robust policy option may achieve the target in the highest number of scenarios but fail to achieve it in the most likely or plausible scenarios. Again, if there is a less robust policy which can achieve the target in the most plausible of scenarios, then this may be the better choice. What these cases show is that the particular features of political problems mean that simply choosing the most robust policy may result in unreasonable and counterintuitive decisions. Finally, both scalar and categorical accounts of robustness can also lead to indeterminate decisions in cases where more than one policy achieves the highest level of robustness. In such cases, the robustness rule has no way of choosing between the alternative policies and will, therefore, result in an indeterminate decision (Steel, 2015).

As was the case for probabilistic decision rules then, non-probabilistic rules cannot be relied on to make good decisions across all political and social problems. We have just gone through a number of cases where the particular features of political problems can adversely affect non-probabilistic decision rules and lead them to make unreasonable or indeterminate decisions. As a result, these rules should not be the primary decision-making procedure for political problems.

In fact, the absence of pure strong uncertainty in political problems actually causes another more immediate issue for such rules. We have seen how following any one rule can in certain situations led to very unreasonable decisions being taken. However, the absence of pure strong uncertainty also introduces the question of which non-probabilistic rules is most appropriate, to begin with. Each rule represents a different level of optimism/pessimism when taking decisions. A maximin rule, for instance, is very pessimistic as it only focuses on the worst-case outcome, while the maximax rule is very opportunistic as it only focuses on the best-case outcome. There is also a range of decision rules which take a weighted average between the best and worst case outcomes which would then fall somewhere between the two. Given that there will not be pure strong uncertainty, and some plausibility claims can be made, these decision rules will be more
or less appropriate depending on the level of optimism/pessimism which is appropriate for the situation being faced. If, for example, the worst-case scenario for a political problem is very likely and very costly, then a pessimistic rule such as the maximin rules may be most appropriate as it places emphasis on avoiding such worst-case scenarios. If however, the worst-case outcome is not very likely or very costly, then such pessimism may not be justified for that decision. Instead, a less pessimistic decision rule may be preferable to the maximin. For instance, a robustness rule which considers a whole range of scenarios rather than focusing on the worst-case scenario may be more appropriate for this particular decision.

Each non-probabilistic rule can result in particularly problematic decisions given the particular features of a political problem. However, each can also just be more or less appropriate compared to others for particular kinds of problems. The result, however, is the same. We would not want to follow any particular rule in all cases. As was the case with probabilistic decision rules, non-probabilistic decision rules also cannot be the primary decision-making procedure in the political domain.

5.6 The Meta-Rules Solution

So far, this chapter has argued that decision rules cannot be the main decision-making procedures for political decisions, as they cannot be relied on to make good or rational decisions in many cases. A possible solution to the problems discussed is to introduce further sets of rules or meta-rules. Decision-making cannot be accounted for by these general rules alone, but perhaps there can be a set of meta-rules which can guide the selection and application of these general rules, in order to avoid problems of the last few sections. For example, a set of meta-rules could determine the condition under which anyone decision rule should be used. Gardiner (2006) can be seen to follow a similar approach to this, specifying a list of conditions under which the maximin rule should and should not be applied\(^78\). Consider also the problems that extreme but unlikely scenarios create for many of the non-probabilistic decision rules. The solution to these problems could be to introduce an additional cut-off rule which would exclude any scenario from the scenario set which does not reach a certain level of plausibility\(^79\). If successful, the meta-rule would stop less plausible but extreme scenarios from affecting which policy

\(^{78}\) Gardiner’s list of meta-rules has been criticised on the basis that they are unlikely to hold for most if not any decision (Steel, 2015; Sunstein, 2005).

\(^{79}\) Such a threshold is, for example, presented in Shue’s (2005) formulation of the precautionary principle.
options are selected by these rules. Perhaps, then, the problems discussed in this chapter
do not show a problem with the decision rule approach as such, but rather a need for
further sets of meta-rules which can guide the application of the more general rules.

There are, however, a couple of important problems with this meta-rule solution. The first
problem is that meta-rules are very difficult to determine. Take, for instances, a
cut-off rule aimed at dealing with extreme but unlikely scenarios. Determining this meta-
rule requires setting a particular threshold of plausibility at which scenarios will no longer
be included in the scenario set. However, defining this threshold is highly problematic.
Setting it too high will risk including implausible scenarios which will lead decision rules
to make unreasonable policy choices. However, setting it too low will risk ignoring
important scenarios which would lead rules to make unreasonable decisions of a different
kind. Furthermore, given the presence of strong uncertainty, numerical cut-off lines will
normally be ruled out and, as Hansson (1997) argues, qualitative alternatives such as
scientific reasonableness are difficult to apply as they are necessarily more vague. This
difficulty is increased when we consider that the cut-off rule also needs to account for the
costs of scenarios. A low-cost scenario can be easily discarded while a high-cost scenario
with the same plausibility cannot. Determining a clear rule for how a qualitative measure
of uncertainty should change with respect to costs is, however, very problematic. Unlike
quantitative probability, qualitative measures of uncertainty do not allow for the simple
calculation of expected values by which a cut-off line can be set. Meta-rules can, therefore,
be very difficult to determine.

The second problem with meta-rules is that for this solution to work there would
need to be a complete set of meta-rules which can account for all possible factors which
may affect the application of general rules. That is, for a set of meta-rules to be
comprehensive, they would need to account for all the relevant particulars of all possible
political problems before such problems even arise. Consider, for instances, a set of meta-
rules aimed at selecting between alternative decision rules. The rules would need to
account for all the relevant factors to their application. However, the complexity and
diversity of political problems mean that there is likely to be a huge number of relevant
features which would have to be accounted for. Such problems are also highly
unpredictable, which means that not all of these features will be known in advance in
order to produce a comprehensive set of meta-rules. For a set of meta-rules to be able to
select between the different general decisions rules, it would have to account for all the
possible combinations of scenarios, all their possible costs, and all their possible likelihoods. The diversity and unpredictability of political problems, however, means that this will not be possible. No comprehensive set of meta-rules can be defined in advance which can account for all the possible features of political problems. The problems we have analysed in this chapter cannot, therefore, be overcome through the use of meta-rules.

It is important at this point to clarify the nature of this chapter’s critique of decision rules and meta-rules. The critique argues that decision rules cannot be relied on to make good decisions, because they account cannot for all of the relevant features of political problems. It does not claim that it is logically or conceptually impossible to reduce decisions to rule following, but only that it is practically not possible in the case of political decisions. Some theorists have argued for the stronger logical claim. Kant (1970) for instance, argued that basing actions purely on rule-following is logically impossible because it would create an infinite regress. Given that we have a problem applying general rules we introduce meta-rules to guide their application. However, this then raises the further question of how these meta-rules should themselves be applied, which seems to create a need for further rules which themselves will need to be applied by further rules and so on. There will, therefore, be an infinite regress to further and further sets of rules. In a similar vein, Ryle (1971) argues that acting on a rule requires a prior consideration of that rule\textsuperscript{80}. This consideration cannot, however, be reduced to a meta-rule as the following of this meta-rule will again require some prior consideration which, if it is reduced to a further meta-rule, will itself require further consideration. There is again then a problem of an infinite regress. For Kant and Ryle then, it is logically not possible to base an action purely on a set of rules no matter how comprehensive that set is.

The arguments of Kant and Ryle are controversial, and there is significant debate over the logical possibility of rule-following (Ginet, 1975; Stanley & Williamson, 2001; Stanley, 2011). It has been suggested against Ryle, for instance, that a rule can be followed automatically and without the need for some prior mental activity which

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\textsuperscript{80} Ryle was predominantly concerned with the distinction between knowledge-that and knowledge-how, but his argument is also applicable here. Just as a piece of knowledge-that is argued to require some prior act of consideration before being acted upon, knowledge of a rule can be argued to require an act of prior consideration before being followed.
considers the rule and its application. The rule that ‘you must turn the handle to open the
door’ can be followed automatically without needing to explicitly consider the rule or
appeal to any further rule or set of rules. Any regress is, therefore, broken. This chapter
does not need to take a strong position on these debates about the logical possibility of
rule following. Its case against reducing decision-making to rules is based on issues
resulting from the nature of political problems and our limited knowledge, and not from
any logical impossibility of rule following. It argues that there are insurmountable
practical or epistemic problems when it comes to basis decision-making on general
decision rules in the political domain, and makes no stronger claim about the logical
possibility of rule following across all domains. If we could obtain full information then
perhaps it would be possible to create a system of rules sufficient to deal with all political
and social problems. This chapter’s claim is that we are in no such position and we cannot,
therefore, rely on rules to lead us to good decisions. Decision rules cannot then, be the
main decision-making procedure for political problems.

4.7 The Usefulness of Rules

Does this chapter therefore suggest that we should abandon decision rules completely?
Such a conclusion would be too strong. Although such rules cannot account for all the
complexities of political and social problems, and cannot, therefore, be the main decision-
making procedure, these general rules can still be useful to political decision-making for
a couple of reasons. Firstly, they are helpful because they can represent alternative trade-
offs facing decision-makers. Take the robustness rule, for instance. Showing where and
to what extent alternative policies achieve important targets can help to clarify the
alternative trade-offs between these alternatives. It can highlight and represent certain
information which can help decision-makers confront complex and uncertain decisions.
Lempert et al (2002) advocate robustness tools on these lines. They do not suggest that
the most robust policy should necessarily be selected, but rather see robustness as a
method for defining the trade-offs involved in making a decision. It helps illustrate the
outcomes of different policy over a range of alternative futures in order to make a problem
more intelligible. Likewise, a maximin rule can be seen to focus decision-makers on
important factors by making a ranking of alternative policies on the basis of their worst-
case outcomes. Even if the maximin rule is not adopted to reach the final decision, such
a ranking can provide helpful information by drawing attention to potential bad outcomes.
Probabilistic decision rules can have similar benefits. Where probabilities are possible
they highly useful tools for representing the plausibility of different outcomes and expected values for presenting costs in a way which accounts for their likelihood.

The different decision rules are also helpful as they represent a number of alternative strategies which can be adopted. The maximin and robustness role, for instance, can focus decision-making around two alternative strategies which can lead in alternative directions. Should the decision be taken to avoid worst-case outcome, or should it be taken to give the greatest chance of meeting the minimally acceptable target? These are two alternatives methods of addressing a given problem, and the two rules help represent these options to decision makers. General decisions rules, therefore help to represent the different trade-offs present in decisions, but also a set of alternative strategies for dealing with the decision in question. Decision rules should not, therefore, be completely rejected as they can play some helpful role in political decision-making. Such rules cannot, however, be the main decision-making procedure for political problems. They are useful guides or rules of thumb, but they cannot be promoted as the main decision mechanism since they cannot be relied on to make good decisions in many cases. What we want then is not to reject rules completely, but rather to have some prior decision-making procedure which can select, modify and apply general rules to the particular political problem being faced. What we need is some prior process which can exercise judgment in the use and application of rules to political problems.

4.8 Judgment & the Application of Rules

This chapter’s critique of decision rules shows us that they cannot be the main decision-making procedure in the political domain and has suggested that we instead require some prior procedure which can exercise judgment in the selection, modification and application of general rules to particular political problems. The next chapter will investigate what form this prior procedure should take, and it will make a case for inclusive deliberation. Before this, however, we need to say more about the nature of judgment. This chapter has established the limits of rules, but what does decision-making require above and beyond rules? What exactly is judgment and how does it differ from rules? The rest of this chapter will put forward an account of judgment. This account will be epistemic. Many conceptions of judgment in politics have strong normative components and are, for instance, committed to particular accounts of the common good.

81 Kant’s (1970) solution to problems he saw in rule following was also judgment.
(for instance Aristotle, 1965 & Beiner, 1983). Although these normatively laden conceptions are useful in helping us understand the concept of judgment, they cannot form part of our epistemic analysis which remains agnostic on such matters. The contribution of this section will be to put forward a purely epistemic account of judgment which will allow us to see how it differs and relates to rules. Although this account will draw on others which involve normative commitments, it should not then be taken to fully endorse all aspects of these other accounts.

The first important aspect of judgment is that it is not fully reducible to a system of rules. Judgment, as Beiner (1983: 2) defines it, is ‘a form of mental activity that is not bound to rules, is not subject to explicit specification of its mode of operation’ and ‘comes into play beyond the confines of rule-governed intelligence’. This is crucial: if it could be reduced to rules, then it would not be a solution to the problem examined above. Rather than a system of rules, judgment is an act of applying rules in light of the particulars of a given situation. It is a mental process which weighs and considers the features of a situation, identifies the most relevant and salient of these features, and determines which general rules or principles should be applied given these features. Judgment is not, therefore, a set of rules but rather an act or process of applying sets of rules to a given case. As Kant (2000: 66) argues, judgment is ‘the faculty of thinking the particular as contained under the universal’. It is an act of subsuming the particular features of a citation under a universal or general rule. Judgment is not reducible to rules, but it is then closely related to them. An act of judgment moves back and forth between the general and the particular, the abstract and the specific, and between theory and practice. It is an act of applying general rules, principles and standards to the particular, practical and specific.

Acts of judgment are common to many aspects of human life. The recognition of a chair as a chair involves an act of judgment which reflects on the particulars of an object (the chair) in relation to the general criteria that govern what can be counted as part of a category (chairs). It is also required for determining the beauty of a piece of art. Such a determination involves consideration of the different aspects and qualities of a painting or sculpture, and subsuming them under general aesthetic standards and criteria. Judgment can also play a prominent role in public institutions. Consider, for instance, the
role of a legal judge. A legal judge is required to inspect the particulars of the case which is brought before her in relation to the more general law. There is, however, ‘no simple application of the law’ as ‘human reality is necessarily imperfect in comparison to the ordered world of law’ (Gadamer, 2004: 316). The complexity of actual events means that the role of the legal judge will often be greater than the direct application of the written law. Instead, she must ‘scrutinise’ the particulars of a case and ‘be alert to the possibility that there might be “an extraneous, unexpected factor” which leads to problematizing the application of a rule’ (Amaya, 2011: 126). Determining if a crime was committed, or the appropriate resolution to a conflict, requires an act of judgment where the particulars of a case are weighed and the important features identified.

These examples suggest firstly that judgment is ubiquitous, and secondly that there are a number of forms of judgment. What particular kind of judgment then is relevant here? The subject of this kind of judgment is not the categorization of an object or the aesthetics of a painting, but rather has as its subject an action. Political decision-making presents us with alternative possibilities and ways of acting. Judgment in this context, therefore, involves the consideration of these different possibilities, in relation to knowledge of the problem, in order to determine how to act. Unlike legal judgment then, which looks to the past to determine what has happened, judgment in political decisions looks to the future to determine what should be done. It is a judgment about what course of action should be taken in relation to a specific problem. What judgment means in this context, then, is a mental activity which is not reducible to rules, involves the application of general rules to particulars, and which aims at an action.

It is important, however, not to see judgment as anything mystical or haphazard. Judgment – or good judgment at least – is the considered application of general rules. It is a thoughtful mental activity of deciding how general criteria should be used in a particular citation and does not involve anything magical or mystical. However, if judgment does not consist of a system of rules, then there is a question of what it does consist of. Judgment consists of an ability or capacity. To have good judgment is to know how to act in a practical situation given the features of that situation. It is an ability to recognise the important aspects of a given case and to apply general rules and principles.

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82 The law is an often pointed to example of an area where judgment plays an important role (Beiner, 2009; Gadamer, 2004; Macintyre, 2007)
in light of these factors. Judgment is not then purely a matter of rule-following but is rather a practical capacity. As a result, judgment falls outside of purely technical rationality. Technical rationality and reasoning operate in the realm of theory. Its subject is abstract and general knowledge which can be fully codified in maxims and principles. This is in contrast to practical rationality or reasoning which is in the realm of practice. It involves not abstract principles but skills and abilities. It is practical and cannot be codified in general rules, but is rather contained in practice itself. The technical knowledge of a chef or of a doctor can be learned from a detailed cookbook or medical textbook. Their practical knowledge, however, is learned in the practice of cooking or in the practice of medicine. It includes their ability to apply technical information, to recognise when a particular rule should be used, and when a rule would lead them astray. Although it is possible to distinguish technical and practical rationality conceptually, it is important to see that they work in combination. Technical rules and principles are used and applied through practical skill. For example, a good legal judge involves both knowledge of technical rules and intelligence in her practical application.

For Aristotle, this was the distinction between theoretical and practical wisdom. The latter ‘is not manifested so much in the knowledge of a set of generalizations or maxims which provide our practical inferences with major premises; its presence or absence rather appears in the kind of capacity for judgment which the agent possesses in knowing how to select among the relevant stack of maxims and how to apply them in particular situations’ (Macintyre, 2007: 258). Judgment is not reducible to general rules or maxims but is rather a practical ability or capacity to use general rules and maxims appropriately.

Seeing that judgment is a practical capacity helps to clarify the heart of the problem facing the decision rule approach to political decision-making. By attempting to reduce decision-making to a matter of rules, these approaches attempt to reduce decision-making to purely an exercise in technical rationality. They promote technical rationality at the expense of ignoring the role of practical rationality and reasoning. They assume that the only thing necessary for decision-making is information about the correct technical knowledge and rules. As we have seen, however, the complexity of political problems problematizes the following of general decision rules and leads to ineffective decisions. Such rules cannot account for all the relevant features of such problems. They will be limited and incomplete. Decision-making cannot, therefore, be reduced to the
following of these technical rules, and there is instead a need for the exercise of practical judgment in the application general decisions rules to the particulars of a given case. Decision rule approaches ignore the need for practical judgment.

The limited and incomplete nature of general rules also highlights the importance of reflective judgment. Kant (2000) draws a distinction between determinant and reflective forms of judgement. Determinant judgment is judgment in cases where universal rules or principles are already given. The rules are pre-determined, so all judgment requires is to subsume the particulars of a case under these given universals. Alternatively, reflective judgment is judgment in a situation where the universals are not completely given or determined in advance. As a result, in reflective judgment the act of judgment involves not just the application of given rules but also the creation of new rules to fit the particulars of a case. In legal judgment, for instance, there can be cases of ‘judge-made law’ where factors in a case cause the judge to go behind the given set of legal rules. So while determinant judgment purely subsumes particulars under a given and predetermined set of universals, reflective judgment also creates new rules to fit the particulars of the citation. Reflective judgment ‘gives a law from and to itself’ (Beiner, 1983). Judgment may be more or less reflective depending on how complete the set of available rules are. The less complete the set of general rules, the more judgment will involve the creation of new rules. To the extent that general rules are incomplete and imperfect, reflective judgment will be required. Judgment will not just apply rules but create them. Reflective judgment, therefore, involves creativity and an ability to think outside of existing sets of rules. It requires someone to evaluate the particulars of a concrete situation from different sides and in different ways so that new rules can be conceived in light of the particulars of a given case. Where universals are not well-defined and determined in advance, judgment will involve a level of creativity in order to go beyond given rules and create new universals.

As we saw in our discussion of meta-rules, the sets of rules available for political decision-making will be incomplete. A fully comprehensive set of rules cannot be fully defined given the complexities and predictability of political problems. Political decision-making will, therefore, not just involve determinant judgment in the application of given decision rules but a large role for reflective judgment and the creation of new rules to fit the citation. Imagine, for instance, that a robustness rule has been selected to deal with a political problem – say a decision about which infrastructure policy should be adopted
given a range of future scenarios which include different growth rates and population increases. It is then found that more than one policy achieves the set safety target in the highest number of scenarios. There are two policies with the highest level of robustness. However, each policy achieves the target in different scenarios from the other one. Now the robustness rule does not provide a way of choosing between these policies in such a citation. The set of available rules is limited. Taking a decision will, therefore, involve some kind of reflective judgment which can go beyond this existing set of rules. Decision-makers will need to consider the particular features of this situation and determine which are the most important and salient. They will need to consider questions such as, do either of the policies meet the target in the most plausible of scenarios? Do the policies only miss the safety target by small margins? Or does either have any scenarios within which the target is significantly missed and therefore has the possibility of a catastrophic result? There is no pre-determined rule which captures the particulars which confront the decision makers before the problem arises. They will, therefore, need to establish universals to fit the situation and in light of a consideration of the different relevant factors. The decision will, therefore, involve reflective rather than just determinant judgment.

Taken together, then, judgment is a mental activity of applying general rules to particulars but also possibly creating rules to fit a particular problem. Given the limits of decision rule approaches to political decisions, such decisions will require some prior process which can exercise such judgment. Of course, we are now confronted with the question of what form this prior process should take. This question will be taken up in the next chapter which will argue for democratic deliberation. This chapter, however, has shown why decision-making cannot be fully reduced to decision rules and has pointed to the need for some decision-making procedure which has priority over rules and can select, apply and create them.

### 4.9 Conclusions

This chapter has moved our discussion from knowledge gathering to decision-making and has critique decision rule approaches to decision-making. In doing so, it has included in the epistemic analysis a prominent decision-making approach which has previously been left out by epistemic democrats. Decision rules have been developed within neo-classical economics and decision theory, and have come to form the bases of prominent policy tools such as cost-benefit analysis and precautionary principles. Although ignored by
others, this chapter has engaged with these approaches and argued that they cannot be the primary decision-making procedure of political problems. These rules cannot account for all the different features of political problems and cannot, therefore, be relied on to make good decisions in many cases. Although such rules have their uses, some prior decision-making procedure is required to exercise judgment in the application of these rules to particular problems.

At the beginning of this chapter, it was also suggested that including decision rule approaches in our analysis would also help us to understand better why deliberation is required for political decisions. So far, however, we have only gone so far in showing this. This chapter has taken us from the limits of rules to the need for a prior process of judgment. The next chapter, however, will take us further by arguing that there is a strong connection between judgment and deliberation. From there it will mount a case for the epistemic value of inclusive democratic forms of deliberation compared to others. So while we have seen the limits of rules and the need for a prior process of judgment, the next chapter will turn to the epistemic case for democratic deliberation.
The last chapter left our discussion of knowledge gathering and began our investigation of decision-making on the basis of a given set of knowledge. It examined the limits of decision-making approaches, such as cost-benefit analysis and precautionary principles, which are based on decision rules. It argued that decision-making could not be reduced solely to a matter of rules but instead required a significant role for judgment. Decision-making requires a prior process which can exercise a mental activity aimed at applying general rules to the particulars of a given political problem. It requires a procedure which can exercise the act of judgment in applying and sometimes creating rules in the light of the particular features of the political problems being faced. This chapter moves on to consider this prior procedure and particularly deliberative forms of decision-making. It will begin by giving a general account of deliberative decision-making and drawing a connection between the exercise of judgment and the process of deliberation. Good judgment will be argued to always involve a form of deliberation in considering how to use and create rules, and in deciding how to act. This, hopefully straightforward, connection between judgment and deliberation shows us why decision-making needs to take a deliberative form, something many in the debate have previously just assumed. Beyond this, however, it does not take us very far in trying to determine the particular kind of deliberation we want for political problems. It does not tell us whether we want deliberation which is fully inclusive of all members of a population or society (democracy), or deliberation which is more exclusive and only includes some subset of the demos (oligarchy, autocracy or epistocracy).

The majority of the chapter will, therefore, be concerned with the question of the epistemic value of inclusive forms of deliberation such as deliberative democracy. The chapter will consider two prominent arguments, one from Helen Landemore (2013a, 2013b) and the other by James Bohman (2006), which have attempted to explain the epistemic abilities of inclusive democratic deliberation and its epistemic superiority over less inclusive forms of deliberation. These arguments aim to defend a weaker and a stronger claim. The weaker claim is that inclusive deliberation has some particular or unique epistemic properties which can be explained formally, while the stronger claim is

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83 The chapter will use the terms inclusive deliberation and democratic deliberation interchangeably.
that inclusive deliberation is epistemically superior to deliberation between any subset of society (autocracy, oligarchy, etc). So, according to the weaker claim, we have a pro tanto epistemic reason in favour of inclusive deliberation, while on the stronger claim, inclusive deliberation is all things considered the most epistemically valuable form of deliberation. As well as their prominence, a reason for considering Landemore and Bohman’s accounts is that they are not based on considerations of knowledge gathering and are, therefore, relevant to our discussion in this latter half of the thesis where levels of knowledge are taken as given. Importantly, the two arguments also defend both the weaker and stronger claim without reference to any motivational differences between alternative forms of deliberation. These accounts, therefore, attempt to go beyond the argument that inclusive deliberation will simply be better motivated towards the interests of society compared to more exclusive forms of deliberation, such as autocracy or oligarchy, which may be motivated towards the interests of an elite group. They attempted to ground the non-motivational epistemic abilities of democratic deliberation. This is a necessary part of any epistemic account of democratic deliberation, as the intention and motivation to act in the public interest (whatever that might be) is useless without the competence to achieve this end (Fuerstein, 2008). If successful, the arguments of Landemore and Bohman would demonstrate the epistemic abilities and the superiority of inclusive deliberation independently of the issue of motivations.

It will be argued in this chapter, however, that neither of these two accounts can satisfactorily deliver on the stronger or weaker claim. They cannot establish inclusive deliberation’s epistemic superiority, nor can they formally explain its particular (although not necessarily superior) epistemic properties. In the case of Landemore, however, it will be argued that her account does point in the direction of an argument for the weaker claim, based on the epistemic value of cognitive diversity. The rest of the chapter will then take this as a starting point for putting forward a new account of the epistemic value of inclusive deliberation. This new account will be more modest in that it will not attempt to ground the stronger claim about the epistemic superiority of inclusive deliberation independently of motivations. It will, however, be argued to ground the weaker claim that it can formally explain the particular and valuable epistemic properties that democratic deliberation possesses and that these properties exist independent of motivations. The ability to ground the weaker claim is itself an advantage of this new account. However, it also opens up the possibility that the superiority of democratic deliberation can be
defended once motivational considerations are re-introduced. The end of the chapter will, therefore, discuss the prospect of combining the new account with motivational arguments, and the extent to which this can support an epistemic case for deliberative democracy.

It will conclude that although a purely epistemic argument falls short of a complete instrumental defence of democratic deliberation, we have no good or clear reason to reject it in favour of more exclusive forms of deliberation. Inclusive deliberation will be argued to be epistemically superior to its traditional alternatives (autocracy and oligarchy) – even with idealised assumptions in their favour – and that we have no reason to think that less elite but still non-democratic forms of deliberation (limited epistocracy) are epistemically any better. The chapter will, therefore, argue for the strong conclusion that we have no epistemic reason to reject democratic deliberation even in respect to its best alternatives. This produces a robust reply to democratic sceptics who wish to reject democracy on epistemic grounds but also suggests that epistemic values can play a very significant role in a wider justification of democracy. Given that democratic deliberation is found to be at least as valuable epistemically as its alternatives, very weak non-epistemic values would be sufficient to tip the balance in favour of democracy. These implications of the argument of this chapter will then be discussed further in the following concluding chapter.

5.1 Deliberation & Judgment

In the previous chapter, we saw that decision-making could not be reduced to decision rules but instead requires a prior process which can exercise judgment in the application of rules. As we saw, judgment is a mental activity concerned with how to apply and create rules in order to fit the particulars of the problem being faced. In this section, it will be argued that there is a strong and hopefully straightforward connection between the exercise of judgment and the process of deliberation. To the extent that good judgment involves a consideration and reflection on different features of a problem, it will involve the consideration and reflection on reasons, and as a result the activity of deliberation. Deliberation is, therefore, a process of judgment formation. Before drawing this connection, however, we first need an account of deliberation as a decision procedure. This account will be made at a very general level, and questions about which form of deliberation should be preferred will be left for later.
Deliberation is a form of decision-making where the main mechanisms for taking decisions are reason and argument (Chambers, 1996, 2003; Cohen, 1989; Dryzek, 1990, 2000; Elster, 1989; Habermas, 1984, 1996; Manin, 2005). Deliberation involves the consideration of reasons for and against alternatives courses of actions. It is a process of reason-giving where competing arguments are set out and considered. This consideration of reasons can take place internally in the mind of a single individual, through what Goodin (2003) calls ‘deliberation within’, or it can take place externally among a group. This latter external or collective deliberation involves the giving of arguments and reason within a verbal exchange. Group deliberation is as has been pointed to repeatedly in this thesis – based on linguistic communication. Importantly, however, deliberation is more than a simple verbal exchange. Actors reading a script to each other are participating in a verbal dialogue but not deliberation (Landemore & Mercier, 2012; Mercier & Landemore, 2012). Instead, deliberation involves not just the giving of reason but also the weighing and reflection on those reasons in the minds of deliberators. Deliberation involves the genuine and meaningful consideration of different arguments or reasons rather than just their exchange. To engage in deliberation is, therefore, to engage in a ‘distinctive mode of mental activity’ or a ‘distinctive mode of reasoning’ (Manin, 2005: 14). People give arguments and reasons for different positions which are then considered by other deliberators who weigh in their minds what other people have said.

Deliberation is a decision procedure and therefore has as its subject a particular decision. Reasons are given for and against alternative positions or, when actions are to be taken, alternative courses of action. This process can again happen internally within a single individual or externally with others. When deliberation is external, however, deliberators will aim to give their reasons which can convince others of a particular position or course of action. They will attempt to persuade others with reasons. If this persuasion is successful, then other deliberators will accept these reasons as their own. If it fails and other deliberators are not convinced, then they must give their own counter-reason/arguments for not accepting it. This will again be done with the purpose of persuading the first deliberator. Deliberation, therefore, becomes an argumentative exchange about competing reasons. This process of argumentation is, however, distinct from a process of bargaining (Chambers, 1996, 2003; Cohen, 1989; Dryzek, 1990, 2000; Elster, 1989; Habermas, 1984, 1996; Manin, 2005). Deliberators do not attempt to coerce or threaten others to take a position or action, but rather attempt to persuade them with
reasons. It involves ‘communicative’ rather than ‘strategic’ action where decisions should attempt to track the ‘force of the better argument’ (Habermas, 1984). If a deliberator changes their position, then this should be because they accept the reasons for this decision, and not that they have been bribed or coerced.

Deliberators attempt to persuade others with reason, and they do this with the aim of reaching some final decision. This final decision may not be reached, but it is still aimed for. The ideal method of arriving at this final decision is to reach a consensus or full agreement between all those involved. In such a situation all are persuaded in favour of one alternative. Achieving consensus should not, however, be seen as a requirement of deliberative decision-making. This requirement would make deliberation an unpractical decision procedure in most cases and would all but rule it out as a form of political decision-making. In the cases that consensus is not reached an alternative stopping rule will be needed, the most common of which is a majoritarian vote\(^84\). Some approaches to deliberation and particularly deliberative democracy may – or may be argued to – rule out voting as an alternative to consensus. This would, for instance, be the case if it was thought that the legitimacy of a decision required ‘the approval of all affected’ (Habermas, 1990: 66)\(^85\). Here, however, consensus will not be seen as a requirement of deliberation. Instead, deliberation can be as a process which, in the case of persistent disagreement, can select between alternative decision rules in the case of persistent disagreement and the options which are to be included. This can, for instance, have the advantage of avoiding possible irrationalities produced through forms of aggregation (Miller, 1992). Although decisions may, therefore, end in some kind of vote, such voting must be preceded by a rational discussion which aims to persuade and convince, and this discussion should be seen as central to the decision procedure. The decision procedure is, therefore, still ‘talk-centric’ as opposed to ‘vote-centric’ (Chambers, 2003).

Important to our discussion is the fact that deliberation should be seen as a decision procedure with a clear connection to judgment. Judgment is a mental activity which applies, modifies and creates general rules in light of particular features of a problem being faced. It involves the consideration of alternative general rule, of the

\(^{84}\) Other stopping rules include, ‘super majorities’ but also ‘decision by non-opposition’ (Urfalino, 2014)

\(^{85}\) It is generally too strong an interpretation of deliberative democrats that claim that they require complete consensus. Normally deliberative democrats believe that a decision is legitimate or valid if it ‘could be the object of a free and reasoned argument among equals’, or if it can ‘meet (or could meet) with the approval of all affected’ (Cohen 1989: 22; Habermas, 1990: 66 emphasis added).
particular features of a problem, and how general rules can be applied to these particulars. Judgment, or at least good judgment, involves the weighing of these different considerations and therefore a form of deliberation. It is a mental activity which weighs alternative considerations. What are the important features of a situation? What rules may be applicable to these features? Do rules need to be modified or created in light of these features? These different considerations become reasons for alternative courses of action which can form the basis of deliberation, either internally or externally. These considerations are reasons for or against the application or modification of a certain general rule, and therefore a certain course of actions. These are reasons which can be weighed and debated, and can therefore form the subject of deliberation.

Of course, judgments can be made quickly and haphazardly, and therefore without any meaningful consideration of important reasons. It can involve little in the way of deliberation. However, good judgment should include genuine reflection and weighing of competing reasons for and against the application of particular rules. Deliberation is, therefore, a process of judgment formation. It is a mental activity or form of reasoning which allows participants to consider the features of a problem and come to a judgment about how to apply more general rules. This kind of judgment formation can be performed by a single individual or collectively by a group. Whether internal or external, however, good judgment will be arrived at through a form of deliberation.

We can now see why political decision-making should require deliberation. Such decisions cannot be reduced to rules and instead require some prior procedure which can allow for the exercise of judgment. Deliberation is just such as procedure. Political decision-making requires deliberation as it is a process of judgment formation. Other writers concerned with the epistemic value of democracy – and particularly democratic deliberation – have tended to assume that political decision-making should be conducted deliberatively. They do not consider non-deliberative alternatives, such those based on decision rules, but instead focus on the question of numbers (Anderson, 2006; Bohman, 2006; Landemore, 2013a). That is, should deliberation take place between the many or the few? The same can also be said of some epistemic critics of democracy (i.e. Brennan, 2016). Here, however, non-deliberative alternatives have been considered, and an argument has been made in favour of deliberation as a political decision procedure. It is

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86 These epistemic democrats do, of course, also consider vote aggregation.
through the limits of rules and the need for judgment that we can see the need for deliberation.

5.2 Deliberation among whom?

We now have an epistemic case for why deliberative forms of decision-making are required for political matters. This case, however, only takes us so far. Although deliberation is required for the exercise of good judgment, this does not tell us what kind of deliberation we need. Deliberation can be inclusive of all members of the demos (democracy), or it could only involve a subset of that population (oligarchy, autocracy or epistocracy). We are not yet in a position to say anything about the particular epistemic value of democratic deliberation as compared to these more exclusive alternatives. There is a history of epistemic or proto-epistemic arguments for democratic forms of deliberation, going back at least as far as the Greeks (Aristotle, Politics III; Dewy, 1981a, 1981b; Mill, 2015)\(^87\). Aristotle, for example, famously argued for what Waldron (1995) has called the ‘doctrine of the wisdom of the multitude’. ‘The many, who are not as individuals excellent men, nevertheless can, when they have come together, be better than the few best people, not individually but collectively, just as feasts to which many contribute are better than feasts provided at one person’s expense’ (Aristotle, Politics III, 11: 1281a41-1281b2).

There are, however, a number of problems with many of the past arguments for the epistemic value of democratic deliberation (Landemore, 2013a). Firstly, many of them do not provide any formal explanation or mechanism of the epistemic merits of deliberation, and therefore do not give us any confidence that these benefits will hold more generally. Aristotle’s analogy of the feast, for instance, does not by itself provide a formal mechanism which explains how epistemic improvements occur when the many are brought together, and therefore we cannot tell if this same effect will be true of political deliberation. Secondly, many of these arguments do not tell us what is distinctive about inclusive democratic deliberation as opposed to deliberation more generally. Again, Aristotle’s analogy of the feast would appear to apply just as much to a group of oligarchs coming together as it does to a group of citizens. Thirdly, some of these arguments rely heavily on the knowledge gathering abilities of democracy. This is, for instance, one possible interpretation of Aristotle’s feast, that people bring their own food and drink

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\(^87\) For an overview of this history see Landemore (2013a: Chapters 3)
therefore improving it\textsuperscript{88}. Knowledge gathering also plays a role in more recent arguments such as Fuerstein’s (2008). However, this half of the thesis has moved away from the issues of knowledge gathering. Our discussion is now taking the level of knowledge as given and investigating which decision-making procedure is best placed to take decisions on the basis of this knowledge. This is done because the ability to gather knowledge does not necessarily translate into an ability to make good decisions. Perhaps democratic deliberation should act like a focus group whose knowledge is extracted to form the basis of decisions taken by more able elites. Finally, some of these arguments rely on differences in motivation between democracy and its alternatives. They rest on the claim that a group of citizens, or their representatives, are more likely to be motivated in public interest or common good (whatever this might be) than an oligarchy or aristocracy which is more likely to be motivated by its own group/self-interest. Motivations alone, however, are not enough to defend inclusive forms of deliberation, as good intentions mean nothing unless we have the competence required to achieve our ends (Fuerstein, 2008). What we need is an understanding of what the epistemic properties of inclusive deliberation are, independent of motivations, if we are to see why inclusive deliberation is likely to produce good decisions.

The next few sections will discuss two more recent epistemic accounts of inclusive deliberation which attempt to go beyond those of the past. These are the accounts of Helen Landemore (2013a, 2013b) and James Bohman (2006). In particular, the following sections will be concerned with the ability of these accounts to defend a weaker and a stronger claim. The weaker claim is that inclusive deliberation has particular (although not necessarily superior) epistemic properties which can be formally explained, while the stronger claim is that these properties make inclusive deliberation epistemically superior to deliberation between any subset of the demos (autocracy, oligarchy or epistocracy). Landemore and Bohman aim to defend both of these claims and attempt to do so without any reference to the question of differing levels of motivations or differing levels of knowledge. That is, they argue that the epistemic properties of inclusive deliberation make it superior to deliberation between any subset of the demos, even if that subset is equally well motivated in respect to the public interest or common good, and is equally well informed. This chapter will argue, however, that neither of the accounts can

\textsuperscript{88} For discussion of the different ways that Aristotle’s argument can be interpreted see Landemore (2013a) and Waldron (1995).
satisfactorily defend the stronger or weaker claims. Landemore, however, will be shown to point in the direction of an argument for the weaker claim based on the benefits of cognitive diversity, and the following section will then offer an alternative account which pursues this line of argument further.

5.3 Bohman & Robust Deliberation

We can start with Bohman’s (2006) epistemic account of inclusive deliberation. On this account the epistemic value of democratic deliberation is linked to the benefits of diversity. It argues that the epistemic properties and superiority of inclusive deliberation can be found in its ability to utilise a diversity of perspectives in order to produce decisions which are more ‘robust’ than other forms of deliberation.

A robust decision is one which is ‘accepted by a variety of different perspectives’ (Bohman, 2006: 187). According to Bohman (2003, 2006), perspectives are particular points of view which emerge from the range and kind of experiences people have. They emerge from the alternative social roles and positions people take in society. Given that they are based on the exercise of a particular social position they may be shared by certain people in society, but they will not be shared by all. These perspectives are distinct from values or opinions and are rather ‘practical points of view’ which forms the background against which reasons are evaluated, recognised and produced. While reasons are the items which are considered in deliberation, perspectives are cognitive capacities of the deliberators. It is perspectives which inform reasons and give them their ‘cogency’. This is not the same as saying that people with different experience simply possess different facts about the world. Rather than referring to alternative information, perspectives refer to the background against which people with different experiences interpret information and reasons, and recognise them as important. A perspective allows a person to recognise particular features of situations, produces distinctive reasons and comes to see certain reasons as meaningful. People with a certain perspective will, therefore, produce reasons and see certain reasons as important while people with different perspectives will produce alternative reasons and see alternative reasons as important.

What, however, is the link between perspectives and the epistemic value of inclusive forms of deliberation? Democratic deliberation, according to Bohman, is

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89 People do not need to regard themselves as part of a particular social group in order to share a perspective (Bohman, 2006: 178).
epistemically valuable because it can utilise a diversity of perspectives to produce decisions which are more robust than those of more exclusive forms of deliberation. Inclusive deliberation allows a greater diversity of perspectives to deliberate on a social problem than its more elite alternatives. The decisions which are taken will, therefore, have been informed and tested against this greater diversity of perspective, and will be supported by the different sets of reasoning which emerge from them. Deliberators will produce different reasons and consideration due to their differing perspectives, and they will also recognise different reasons as important. Decisions which emerge from inclusive deliberation will, therefore, be tested against and supported by diverse sets of reasoning which emerge from different social perspectives. To illustrate this, Bohman (2006: 180) describes debates around medical testing in the early days of the HIV epidemic. At first, patients were not included in decisions about the testing of experimental drugs to treat HIV and the decisions which were taken involved requirements for very high levels of statistical significance in random control trials. These standards, however, were unacceptable from the point of view of patients (who had to restrict their use of other treatments when involved in trials). When the decision-making process was later opened up to include patients, these concerns were voiced so that standards of validity, which was the main concerned of doctors and research, had to be balanced with considerations such as the speed at which drugs became available, as well as safety and effectiveness. In the later more inclusive form of decision-making, a greater diversity of perspectives was utilised so that reasons, which would not have emerged before, could come into contact with the perspectives of doctors and researchers. The decisions which emerged from this more inclusive and multiperspectival deliberation were therefore supported by a greater range of perspectives. The decisions may not have been optimal from any particular perspective, but they were more ‘robust’ in the sense that they were accepted by a diversity of perspectives each with their own particular set of reasoning.

Bohman is not arguing that deliberation will lead to the optimal or best decision, but rather robust decisions which are ‘accepted by a variety of different perspectives’ (Bohman, 2006: 187). More precisely, a decision is robust, firstly, if ‘the deliberation which formed it was inclusive of a range of perspectives’; and secondly, if the ‘outcome of that process could be informed by the broad scope of reasons originating in those perspectives’ (Bohman, 2006: 180). For Bohman, inclusive deliberation is both epistemically valuable and superior to alternatives because it is able to test policies against
a diversity of different perspectives. The merging outcomes will, therefore, be supported by the alternative forms of reasoning which these perspectives produce.

This kind of robustness, Bohman (2006: 177) claims, is epistemically valuable as it is analogous to robustness within the sciences where it is a ‘primary epistemic virtue’. In the sciences, it is taken that a conclusion is strengthened if it is supported by relatively independent techniques and theories. In physics, for instance, Feynman (1965) argued that a physical law derived from a number of alternative mathematical calculations relying on different axioms, is stronger than those derived from calculations with the same axioms. In the latter case the failure of one or a set of axioms would lead the physical law to be completely unsupported, while in the former, the law continues to be supported even if one set of axioms was to fail. Generally, as long as no theory is thought to be significantly better than any other, a conclusion or finding which is support by a range of alternative scientific theories is stronger and more reliable than a conclusion or finding which is supported by fewer or just one scientific theory. The former is more robust than the latter. Robustness in the sciences – and the philosophy of science – is ‘widely used as a criterion for the reality or trustworthiness of the thing which is said to be robust’ (Wimsatt, 1981: 144).

Bohman argues that same can then be said of robust political decisions produced by a democratic deliberation involving a diversity of perspectives. The outcomes that emerge will be supported by the reasoning of a range of different perspectives each of which gives the decisions its own independent supports. Bohman (2006) thinks that it is not possible to select in advance which perspectives should be included in political decision-making as there is simply too great a ‘variety of topics’ (that is, political issues) when it comes to political decision-making. It is not possible to select the most valuable or important perspectives as there are too many different and varied issues to determine which perspectives will be most relevant. Given that we do not know which perspectives are more relevant or reliable in advance, all perspectives must be treated as equally valuable. We have, therefore, a situation analogous to that in the sciences. Inclusive deliberation produces decisions which are more robust across a diversity of perspectives, and should, therefore, be viewed as stronger and more reliable. The epistemic properties and the epistemic superiority of inclusive deliberation can be formally explained through an analogy between democratic deliberation and scientific inquiry. Bohman (2006: 187) argues that ‘just as evidence that crosses various theoretical approaches is often
considered well-verified in the sciences, robust reasons that cross various perspectives provide the strong and well-tested basis for ongoing democratic legitimacy’.

5.4 Deliberation as Scientific Inquiry

Can Bohman’s epistemic account of democratic deliberation support the weaker and stronger claim as he argues? That is, can it show the formal mechanism behind the specific epistemic properties of inclusive deliberation, and can it show the epistemic superiority of inclusive deliberation when it comes to political problems?

Let us begin with the stronger claim that inclusive deliberation is superior to any form of deliberation involving only a subset of the demos. For the sake of argument, let us assume for now that inclusive deliberation does, through involving a diversity of perspectives, achieve outcomes which can be said to be more robust than others. Does this show the superiority of democratic deliberation? The problem with this argument is that it focuses solely on the single dimension of perspectives and does not demonstrate why this dimension is epistemically speaking the most important. The problem can be seen if we begin to pull apart the analogy between inclusive deliberation and scientific inquiry. If our focus is on scientific theories and whether they support certain conclusions, then the quality of these theories is what should concern us. If we are in a position where, to the best of our knowledge, these theories are equally valid, then a conclusion supported by a range of such theories is epistemically preferable. The conclusion has the epistemic virtue of robustness on its side, and this is enough to tell us that it is stronger than other less robust conclusions. However, this is because in such a case the quality of these scientific theories is our only relevant epistemic dimension. When it comes to deliberation about political and social problems, however, the equal status of deliberators’ perspectives is not the only relevant factor. Deliberation involves people and not just their perspectives. We should, therefore, also be concerned with the differing individual ability of these people when it comes to reasoning and conclusion ‘testing’. Certain individuals with the same, or equally valuable, perspective may have different ability levels when it comes to ‘testing’ the alternative solutions. Certain individuals may be better at producing and considering reasons, and determining the extent to which they support alternative policies. Bohman’s argument, however, rests solely on the dimension of perspectives. This means that even if we grant that conclusions supported by a diversity of perspectives are more robust in an epistemically important sense, this does not establish that they are
Bohman’s analogy between deliberation and scientific inquiry, therefore, falls short in an important way when it comes to establishing the stronger claim about democratic deliberation. While in the scientific case it is reasonable to prefer the more robust conclusion when all theories are equal, this is not necessarily the case for political deliberation, as individual ability and not just perspectives are epistemically relevant.

Perhaps Bohman’s argument can, however, still ground the weaker claim. If inclusive deliberation can produce robust decisions which are epistemically valuable in an important sense, then this would explain why democratic deliberation has particular epistemic properties which other forms of deliberation do not. Democratic deliberation may not be epistemically superior, but it does have particular and unique epistemic value in that it can produce robust decisions. The problem, however, is that when we again examine the analogy between deliberation and scientific inquiry, we can find good reasons to be sceptical of the ability of the robustness account to also establish the weaker claim. In the scientific arena, a conclusion being supported by multiple independent scientific theories is certainly an epistemic virtue, and it certainly increases the strength of that conclusion in important ways. There are, however, good reasons to question whether the practice of democratic deliberation can really achieve this same epistemic virtue in the political domain.

Consider an inclusive deliberative forum made up of a hundred people all with different social perspectives. These people deliberate and arrive at a consensus about which policy should be taken so that this policy is supported by all perspectives present (we can assume complete consensus for the sake of simplicity). What we have here is in an important respect, disanalogous to a situation where you have a number of scientific theories supporting the same conclusion. The source of these disanalogies comes from the fact that we are not dealing with alternative abstract and formalised theories but rather with people. When it comes to a scientific theory, we can normally have a high level of certainty about whether the theory, given a particular definition and formalisation, supports particular conclusions and not others. This is most clear in the case of mathematics. Mathematicians can normally have a high level of certainty and a high level
of agreement about whether or not a set of axioms do or do not lead to a particular result. The same thing is generally true, although perhaps not to quite the same extent, of other scientific fields where theories are well-defined and formalised.

The same thing cannot, however, be said about our inclusive forum dealing with a political issue. When it comes to the connections between perspectives and solutions to political problems there is significantly less certainty about whether a perspective really supports a particular policy when an individual accepts it in deliberation, compared to whether a formal scientific theory supports a scientific conclusion. In social and political problems there is significant space for disagreement about the correct solution to a problem even within a particular perspective. Perspectives, according to Bohman, are practical points of view which emerge from the kinds of social experience people have. Although we might well expect there to be greater levels agreement between those who share particular experiences, there is no reason to think that there will not still be significant disagreement. Social and political problems are complex and uncertain, and even those with similar experiences and perspectives may differ greatly on what they perceive to be the best course of action to take. Although people with similar perspectives may evaluate reasons in more similar ways to those outside of their perspective, there will still be significant space for disagreement. The implication of this is that when an individual in our inclusive forum comes up with reasons and decides to support a particular solution, we cannot have any certainty about whether there is actually a strong connection between their perspective and the solution. It could be that if others with a similar perspective had the chance to deliberate they would choose to support an alternative solution. They may believe that their perspective, and the reasons it produces, lead in a different direction. The presence of disagreement means that we cannot have certainty, as in the case of scientific theories, that the conclusion is really supported by the perspective in question.

The problem facing this robustness account is the epistemic equivalent to one of the problems facing descriptive forms of representation in democratic theory. Just because members of a particular social group are included in the decision-making process, does not mean that all members of this group are represented as those included may express reasons and views which other members of their group do not endorse (Lafont, 2015). Those included may end up supporting policies which others in their social group would not themselves endorse if they had the chance to be included. Similarly, including
people with a particular social perspective in the decision-making process does not guarantee that this particular social perspective actually supports the conclusion made by that process, as others not involved may in fact disagree. We, therefore, have good reason to question whether inclusive deliberation can really achieve the epistemic virtue of robustness as it is found in the sciences. In political deliberation, we do not know whether the decision produced is actually supported by a range of perspectives, as those present in deliberation may not fully or adequately ‘represent’ that perspective. In fact, a less diverse deliberative forum with more people who share perspectives may actually be preferable. If there happens to be agreement among people with similar perspectives then this may at least give us more confidence that those perspectives support the policy, and therefore more confidence that robustness has increased. In terms of robustness then, we may actually prefer less diversity.

The robustness argument may be defended by attempting to scale up deliberation in order to increase the number of people with a given perspective being included, and therefore the number of people accepting the final solution. There are, however, significant practical limitations on the number of people who can be included in genuine face-to-face deliberation. This practical limitation would appear to frustrate any attempt to include a large number of people from all the social perspectives which exist in society. Furthermore, even if face-to-face deliberation could involve a large enough number of people, it would become unclear in cases of disagreement which policy is actually the most robust. If deliberation ends not in consensus but in a vote (as it often will), then it will be unclear whether the majority involves a greater diversity of perspectives than the minority, rather than simply high numbers with fewer distinctive perspectives. Scaling up deliberation, therefore, does not seem to be able to help the robustness account.

The disanalogies between democratic deliberation and scientific inquiry create significant problems for Bohman’s robustness account when it comes to defending the stronger and weaker claims about inclusive deliberation. Firstly, even if democratic deliberation can achieve the epistemic virtue of robustness, it is unclear that this demonstrates its superiority over deliberation between a subset of the demos as the argument does not account for differences in individual ability. Secondly, it is also unclear that democratic deliberation can actually achieve the epistemic virtue of robustness as, unlike the case of scientific theories, we cannot be sure that the acceptance of a conclusion/solution in political deliberation really demonstrates that it is supported by the
relevant perspectives. The argument cannot, therefore, ground the superiority of
democratic deliberation nor can it explain its particular epistemic properties.

5.5 Landemore & Cognitive Diversity

An alternative account of the epistemic value of democratic deliberation is given by Helen
Landemore (2013a, 2013b). Like Bohman, Landemore believes that this epistemic value
emerges from a form of diversity, in her case cognitive diversity. Her account is, however,
more ambitious than Bohman’s in that it explicitly attempts to show that this diversity is
the most important epistemic dimension, and therefore more important than individual
ability. That is, the account attempts to show that ‘diversity trumps ability’.

Landemore’s account interprets deliberation as a process of collective problem-
solving where participants aim to arrive at the best possible solution to political problems.
It is often thought that what is most epistemically valuable to a group of problem-solvers
is individual ability. The best problem-solving group is the group that is comprised of the
best individual problem-solvers. Landemore, however, argues that this conventional
wisdom is incorrect, as it fails to see the role of cognitive diversity in the ‘emergence of
collective intelligence’ (Landemore, 2013a: 69). It is not just important to have people of
high ability but also people who think differently. Cognitive diversity refers to the ‘variety
of mental tools that human beings use to solve problems or make predictions in the world’
(Landemore, 2013a: 89; Page, 2007). This refers not so much to differences in knowledge,
but rather the different ‘cognitive toolboxes’ that individuals use to approach problems.
These toolboxes include, a ‘diversity of perspectives (the way of representing situations
and problems), diversity of interpretations (the way of categorizing or partitioning
perspectives), diversity of heuristics (the way of generating solutions to problems), and
diversity of predictive models (the way of inferring cause and effect’ (Landemore, 2013a:
102; Page, 2007). Having a different cognitive toolbox allows someone to think about a
problem in a different way to others and come up with different solutions aimed at
addressing it.

Landemore uses a number of examples to illustrate the importance of cognitive
diversity to problem-solving. In one, she describes a problem faced by a New Haven
neighbourhood of recurring muggings on a local bridge (Landemore, 2013a: 100-102).
Residents in the area arranged a meeting between themselves, representatives of the
Mayor, and the New Haven Police in order to address this problem. The first round of
deliberations between these groups ended with the decision to post a police car at the place where most of the muggings were occurring. This solution, however, was found to be ineffective as the muggings simply started to occur in the hours when the car was not present at the bridge. After deliberating alternative strategies, such as posting an undercover police officer at the location, someone suggested installing lights on the bridge to deter the muggings which were happening after dark. This suggestion ‘struck everyone as far superior to the previous solutions, and it quickly garnered a consensus’ (Landemore, 2013a: 101). A technician from the city, however, pointed out that the high voltage railroad track under the bridge meant that it would not be possible to have electric lighting. Just as this solution seemed to have failed, another deliberator inquired about the use of a solar-powered light as an alternative. This appeared to most people to be a good solution, but a city accountant explained that it would be much too expensive to buy a solar-powered light. Finally, one more deliberator asked if it would be possible to apply for some stimulus money to cover these extra costs. The problem was finally solved. Landemore points to how it was the cognitive diversity of this group which led it to solve the problem. It was utilising the different problem-solving approaches of the residents, the police, technicians, accountants and public officials, that allowed them to move from the suboptimal solution of the police car to the optimal solution of the solar powered street light.

Through examples like this Landemore helps us to see how cognitive diversity can be helpful to problem-solving. Alone, however, they do not formally explain the benefits of cognitive diversity, nor do they explain why we should think that these benefits are generalizable across political and social problems. Landemore, therefore, provides a formal explanation to support these examples by drawing on the technical work of Hong and Page (2004; Page, 2007). Hong and Page have developed a ‘Diversity Trumps Ability Theorem’ (DTA) to formally demonstrate that, under the right conditions, a group of cognitively diverse problem-solvers are better than a set of high ability problem solvers. The logic behind the mathematics of the DTA is that a group of high individual ability problem solvers will think in similar ways, while a diverse group with lower average ability will think very differently, and this cognitive diversity more than compensates for the reduction in individual ability. If problem solvers think in the same way, then they will arrive only at their highest common local optima. Local optima refer to the solutions of each individual deliberator after considering the problem. If the group thinks similarly
then they will look for solutions in the same places and therefore arrive at a similar local optima. The group will therefore get stuck on these common solutions rather than achieving the global optima (the best solution). The group, therefore, performs little better than any one individual within the group (Page, 2007). Alternatively, a diverse group of deliberators think very differently so that their local optima will also differ. They will search for and find solutions in different places, recognising when a better solution has been offered by a fellow deliberator, and therefore move towards better solutions. This diverse group will not get stuck like a homogenous group on some shared solution. They search for and find solutions in different places and therefore increase the chance of finding higher optima than a group which only looks in one place. The group therefore ‘has the possibility of guiding each other beyond that local optimum towards the global optimum’ (Landemore, 2013a: 103). The logic of the DTA can be seen in the New Haven deliberators. If only the police had been involved in this discussion, then they would have got stuck on their shared local optima of policing strategies. These solutions were, however, insufficient to address the problem and therefore far from the global optima. However, because the group was actually diverse, other members who thought differently about the problem suggested alternative solutions. They had local optima which differed from that of the police, such as the lighting solution, and this allowed the group to move past the police’s local optima towards the global optima.

Hong and Page formalised this logic mathematically in the DTA and showed that, under the right conditions, random selection of diverse problem-solvers can outperform a group of the best individual problem-solvers (Hong & Page, 2004; Page, 2007). There are four conditions specified in the DTA in order that diversity trumps ability and Landemore argues that all are plausible in the context of political problems. These conditions are that (1) the problem being faced is difficult enough; (2) all problem solvers need to be relatively smart or ‘not too dumb’; (3) problem solvers should think differently from each other but should still be able to recognise the best solution; and finally (4) the population from which problem solvers are taken should be large and the group of problem solvers should not be too small (Landemore, 2013a:102; for more see Page, 2007).

Landemore, therefore, bases her formal argument for the epistemic superiority of inclusive deliberation on the DTA. She argues that it is better to have an inclusive group with cognitive diversity than an elite group even if that group is of higher ability. Even if
we could select an oligarchy of the more intelligent (a generous assumption), this would not give us better problem-solving as such an exclusive group is likely to think in similar ways (or at least comes to think in similar ways) and therefore lacks the more important value of cognitive diversity. Landemore (2013a: 108; 2013b) also prefers to use random sortition, such as that used in mini-publics, rather than use representatives in order to select participants for a deliberative assembly. The practice of electing representatives is likely to compromise cognitive diversity as running for election tends to select people of certain social and economic status. They therefore ‘retain an aristocratic flavor’ in selecting people from certain backgrounds (Landemore, 2013b: 1218). This is empirically the case in many democracies; however, even under more ideal circumstances, it seems plausible that elections would select for certain characteristics (such as a type A personality) over others, and therefore reduce cognitive diversity. Random sortition, alternatively, aims to recreate the cognitive diversity which exists in society at the smaller scale.

It may be argued that the DTA supports the case for oversampling certain cognitive skills rather than completely random and inclusive selection. If we know that a deliberative assembly is going to face an economic problem, then would it not be better to select for cognitive diversity around this subject? This could be done by selecting a diversity of people with a diversity of economic perspectives (neo-classical, Keynesian, Austrian, Marxist etc) rather than others. Landemore, however, argues that selecting for certain kinds of cognitive diversity faces a number of significant challenges. Firstly, there is the problem that cognitive skills do not always fit into clearly defined and identifiable categories (such as Keynesian and Marxist) and therefore it is difficult to identify how to select particular cognitive skills. Secondly, and more importantly, it is also not possible to predict the relevant dimension of cognitive diversity in advance of forming a general assembly. Political and social problems are highly unpredictable, so it will not be possible to determine which kinds of political problems will occur in the future. This unpredictability frustrates any attempt to specify which forms of cognitive diversity should be included in a deliberative assembly as we ‘simply can’t tell in advance from which part of the demos the right kind of ideas are going to come’ (Landemore, 2013a: 112). Thirdly, even if we could determine the relevant dimension of cognitive diversity in advance, and we could clearly identify the relevant categories of cognitive skills for this dimension, there is no reason to think that once we have selected for this dimension
(say economic) that this kind cognitive diversity will be helpful and not counterproductive when it comes to the many other kinds of problems the assembly will face (environmental, health, education, crime etc). We are therefore better off not attempting to engineer cognitive diversity, but instead, relying on random selection to reproduce the more general diversity which exists within society.

5.6 Deliberating with Oracles

Through the DTA then, Landemore’s account aims to defend the weaker and stronger claims about inclusive deliberation. It attempts to show not only that inclusive deliberation has particular epistemic properties as a result of cognitive diversity, but also that these properties are superior to deliberation between a subset of the demos, even if that subset has higher individual ability. There are, however, important problems with Landemore’s use of the DTA which have implication for her ability to fully defend the stronger and weaker claim.90

The problems with Landemore’s use of the DTA arise then we start to question its applicability to political and social problems. As we have seen, there are four conditions which need to be met in order for the DTA to apply. Conditions (1) that the problem should be difficult, (2) that deliberators should have some level of individual ability, and (4) about the size of the population should be large and the problem-solving group not to small, will not be disputed here. However, the main problem facing Landemore’s account of inclusive deliberation is that condition (3) is highly problematic when it comes to applying the DTA in the political domain.91 This assumption states that while deliberators must think differently enough from one another to ensure diversity, these differences do not stop them all being ‘capable of recognizing the best solution when they are made to think about it’ (Landemore, 2013a: 220). The second part of this assumption, which Landemore and Page (2014) elsewhere refer to as the ‘oracle assumption’, is actually a highly demanding condition for deliberators to meet. It assumes

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90 The mathematics supporting the DTA are controversial. Thompson (2014) argues to have found seven errors in the theorem all of which she claims are sufficient to show that it cannot prove what it sets out to prove. Brennan (2016), a critic of Landemore and democracy generally, makes much of Thompson’s critique. However, the theorem has been defended elsewhere, and it has been argued that the critique does not fundamentally challenge the central thesis that diversity trumps ability (Kuehn, 2017). The critique made in this chapter does not rest on any dispute about the internal validity of the DTA. Rather it focuses on whether it can be applied to the political domain.

91 Gunn (2014) and Quirk (2014) have also questioned the applicability of the oracle assumption to political problems.
the existence of an oracle which is a ‘machine, person, or internal intuition that can reveal the correct ranking of any proposed solutions’ (Landemore & Page, 2014: 6). In the cases of deliberation, the assumption requires that if the true value of y solution is greater than the true value of x solution, then each individual deliberator will recognise that y is ranked higher than x. That is the “best solution must be obvious to all” (Landemore, 2013a: 102). It is this assumption which allows a diverse group of decision-makers, who are given enough time, to arrive at a consensus on the option which actually has the highest true value. As deliberators with different cognitive toolboxes offer up new and alternative solutions, it is the oracle assumption which allows all deliberators to recognise when a better solution has been offered, and therefore allows them to move past their local optima towards a consensus around the global optima. If they cannot recognise the better solution, then they may get stuck much below the global optima and possibly below the common local optima of a high ability but low diversity group.

When it comes to political and social problems, however, this assumption becomes highly questionable. The assumption requires that all parties to a political deliberation are able to recognise the true value of any policy suggestion aimed at addressing a political problem. This was the case in the New Haven deliberation where new solutions ‘struck everyone as far superior’ and therefore allowed for the generation of a ‘consensus’ (Landemore, 2013a: 101). The issue, however, is that most political problems are much more complex and uncertain than that faced by the residents of New Haven. If, for instance, we move from the problem of muggings in a single site to the more general problem of crime in New Haven can we expect that the best solution to this problem will really be obvious to all? The larger problem of crime is a much more complex issue. It involves not only many alternative policing strategies but also policy areas which affect the social determinants of crime, such as education, housing, welfare, substance misuse and other areas of public health. It is highly unlikely that the truly best combination of policies across these different areas can be recognised by all participants. It is highly unlikely that deliberation about a political problem such as this will lead to the ‘eureka’ moment where everyone sees the best policy as is required by the DTA (Landemore, 2014: 220).

92 This chapter will not dispute that the oracle assumption may hold for other types of problems, such as those in mathematics and the sciences.
Consider environmental problems as another example. As we have seen, these problems involve high levels of uncertainty about the future effects of environmental harms, and the policies aimed at addressing them. When uncertainty is high, however, it is not clear (even with the help of decision rules) that the true value of a policy will be recognisable. Landemore and Page (2014: 9) argue that everyone will agree that an ‘environmentally sustainable solution is better than a costly and dangerous one’. This may well be true. However, there is likely to be reasonable disagreement about which solution is actually the most environmentally sustainable. Limited knowledge allows for many plausible interpretations of the problem so that there is no reason to think that everyone will necessarily recognise the single best solution. To rely on the oracle assumption is, therefore, to either underestimate the uncertainty and complexity of political problems or to overestimate deliberators’ ability to deal with this uncertainty or complexity. Without this oracle assumption, however, the DTA cannot show how a diverse group of deliberators can arrive at the optimal solution, and therefore there is no reason to think that diversity will necessarily trump ability in the political domain.

Landemore and Page (2014; Landemore, 2014) have attempted to shore up the oracle assumption in the context of political problems. Firstly, they argue that deliberation does not require perfect oracles. Suppose there are five possible solutions to a problem and that a true oracle would assign these solutions values of 1, 2, 3, 4, and 5. Now suppose there is no oracle, but each person is able to assign them values with an error of less than a half. In this case, everyone would arrive at the correct ranking even without a true oracle. This, however, does not appear to help the case for the DTA very much. Essentially it is still required that deliberators can make the correct ordinal ranking of policies, which itself seems very unlikely in the political domain where problems are complex and uncertain. Secondly, they argue the oracle assumption does not mean that the problems being faced are trivial or that the solutions need to be obvious from the beginning. Rather it is through the giving of arguments and reasons that deliberation renders previously unnoticed and unrecognised solutions obvious. It may be that a solution becomes obvious only after deliberation. Again, however, this does not seem to do much to support the DTA applicability to the political domain. It may well be possible that deliberation can do this, and it may be that once a complex solution is explained it becomes more obvious than it was before. This does not, however, give us reason to think that an oracle will
always, or even mostly, be possible for political and social problems where the outcomes of alternatives policies are themselves debatable and contested.

The problems with the oracle assumption mean we have good reason to question the applicability of Hong and Page’s DTA to political problems. What are the implications of this for Landmore’s account when it comes to the stronger and weaker claims about inclusive deliberation? The most immediate implication is that the account can no longer establish the superiority of democratic deliberation over deliberation between any subset of the demos. It was the DTA that demonstrated that cognitive diversity was more important to problem solving than individual ability. It demonstrated that diversity trumps ability. Without it, Landemore cannot establish that a cognitively diverse problem-solving group is preferable to a high ability problem-solving group and, therefore, cannot defend the stronger claim. What, however, about the weaker claim? It might be thought that even without the DTA, Landemore can still explain the particular epistemic properties of inclusive deliberation. She argues that the cognitive diversity present in inclusive deliberation is important to group problem solving, as it allows deliberators to look for solutions in different places and find alternative answers. This logic was well illustrated, for instance, in her example of the New Haven deliberation. Although she cannot defend the stronger claim, this appeal to cognitive diversity may be able to account for the particular (although not superior) epistemic properties of democratic deliberation even without the DTA.

Landemore certainly points to something epistemically significant in noting the cognitive diversity present in inclusive deliberation. Without the DTA, however, her argument does not appear to sufficiently establish the weaker claim. Cognitive diversity seems to be valuable, but once we are forced to abandon the DTA, Landmore’s argument does not make it clear why we should think that it is always valuable across political and social problems. In cases such as the New Haven deliberation, cognitive diversity was certainly helpful in solving the problem, because deliberators looked for solutions in different places. Perhaps in other cases, however, this would not be the case. Perhaps there are cases where having more cognitive diversity adds nothing to the deliberation or having people who think similarly is an advantage to solving the problem. Without the DTA we do not have a formal explanation for why we should generally value more cognitive diversity in the political domain. It is not clear why we should always prefer a more cognitively diverse assembly of deliberators to a less cognitively diverse assembly.
Landemore does seem to be pointing to something important in cognitive diversity, but to fully establish the weaker claim requires some further argument. To make a case for the weaker claim seem to require a clearer explanation of why we should always prefer greater cognitive diversity across political and social problems. The next section will, therefore, attempt to develop a new epistemic account of democratic deliberation which can deliver this further argument and defend the weaker claim.

5.7 A New Epistemic Account of Democratic Deliberation

So far, we have seen that the accounts of both Landemore and Bohman face significant problems when defending the stronger and weaker claims about the epistemic value of inclusive deliberation. This section will aim to put forward an alternative account. This account will be more modest than the previous two as it will not attempt to defend the stronger claim about the necessary superiority of democratic deliberation (at least not independently of motivations). It will, however, be argued to be able to explain the particular (although not necessarily superior) epistemic properties of democratic deliberation independently of levels of motivation and knowledge. It will, therefore, ground the weaker claim which neither of the previous accounts could.

This new account takes Landemore’s appeal to cognitive diversity as its starting point. As we saw in the last section, Landemore pointed in the direction of an argument for the epistemic properties of democratic deliberation based on the benefits of cognitive diversity to group problem solving. The problem for her account, however, is that her chosen formal mechanism of the DTA cannot hold in the political sphere, and therefore cannot explain why we should generally prefer greater cognitive diversity in the political domain. Cognitive diversity does, however, appear to be an important factor in deliberative problem solving. The question then, is can a new account provide an alternative formal explanation for the benefits of cognitive diversity, which can show why we could generally prefer a more diverse assembly of deliberators to a less diverse assembly of deliberators? This section will attempt to provide such an alternative, which is based on the epistemic link between diversity and diminishing returns to type.

93 The new account will, therefore, adopt a conception of deliberation as problem solving rather than testing as found in Bohman. It will also, like Landemore, simply adopt the account of cognitive skills found in Page (2007).
The link between diversity and diminishing returns to type can be illustrated with a simple example, adapted from Page (2011) for our purposes. Imagine that a political community who, unbeknownst to them, is about to face a novel political problem that will have to be dealt with through their main political institution, a small deliberative assembly. For simplicity, let us assume that there are only four kinds of cognitive skills present in this community. There are four unique cognitive toolboxes in their population. Each member of the community either has cognitive toolbox A, B, C, or D. Of course, any actual political community will have a much greater range of cognitive skills, and they will not neatly fall into clearly defined categories like these. However, these simplifying assumptions are helpful to our example and do not undermine its applicability to more realistic situations. Table 1 below shows numerical values for the contributions made by each cognitive tool box to the problem-solving group. Not all cognitive toolboxes are equally useful for all kinds of problems, so we can assume that they will make different levels of contribution to this decision-making process. In this case, A makes the greatest contribution to this novel political problem and D the smallest contribution. The table also breaks the contributions down for each additional person with the same toolbox. Importantly, the value of these contributions decreases with every additional person with the same cognitive skills. The first person with toolbox A, for example, makes a contribution of 50, the second of 20, and the third of 10. There are diminishing returns to cognitive skills when it comes to problem-solving.94

<table>
<thead>
<tr>
<th>Table 1: Diversity &amp; Diminishing Returns to Type</th>
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<tbody>
<tr>
<td>Cognitive Toolbox</td>
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</tr>
<tr>
<td>A</td>
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<td>C</td>
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The presence of diminishing return is an intuitive assumption. When we add the first mathematician to a problem-solving group, for instance, this produces a great benefit. They bring a whole new set of cognitive skills to the table which was not there before.

94 Notice that all cognitive skills make at least some positive contribution. We therefore have an assumption similar to the second assumption in the DTA that all deliberators need to be relatively smart. That is, they must be able to make some contribution to the problem.
They bring whole new ways of thinking about the problem, and whole new solutions. When we add the second mathematician to the group, this is again a benefit. Two mathematicians are certainly better than one. The contribution they make, however, is going to be less than the first. They will certainly add to problem-solving, but they will not be bringing a whole new set of cognitive skills the group did not have before. There are then, diminishing returns to adding mathematicians to a problem-solving group. Every additional mathematician makes a positive contribution (at least until the group becomes too big and impractical), but each makes a slightly smaller contribution than the last. This same effect can be seen when we again considering the New Haven example. The technician from the city added much to deliberation as they were able to point out the problems of using electric lighting, a contribution which help lead to the final solution of solar-powered lighting. However, once that technician was included and able to point out this problem, a second technician was not required to do so. The second technician would not, therefore, be able to provide the same value of contribution as the first, as the first had already provided those particular skills. Of course, a second technician may have been able to contribute in other ways, so their contribution will still be positive and perhaps even large. However, their value to the problem-solving will be less than the first technician, and the same can be said on the city accountant and the representatives of the police. There will generally be diminishing returns to cognitive toolboxes when it comes to problem-solving.

This means that diminishing returns will be present for the different cognitive toolboxes present in our political community, as is represented in the table. Now, given this situation; what kind of deliberative assembly would we want this political community to have when the novel political problem finally arises? Let us consider three alternative kinds of assembly. The first kind is the ‘Diverse Assembly’ which involves the most cognitive diversity as it is made up of three people each with a different cognitive toolbox. The second is the ‘Moderate Assembly’ which is less diverse as it contains three people with two different cognitive tool boxes between them. Finally, there is the ‘Homogenous Assembly’ with is the least diverse at it is made up of three people all with the same cognitive toolbox. Now we can start to see why cognitive diversity is epistemically valuable given the presence of diminishing returns.

Consider calculating the overall problem-solving contributions made by those in the Diverse Assembly. This will involves adding three numbers from the Person #1
column. An assembly involving three people with toolboxes A, B and C, for instance, will have an overall problem-solving value of 100 (50+30+20). It is important to see the Person #1 column is the highest value column. Because of diminishing returns, the Person #2 and Person #3 columns will have lower values for any one particular cognitive toolbox than the Person #1 column. The contributions made by all the deliberators in the Diverse Assembly, therefore, come from the highest value column, no matter which cognitive toolboxes they have. Now consider calculating the overall problem-solving value made by those in the Moderate Assembly. This will involve adding only two numbers from the high-value Person #1 column and one from the lower value Person #2 column. For instance, an assembly made up of two people with toolbox B, and one with toolbox C will have an overall value of 90 (30+20+20). Finally, consider calculating the overall problem-solving value of the Homogenous Assembly. This involves taking only one number from the high-value Person #1 and then one from each of the lower-value columns. For instance, an assembly consisting of three people with toolbox A will have a total value of 80 (50+20+10).

From this simple example, we can see the formal explanation of why cognitive diversity is valuable to collective problem-solving. Calculating the overall problem-solving contributions for a Diverse Assembly will always involve taking more numbers from the high-value column than it does for calculating the total of the Moderate or the Homogenous Assemblies. This is true whichever toolboxes happen to be included in the different assemblies. As a result, a Diverse Assembly is more likely to have a higher total problem-solving value than a Moderate or Homogenous Assembly. The epistemic benefits of cognitive diversity are therefore explained through the relationships between diversity and diminishing returns. Diversity is able to exploit the presence of diminishing returns in order to produce epistemic benefits.

It is important to see that this argument is reliant on the fact that we do not know the political problem which is going to be faced in advance. If we knew the exact problem and could make some reasonable claims about (1) the initial contribution of each cognitive toolbox and (2) the exact rate of diminishing returns, then it may not be best to go for diversity. If for example, our small political community knew the full contents of the above table then they would know that an assembly involving two people with toolbox A and one with toolbox B would have the same total value as an assembly involving three people with toolboxes A, B and C. The example, however, assumed that the community
did not know the problem they were about to face, and therefore did not know (1) the initial contributions or (2) the exact rate of diminishing returns. What they do know is that diminishing returns are present, and therefore a diverse assembly will be best. As both Landemore and Bohman have already argued, the unpredictability and diversity of political problems means that it is not possible to specify the exact political problem that will be faced in advance of it arising. In politics, we are therefore in the same position as our small community. We cannot specify the problem we will face in advance so we cannot specify either (1) the initial contributions of each cognitive skill set or (2) the exact rate of diminishing returns. Even if we did know the problem, it still might not be possible to specify these factors as it can be difficult to specify cognitive skills into clear categories\(^5\). However, it is certainly not possible without knowing the problem which needs to be solved. Given this and the fact that we do know that diminishing returns is present, the best thing to do is to select a deliberative assembly with a large amount of cognitive diversity as this will have the greatest chance of having the highest total problem-solving value. We want to pick the more inclusive forum with higher cognitive diversity as this is more likely than the others to have higher total problem-solving contributions. The argument, therefore, holds under the same conditions as those of Landemore and Bohman – that is, for a general assembly where political problems cannot be specified in advance.

The simple example just given also assumed that diminishing returns to cognitive skills began at the second person. This may, of course, not be the case. Although it is reasonable to think that diminishing returns will be present at some point, it may not be present from the very start and where is begins may actually vary from problem to problem. Diminishing returns to cognitive skills will be present after N people with a particular cognitive skill set are included, but N may be greater than one and may differ depending on the particular problem. Does this change our argument in a way that means we would not want to pick the most diverse assembly? The answer to this is no, for the following reason. As we have just seen, in the political domain we will not be able to specify the problem in advance, and we will not, therefore, have access to information about (1) the initial contribution of each cognitive skill set and (2) the exact rate of diminishing returns. This means that we will also not have information about the value of N. If we cannot specify the problem, the contributions of cognitive skills, and the rate of

\(^5\) As we saw above, this is a point highlighted by Landemore (2013a)
diminishing returns, then we will not be able to specify the person at which diminishing returns will begin for each cognitive skill set. We are, therefore, still in the same position as our small community. We do not know the problem, but we do know that there are different cognitive skills sets which will face diminishing returns. As a result, the best thing to do is still to make sure that the deliberative assembly is diverse. This can be done, as Landemore suggests, by random sortition which attempts to recreate the cognitive diversity within the population.

This new account of deliberation draws on Landemore’s in that it focuses on the relationship between cognitive diversity and collective problem-solving. The epistemic properties of inclusive deliberation derive from the cognitive diversity it possesses, and it is this diversity which can exploit the presence of diminishing returns in order to benefit group problem-solving. Like Bohman and unlike Landemore, however, the new argument does not suggest that deliberators will always recognise the best or more optimal solution. The new argument does not, therefore, rely on an oracle assumption. Although the new account does require that deliberators will be able to engage in deliberative problem-solving, and therefore able to be responsive to ‘the force of the better argument’, it does not require the stronger oracle assumption as found in the DTA. Landemore and Page (2014: 6) have claimed that ‘the force of the better argument’, is one example of the oracle assumption. However, it is possible to appeal to the benefits of arguments without assuming that deliberators will necessarily recognise the true value of all solutions or that it should always lead to the best available solution. In academic seminars, for instance, participants exchange arguments and counter-arguments for different positions, and this often helps them to refine their research. This does not, however, necessarily mean that the seminar will, given enough time, result in everyone recognising the true value of those positions. The force of the better argument may lead people to correct misinterpretation and bad forms of reasoning, it may lead people to account for factors that were previously unaccounted for, and it may be able to lead people to change their minds. However, this is all possible without any strong oracle assumption which states that people will always recognise the true value of an argument.

Landemore’s insight is to see that the epistemic value of inclusive deliberation is derived from the benefits of cognitive diversity. However, once the DTA was abandoned we lacked a clear reason for think that we should always prefer a more diverse assembly to a less diverse assembly. The new account developed in this chapter, however, has
provided such a reason. It is, therefore, able to defend the weaker claim about inclusive deliberation. The particular epistemic properties of inclusive deliberation derive from its possession of cognitive diversity which is able to exploit the presence of diminishing returns. Inclusive forms of deliberation allow for greater levels of cognitive diversity, a property which, due to diminishing returns, has particular epistemic value for political problem-solving. The new account can, therefore, defend the weaker claim that inclusive deliberation has particular epistemic properties, independently of the question of motivations and knowledge gathering.

It does not, however, defend the stronger claim that these epistemic properties are necessarily superior to those of deliberation involving only a subset of the demos. The reason for this is that the account, like Bohman’s, focuses on a single epistemic dimension. It explains the epistemic benefits of cognitive diversity but does not show why this epistemic dimension is necessarily more important than the epistemic dimension of individual ability. It does not show why diversity trumps ability. Perhaps a less diverse group with higher individual ability would be better problem-solvers than a more diverse group (or perhaps the other way around). So, while the new account can defend the weaker claim about inclusive deliberation, it cannot defend the stronger claim. This fact certainly gives the new account an important advantage over Landemore’s and Bohman’s. It can explain why inclusive deliberation has epistemic properties in the political domain while the others could not. However, being able to defend the weaker claim may also produce an additional advantage. Establishing that inclusive deliberation has valuable (although not necessarily superior) epistemic properties opens up the possibility that we can ground a strong case for democratic deliberation once the question of motivations is reintroduced. This is a possibility which will be returned to later. First, however, a possible objection to the new account must be addressed.

5.8 How do Citizens Actually Deliberate?

The last section aimed to explain the epistemic properties of inclusive deliberation and relied on theoretical arguments to do so. This theoretical argument, however, assumed that citizens can deliberate in a reasonable way and that there are no negative synergies produced through their deliberation. It assumed that interaction between deliberators does not create negative epistemic effects (such as group polarisation and social domination) which corrupt and distort the problem-solving process. It may be objected then, that such
effects are in fact likely to be present when citizens actually deliberate, and that they will remove any epistemic value which may have been present. Of course, it is possible that inclusive deliberation will have epistemic benefits even with negative synergies, as the benefits of diversity may more than compensate for these negative effects (Page, 2011). Alternatively, it could also be the case that there are positive synergies created through deliberation which only add to the epistemic value of inclusive deliberation. The possibility that there are significant negative interactions with the practice of citizen deliberation or that citizens are unable to deliberate reasonably, does however require consideration. This section will, therefore, address these concerns by looking at what empirical research on citizen deliberation has to say about these possibilities. Although the empirical literature is not conclusive, it suggests that there are good reasons to be optimistic about the epistemic quality of citizen deliberation between citizens if the design and structure of deliberation is appropriate.

The empirical literature on citizens’ deliberation is large, but the focus here will be on the citizen deliberation within mini-publics, such as deliberative polls, consensus conferences, and citizens assemblies. These mini-publics have a number of differences in their design. However, they all select their participants by random or near random sortition, and therefore represent similar institutions to those suggested by the theoretical argument of this chapter. They also, however, offer some of the best evidence in favour of high quality citizen deliberation, and provide the most conducive settings for effective citizen deliberation. Mini-publics involve structured forms of deliberation where citizens are provided with information and give extended time (deliberations are often conducted over multiple days or months, and in some cases over a year) to consider and discuss a policy issue with each other. Determining deliberative quality within mini-publics is not, however, an easy task. For example, it is not possible to evaluate the decision itself as this would presuppose better procedure for arriving at the correct political decisions. There are, however, some forms of evidence for their deliberative quality. One piece of evidence comes from observers of mini-publics – who include researchers, stakeholders, government representatives and politicians – who have testified to the level of considered judgment, competence, and consideration they saw in citizens deliberation (Coote & Lenaghan, 1997; Smith, 2009). Another set of evidence comes from Blais et al (2008) analysis of the deliberation of the British Columbia Citizens Assembly, set up to consider a reform in the electoral system. Their study tracked participants through a number of
surveys conducted over their year-long deliberations. They found that the ‘data show that Assembly members made choices that reflected a well-defined set of criteria appropriate to the choice of an electoral system’ (Blais et al, 2008: 138). The criteria that members used to evaluate the alternative electoral systems remained stable throughout the assembly. However, they changed their preferred electoral system as they gained new information and determined how the electoral systems fitted with their criteria. The researchers conclude that ‘the Assembly did indeed make a reasonable and intelligible choice’ (Blais et al, 2008: 144). This is supported by studies of deliberative polls where it is found that participants’ policy attitudes and intentions are more predictable after deliberation, and their policy attitudes on collections of values become more corrected with empirical premises (Fishkin & Luskin, 2005).

Worries have, however, been raised about the effect of certain social dynamics in citizen deliberation, which can produce negative synergies and reduce deliberative quality. Two often discussed negative synergy which have been found to affect citizen deliberation are group homogenization and polarisation (Sunstein, 2000, 2002, 2009). Homogenization refers to the phenomenon that deliberation will tend to lead participants to accept the dominant group opinion. So, for example, if the dominant position is to reduce environmental regulation or increase public spending, then deliberation will tend to produce greater conformity to these dominant group positions. Polarisation, alternatively, refers to the effect of deliberation tending to move groups towards more extreme versions of the shared or dominant positions. So, for example, a group of conservative-minded individuals will become more conservative after deliberating together, while a group of liberal-minded individuals will become more liberal after deliberating together. It may be that a group actually homogenises or polarises towards a better position or even the correct decision, either because their original dominant view was correct or it was a moderate version of the correct view. However, homogenisation and polarisation have been found to affect group discussions irrespective of the particular shared position they begin with. Therefore, if these affects are present and strong, deliberation cannot be expected to lead to better or correct decisions any more than chance.

Although these are certainly real phenomena which can negatively affect deliberative quality between citizens, there are good reasons to believe that an appropriately designed and structured mini-public can significantly reduce their risk and magnitude. As Sunstein (2002) has pointed out, there are two mechanisms which can be
seen to create homogenisation and polarisation. The first is the desire of people to be accepted by members of a group which creates a social pressure to take up a group’s dominant position (group homogenisation) or take a more extreme version of it (group polarisation). The second is that a greater volume of reason will be given in favour of a group’s dominant position which will reinforce one another, and therefore give people increased support for their pre-existing positions. Both of these mechanisms can, however, be reduced through structural factors in deliberative design, the most important of which is increasing the diversity of the group and therefore the inclusion of opinions and interests (Chappell, 2001; Fishkin, 2018; Fishkin & Luskin, 2005; Morrell, 2014, Mini & Wong, 2017). Such diversity reduces social pressure to conform to a certain opinion and increases the range of reasons which are considered. The random or stratified random sampling methods used by mini-publics to select participants can create such diversity and therefore help to reduce homogenisation and polarisation (Luskin et al, 2017). Group polarisation is therefore much less likely to occur in mini-publics compared to like-minded groups, something which is noted by Sunstein (2000: 116) in his discussion of deliberative polls. As well as increasing diversity, there are a number of other factors which can help reduce the risk of polarisation. Grönund et al (2015), for instance, argues that having clear discussion rules, trained moderators, and the provision of information can also reduce the chance of polarisation (also see Fishkin & Luskin, 2005). In fact their study found that including factors in the ‘deliberative package’ can reduce polarisation even in like-minded groups.

Similar structural factors can also help address other possible negative synergies considered already in chapter 3. These negative effects result from the cognitive biases of deliberators, and include such things as the tendency to more favourably evaluate information and reasons which support their own position compared to that opposing it. However, increasing group diversity can again help to reduce such effects as increasing the range of opinions and interests which are heard and considered can check people’s cognitive bias towards a particular position (Landemore & Mercier, 2012; Mercier & Landemore, 2012; Mini & Wong, 2017). Morrell (2014) argues that increasing empathy in the groups can also reduce effects from cognitive biases within mini-publics and that

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96 Studies which questioned the prevalence of this bias in the political domain where discussed in chapter 3. These biases can also be another reason for polarisation (Sunstein, 2002). However, they can be a general negative influence on the ability of deliberation to track the force of the best argument even without polarisation.
this can be done through deliberative design. For instances, empathy may be increased by allowing not only fact and statistics but also stories of the affected parties on both sides, or having those affected give testimony. There is also plenty of evidence that citizens do change their mind through deliberation in mini-publics, and are not therefore completely cognitively entrenched within a certain position (Goodin & Niemeyer, 2003; Luskin et al., 2002; Smith, 2009). Citizens are, for instance, found to very often change their minds in citizens juries and deliberative polls after engaging in deliberation about an issue (Fiskin, 1997; Fiskin, 2009; Fishkin & Luskin, 2005; Coote & Lenaghan, 1997; McIver, 1997; Stewart et al, 1994). Although opinion change does not tell us that citizens are necessarily moving towards epistemically better positions, it does suggest that cognitive biases in favour of original opinions are not dominant.

Another particularly pernicious cognitive bias is a bias in favour of accepting the views and reasons of more privileged or socially advantaged backgrounds (for example, white, male, middle/upper class) over those of deliberators from more socially disadvantaged background (for example, non-white, female, working class) (Sanders, 1997; Fricker, 2009; Young, 1990). A significant presence of these biases would lead deliberation to track ‘domination’ within the social group rather than good arguments (Luskin et al, 2017). However, as we saw in chapter 3, structural factors – such as trained moderators and placing less pressure on consensus – are also able to significantly reduce these effects of domination, and there is evidence that such biases are much less significant in structured forms of deliberations such as mini-publics, as compared to unstructured deliberations such as jury deliberations (Fiskin, 2009, 2018; Luskin et al, 2017, Siu, 2008). In one study of deliberative polls, for instance, no particular pattern of movement towards the positions taken by advantaged or privileged groups was found (Fiskin, 2009; Siu, 2008). In half the cases studied, deliberators moved in the direction of the positions of advantaged groups (in this case white, male and educated), and half the time deliberators moved away from the positions of advantaged groups. One of the structural factors pointed to as important to reducing these influences, as well as polarisation and homogenisation, is less emphasis being placed on consensus. This suggests one advantage in mini-publics such as deliberative polls and citizens assemblies which end in a secret poll/vote, compared to consensus conferences where citizens are task with producing shared recommendations.
Homogenisation/polarisation and cognitive bias/domination can, therefore, negatively affect deliberative quality. However, there are a number of structural factors which are present in well-designed mini-publics which can help to reduce their threat. There have been a number of studies of single deliberative events which dispute the presence of these negative effects (Luskin, Fishkin, & Jowell 2002; Fishkin & Luskin, 2005; Fishkin et al. 2010; Fishkin et al 2011; Smith, 2009, Blais et al, 2008). More recently and significantly, Luskin et al (2017) analysed 21 deliberative pools including 372 small groups and 139 policy issues, and found that ‘deliberation does not routinely homogenise or polarise attitudes, nor does it routinely drive them towards those of the socially advantaged’. Where such effects were observed they were also found only to be ‘faint’ and therefore did not significantly affect deliberation. Although this study cannot establish that there are no distorting factors present within deliberation, it does suggest that the social dynamics and mechanisms behind some of the main worries about citizen deliberation (homogenization, polarisation and domination) ‘must not be accounting for the lion’s share of the observed attitude change’. Their findings are therefore ‘constant with the idea that the participants are deliberating on the merits’ (Luskin et al, 2017: 31-32). These results are again attributed to structural features of deliberative polls and other mini-publics, reinforcing the fact that achieving effective citizen deliberation rests in large part on the deliberative design. Individuals can be influenced by biases of different kinds; however, they reason and deliberate best together under structured conditions.

The fact that diversity is one of these important structural features actually suggests an additional advantage of inclusive forms of deliberation over some of its more elite non-democratic alternatives. If homogenisation/polarisation and cognitive bias/domination are more likely and more significant when groups are homogenous, then it would seem that elite forms of deliberation such as those of autocracy and oligarchy will be more at risk of such effects. Deliberations within mini-publics which randomly select their participants in order to recreate the diversity which exists in society, may then be in a better place to avoid the negative synergies produced by social dynamics than

97 As mentioned in chapter 3, the idea that people reason better in groups is supported by a growing literature in cognitive psychology. Although this discipline has led the way in many ways in showing the limits of human rationality it has started to move away from a focus on individual reason to reasoning within groups. Influenced by evolutionary psychology this new strain of research suggests the idea that humans are actually collective reasoners rather than individual reasoners and that although they are limited in respect to the latter they are effective group problem solvers. See for instance, Mercier and Sperber (2011, 2017), and Sloman and Fernback (2017). For a discussion of this research in relation to deliberative democratic theory see Chambers (2018), Landemore and Mercier (2012), and Mercier and Landemore (2012).
some of its more elite non-democratic alternatives. As well as exploiting the presence of diminishing returns to type, the diversity within inclusive deliberation may, therefore, also have the added epistemic benefit of being less susceptible to some of the more troubling social dynamics which can negatively affect deliberative quality.

Sturgis et al (2005), however, push another challenge to the quality of mini-public deliberation which is not based on negative synergies. This challenge questions whether the decisions taken by these assemblies will differ when the selection sample changes, and therefore the decisions will be dependent on who is actually picked to deliberate. The empirical evidence on this question is contested (see Fishkin, 1997; Smith, 2009). However, we can ask the more fundamental question of whether this is a reasonable standard by which to judge the epistemic competence of citizen-based deliberation as compared to its alternatives. Firstly, it seems just as likely that deliberation between more exclusive groups such oligarchs or epistocrats, would also come to different decisions depending on who is selected to participate. There is no reason to think that any form of deliberation will always result in the exact same decision when the participants are altered. Secondly, the presence of differing decisions is not inconsistent with the claim that citizen deliberation has epistemic value. Good political decision-making does not have to be about arriving at the one correct or optimal answer every time, but can be about increasing the chance of generally picking better answers. Democratic deliberation can provide a greater chance of producing better decisions without always making the exact same decision. Differing results between assemblies would not therefore compromise any claim about the epistemic value of citizen deliberation, or any other form of deliberation.

The empirical literature on citizen deliberation is, of course, not fully conclusive. The claim of the section, however, is that the current research gives us good reason to be optimistic about the ability of citizens to deliberate in a reasonable way and without significant negative synergies, at least within well designed mini-publics. Effective deliberation is not necessarily easy, and good structural design is very important to the achievement of deliberative quality. However, we have good reason to think that as long as deliberation is structured appropriately, citizens can effectively deliberate with each other. To the extent that the empirical literature on citizen deliberation is still incomplete,

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98 If there are large differences between groups, then this objection may have more force against deliberative polls as an alternative to conventional public opinion polling, as it would question if they are really finding the ‘public’s’ more informed opinion rather than just the sampled group’s.
the theoretical work of this chapter can be hypothesis generating. It specifies a formal mechanism which suggests that there should be epistemic benefits to the cognitive diversity present in inclusive citizen deliberation. Such a hypothesis can, therefore, inform future empirical work on citizen deliberation.

5.9 Reintroducing Motivations

The section before last suggested that the reintroduction of motivation into the analysis may help support the epistemic case for inclusive deliberation. The motivational argument in favour of democratic forms of deliberation is based on the plausible claim that an exclusive group is less likely to be motivated to act in the public interest or common good (whatever that might be) than an inclusive group. That is, democracy is said to be better motivated to solve the problem under consideration. This argument is made in relation to the incentives facing exclusive and inclusive forms of government. If decision-making is reserved to a particular subset of the population, then that subset will have the incentive to rule in the interest of that particular group rather than in the interest of all. They will not be accountable to nor will they need to convince certain portions of the population. As a result, they will have little incentive to act in the interests of those excluded and large incentive to act in the interest of those include. In a democracy, however, all are included, and therefore decision-making will not face the same perverse incentives (or at least not to the same extent). Decision-making will be accountable to all and will have to convince all through a process of inclusive deliberation. There may, of course, be cases of persistent minorities which can leave the majority in a similar position to those in non-democratic regimes. The motivations argument, however, is only that democracy can be generally expected to be more motivated in the public interest than non-democracies, not that it can never face incentives not to. The general claim of the motivational argument, therefore, is that democracy is generally better motivated to solve political and social problems than its more exclusive alternatives.

The strength of this claim will be considered further below; however, it is important first to see the general limitation facing motivational arguments. As Fuerstein (2008) has pointed out, the problem with this pro-democracy argument is that motivations alone are not enough to explain good decision-making. By themselves, better motivations cannot explain the epistemic superiority of democracy as they give us no reason to believe that democracy has the non-motivational epistemic abilities to actually achieve the good
ends it aims for. If it does not have these abilities, then all the best intentions in the world will not lead you to make good decisions to any higher degree than pure chance.

This chapter, however, has developed an account of inclusive deliberation which explains why it should be expected to have particular epistemic properties when it comes to political problem-solving. The aim of this chapter has been to argue that, independently of motivational issues, inclusive deliberation can be expected to have valuable epistemic properties. Inclusive forms of deliberation involve high levels of cognitive diversity, and such diversity is valuable to group problem-solving because it is able to exploit the presence of diminishing returns to type. As we saw, this argument by itself cannot show the superiority of inclusive deliberation. It gives us no reason for why the epistemic benefits of cognitive diversity outweigh the epistemic benefits of individual ability. It does not tell us why diversity should trump ability (it also does not tell why ability trumps diversity). However, what we now have is the other half of the epistemic case for democracy which was missing from the purely motivational argument. The motivational argument suggests that democratic deliberation will be better motivated than more exclusive deliberation, while this chapter’s account explains why democratic deliberation will have particular epistemic properties which will allow it to achieve the things it is motivated to achieve.

Combining these two arguments gives us an epistemic case for deliberative democracy along the following lines. Increasing the inclusiveness of deliberation may decrease the individual ability of the group, but it increases both the level of cognitive diversity and the level of motivation to solve the problem. On the other hand, increasing the exclusiveness of deliberation may increase the individual ability of the group, but it decreases both the level of cognitive diversity and the level of motivation to solve the problem.

Just how strong is this epistemic case for democratic deliberation? The argument certainly does not amount to a proof that democratic deliberation is superior at political problem-solving. It does not logically rule out the possibility that some more exclusive group can include greater levels of individual ability, and yet still manage to retain enough motivation and diversity that it can outperform inclusive deliberation. The question then, is how likely is this possibility? When it comes to democracy’s traditional alternatives, such as autocratic and oligarchic deliberation, the epistemic case for deliberative
democracy appears to be strong. These traditional alternatives are very exclusive forms of decision-making involving a relatively small subset of the population. In terms of motivations then, they will have a very strong incentive to act in the interest of this small subset and not in the public interest. They will be completely unaccountable to the vast majority of the population and will, therefore, have very little incentive to act in the public interest rather than the interest of the elite group which is included in the procedure. This incentives argument is supported by empirical research on real world autocratic and oligarchic regimes which suggests that such regimes provide less in the way any basic goods and services to their populations than democracies. These goods include general access to education (Acemoglu et al, 2013; Harding & Stasavage, 2014; Gallego, 2010), nutrition and calories (Blaydes & Kayser, 2011; Sen, 1999), reduced infant mortality (Franco et al, 2004; Kudamatsu, 2012), life expectancy and health policy (Besley & Kudamatsu, 2006; Franco et al, 2004), as well as safe water, public sanitation and pollution controls (Deacon, 2009). The very elite nature of these regimes also means that they will likely possess very low levels of cognitive diversity. Reserving political decision-making to such a small group will likely exclude a large amount of cognitive diversity which exists within the wider population. These traditional alternatives will, therefore, likely have significantly lower levels of motivation and cognitive diversity compared to a democracy. It is therefore unlikely that the increases in individual ability provide by even an idealised version of autocracy and oligarchy (in other words, regimes where power is actually given to those with greater individual ability as opposed to those who are part of the ruling social class or family) will compensate for these significant deficits.

Against these traditional rivals then, the epistemic case for deliberative democracy appears to be strong. This epistemic case is much less secure, however, if we consider some less elite non-democratic alternatives. Brennan (2016), for example, suggests a limited form of epistocracy which involves excluding only those who are in the bottom five percent in terms of individual ability from decision-making. In the case of

99 Referencing these goods is not meant to take a stance on the independent standards of correctness by which outcomes are judged (although these good would be consistent with many). Rather they are evidence of the claim that democracy will have greater motivation and incentive to provide for the general interest rather than just for the interests of some elite group.

100 Determining if the benefits are due to democratic institutions rather than other factors is of course difficult, and there is therefore some disagreement (for a dissenting view see Mulligan et al, 2004). For evidence of that citizens participating in inclusive deliberation make ‘public spirited’ rather than self-interested judgments see Ackerman & Fishkin (2004), Parkinson (2006), and Smith (2009).
deliberation, this would involve excluding people in the bottom five percent of ability from the sample population from which deliberators are randomly selected\textsuperscript{101}. Many epistemic democrats have not considered such a limited form of epistocracy, and they have tended to treat the epistemic case for democracy as equivalent to showing that democracy will outperform autocracy or oligarchy (i.e. Landemore, 2013a). However, an epistemic case for democracy must defend ‘full inclusion’ on epistemic grounds and cannot be satisfied by only considering very elite alternatives to democracy. Although limited epistocracy of the form proposed by Brennan involves a much lower level of exclusion than the traditional alternatives, it is still an undemocratic regime, and it is troubling as it actually makes for a much more difficult epistemic comparison with democracy. Firstly, the fact that so much of the population is still included means the claims that it will have far lower levels of motivation than democracy, is less plausible than in the case of autocracy and oligarchy which involve much more elite groups. This is not to say that there will not be any motivational loss, particularly if it excludes particularly underprivileged and therefore less educated social groups, but only that it will not be as significant as that found in the case of traditional alternatives to democracy\textsuperscript{102}. Secondly, the fact that it only excludes five percent of people means that it will not compromise cognitive diversity to anywhere near the same level as an autocracy or oligarchy. Again, this is not to say that there is no reduction. There may well be, and this will be particularly true if low individual ability happens to be correlated with particular cognitive skills. However, this loss will be significantly less than that found in traditional alternatives. Limited epistocracy does not, therefore, risk compromising motivations and cognitive diversity to the same extent as autocracy or oligarchy.

The problem for the limited epistocracy, however, is that it also offers much less in terms of improvements in individual ability. Let us assume, as we have throughout, that there is an accurate and uncontroversial procedure which can determine people’s actual level of ability and therefore who actually falls into this bottom five percent. The problem, even for this idealised version of limited epistocracy, is that it does not offer much in the way of improvements in total individual ability compared to fully inclusive

\textsuperscript{101} Brennan (2016: 184) suggests this limited form of epistocracy in relation to voting rather than deliberation, but we can adapt it for our purposes.

\textsuperscript{102} Brennan (2016) applies to studies which suggest that as long as a group is large enough people will tend not to vote in their self-interest. However, it is not clear that this effect will hold in the long run for a society which institutionalises epistocracy, as in the long run the enfranchised group may develop a group consciousness and therefore a greater idea of its interest over the unfranchised.
democracy. Given that face-to-face deliberation can only involve a certain number of participants, the number of deliberators who would in a democracy be randomly selected from the bottom five percent will be very small. It will, on average, be only five percent. In an assembly of one hundred people, for instance, Brennan’s limited epistocracy would therefore only change five deliberators compared to a democratic assembly, while in an assembly of four hundred it would only change 20 deliberators. This alternative only involves changing small numbers of people, which cannot be expected to make a large difference to the total levels of individual ability in deliberation. This can be seen even more clearly when we realise that some of the people who are removed, will only be replaced by people in the bottom ten or twenty percent of ability. So, although this limited epistocracy may not do as much to compromise cognitive diversity or motivations compared to the traditional alternatives, it would also do very little to improve levels of individual ability.

It is not therefore clear that such a limited form of epistocracy will produce any epistemic improvements over inclusive deliberation. There is likely to be little difference between a democratic deliberative assembly and a limited epistocratic deliberative assembly, in terms of any of our variables (motivations, cognitive diversity and individual ability), as the latter will only change a small number of deliberators. As a result, there will likely be little epistemic difference between them. Of course, advocates of limited epistocracy can attempt to play around the percentage that is excluded in order to produce greater improvements in individual ability. However, as they increase this percentage, they also increase the risks of compromising motivations and the benefits of cognitive diversity. It is therefore unclear that either democracy or limited epistocracy is epistemically superior to the other.

A purely epistemic argument for deliberative democracy over its alternative – which combines the benefits of cognitive diversity with motivational arguments – cannot then be fully conclusive. Although in the case of the traditional alternatives (autocracy, oligarchy etc) the epistemic argument for deliberative democracy is strong, it is less clear that deliberative democracy is epistemically superior to a limited form of epistocracy. Any epistemic difference between these two forms of deliberation is likely to be small, and it is unclear on which side the improvements lie. A purely epistemic argument cannot, therefore amount to a full or stand-alone justification of democracy.
A purely epistemic argument for democratic deliberation can, however, claim that there are no good or clear reasons for rejecting inclusive deliberation in favour of even its best alternatives. This puts democracy in a much better epistemic position than many would have thought and produces a strong defence of democracy against its epistemic critics. A purely epistemic analysis has found that deliberative democracy is epistemically superior to its traditional alternatives, and at least as good as its best alternatives. This is also argued while granting the generous assumption that these non-democratic alternatives will actually be able to select for higher levels of individual ability. This will be a surprising conclusion for many who hope to reject democracy on epistemic grounds. However, it will also be surprising to those democrats who believe that a justification of democracy must be heavily reliant on procedural values. If there are no good or clear epistemic reasons to prefer even the best alternatives to democracy, then only very thin non-epistemic values would be required to tip the balance in its favour. Even if someone only has a very small concern for the equality or freedom expressed by the procedure, then this would be enough when combined with epistemic values to justify deliberative democracy. These points will be discussed further in the next chapter. However, for now it should be recognised that democracy has been shown to be a long way from ‘rule by the incompetent many’ and therefore highly reliant of procedural values. Instead, it has been shown to have significant epistemic properties which compare very favourably to its alternatives. Such epistemic properties can therefore carry much of the weight in a wider justification of democratic rule.

5.10 Conclusions

This chapter started by drawing a connection between judgement and deliberation. It argued that if decision-making is to exercise good judgment then it needs to involve a form of deliberation. Combined with the previous chapter then, we now have an epistemic argument for why political decision-making should be deliberative, something which was simply assumed by many in the debate. The chapter then moved on to consider if there were any particular epistemic properties to inclusive forms of deliberation. After critiquing the arguments of Landemore and Bohman, a new and original account of inclusive deliberation was developed which explains its epistemic properties through the relationship between cognitive diversity and the presence of diminishing returns. This account firstly explained the particular epistemic value of inclusive deliberation, and secondly, opened up the possibility of combining these properties with motivational
arguments. Combining the benefit of cognitive diversity with increased motivations, the chapter concluded that democratic deliberation is epistemically superior to many of its alternatives, and that there is no clear epistemic reason to reject it in favour of even its best alternatives. This was argued for even with the generous assumption that these alternatives could effectively select for higher levels of individual ability.

This and the proceeding chapters therefore produce a strong reply to democratic sceptics who wish to reject or restrict democracy on epistemic grounds. It finds that we have no good or clear epistemic reason to favour any of the prominent alternatives to democracy. It also demonstrates that epistemic values can play a considerable role in a wider justification of democratic rule. These two important implications of the epistemic theory of deliberative democracy developed in this thesis will be discussed further in the following, concluding chapter.
6 Conclusions: Replying to Democratic Sceptics & the Epistemic Theory of Deliberative Democracy

This thesis started by discussing a growing scepticism about the ability of democracy to make good decisions and provide valuable goods to society. This scepticism was seen to come from a number of directions, such as from a sympathy for autocrats, free-markets, economic calculation, or the more knowledgeable. Whatever the particular angle, there is an increasing number of critics arguing that democratic institutions are unlikely to make good decisions or lead to good outcomes in terms of justice or the common good. In the face of such rising democratic scepticism, this thesis has developed an epistemic theory of deliberative democracy. It set out to conduct an epistemic analysis of deliberative democracy which compared and contrasted it to its supposedly more able alternatives. In doing so, it aimed to discover the particular epistemic properties of deliberative institutions and map the possible role epistemic values can play in a wider justification of democratic rule. The epistemic theory it developed came to the conclusion that although a purely epistemic justification of deliberative democracy falls short, we have no good or clear epistemic reason to reject it in favour of even its best alternatives. Such a conclusion mounts a strong reply to those critics of democracy who argue that it should be rejected or restricted on epistemic grounds, while also suggesting, against much of democratic theory, that epistemic values can play a very significant role in an argument for democratic rule. The rest of this conclusion will discuss these key findings in more detail and point to further avenues of research which emerge from them.

6.1 The Epistemic Properties of Deliberative Democracy

The first aim of an epistemic theory of deliberative democracy was to determine the epistemic properties of deliberative democratic institutions and how they compare to its alternatives. The thesis started this task by considering the epistemic property of knowledge gathering and engaged with a class of democratic scepticism which comes from Hayekian support of the market. The epistemic case for markets over democracy which has been advanced by Hayek and his predecessors has had a significant influence on the expansion of market mechanisms and presents important challenges to epistemic democrats. These arguments had so far gone without reply, but this thesis mounted a
strong defence of deliberative democracy against its pro-market critics. By developing the concept of low feedback goods, markets were shown to face significant limitation when it comes to political and social problems. Low feedback goods will often be central to such problem, but markets are unable to deal with the particular knowledge burdens they produce. The thesis, therefore, undermined the epistemic case for markets by arguing that they are unable to provide a broad range of important goods. In doing so, it also produced a new and original way of thinking about market failure. There are a number of different categories of market failure which are common to discussions of markets. These include externalities, commonplace resources, and asymmetric information. The problem of low feedback goods introduces a new category of market failure to this list with its own set of implications for how we think about markets.

An interesting avenue for further research would be to draw out these wider implications in more detail. Here the focus was on the significance of low feedback goods for the relationship between markets and deliberative democracy. Future research, however, could aim to compare and contrast it with other forms of market failure in order to better understand the nature and scope of the problem. For instance, externality or common pool resource problems emerge because of an absence of or an inability to secure markets and property rights in certain goods. Alternatively, the problems associated with low feedback goods are present even when markets can be fully established. It therefore introduces a different form of market failure in the sense that it is a problem internal to the market process itself, rather than a failure to fully realise markets\textsuperscript{103}. The problem is produced because of the particular structure of decision-making in markets and the limits of price signals. Considering the relationship between different forms of market failure may, therefore, produce interesting findings and implications for the concept of low feedback goods developed at the beginning of the thesis.

Low feedback goods were used here, however, to argue for the priority of deliberative democracy over markets in the political domain. Doing this also involved showing that deliberative democracy could acquire the knowledge needed to deal with such goods. On this side of the argument, the Hayekian analysis of the decision of knowledge becomes very constructive in helping us understand the knowledge-gathering

\textsuperscript{103} Other problems which may be seen as internal to markets may include issues of economic cycles and crashes, or critiques of markets based around limits to growth.
abilities of deliberative democracy. Hayek highlighted that the ability to gather knowledge must include the ability to access local information and this took us in the direction of a deliberative system. It was only through a systemic approach to deliberation that we could see how democratic decision-making could gather knowledge which was, to different extents, dispersed through society. An engagement with Hayekian theory therefore also played a constructive role in the thesis. It led to the development an epistemic model of a democratic deliberative system, where institutions in public space were seen to gather and aggregate knowledge which could not be accessed by a unitary model of deliberation. There had not been much engagement from epistemic democrats with the systems approach to deliberation; however, this thesis showed that the approach is vital to understanding the knowledge gathering abilities of democracy. Greater engagement between these two literatures may then have further benefits to better understanding the epistemic value of democratic deliberation.

The model of a democratic deliberative system was also compared to two alternative deliberative systems, one of which terminated in the decisions of market actors and the other in the decisions of citizens in a referendum. Through these comparisons, we saw the importance of taking decisions within forums rather than by individuals. Doing so decreases the difficulty of communicating relevant knowledge, reducing the epistemic and cognitive burdens placed on decision-makers, and increases the quality of knowledge communication. In terms of direct democratic voting, these arguments undermined the epistemic defences of procedures such as referenda. Although defended by many epistemic democrats through such things as the jury theorem and miracle of aggregation, this analysis suggests that mass votes will not be able to communicate enough high-quality information to citizens so that they can make direct and effective decisions on policy. Unlike the arguments of democratic sceptics, this critique did not point to an abandonment or restriction of democratic decision-making but rather to an alternative form of democracy. In fact, as will be discussed below, it led to an alternative form of democracy which also gave a very significant role to citizens in decision-making.

There is certainly a range of further research to be done on an epistemic understanding of a deliberative system. For example, the thesis discussed the knowledge-gathering and aggregation role of public space institutions at a rather general level.

104 For an exception see Kuyper (2015).
Research investigating this role at a more specific level, perhaps engaging with particular case studies, would help us to understand the flow of knowledge through the deliberative system in more detail. Such research could focus on particular examples of scientific bodies, think tanks or campaign groups and analyse how they process information in order to determine the quality of knowledge gathering within the system. An alternative area of research would look more closely at the transmission between public and empowered space in epistemic terms. How do particular institutions within public space aim to communicate their knowledge to empowered institutions and what channels are available for them to do so? Is it the case that only certain kinds of institutions get access to empowered space, and how may this affect the kind of information which comes to influence democratic decision-making? As well as the issue of transmission, an important area of research would be to look at the deliberative quality of public space itself, and how this affects the gathering of knowledge. As noted in chapter 3, issues affecting the deliberative quality of public space were not directly addressed by the thesis. There are, however, important issues in this area. For instance, do certain institutions dominate this process and does this promote certain kinds of knowledge, what is the role of media institutions in communicating political relevant knowledge in public space, and is there particular forms of knowledge which are likely to be lost or fail to be captured by knowledge gathering institutions?

A different avenue of research which is suggested by the epistemic account of a deliberative system is the relationship between such as system and the institutions of science. Scientific knowledge and institutions were introduced into the system model in order to account for how scientific knowledge can come to influence democratic decisions. There may, however, be a number of ways that the institutions of science could interact with a wider deliberative system. Berg and Lidskog (2018) for instance, have discussed how a democratisation of science could help to increase deliberative quality at the system level. Work in science and technology studies has, for instance, argued for a democratising of science through an increase in inclusion when it comes to the construction and evaluation of scientific knowledge (Liberatore & Funtowicz, 2003; Jones, 2014; Ravetz, 1999). Such a move could, according to Berg and Lidskog, allow for a greater range of view and perspectives to be heard in areas such as environmental governance where political discourses are necessarily reliant on scientific claims. There
may then be further ways of exploring the relationship between science and the deliberative system and how this affects deliberative quality around political issues.

One part of the system model the thesis did give particular attention to was the need for an epistemic filter. Because of the imperfection of public space, the knowledge claims it produces cannot be taken as given. The problem of knowledge gathering must, therefore, account for how information can be filtered so that high-quality knowledge can come to influence decisions in empowered space. By considering how different forms of deliberation could fulfil this function, the thesis argued that citizens can play a significant role in this process. Deliberation cannot determine the truth-value of the knowledge relevant to political and social problems. Instead, deliberation needs to be focused on second-order evaluations of the trustworthiness of knowledge sources rather than with truth. Recognising this was argued to radically change who we should include in deliberation on epistemic terms. We often think that when it comes to getting quality knowledge into political decision-making, we should include the more knowledgeable, whether they are experts or civil society groups. When deliberation is concerned with trust, however, knowledge of the content of knowledge claims comes to be of less importance than epistemic independence from those being evaluated. General citizens are therefore in a much stronger epistemic position than they might be thought to be in. Unlike representatives of public space institutions who have strong commitments to knowledge sources, citizens can exercise a much greater level of epistemic independence and impartiality. This thesis, therefore, suggests a much greater role for citizens in the knowledge-gathering component of political decision-making than would often be thought.

There are, however, further questions to be asked about how the role for citizens should be best institutionalised. Should it, for instance, take the forms of an independent citizens assembly which is solely concerned with selecting trustworthy sources of knowledge, or should those citizens also be involved in decision-making itself? The later may allow citizens to come to a wider understanding of an issue before taking a decision, but it would also risk overburdening them. Alternatively, the role of citizens may be best institutionalised not in an assembly at all, but rather by engaging citizens in existing bureaucratic institutions which gather knowledge and inform decision-makers. Boswell and Corbett (2017) have discussed how bureaucratic institutions may be made more deliberative by expanding inclusion. Perhaps, then, citizens can be brought into existing
procedures of knowledge gathering within bureaucratic institutions. In the case of deliberative mini-publics, the selection of knowledge sources and expert witnesses is often conducted by an independent board, so another alternative could be to integrate citizens into similar mechanisms set up for particular topics. Selecting the best way to involve citizens in determining trustworthy sources of knowledge will, of course, involve further consideration of competing epistemic, practical and procedural values which further research could investigate.

On the epistemic property of knowledge gathering then, deliberative democracy was found to have significant epistemic value. Compared to markets, a deliberative democratic system was seen to be able to gather the knowledge required to deal with social and political problems, and against those who think accessing knowledge requires only the more knowledgeable, we also found that citizens can have an important role in helping to determine the trustworthiness of knowledge claims. This, however, was only part of the picture when attempting to analyse the epistemic properties of democracy. The second half of the thesis, therefore, moved on to determine if deliberative democracy should make good decisions on the basis of gathered knowledge.

It started by considering decision rule approaches which can be found in policy tools such as cost-benefit analysis and precautionary principles. Like markets, however, these decision rules have tended not to be considered in relation to deliberation despite their common use in public policy.105 This thesis brought the two together arguing firstly that social and political problems cannot be reduced to a matter of decision rules, and secondly, that such rules can still be useful to decision-making as long as they are embedded within a wider process of deliberation. The decision rules developed by decision theory and neo-classical economics cannot be relied on to make good decisions as they cannot account for all the features of political problems. By representing information, relevant trade-offs and alternative strategies, they can however be useful to decision-makers. What is needed is a prior process of deliberation which can exercise judgment in the use and application of such rules. There may then be interesting ways to think about how decision theory can be combined with certain forms of deliberation. When it comes to value questions the use of analytic metrics, such as multi-criteria

105 There is a large debate about the use of cost-benefit analysis and deliberation when it comes to dealing with value questions in public policy (for example, Barry, 1999; Jacobs, 1997; O’Neill, 2007; Pascul et al, 2017; Smith, 2003)
valuation tools, in aiding deliberation has been well explored (Burgess et al, 2007). The thesis, however, suggests that analytic decision rules could also be integrated into deliberation in interesting ways in order to help deal with issues of uncertainty and improve its epistemic quality. For example, the scenario analysis found in robustness rules may be able to help deliberators to think through complex and uncertain problems, by breaking them down into alternative scenarios which can then inform their decisions. So although the thesis critiqued and pointed to the limits of decision rule approaches as primary decision procedures, it also pointed to how they may be able to aid deliberation in particular ways.

What these critiques also did was help us to understand the importance of deliberation to political decision-making. It was through the limits of rules and the need for judgment, that deliberation was seen to be required for good decision-making. The final task of the thesis was then to analysis the particular epistemic properties of inclusive deliberation as compared to deliberation between any subset of the demos (autocracy, oligarchy or epistocracy). After critiquing the arguments of two prominent epistemic democrats, the thesis put forward an original and what it argued to be a preferable, account of the epistemic properties of inclusive democratic deliberation. According to this new account, the epistemic value of inclusive deliberation is that it possesses high levels of cognitive diversity and high levels of motivation to act in favour of the general interest or the common good. Motivational arguments are common to instrumental accounts of democracy; however, alone they lack the resources to show why democracy will be able to achieve what it is motivated to achieve. The epistemic theory developed here filled this gap. It argued that the cognitive diversity found in inclusive deliberation is able to exploit the presence of diminishing returns to type in order to produce epistemic benefits. Other things being equal, we should prefer a cognitively diverse forum to one which is cognitively homogenous. When we combined this new argument for cognitive diversity with motivational ones, we found that deliberative democracy is likely to be epistemically superior to its traditional rivals (autocracy and aristocracy) and epistemically similar to its less exclusive alternatives (limited epistocracy). Decision-making through inclusive deliberation was therefore found to have significant epistemic value. Its ability to combine cognitive diversity with increased motivation allows it to perform well in comparison to even the best non-democratic forms of deliberation, and even with the generous assumption that these alternatives can effectively select for higher ability members
What is particularly interesting about this account is that it pointed to the epistemic value of direct citizen deliberation. Following Landemore, it was argued that the best way to secure cognitive diversity was through random sortition which aims to recreate the diversity which is present in the population. What we have then, is not just a case for the epistemic value of democratic deliberation, but for direct democratic deliberation as found in institutions such as mini-publics. Earlier in the thesis, direct democracy in the form of referenda was rejected because of issues of limited knowledge. The thesis therefore sided somewhat with some critics of democracy who attack the decision-making of individual citizens (although they do so for different reasons). However, the epistemic theory of this thesis argues not for rejecting or restricting democracy but for an alternative form of citizen-centred democracy. Citizens are not necessarily bad decision-makers as the democratic sceptics argue; rather, particular institutional designs do not allow them to access knowledge and engage in considered deliberation. In referenda, citizens will struggle to acquire information and effective deliberation while these problems can be overcome in structured democratic forums such as mini-publics.

Additional questions can still be asked about how to institutionalise citizen decision-making so as to promote deliberative quality. Owen and Smith (2018) for instance, suggest a large pool of 6000 randomly selected citizens should be constructed from which smaller pools can then be selected for particular issues. They also suggest the frequent rotation of members and role holders in order to protect against the capture of members by vested interests. More research should, therefore, investigate a number of alternative institutional designs which combine the random selection of citizens and structured deliberation. Of course, the extent to which any kind of citizen deliberation can produce epistemic benefits is also an empirical question. For this reason, the empirical research on deliberative mini-publics was discussed, and it was argued that they give us reason to be optimistic in the abilities of citizens. The extent to which such empirical research is incomplete, the epistemic theory of deliberative democracy can also be hypothesis generating. It has pointed to a particular mechanism for increasing the quality of problem-solving in deliberation, and future empirical work can help to investigate this claim.

106 Owen and Smith advocate these designs in reply to an alternative proposal by Gastil and Wright (2018).
Putting the analysis together then, the epistemic theory of deliberative democracy amounts a strong reply to the sceptics of democracy considered at the beginning of the thesis. In terms of knowledge gathering, a democratic deliberative system was found to be well placed to access and communicate relevant knowledge to decision-makers and citizens were found to have an important role to play in this process, helping to determine the trustworthiness of knowledge sources. In terms of decision-making itself, inclusive forms of deliberation were found to be able to combine cognitive diversity and increased motivation, which give it epistemic properties which were superior to many of its alternatives and no worse than others. Against the rising number of democratic sceptics then, the epistemic theory of this thesis argues that we have no good or clear epistemic reason to reject democracy.

6.2 The Epistemic Justification of Democracy

The analysis of the thesis was aimed not only at better understanding the epistemic properties of deliberative democracy and replying to democratic sceptics, but also at better understanding the role epistemic values may be able to play in a wider justification of democratic rule. It wanted to answer the question of what weight epistemic values are able to carry in an argument for democracy, and what weight must be carried by other non-epistemic values? As we saw in the introduction there are a number of different positions which can be taken on the role of epistemic values, from purely epistemic accounts which only involve epistemic values to pure proceduralist accounts which give no role to them at all. What then does the epistemic theory of deliberative democracy developed here have to say about this debate?

The epistemic theory found deliberative democracy to be epistemically superior to many of its rivals (autocracy and oligarchy) and epistemically very similar to its best alternatives (limited epistocracy). It therefore suggests that epistemic values can play a very considerable role in a justification of democratic rule. Deliberative democracy, at least in the form suggested here, was found to be better than or as good as its prominent alternatives and we, therefore, have no clear reason to think that any of these alternatives would have greater epistemic value. Democracy is therefore far from being ‘rule by the incompetent many’ and as a result heavily or completely reliant on procedural values. We do not have to see it solely as a fair procedure for political decisions, but also as a set of
institutions which compare favourably against others when it comes to making good
decisions in terms of justice and the common good.

Democracy’s epistemic value cannot, however, take us all the way. We do not
have any epistemic reason to reject democracy over its best alternatives, but nor do we
have a strong epistemic reason to favour it. When it comes to limited forms of epistocracy,
it is unclear whether they or democracy will produce better decisions and better outcomes.
A purely epistemic argument cannot, therefore, amount to a full or stand-alone
justification of democracy. A purely epistemic analysis cannot clearly demonstrate the
superiority of democracy over all possible alternatives, so cannot fully establish why we
should favour it. Instead, the epistemic theory of deliberative democracy suggests that
some non-epistemic values are required to ground democratic rule.

Although a justification cannot rely on purely epistemic values alone, the
epistemic theory of the thesis does suggest that only very fine or weak non-epistemic
values would be required to establish a mixed justification. Deliberative democracy was
not shown to be epistemically superior to its best alternatives, but its best alternatives
were also not shown to be epistemically superior to deliberative democracy. Given their
similar epistemic values, it would therefore only take very fine procedural arguments to
tip the balance in democracy’s favour. If, for example, we took there to be at least some
small value in the fairness or equality of the decision procedure or thought there to be at
least some kind of disrespect in excluding people from decisions which bind or affect
them, then we would have reason to support democratic procedures over all others. Given
the similarities between democracy and its best alternatives in terms of epistemic value,
democrats would only be required to defend thin procedural values to make a case for
democratic rule. As long as they can establish some value in the fairness of democratic
decision-making, then this would be enough to produce a successful mixed account of
democratic rule.

This does not mean that the best, all things considered, account of democracy
should only include thin procedural values. It has not been the aim of this thesis to take a
position on what a complete theory of democracy should look like. Rather it has aimed to
determine the epistemic value of deliberative democracy and map the possibilities which
exist for such values in a wider justification of democratic rule. We may, therefore, think
that the all things considered account of democracy would be lacking without including
thicker procedural values and appeals to such things as political equality. What this thesis has shown, however, is that such thick procedural values are not necessary and that thin non-epistemic values are sufficient to establish a mixed justification of democracy. This is because epistemic values alone can carry much of the weight in a justification of democratic rule, showing that we have no clear epistemic reason to prefer any of its alternatives.

The fact that the thesis suggests procedural values of some kind will be required, points towards an important area of further research. The epistemic theory of deliberative democracy has suggested the kinds of institutions which should be preferred in terms of epistemic values. However, it does not tell us how such values should be balanced against other important democratic goods. If a wider account of democracy must involve non-epistemic values, then how do epistemic values support or conflict with these other democratic values, and how should they be balanced against one another?

The epistemic analysis of the thesis did, for example, give a prominent role to random sortition and mini-publics in terms of decision-making. Although these institutions are generally seen as democratic, they have been criticised for not fully living up to certain democratic values (Lafont, 2015). The use of random sortition to select members rather than the election of candidates has been argued to fail to provide important democratic goods such as accountability and representation. There may, therefore, be a conflict between these other democratic values and the epistemic values explored in the thesis. Similarly, this thesis has argued against the epistemic value of direct democratic voting through such mechanisms as referenda, as they cannot gather relevant knowledge to decision-makers. Referenda, however, allow for mass and direct participation in democratic decision-making in a way that is simply not possible for a deliberative assembly such as a mini-public. Again then, there may be a trade-off between competing epistemic and democratic values. The purely epistemic analysis of this thesis does not, however, tell us how we should manage these cases of conflict. It focused on the epistemic dimension of democracy and therefore does not provide the tool we will need to balance and trade off epistemic values with others, such as representation, accountability, and participation. Of course, epistemic and other democratic values may not always conflict. A key aim of this thesis has been to argue that epistemic values support deliberation between citizens, an idea which is also supported by a number of
other democratic values. In cases where conflict is present, however, the epistemic theory of the thesis does not provide the tools required to manage the trade-off.

An important area of further research is to put the epistemic analysis of this thesis into a wider context with other possibly competing democratic values. Such research would attempt to determine the extent to which such values support or conflict with each other, and in the cases of conflict, determine how they should be balanced and traded off. It would be interested in the relationship between the different values and what this means for the kinds of institutional forums we should prefer. For example, when considering all values together, should we support similar institutions to those defended by a purely epistemic analysis or ones which differ in important ways? Alternatively, do we want to combine institutions with strong epistemic abilities with other democratic institutions within the deliberative system, in order to fulfil a whole range of democratic goods? For instance, should we think of ways of connecting the epistemic abilities of mini-publics with representative assemblies or referenda, which may be able to provide other values such as representation and mass participation? Or are the disruptive and possibly discursive forms of representation found in mini-publics combined with participation within public space, sufficient on their own to account for all democratic goods?

An important direction for future research is therefore to consider the epistemic theory developed here in the context of other democratic values. It would explore the relationship between these alternative values and what this means for the kinds of democratic institutions we should favour. What we have achieved in this thesis, however, is to provide an epistemic theory of deliberative democracy which produces both a strong reply to the rising tide of democratic scepticism, and demonstrates the significant role epistemic values can play in a wider justification of democratic rule.
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Appendix 1: Environmental Law & the Limits of Markets

Environmental law & the limits of markets

Jonathan Benson*

A number of writers have drawn on Hayek's epistemic defence of market institution to argue that free-markets and tort law are best placed to overcome the knowledge problems associated with the environmental sphere. This paper argues to the contrary, that this Austrian School approach itself suffers from significant knowledge problems. The first of these relates to the ability of Austrian economics to assign victim compensation and the second to the difficulty of establishing causation in complex environmental problems. The paper will also show how alternative approaches may not suffer from these epistemic challenges and are better placed to overcome them.

Keywords: Environment, Tort law, Austrian economics, Hayek, Knowledge, Causation, Compensation
JEL classifications: A12, B53, K13

1. Introduction

Central to the Austrian school of economics' advocacy of market institution is their ability to overcome the basic economic problem of society, that being the problem of knowledge. The market is said to be the best method for communicating and utilising the varied and dispersed knowledge in society. A number of Austrian and Hayekian writers, notably Sagoff (2008B), Pennington (2001, 2005) and Cordato (1995, 2004), have developed on this epistemic justification for market institutions to create a uniquely Austrian approach to environmental economics. Rejecting alternative approaches for suffering from substantial knowledge problems, these Austrians defend free-market environmentalism on the grounds that it can overcome the epistemic challenges of environmental problems.

This paper will argue to the contrary, that the Austrian school’s approach to the environment, particularly its use of tort law, itself suffers from significant knowledge problems. It will be argued that market, far from overcoming the epistemic challenges in the environmental sphere, suffer from significant knowledge problems which question their ability to deal with environmental problems. Important
tensions will be shown to exist between the advocacy of tort law and the epistemological foundations of Austrian economics. The first of these problems relates to the ability to assign compensation given the epistemological assumptions of Austrian economics and will call into question the Austrian use of tort law generally. The second will challenge the possibility of determining causation between polluters’ and plaintiffs’ rights violations in complex environmental problems. The paper will also suggest how alternative approaches are better placed to overcome these epistemic challenges.

Section 2 will lay out the Austrian school’s approach to the environment and its use of tort law. Section 3 will argue that, given the Austrian account of well-being and price formation, Austrian economics faces insurmountable epistemic barriers when it comes to calculating victims’ compensation. This will show a foundational problem with assigning compensation which affects all Austrian uses of tort law, not only those in the environmental sphere. The section will also show how this is due to the framework of Austrian economics and that alternative approaches may not suffer from the same problems. Section 4 will argue that, given the complexity of ecological and biological systems, there are significant knowledge problems which prohibit the determination of causation as it is required in tort law. These knowledge problems not only hold back the possibility of courts ordering compensation but importantly also injunctive relief. Alternative approaches, however, which have different causation requirements, will face a lower epistemic burden. Finally, Section 5 will conclude by discussing the implications of these arguments for the market coordination and the ability of markets to solve environmental problems.

2. The Austrian approach to the environment

Environmental problems are problems of the damaging effects of human activities on the biophysical environment. This includes harmful effects on climate systems, ecosystems, biodiversity and natural resources, but also the detrimental effects on human health which result from the human impact on the environment.

A prominent approach for addressing such problems comes from neo-classical environmental economics (Pearce and Barbier, 2000; Pigou, 1946). For the neo-classical approach, environmental problems are an example of a market failure, resulting from preferences for environmental goods and harms not being represented in the market. The solution is to apply market and market-mimicking mechanisms, such as emissions taxes, cap and trade schemes and cost-benefit analysis, in order to bring environmental goods into the market sphere. These solutions attempt to determine optimal levels of pollution through calculations of social and private costs, and represent environmental values by calculating shadow prices for environmental goods. By placing prices on pollution and ecological goods, an efficient allocation of resources can be achieved to maximise welfare. From the Austrian perspective these neo-classical solutions involve forms of economic calculation which are not possible give our epistemic limitations (Cordato, 1992, 1993, 2004; Sagoff, 2008B; O’Driscoll and Rizzo, 1985). For example, calculations of social and private cost are not possible as the information required is dispersed throughout society, often tacit or subjective, and changes over time. Arriving at an optimal pollution tax would require information relating to all costs, all buyers’ and sellers’ preferences and the condition of efficiency in all the related markets. This information simply cannot be centralised to a team.
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of experts so they can calculate the efficient policy. The Austrian school, therefore, rejects the neo-classical approach for suffering from an unsurmountable epistemic burden.

This epistemic critique is combined with an epistemic defence of free-market institutions. Hayek (1948A, 1948B) argued that knowledge in society was dispersed among many different individuals and that the only way to overcome this ‘division of knowledge’ was to rely on the communicative ability of market prices to spread information about the relative scarcity of goods and to coordinate individuals in their actions. Individuals can act on their own local knowledge and through acts of buying and selling, influence price formation and spread their knowledge throughout the economy. On this framework the environment is best managed by establishing property right in environmental goods and allowing the market to spontaneously coordinate individuals in their use of them (Pennington, 2001, 2005).

Austrians reject the neo-classical view of efficiency where policy should aim to maximise aggregate welfare, instead favouring the concept of catallactic efficiency. Markets’ prices allow for the coordination of individuals in pursuit of their individual ends, and where these ends come into conflict it is the role of courts to intervene to promote plan coordination. On this approach, environmental problems are reduced to problems of human conflict (Cordato, 2004). If someone pollutes the environment then this would constitute a property right violation and the owner of the relevant goods would have a claim against the polluter. Like other property rights violations, environmental problems would then be resolved within a legal system of tort law (Cordato, 1992, 1995, 2004; Rothbard, 1982; McGee and Block, 2011). If someone’s actions have damaged you, or your property, then you can bring a claim against that individual in a tort case. The role of the court is to identify rights violations and establish whether the defendant is liable for them. If so, the judge can then order injunctive relief to stop the damaging activity, promoting plan coordination and catallactic efficiency. In addition to injunctive relief, Austrians also advocate the payment of compensation in order to ‘make the victim whole’ (Cordato, 2004; O’Driscoll and Rizzo, 1985). A judge cannot only order an end to harmful activity but also order the defendant to pay damages to those who are injured by their pollution.

In the Austrian approach economic calculations are replaced by a tort system which looks to identify rights violations and establish causation. Problems of pollution, biodiversity loss and the protection of natural resources are not issues for bureaucratic managers but for judges. The rest of this paper will argue that this free-market tort law approach itself suffers from significant epistemic challenges.

3. Compensation

The first of these epistemic problems relates to the ability to assign victim compensation. This problem challenges the Austrian use of tort law generally, showing that compensation, a central element of all tort law, is not possible given the foundations of Austrian economics. The epistemic burden for compensation is lower in Austrian

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1 Some Austrians support a move away from a monopoly on the legal system towards a competitive system of private courts (Stringham, 2015). This approach is not advocated by most Austrian accounts of environmental economics and is beyond the scope of this paper.
than neo-classical economics. Unlike a neo-classical view of efficiency, catalytic efficiency does not require that the precise level of compensation be calculated in order to maximise net welfare. However, Austrians still advocate that compensation be paid and it will be argued that their epistemic burden is still too high. That although optimal compensation is not required, calculating compensation cannot get off the ground given the assumptions of Austrian theory. An example will also be given of how other approaches may not suffer the same epistemic challenges.

If a judge assigns liability, then it may be that the defendant and plaintiff can come to a mutual agreement, so that the defendant can either buy the relevant property right so as to wholly secure the right to pollute, or pay a fee to the plaintiff in exchange for permission to pollute on their property. In many cases, however, agreement won’t be possible and it will be the role of a judge to order injunctive relief and make the defendant pay compensation in order ‘to make the victim whole’ (Cordato, 2004; O’Driscoll and Rizzo, 1983)². What is meant by the phrase ‘making the victim whole’ is not made explicitly clear. What is exactly being compensated for and to what criteria should the level of compensation be set? There are two possible ways in which the phrase could be meant:

1. The defendant most compensate for the loss in market price.
2. The defendant most compensate for the individual’s loss of well-being.

In (1) compensation is set to compensate for the loss in market price of the goods damaged: either the decrease in its price due to damages or if it is completely destroyed the whole price of the good. Alternatively, in (2) compensation is to compensate for the loss in the victim’s well-being. This not only includes economics costs but any psychological or emotional damage they experienced as result of the property right violation.

Before examining (1) and (2), the alternative of full restitution needs to be considered. Full restitution involves the restoration of the good which was damaged. The difficulty with full restitution is that in many, if not most, cases it will not be possible. Taking environmental goods as an example, these goods are often highly unique and can be damaged in such a way that they cannot be restored to their original condition. So most of the time full restitution will not be possible and compensation criteria will be required.

Even in those cases where full restitution may be possible, the Austrian framework presents an important challenge to the possibility of restitution which would need to be overcome. Restitution involves restoring the damaged property to its previous state. However, for the Austrian school, social objects cannot be defined or described in purely physical terms but only in terms of the beliefs people hold about those objects (Hayek, 1952). An item of private property, for example, cannot be defined separately from the view the property owner holds about it. Therefore, even if an object is perfectly restored physically, its meaning and significance to the owner may be altered as a result. If a family heirloom is damaged and then restored, the object may no longer embody the same history it did previously. It will no longer be the object used and owned by past relatives, and it will lose its particular meaning for the owner. It is then, for the Austrian school, in one important respect not restored to its original condition. It cannot be said to be the same because a key element that defines it has changed.

² Depending on the legal system, it may be a judge or a jury who assigns compensation. For simplicity and consistency this paper will refer to judges, but the argument would also apply to a jury.
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This challenge to the possibility of restitution in an Austrian framework may be surmountable, but it would need to be addressed before restoration could be advocated. Supposing that it was overcome, full restoration would still only be possible in a small number of cases. Going forward, then, the focus will be on cases where compensation is required.

3.1 Market price compensation

Beginning with (1), compensation could be set with respect to the market price of damages. There is a complication when this form of compensation is applied to human health. Can we possibly say what the loss in price is when a tort causes a victim to lose a limb or develop a long-term illness? However, (1) can be taken to apply only to external goods and not health effects. This interpretation of (1) will be considered here and it will be shown that even the apparently simpler case of external property involves serious epistemic problems.

It is important to see that the goods which are damaged will not for the most part have already been assigned a market price. At the time the damages occurred, these goods will be in the process of being consumed or used by their owner and will therefore not be present in the market. They will not, at the time of damages, be within the process of market exchange. A judge will not then be able to simply set compensation at a given price, nor will they be able to compare a per-damage price to a post-damage price and set compensation equal to the difference. Instead, a judge would have to assess the damages and assign a market price of their own.

Assigning a market price to a good, however, is impossible in an Austrian framework. For Austrians, prices do not represent any objective form of economic value which can be measured by an observer (Sagoff, 2011). Objective theories of economic value were dismissed by Hayek in his critique of ‘scientific objectivism’ (Hayek, 1952; O’Neill, 2004). As discussed, social objects cannot be defined purely in physical terms but only in reference to the beliefs that people hold about them. Prices do not represent a given objective value but merely a good's exchange value, that is, what can be obtained for that good in the market. Within the market process, participants act on their own knowledge and preferences, demanding and purchasing certain goods, and producing market prices as a result. Those goods whose demand is high relative to supply will obtain higher prices, and those whose demand is low relative to supply will obtain lower prices. Goods are not defined in physical or objective terms but ‘only in terms of the views people hold about them’ (Hayek, 1952, p. 31).

Market prices of this sort cannot be calculated by a judge, as the information it would require is unobtainable by a single individual. Due to the ‘division of knowledge’ in society, information relating to people’s tastes and preferences, and therefore demand, is dispersed throughout the economy and is only known to a small number of actors (Hayek, 1948A, 1948B). A judge would have to centralise all demand information relating to the damaged goods, and this is simply not possible, given the division of knowledge. Much of this knowledge will be subjective, such as individual preferences, so can only be known to market participants themselves. It will also include tacit knowledge which is embedded in practical skills and knowhow, and cannot be communicated in linguistic or statistical form. Rather such knowledge can only be expressed ‘through social action, such as exchange or exercising a skill’ (Horwitz, 1992, p. 198).
Tacit knowledge cannot be communicated to a courtroom, but can only be discovered within the market process. For Austrians, then, without the spontaneous interaction of market participants within exchange, a price for a particular good cannot be known. As Cordato (1992, p. 213) argues, ‘the complexities of the knowledge problem prevent market observers from knowing what the price “should” be apart from what is generated in the market’. A judge has no way, given the epistemological foundation of the Austrian approach, to calculate such a price and then set compensation equal to it. The information which would be necessary to accomplish this cannot possibly be communicated to a judge in a courtroom.

It may be objected that a judge does not need to calculate the price of the particular good in question but could look at similar goods in the market and use their price to set compensation. However, this does not take into account the local differences in goods which affect market prices. These differences can be physical differences or differences in the subjective views of the property holder. If the owner of a good believes there is some significant moral or aesthetic value in the good, then they are likely to sell only at a high price, if at all. Seemingly similar goods may then receive greatly different market prices. The market, by allowing people to act on local knowledge, is said to communicate these differences. Outside of exchange, however, the price of one good cannot be inferred from a similar good, as there are always unique differences. So, to set compensation in line with (1), it is necessary to calculate market prices, a requirement which is impossible in an Austrian framework. Therefore, even though Austrians do not require the calculation of optimal compensation, these epistemic assumptions rule out the possibility of market price compensation.

3.2 Well-being compensation

Turning to (2), compensation could be set to compensate for a victim’s loss in well-being. To understand what this involves, it is necessary to look at the account of well-being taken in Austrian economics. The account taken in the later Austrian school is based on preference satisfaction (Hayek, 2013; Mises 2003, 2012). What is good for people is the realisation or satisfaction of their wants and desires, whatever they may be. Austrians do not take a position on the content of these preferences, so all satisfaction of preferences is taken to be conducive to well-being. For instance, Bohm-Bawerk (quoted in Mises, 2003, p. 160) defines a person’s well-being as ‘everything that seems to him worth aiming at’, and in the same vein Mises (2012, p. 21) defines it as ‘that which acting men aims at because it is desirable in his eyes’. This is a subjective determination account of well-being (O’Neill, 1998). The object of well-being is not a particular brain state or the realisation of some objective good, but whatever is subjectively desired by the individual. The satisfaction of these subjective preferences is what defines well-being. Compensation should, therefore, be set in respect to the loss in a person’s preference satisfaction. It is not the purpose of this paper to take a position on

\footnote{Austrians have argued similarly that property owners can act in relation to their property in accordance with individual moral values, and that this can affect market prices (Pennington, 2005).}

\footnote{Menger (1976), who is generally considered to be the father of Austrian economics, held a different more objective needs account of well-being. This view, however, was wholly rejected by later Austrians.}
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this account of well-being. Rather, it will argue that given this account and the assumption of Austrian economics, a judge will not be able to assign compensation.

The difficulty for the Austrian school is that it is impossible for a judge to determine what preferences have been denied by a property rights violation or the strength of those preferences. It is often thought that knowledge of someone’s preferences can be derived from the observation of their behaviour. If someone chooses a pear and not an apple, then it can be inferred from observation that the person has a preference for pears over apples. However, Sagoff (2004, 2008A) rejects this, arguing that such examples overly simplify reality.

According to Sagoff, any one choice or action a person makes may be the result of any number of preferences, and it cannot be known which preference was acted upon. He gives an example of him buying cookies from a Girl Scout. An observer of this action would not be able to deduce what preference motivated Sagoff to purchase the cookies. It could be that he supported the Girl Scouts and wanted to help the organisation, or maybe that he wanted to appear generous. Alternatively, knowing that the Girl Scout was the daughter of his neighbour and a friend of his daughter, it may have been that he wanted to avoid friction with them. Or perhaps he just could not turn the young child away without buying something. In the real world there are hundreds of possible preferences which could motivate a particular action, and it is not possible to see which preference was actually acted upon. In the apple and pear example, there is a small and known opportunity set, either the person chooses the apple or the pear. However, in the real world the opportunity set is much larger and cannot be completely known. We cannot know all the possible preferences relating to Sagoff when he chooses to buy the cookies.

On Sagoff’s own account, a judge will be unable to tell what preference has been violated due to a rights violation. If a farmer’s land is polluted and becomes unworkable, what preference is now left unsatisfied? The preference to carry on a family tradition of farming, to work outside and with nature, to help provide needed goods for a community, for the monetary profits of farming, or for any of the goods these profits could buy. A judge cannot have perfect information about the opportunity set of the farmer or any plaintiff. A judge will then not be able to select which preference from this unknown opportunity set actually motivated the action. There is also an accompanying problem of multiple determinacies. It may be that not just one but a number of these preferences are motivating the farmer, and there may be no single determinant preference. A judge would then not only be in the position of having to locate all the preferences being acted on, but also how to compensate for all of these varied desires.

In addition to the problem of determining preferences, it is also not possible for a judge, in an Austrian framework, to know the strength of these preferences. For Austrians, what importance or value a person assigns to their preferences is neither observable nor measurable. As Mises (2012, p. 14) writes, ‘There is no standard of greater or lesser satisfaction other than individual judgments of value, different for various people and for the same people at various times.’ The importance of a preference is a subjective valuation which will differ from person to person. There is no scale to which preference satisfaction can be measured accept that which is internal to the individual preference holder. The strength of a preference is therefore only known to that individual and cannot be known to a third party, including an observing judge.
A judge will not be able to set compensation in relation to losses in well-being, as in the Austrian approach, well-being is highly subjective and cannot be known to anyone except individuals themselves. Even though Austrians do not require the exact optimal-level of compensation, calculating compensation based on well-being is essentially ruled out in an Austrian epistemic framework and account of well-being. A judge will be unable to know what preferences have been violated or the strength of those preferences.

Therefore, whether or not compensation is set in accordance with (1) or (2), Austrians will experience significant epistemic problems which seriously limit a judge's ability to assign compensation. It is important to see that the reason for this is the particular assumptions taken in Austrian economics. These problems occur within a framework of Austrian epistemic and well-being assumptions and may, therefore, be less problematic for alternative approaches.

As an example, consider an objective list account of well-being which has gathered significant support in the fields of economics, political theory and environmental policy (Nussbaum, 2006; O'Neill, 1993; Sen, 1999). Now, it is beyond the scope of this paper to defend such an account; however, it can be shown that it has a lower epistemic burden when it comes to assigning compensation. On this account, well-being consists of the achievement or realisation of particular objective states, such as physical health or social relationships. Well-being is not determined by subjective desires but is objective. Things are, therefore, not good because we desire them, but rather we desire them because they are good. A list can then be produced of these objective goods, for example that given by Nussbaum (2006).

For this account, setting compensation in respect to well-being has a lower epistemic burden than the Austrian approach. On a preference satisfaction account: a judge needs to locate a subjective preference which is violated when a good is damaged and determine its strength. However, on an objective list account, this is not required, as the ends for which a good can be used to promote well-being are already defined objectively and do not have to be located. It is then possible for a judge to conduct what Goodin (1989) calls 'means replacing' compensation. That is, a judge can compensate by providing a victim with equivalent, or somewhat equivalent, means for achieving a given end. For example, if someone loses a leg, a judge can determine which objective state is relevant, say mobility, and then compensate by providing an alternative means for achieving it, say a prosthetic leg or wheelchair. The judge can compensate by providing new means to achieve the relevant given objective states.

The epistemic burden is higher for a preference satisfaction accounts, as there is a need to locate a highly subjective and internal preference which has been unsatisfied and then determine its strength. Alternatively, for an objective list account the ends are already given. This is not to say that objective list account does not confront epistemic difficulties of its own; for instance, determining the relevant objective ends can be problematic. However, it does show that its epistemic burden is lower than in an Austrian approach, where well-being is highly subjective and internal to the individual. Whether this alternative is acceptable will, of course, depend on how satisfying someone finds an objective list account of well-being. However, what this example aims to show is that the epistemic problems facing compensation in an Austrian approach are due to the assumptions of their framework. Alternative approaches may not, therefore, suffer from the same problem and may face a lower epistemic burden in relation to compensation.
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4. Causation and complex environmental problems

The second epistemic problem in the tort law approach to the environment relates to the ability of judges to establish rights violations and causation. The complexity of biological and ecological systems often creates unsurmountable epistemic challenges to establishing causation for property rights violation. This is not to argue that there are no cases where causation can be established, but rather that in certain large and complex environmental problems the ability to do this is highly limited. It will also be suggested that more collective solutions are better placed to overcome these epistemic challenges.

The tort approach is based on a stringent principle of causation. It requires that the injury of which the plaintiff complains can be proved to be caused by the defendant. Austrians favour a principle of strict liability where, as Epstein (1973, p. 169) states, ‘the analysis of causation is the tool which, prima facie, fastens responsibility upon the defendant’. Action, such as injunctive relief, cannot be taken unless there is proof of causation-in-fact: that a defendant or group of defendants can be shown to be causally responsible for rights violations of which the plaintiff complains.

Some Austrians, such as Rothbard (1982), have argued that the standard of proof relating to causation should be ‘beyond a reasonable doubt’. That a judge or jury must be convinced ‘beyond a reasonable doubt’ of a causal link between the defendant and an injury is a very high standard of proof normally reserved for criminal prosecutions. A less stringent standard of ‘more likely than not’ is traditionally used in tort law. On this standard it must be shown that there is a greater than 50% chance that the plaintiff’s injury was caused by the defendant rather than any other possible cause (Rosenberg, 1984).

However, even on the weaker ‘more likely than not’ standard of proof there can be significant epistemic problems when it comes to establishing causation-in-fact between a defendant and the injury of which the plaintiff complains. This is due to our limited knowledge of the ecological and biological systems within which environmental problems are embedded.

4.1 Pollutants and injuries

First, there are important epistemic challenges in establishing any link between an environmental pollutant and a plaintiff’s rights violation. That is, determining whether the particular pollutant caused the particular injury which the plaintiff accuses.

Any event within an ecological or biological system can have any number of possible causes, some of which may be unknown. Unlike traditional tort cases, such as traffic accidents, where causation is often simple to establish, the complexity of environmental problems means that causation is often highly uncertain. It has been shown, for instance, that in laboratory conditions acid rain causes tree damage. However, it has also been shown that tree damage can be caused by high levels of ozone (Park, 2013). When both are present in the real world, this creates a level of uncertainty in the determination of causation. This same issue can also affect problems of human health. Illness and disease can be caused by pollutants but also by many alternative factors present in the background environment. Cancer, for instance, can be caused

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3 Dolan (1990) also points to acid rain as an example where causation may be problematic:
by a number of toxins but also a wide range of lifestyle factors. Medical science cannot
determine with certainty the direct cause of an illness or disease. The nature of the eco-
logical and biological systems means establishing causation is often highly problematic
and uncertain.

Courts must, therefore, rely on probabilistic scientific studies when dealing with
such uncertainty. Taking human health as an example, courts have employed epide-
miological studies to produce probabilities evidence of causation (Bernstein, 2008;
Rosenhal, 2011). The subjects of these studies are populations rather than individuals,
and they look to find the differences between the numbers of disease cases in different
populations. The best that can be inferred about individual causation is a probability
that any one case of a disease was due to a pollutant. Such probabilistic evidence may
be ruled out completely by a ‘beyond reasonable doubt’ standard. Rothbard (1982),
for instance, rejects statistical evidence on the ground that correlation is no proof of
causation. However, these studies could be used as evidence on a ‘more likely than not’
standard as long as the percentage is greater than 50%. That is, to determine cau-
sation between a pollutant and an injury to an individual or group, studies must establish
a greater than 50% probability.

Meeting this requirement is, however, highly problematic. Studies would have to
show that an exposed population suffers from twice the number of disease cases as an
unexposed population to establish that any one case or group of cases was the result of
a pollutant. There must, therefore, be a very large increase in disease cases to show that
any one individual or group within that population was ‘more likely than not’ injured
by the pollutant. Most environmental pollutants will not, however, meet this require-
ment, and their likelihood of being the cause of any one case will be much below 50%.
For example, less than 5% of pneumonia cases can be attributed to sulphur dioxide
pollution (Brennan, 1993).

In cases where a greater than 50% probability can be established, other evidence may
still be needed before causation can be proven. Even on a ‘more likely than not’ standard,
some particularistic evidence may be required (Rosenberg, 1984). Such studies establish
correlation and aggregate away differences between individuals, such as different lifestyle
factors, so more evidence may be needed to show there is a link in a particular case. A
plaintiff may also need to produce evidence of factors, such as their exposure levels as
harm from pollutants may only develop at some threshold dose (Ceder, 2014). However,
people are mostly unaware of the exact level they were exposed to a toxin, often because
there can be long time lags between their exposure and their injury. Suffers of mesotheli-
aoma, for example, have failed to prove causation between their condition and asbes-
tos, despite the very strong link between the two.7 The complexity of environmental
problems therefore produces significant epistemic challenges to determining causation
between a pollutant and the injury of which a plaintiff complains.

4.2 Pollutants and sources

Proving that a pollutant was the cause of any particular injury faces significant epis-
temic challenges. Establishing causation-in-fact, however, also requires establishing a

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7 This percentage is known as the ‘attributable fraction’; that is, the fraction of disease cases which can be
said to be caused by a toxin (Green et al., 2011).

7 Cases where there is a very high attributable fraction are known as ‘signature diseases’ (Green et al.,
2011).
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link between that injury-causing pollutant and the defendant. That is, establishing that a particular defendant was the source of the rights-violating pollutant.

This again faces significant knowledge problems. Ecosystems have no defined boundaries exhibiting levels of interconnectedness and interpenetration. Materials and pollutants can flow freely between different ecosystems and often over large distances. As a result, environmental problems themselves have no clear boundaries and are not isolated to particular ecosystems or geographical areas. Land pollution, for instance, can spread to pollute water systems which then spread pollution even further afield. A particularly problematic example of this is airborne pollutants. Emissions are released by individuals into the air, where their travel path is then determined by the prevailing weather conditions at that time and emissions can be spread over vast distances and in multiple directions. They are dynamic and open to change, so the direction of travel may differ day to day. This means establishing the source of injury-causing pollutant faces many difficulties.

This problem is exacerbated by the fact that there may be thousands if not millions of possible polluters. Harms resulting from vehicle exhaust emissions, for example, will have very large number of polluters and victims. One way tort law advocates have tried to address this problem is by changing the subject of the tort. For example, if highways and roads are privatised, then their owners could be taken to court for vehicle emission pollution instead of attempting litigation against large numbers of vehicle owners (Anderson and Leal, 2001). However, this does not reduce the fact that there are still thousands or possibly millions of victims or that there are still possible thousands of road owners. Nor does this seem to be an option when it comes to household or industrial emissions, which can also involve large numbers.

An alternative strategy for dealing with the problem of linking pollutants to sources would be to join defendants and plaintiffs. In cases where there are many individual sources of a pollutant and many possible victims, it is possible to join groups of defendants and plaintiffs together for litigation. This strategy would certainly help reduce the epistemic burden of large-scale environmental problems. However, it does not eradicate these knowledge problems. Polluters and plaintiff can only be joined if they have similar cases. Knowledge of their individual circumstances may then still be required to show they possess such similarities. For instance, the dose of a pollutant a plaintiff received or whether particular polluter’s emissions could come into contact with the plaintiff.

There is also still the additional problem of assigning liability. Although a group of emitters may injure a defendant, they may not have contributed equally and are not therefore equally liable. In response to this problem, it has been suggested that a market share liability approach could be used (Robinson, 1982). In the context of environmental problems, this principle would determine an individual’s liability in relation to the proportion of emissions they produce. For complex environmental problems, however, there may not be a direct linear relationship between the amount an individual emits and the amount of damage they produce. Acid rain formation, for instance, is not solely dependent on the emission of sulphur and nitrogen but also on weather conditions, the presence of oxidizing agents which encourage its formation and alkaline substances which depress it (Dolan, 1990; Park, 2013). This highly complicates the use of a market share liability approach.8

8 An alternative method for establishing liability is the ‘causal apportionment’ approach, which assigns liability to defendants based on the probability they would have caused the plaintiff’s injury without the presence of the other defendants’ actions (Rizzo and Arnold, 1980). This method, however, has an even greater epistemic burden. It requires not just knowledge of emissions quantities and environmental conditions but
In reply to this kind of problem, it has been argued that a principle of ‘you take the environment as you find it’ could be used (McGee and Block, 2011). Whatever effects environmental factors, such as oxidizing agents, may have on the amount of harm caused, the emitter can still be held fully liable. However, such properties do not just change an individual’s absolute contribution to harm but also their relative contribution and therefore liability. For example, local wind patterns can affect the transport of emissions and therefore the harm caused by emitters in different geographical locations. The prevailing wind in most parts of Britain, for example, comes from the southwest, meaning that those emitters who are to the northeast of a population or on the northeast coast may contribute less to damages (Lapworth and Mcgregor, 2008). This will not always hold, however, as factors such as topography and seasons cause variation in wind direction, leading to greater uncertainty. The conditions of the local environment can, therefore, alter people’s relative contributions as well as their absolute contributions.

Establishing causation between a defendant and a plaintiff’s rights violation therefore involves many epistemic challenges. The burden of proving that a defendant or group of defendants caused a specific injury will face many knowledge problems. This burden may be even greater than it first seems when we consider that there may be multiple uncertainties. There may be uncertainty in the link between the pollutant and the plaintiff’s injury, and between the pollutant and the defendant. In this case, to prove that a defendant is ‘more likely than not’ the cause of a plaintiff’s injury requires much greater evidence of at least one of the two parts of causation. For example, if the link between a pollutant and harm is 51% and the link between a pollutant and the defendant is 51%, this would not prove that the defendant was ‘more likely than not’ the cause of the plaintiff’s injury. In fact it is about half the probability required. When multiple uncertainties are present, proving overall causation to be ‘more likely than not’ requires much greater evidence linking the pollutant to the injury or to the emitter. For instance, if the link between a pollutant and harm is 60%, it would require evidence that the link between the defendant and the pollutant was 85%. The epistemic burden to prove that defendants are the cause of a specific rights violation may therefore be even greater in the tort approach than it first appears.

4.3 Reducing the epistemic burden

The high epistemic burden for the tort approach is due to its requirement to prove direct causation between a defendant, or group of defendants, and the rights violations of which particular plaintiffs complain. This individualist foundation means that large amounts of knowledge are required to prove such a link. As has been shown, if studies find that 30% of disease cases can be attributed to a pollutant, this would not be enough to prove that any one case or group of cases was caused by the pollutant, and even if this was 60%, it may still not be enough if some particularistic evidence is required or if there is also uncertainty about the source of the pollution. These factors significantly prohibit establishing causation-in-fact between a defendant and the injury of which the plaintiff complains. Alternatively, more collective approaches to
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environmental problems which do not require the same form of causation will not face
the same epistemic burden.

In a collective approach it would not be necessary to prove causation-in-fact between
polluters and rights violations to particular individuals. Instead, action could be taken
on the basis of evidence that pollution is causing harm within a population, without
requiring evidence proving that it caused a particular injury to particular individuals/
plaintiffs as in the tort solution. This collective alternative can take different forms, but
consider as an example a state which looks to address environmental problems. This
state would not, as in the neo-classical approach, need to calculate all the associated
costs and benefits in order to determine the optimal policy. An approach which faces
the epistemic challenges was discussed in Section 2. Instead, it could look to take
action to reduce or eliminate pollutants where they are seen to be causing harm within
a population.

This state would face a lower epistemic burden than in tort litigation. It would look
to see if there is evidence that pollution is causing harm without requiring proof that
it was causing harm to any specific individual or group of individuals as in the tort
approach. Say, for instance, that epidemiological studies have shown that there is a
30% increase in disease cases in areas which are exposed to a pollutant. These studies
would fail to prove that the pollutant ‘more likely than not’ caused any one individual
or group of individuals disease, as would be required by causation-in-fact in tort law.
However, such studies are evidence that this pollutant is causing harm and rights viola-
tions within the population. It is evidence that the pollutant is causing cases of disease
within the population despite the fact that it cannot prove any particular disease cases
were ‘more likely than not’ caused by the pollutant. So, while the tort approach would
fail to take action on the basis of this evidence, the collective approach could take
action to reduce the pollution to non-harmful levels or eliminate it completely. This
collective alternative would also not need to establish a link between particular poll-
uters and particular injuries within a population, reducing these challenges. Rather it
would only need to establish a link between polluters and the population generally. The
collective approach, therefore, has a lower epistemic burden than the tort approach.
It only requires evidence that harm is being caused rather than evidence that harm is
being caused to particular plaintiffs by particular defendants.

Of course some evidence above correlation may also be required, such as possible
causal mechanisms by which the pollution could produce the given harm. However, such
evidence could also be necessary in a tort solution and would be less burdensome than
the additional requirement of particularistic evidence or the exposure levels of plaintiffs.
The tort solution therefore has a greater epistemic burden than this collective solution.
Its individualist foundation of requiring proof that particular defendants caused rights
violations to particular plaintiffs produces a number of knowledge problems when faced
by complex environmental problems. Alternatively, a more collective approach has a
lower epistemic burden, as it only requires evidence that some harm is being caused
within a population and not that harm is being caused to particular plaintiffs.

In addition to having this lower epistemic burden, a collective alternative may have
a greater ability to deal with its respective burden. In a tort system the burden of proof
falls on the plaintiff. It is the responsibility of the plaintiff to establish that the defen-
dant caused their injury. As we can see from the discussion above, establishing causation
requires a large amount of evidence collection, specialised knowledge and scientific
studies. It is therefore a very expensive and time-consuming process. Lots of plaintiffs
simply lack the resource to do this, and tort cases fail to get off the ground as a result. The tort solution is therefore often thwarted by its epistemic burden. A collective solution, however, may have much greater resources at its disposal. It can have a greater capacity to fund evidence collection as well as scientific studies and research, giving it a greater ability to deal with related knowledge problems. An institution, such as a state, can also have options at its disposal which a plaintiff would not. For instance, it can monitor emitters or require them to keep records of their emissions. Harms from environmental pollutants often occur after long time lags, sometimes years, and in the meantime rates of emission may change or polluter may stop emitting completely. This hugely restricts a plaintiff’s ability to prove their damages were caused by the defendants. A collective instruction’s ability to take measures, such as to monitor and keep records over long time periods, increases its ability to deal with these problems.

Some Austrian writers have suggested that problems surrounding causation can be reduced, as the tort approach will help increase the capability of environmental science and forensics (Anderson and Leal, 2001; McGee and Block, 2011). According to this argument, the tort system would create a greater demand on markets for environmental science, encouraging innovation and new technologies which could help establish causation in environmental problems. However, there is no reason why a collective response, which would also require environmental forensics, would not create the same demand for innovation, while also having a lower epistemic burden to reduce than the tort approach.

A collective alternative, therefore, by only requiring evidence of harm, rather than evidence of causation between particular defendants and injuries to particular plaintiffs, has a lower epistemic burden than the tort law approach advocated by Austrian economics. As well as this, it also has a greater capacity to deal with its respective burden and is therefore less likely to fail as a result of knowledge problems.

5. The limits of knowledge and the limits of markets

As we have seen, there are significant epistemic problems facing the Austrian school’s approach to the environment. Austrian economics is grounded on the view that society is so large, complex and dynamic that it cannot possibly be understood in its totality, and the claim that it can is a fallacy. However, once the same level of complexity is acknowledged in ecological and biological systems, the Austrian approach can be seen to suffer from a simpler fallacy. The natural world shares the complex, interconnected and dynamic features of society highlighted by the Austrian school, and these features also prevent us from obtaining a complete understanding of its internal workings.

This highlights a deeper tension between the limits to human reason Austrians identify in the social sciences and what they believe possible in the natural sciences. Hayek was highly critical of what he called ‘Cartesian Rationalism’; the belief that society can be understood in its totality and then subjected to human control (Hayek, 1948A, 2013). However, he made no such criticism of the limits to human reason in the natural sciences. This distinction between the limits to knowledge in the social and natural world is in conflict with the prescriptions of Austrian economics. This tension has been noted by Gamble (2006, p. 130):

Hayek never extended to natural science and technology his critique of constructivist rationalism in social science. Although rationalism has retreated in the social sphere, it still has few restraints in its quest to master and control the natural world, posing increasingly serious questions for the civilization that Hayek so valued.
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The tort law approach to environmental problems is at odds with Austrian’s own epistemic foundations. In requiring a convincing map of cause and effect, their approach is based on a flawed epistemological assumption about the scope of human understanding in the natural sciences. Like the social world, the natural world of ecological and biological systems exhibits complexities which limit our ability to fully understand them. Once this is acknowledged, the tort law approach to the environment can be seen to itself suffer from significant knowledge problems. We often cannot establish, even to the level of ‘more likely than not’, which particular individuals were responsible for particular rights violations.

These problems for the tort law approach are not an isolated legal problem for Austrian economics, but have wider implications for their view of the market order. Courts are not separate from the market but have a vital role in regulating the market order. Property rights violations are failures in the market’s capacity to coordinate individuals in pursuit of their ends. They are cases where people’s plans come into conflict with the plans of others. In such cases it is the role of judges to intervene and correct these deviations from market coordination. For this reason, judges are for Hayek (2013, p. 91) ‘an institution of a spontaneous order’. They are called in to correct disturbances in the market so that it can continue to coordinate individuals in the pursuit of their own ends. The implication of the epistemic problems explored here is that the spontaneous market order will not be able to coordinate in a way that will avoid complex environmental problems. Acid rain, chlorofluorocarbons and air pollution are, from an Austrian perspective, cases where people’s actions do not respect property rights and conflict with the plans of others. However, judges are unable in these cases to intervene so as to regulate the market order. Even in a world of well-defined property rights in environmental goods and well-functioning free markets, large complex environmental problems will still persist. Such problems are better resolved by moving to more collective responses which have a lower epistemic burden and greater ability to deal with the knowledge problems produced by the natural world.

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Appendix 2: Knowledge & Communication in Democratic Politics

Knowledge and Communication in Democratic Politics: Markets, Forums and Systems

Jonathan Benson

Abstract
Epistemic questions have become an important area of debate within democratic theory. Epistemic democracy have revived epistemic justification of democracy, while social scientific research has spear a significant debate on voter knowledge. An area which has received less attention, however, is the epistemic case for markets. Market advocates have developed a number of epistemic critiques of democracy which suggest that most goods are better provided by markets than democratic institutions. Despite representing important challenges to democracy, these critiques have gone without reply as democratic theorists have tended to exclude markets from consideration. This article responds to these critiques and argues that there are good epistemic grounds for granting a much greater role to democracy than its market critics have claimed. It argues that there is a broad range of goods, including important ethical goods, which are better provided by democracy than markets due to the particular epistemic burdens they create.

Keywords
epistemic democracy, deliberative democracy, deliberative systems, markets, Hayek

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Epistemic questions have become an important area of debate within the theory and practice of democracy. Democratic theory, which often focuses on the intrinsic or procedural value of democracy, has seen a revival of epistemic justification which focuses on the ways that democratic procedures, such as vote aggregation and deliberation, communicate and aggregate knowledge. Epistemic democrats, for instance, have placed such issues at the centre of democracies’ legitimacy and have developed innovative new arguments for the epistemic abilities of democracy (Anderson, 2006; Estlund, 2008; Landemore, 2013). Social scientific research on voter ignorance has also spear a significant debate on the extent to which citizens can make effective decisions when voting. Some within this debate take these studies to be damaging enough to require restriction

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of voting rights to the more knowledgeable, while others defend the ability of voters to overcome their limited knowledge through the use of various shortcuts or heuristics (Brennan, 2016; Caplan, 2007).

An epistemic area which has received much less attention from democratic theory is the epistemic case for markets. Market advocates have put forward a number of epistemic critiques of democracy which suggest that most goods are better provided by the market than any democratic institution. Hayekians, for instance, have argued that democratic institutions, such as assemblies and parliaments, require knowledge to be centralised to a democratic forum and will, therefore, fail to utilise knowledge which is local, dispersed and fragmented (Pennington, 2003, 2011). Samuel DeCanio (2014) has further argued that the singular nature of democratic decisions forces decision-makers to make accurate policy predictions which require large amounts of knowledge. In contrast, markets coordinate individuals and goods through price signals, while allowing multiple firms to implement alternatives simultaneously so consumers can compare their outcomes without predictive knowledge. Markets, therefore, reduce the epistemic burden facing decision-makers relative to democracy. Wherever markets are possible, it is argued that there are good epistemic grounds to prefer them to democratic institutions. This epistemic case for markets over democracy has received particular attention in environmental debates (Benson, 2018; Cordato, 2004; Greenwood, 2012, 2015; O’Neill, 2012; Pennington, 2001, 2005, 2011; Sage, 2008; Shahar, 2017). Much of environmental politics is highly sceptical of markets and instead tends to favour democratic institutions for the achievement of environmental values. Environmental democracy, however, has been argued to face significant epistemic challenges in attempting to gather and utilise the knowledge required to manage and coordinate environmental goods. Alternatively, a system of property rights and price signals can coordinate individuals as they act on their own local knowledge, without the need to centralise information to some democratic authority.

This epistemic challenge to democracy has yet to be addressed by many democratic theorists concerned with epistemic questions. This article engages with these critiques and argues that there are good epistemic grounds for giving a much greater role to democratic institutions than their pro-market critics have claimed. It will develop the concept of low feedback goods, and argue that they represent a broad range of goods which cannot be accounted for by the pro-market arguments. These goods are disconnected from the individuals who pursue them and do not, therefore, provide market actors with the feedback information they require. As a result, individuals will face significant burdens for explicit knowledge which markets are unable to deal with. Low feedback goods include many environmental goods but also others, such as health, human rights resource distributions and fair labour practices. It will then be argued that democratic institutions, conceived in deliberative terms, have a number of important epistemic advantages which make them better place to deal with these goods than markets.

The Market Critique of Democracy

This section will lay out two epistemic critiques of democracy made by market advocates and will use the example of environmental goods to demonstrate their significance. Democratic decision-making can take a number of different forms, but the focus here will be on democratic decisions as found in democratic forums, such as representative parliaments and citizens assemblies. Although some of the arguments considered also affect
electoral decisions taken by voters, this will not be the focus. A significant number of democratic decisions are taken within forums, and they play a central role in much democratic theory, particularly deliberative democracy (Smith, 2009). Such forums will also be critical to the reply to market critiques developed later.

The first epistemic critique draws on Friedrich Hayek’s analysis of the division of knowledge in society. This argument is based on a distinction Hayek (1948, 2011) made between two forms of knowledge. The first form is general knowledge, which is defined as abstract or formal knowledge, such as scientific knowledge. The second is local knowledge about the particular circumstances of time and place. The important thing in this distinction is that while general scientific knowledge can be known to some group of relevant experts, local knowledge does not exist in any coherent whole but is rather spread throughout society. It includes such things as knowledge of the conditions of resources, as well as preferences for and uses of different goods. Such knowledge is not known to any group of experts but is rather dispersed in the minds of those on-the-spot individuals who have direct experiences of local conditions.

Contemporary Hayekians, notably Mark Pennington (2003, 2011), have argued that this division of knowledge creates important epistemic problems for democratic forms of decision-making. Democratic institutions, such as representative parliaments or citizens’ assemblies, take decisions within forums. They, therefore, require that all relevant knowledge, necessary for making effective decisions, be centralised in those forums so that it can contribute to democratic decisions. The division of knowledge, however, is argued to frustrate this task. The information relevant to addressing social problems includes a large body of local knowledge, which does not exist in any coherent whole ready to be utilised by democratic decision-makers. Instead, such knowledge is only known to particular individuals spread throughout society and is, therefore, fragmented and dispersed. Democratic institutions, however, require that dispersed knowledge be centralised in a democratic forum. Even if democratic institutions take place at the local level, as opposed to the state or national level, knowledge which is only known to on-the-spot individuals must still be transmitted to its decision procedures. Decentralising democratic institutions can help to reduce the problem of the division of knowledge, by reducing the amount of local knowledge and bringing decisions closer to individuals. However, it does not solve it as dispersed information must still be communicated to a forum.

For Hayekians, the division of knowledge is not solved by ‘first communicating all this knowledge to a central board’ but rather through a greater ‘form of decentralization’ (Hayek, 1948: 84). Markets decentralise decision-making to the level of the individual. This allows individual market actors to make decisions on their own local knowledge without the need to centralise knowledge. Their individual actions are then coordinated through the price mechanism which spreads their information throughout the economy. Through acts of buying and selling, individuals influence the formation of market prices which then allows others to adjust their actions. If, for instance, the actions of many individuals change the demand or supply of tea, then this will be reflected in its price (Hayek, 1948). This price change then communicates to market actors that they should consume more or less of the good. Prices do not communicate the reasons behind any changes but rather allow individuals to adjust their use of goods as if they possessed such information. The market, therefore, allows individuals to act on their own local knowledge and be coordinated by the communicative capacity of the price mechanism. People’s uses and preferences for goods are therefore coordinated without any need to first communicate all knowledge to any decision procedure, such as a democratic forum.
DeCaniio (2014) has added to this case for markets over democracy with a second epistemic argument. In order to compare alternative policies or plans in a democratic forum, decision-makers are required to make predictions about their relative outcomes. Due to the singular and exclusive nature of such democratic decisions, only one option can be chosen and implemented at any one time. Predictions are, therefore, needed to choose between alternatives. Predictions, however, require a large amount of knowledge about the causal relationships between rival policies and their relevant outcomes. For example, if a democratic institution aims to provide a more fuel-efficient or comfortable car, it will need to make predictions about how alternative car designs will impact on this criterion. This will require a large amount of information about the causal mechanisms. For instance, about whether making a car out of lighter materials contributes more or less to fuel efficiency than changing the engine design.

Markets, however, reduce the need for predictive knowledge. In markets, multiple firms can implement alternative plans simultaneously so that individual consumers are able to make comparisons of outcomes without the need for predictions. In the case of car designs, for example, multiple firms produce a number of different designs simultaneously. Consumers can then make side-by-side comparisons of their relative comfort or fuel efficiency without needing to be aware of the reason for their different performance. They do not need to be aware how causal relationships produce different outcomes as they have access to the outcomes themselves. Again decentralisation can help democratic institutions but cannot solve the problem completely. Having multiple local forums increases the number of policies which can be implemented at one time. However, the singular and exclusive nature of these local forums still means multiple plans cannot be implemented in the same area or jurisdiction, while the number of decision points, and therefore the number of plans, is still reduced compared to markets.

Together, these arguments make a strong epistemic case for markets over democracy. Their significance can be seen by considering environmental goods where the epistemic case for markets has received much attention (Beeson, 2018; Cordata, 2004; Greenwood, 2012, 2015; O’Neill, 2012; Pennington, 2001, 2005, 2011; Sagoff, 2008; Shahar, 2017). Environmental goods can be broadly defined as those natural or ecosystem goods and services, which people value through experience, use or consumption (Díaz et al., 2015). This definition is broad as it does not restrict a good’s value to its contributions to human welfare and it includes any goods or services which are produced by natural systems. These include forests, wetlands, mountains, air, biodiversity and the primary resources which can be exploited from ecosystems. Much political theory and economy is highly sceptical of markets when it comes to environmental goods (Barry, 1999; Beeson, 2018; Greenwood, 2007; O’Neill, 2017; Zografos and Howarth, 2010). Markets are associated not only with pervasive externality problems but also with a preoccupation with economic and instrumental values. Environmental goods are seen to involve a diversity of values which include not just contributions to human welfare but also relational and intrinsic values (Díaz et al., 2015; O’Neill, 2017; Pasquali et al., 2017). They do not include merely personal goods which contribute to an individual’s own welfare but also ethical goods which are the subject of people’s wider ethical, moral and justice-based values. Democratic institutions, rather than markets, are seen to be necessary for expressing and achieving these diverse and possibly incommensurable environmental values. This can be seen in the emergence of deliberative and participatory approaches to environmental decision-making (Meadowcroft, 2004). Although not the only form of environmental democracy, deliberative forums such as citizens' assemblies and juries, mini-publics, roundtables and deliberative forms of valuation
have received significant support in both the theory and practice of environmental politics. These democratic forums are seen to be best placed to express environmental values while bringing individuals into contact with new forms of knowledge, both scientific and local (Diaz et al., 2015; Fazey et al., 2005).

The epistemic arguments considered here, however, suggest a much greater role for markets in the provision of environmental goods (Pennington, 2001, 2005, 2011). From a Hayekian perspective, the knowledge required to make decisions about environmental goods is dispersed throughout society. Knowledge of the conditions of particular environmental goods, local management regimes and individual preferences and values for environmental goods is only known to certain on-the-spot individuals who have direct experience of local conditions. The democratic forums favoured by environmental politics would, therefore, have to gather all this dispersed knowledge to its decision procedure in order to make effective decisions. Its requirements for knowledge will be further exacerbated by the need for policy predictions. Making predictions about the outcomes of alternative environmental policies or management practices requires being aware of the causal relationships between a chosen policy and the environment. The relationships between human actions and the natural world, however, are highly complex and require a large amount of both scientific and local knowledge in order to be properly understood.

Alternatively, markets have been argued to overcome these challenges through the communicative capacity of price signals and the possibility of comparisons of outcomes. If this is the case, then it follows that the most appropriate way to communicate environmental information would be to allow the development of markets in environmental goods (Pennington, 2001: 183). By establishing property rights and markets in environmental goods, individuals can pursue their diverse environmental values and preferences without the need to centralise information, as price signals will coordinate their varied ends (Hayek, 2013). Consider a conflict between the recreational value of ski resorts and the environmental value of unspoiled mountain ranges within which they are built. In a system of free-markets, prices will respond to changes in demand for the two goods. The development of ski resorts will, therefore, be shifted away from those more environmentally valued and therefore more expensive sites, to those less environmentally valued and therefore less expensive sites (Pennington, 2005). The different environmental values and preferences of individuals are therefore coordinated through price signals and reflected in the emergent outcomes of market interaction. By not reserving the management of environmental goods to the exclusive control of a democratic institution, markets also allow alternative approaches to be implemented simultaneously. The need for large amounts of predictive knowledge is therefore decreased as individual market actors are able to observe the outcomes produced by alternative providers of environmental goods.

Advocates of environmental markets recognise problems, such as climate change, where property rights and markets cannot be established, and alternatives are required. However, where markets and property rights are possible, they argue that there are significant epistemic benefits to environmental markets over democratic institutions. This example of environmental goods, therefore, helps demonstrate the implications of the epistemic case for markets over democracy, even in an area where markets are often met with considerable scepticism.

One place we might start to look for a reply to these arguments is in the work of epistemic democrats, who have argued for the superior problem-solving abilities of democratic decision-making. Epistemic democrats, however, have tended to remove markets from their analysis. Hélie Landemore (2013: 86), for instance, states that ‘the market is
not a political decision procedure' and therefore 'does not offer an alternative' to democracy. She then restricts her arguments to other forms of decision-making such as autocracy and aristocracy. Similarly, Elizabeth Anderson (2006: 9) constrains her analysis to problems of 'public interest' which are said to exclude consideration of markets which are confined to private matters. Despite epistemic democrats' tendencies to exclude markets, the market critiques directly challenge democracy on epistemic grounds. For example, Landemore argues that democratic deliberation can draw on the benefits of cognitive diversity in order to more effectively solve social problems than less exclusive processes, such as aristocracy. Even if deliberation has this ability, however, the arguments of market advocates suggest that it will be unable to gather the dispersed knowledge relevant to addressing social problems and will require decision-makers to make information intensive predictions. So although democratic deliberation may outperform other collective forms of decision-making, it will be less effective than a decentralised market which can utilise dispersed knowledge and allow for comparisons of outcomes. New epistemic arguments are, therefore, required in order to address the pro-market critiques.

The rest of this article will argue that there are good epistemic grounds for giving a much greater role to democratic institutions than their market critics have suggested. First, however, a caveat is required about the scope of the article. Although the critiques discussed have been aimed at democratic institutions, they do not attack their intrinsically democratic features. They focus not on their inclusive nature but rather on their collective and singular characteristics. As a result, an assembly or board of technocrats or administrators would suffer from the same problems. This article, however, will focus on democracy and markets, and will not consider other alternatives. It will aim to defend democracy against the arguments of market advocates without directly engaging with other institutional designs which may or may not face similar challenges. These alternatives have, however, been discussed elsewhere by other democratic theorists in epistemic terms (see Anderson, 2006; Estlund, 2008; Landemore, 2013). The rest of the article will therefore remain internal to the debate between democracy and the market.

The Epistemic Limits of Markets

In the previous section, we saw two epistemic critiques of democracy which argued that, wherever they are possible, markets should be preferred to democratic institutions. Democratic control should be reserved only for areas where markets and property rights cannot be established. An immediate objection to these claims is that inequalities in markets create inequalities in the ability to communicate through acts of buying and selling. Not all individuals have the capacity to communicate their knowledge in markets, and their knowledge will likely be lost (O'Neill, 1998). This will not, however, be the argument pursued in this article. The reason for this is not to dismiss the importance of inequalities, but rather to identify a deeper problem with market mechanisms and the epistemic arguments for them. This problem is deeper in the sense that it exists even if there was complete equality between market actors.

What is central to the pro-market arguments is that markets reduce the need for explicit knowledge. Explicit knowledge is knowledge which needs to be consciously known to decision-makers. It is general or local knowledge which decision-makers must be explicitly aware of in order to make decisions. Markets are argued to reduce the need for explicit knowledge by allowing individuals to pursue their preferences and values for goods without centralising large amounts of knowledge, and by allowing comparisons of outcomes.
This and the following section will argue that there is a class of goods, where the pro-market arguments fail. It will develop the concept of low feedback goods and argue that individual market actors will face large burdens for explicit knowledge when it comes to these goods, burdens which cannot be met by market communication.

First, we need to see how the epistemic case for markets requires the presence of feedback signals to provide market actors with certain basic information. Consider the outcome comparisons highlighted by DeCanio. An individual can only make such comparisons if they receive feedback information about the outcomes of different alternatives. By testing different cars, a consumer will receive clear feedback allowing them to determine which is the most comfortable. It is this feedback about their relative comfort which reduces the consumers’ need for explicit knowledge. Similarly, market actors can only act on their preferences and values for goods, if they know the extent to which their decisions achieve these goods and, therefore, satisfy these preferences and values. An individual with a preference for spicy food, for instance, can buy different food products and receive clear feedback about the extent to which they satisfy this preference.

As should be clear from these examples, feedback information will be available for many goods. There is, however, a class of goods which will not involve the clear feedback information required by markets. We can call these goods low feedback goods. Their defining feature is that they are in some way separated or disconnected from individuals who value them. They may, for instance, be separated in terms of time or space. The result of this disconnection is that individuals will not be provided with direct feedback information about the effect of their decisions and the extent to which they achieve the good they pursue. Take, for instance, individuals pursuing the good of personal health. Often, although by no means always, individuals will not receive feedback information about how their market decisions affect their health. Take the decision of which supplier of water to choose. Many of the health effects which may result from pollutants or chemicals in different supplies of water will not be easily recognisable by consumers. They may, for instance, take long periods of time to take effect or may only increase an individual risk of contracting a health problem. These factors create a disconnection between the individual and good they pursue. It will, therefore, be very difficult for individuals to tell what, if any, affect a certain supply of water has on their health. In the absence of this feedback information, market actors will require explicit knowledge in order to make decisions. They will, for instance, need to be aware of all the pollutants and chemical contents of different supplies of water, and of the different health effects these substances can have, and in what quantities. This is a large epistemic burden which further increases when we consider that individual will require knowledge relating to all their other market decisions which could impact their health in similar ways.

At this point, it may be thought that low feedback goods are only a small category of goods. That there are only rare examples, such as health, where individuals do not receive direct feedback signals. However, the greater significance of this problem can be seen when we consider ethical goods. Ethical goods are defined as goods which relate not to an individual’s own welfare, such as the personal good of health, but to such things as the welfare of others or the relations between them. They are not the subject of self-interested preferences but rather an individual’s wider ethical, moral, or justice-based values. The fact that ethical goods do not relate directly to an individual’s own welfare means they will necessarily be separated from individuals and, therefore, likely to be low feedback goods. This is not to say that all ethical goods are low feedback goods. If care about the welfare of individuals very close to me, then I may receive feedback about the effect of
my actions on their well-being. In a large society, however, there will be many ethical goods which people value from which they are greatly separated.\textsuperscript{5}

The example of environmental goods, which are often valued on ethical grounds, can help to illustrate the problem facing markets. Consider market actors who value the Amazon rainforest as an ethical good. They may, for instance, believe that it is complex and unique biodiversity to be of particular value. Now those who live or work within the Amazon may receive feedback information about their impact on it. They may receive signals about the way this ecosystem is changing. However, those who value the Amazon as an ethical good are not confined to these individuals but include many people who are significantly disconnected from it. You do not need to be in close proximity to the Amazon to value its biodiversity or to have an impact on its condition. You could, for example, be in another country entirely. There is, therefore, no set or given list of low feedback goods as they are in a particular respect agent-relative. Something can be a low feedback good to some people but not to others depending on their position. The Amazon may not be a low feedback good to those who live and work within it while being a low feedback good to others who are more distant. Through the products these distant individuals buy and sell, they can still have significant effects on the Amazon but receive no feedback information about their effects due to this separation. Market actors may be provided with information about good such as the comfortableness of cars or the taste of food, as these goods are closely connected to the individual who values them. For an ethical good, such as the Amazon, however, there can be significant separation between the good and many individuals who value it, resulting in a lack of feedback signals. In order to pursue the good they value, market actors will, therefore, require large amounts of explicit knowledge. They will need to be consciously aware of the relationship between their market decision and the ethical good they value. This relationship, however, can be highly complex and involve a large amount of general and local knowledge. It includes knowledge of the production and consumption of all the different products they buy and sell, the kinds of waste they produce and the different effects this can have on environmental goods.

Low feedback goods then produce large burdens for explicit knowledge and will be particularly prevalent when it comes to ethical goods. It is important to see that this problem is distinct from the externalities problem. Even if the whole of the Amazon rainforest was privately owned and all of its owners were consenting to its exploitation and pollution, others who value it as an ethical good will want to make market transactions which do not contribute to this. They will want to decrease their consumption of goods which damage its valuable biodiversity even if its current owners are allowing it to be damaged. However, the lack of clear feedback signals means these individuals will require large amounts of explicit knowledge to do this. This problem is also distinct from issues surrounding the international/global nature of certain goods and problems. Although many who value the Amazon as an ethical good will live in other countries, this is not necessary for there to be a lack of feedback information. There may be many environmental goods in the same country as you, which you never the less receive very little feedback from. The problem of low feedback goods is, therefore, a distinct problem for markets.\textsuperscript{6}

Alone, however, the example of the Amazon understimates the problem of low feedback goods. Individuals will value many low feedback goods rather than just one. Environmentally minded individuals, for instance, will normally value many ethical environmental goods. In large complex societies, the market decisions of individuals will
affect many environmental goods which they are greatly separated from but which they 
still value. Individuals with environmental values will, therefore, require large amounts 
of explicit knowledge about the relationship between the production and consumption of 
the different products they buy and a host of environmental goods from which they 
will not receive feedback signals. Again this does not mean that there are no market actors 
who do receive feedback information about environmental goods. Those who live or 
work with an environmental good may receive feedback information, and if only their 
values were at stake, then markets could account for them. The problem, however, is that 
many people who value these goods will not receive such feedback and will require large 
amounts of explicit knowledge. Managing low feedback goods through the market leaves 
most, although not all, unable to act on their values without being aware of a large amount 
of explicit knowledge.

The significance of the low feedback problem is again increased when we move to 
consider other ethical goods. Consider, for instance, individuals who value the good of 
fair labour practices, such as working conditions or wage levels. These actors will aim to 
buy products which are produced by certain labour standards and not with others. 
However, in large societies, market actors are often greatly separated from the production 
of the good they consume and will, therefore, not be given feedback information about 
the effect of their decisions. As a result, they will require a large amount of explicit 
knowledge about the production of all the different products they buy and the resources 
which go into them. Again, there will be examples where market actors will receive feedback 
information about ethical goods, and some goods can be low feedback for certain 
individuals and not others. However, given the size of modern societies, people will often 
be very disconnected from many ethical goods they value. Goods such as fair labour 
practices, fair trade practices, human rights, animal welfare, wealth/resource distributions 
and environmental goods will often be greatly disconnected from the individuals who 
value them. They will, therefore, face large and significant burdens for explicit knowl-
dge when attempting to pursue such goods.

**Markets and Explicit Knowledge**

Importantly, the burden of explicit knowledge which low feedback goods create necessarily cannot be dealt with by price signals. For Hayekians, price signals are the key 
communicative mechanism in markets. However, they provide only an implicit form of 
communication and do not communicate knowledge so that others become explicitly 
aware of that information. Instead, they allow people to adjust their actions without the 
need for such knowledge. If there are changes in the price of tin, market actors do not 
learn the reason behind those changes but instead adjust their consumption of tin without 
such information (Hayek, 1948). For this reason, Steven Horwitz (2004: 314) refers to the 
price mechanism as a ‘knowledge surrogate’ rather than a mechanism for full communication. Prices do not allow people to ‘know what other people know’ but rather allow people ‘to act as if we knew what others knew’. This means that price signals differ from 
explicit forms of communication, such as speech, which allow people to become explicitly 
aware of knowledge. The price mechanism is an implicit, rather than explicit, form of 
communication and therefore cannot deal with burdens of explicit knowledge.

Market advocates may, however, argue that an alternative form of market communication can deal with these burdens. Markets present firms with clear incentives to provide 
explicit knowledge to consumers. If, for instance, a firm produces a product which is
environmentally friendly, they will have the incentive to signal this, through such things as labelling, advertising or branding, in order to gain the custom of those with environmental values. The same incentive will be present for firms producing products with positive health effects or with high labour standards. Although price signals cannot communicate explicit knowledge, firms have the incentive to provide this information to individual consumers.

There are significant limitations to communication through such things as product labelling which will be considered later. For now, however, this reply can be seen to face a more immediate problem. Although firms may have incentives to provide positive information about their products, they also face significant incentives to withhold negative information. If their products have negative environmental or health effects, for instance, they will have every incentive to conceal information about such effects from consumers who may take this as a reason not to buy them. The incentives facing firms can, in fact, lead to the concealment of important information from individuals seeking low feedback goods. Naomi Oreskes and Erik Conway (2010), for instance, have documented how tobacco companies and those linked to the production of acid rain and carbon emissions attempted to conceal damaging scientific information from their consumers and even actively aimed to spread doubt and misinformation. Even considering only positive information, firms will still face incentives to present this information in certain ways. They will, for instance, have an incentive to adopt a permissive definition of terms such as ‘environmentally sustainable’ or ‘good labour practices’ in order to present a most positive image of their products. There can be significant communication problems produced by the different definitions firms and consumers attach to certain terms, particularly when firms have incentives to adopt some definitions over others. What a consumer takes the term ‘fair trade’ or ‘free range’ to mean may, therefore, differ greatly from the producer.

Problems of concealment or misinformation also cannot be effectively checked by consumers when it comes to low feedback goods. If a company conceals the fact that their car is uncomfortable, then the consumer can quickly find this out through feedback signals. If, however, the good in question is a low feedback good, then consumers will often not be provided with the information they need to check firms’ claims.

**Knowledge in Deliberative Democracy**

We have seen that market actors will face significant burdens for explicit knowledge when it comes to low feedback goods, and that market communication cannot deal with these burdens. There is, therefore, a broad class of goods, including important ethical goods, which the epistemic case for markets cannot deal with. Market advocates may still respond that markets do not face any greater problems in relation to these goods than democratic institutions. The rest of this article will, therefore, aim to show that democratic institutions, conceived in deliberative terms, are better able to deal with burdens for explicit knowledge and low feedback goods. Importantly, it does not need to show that democracy can deal with all low feedback goods or get hold of all explicit knowledge. Rather it needs to be established that democracy is better able to do this relative to markets.

Deliberative democracy at first seems well placed to deal with explicit knowledge. Such a conception of democracy bases decision-making on a free and open discussion among participants. It is a ‘talk centric’ account of democracy which focuses on the giving of rational arguments in a forum, such as a parliament or assembly (Chamber, 2003).
Deliberative democracy, therefore, is based on the explicit communication of speech which can, unlike price signals, communicate explicit knowledge. Such an approach, however, faces an immediate problem. As Hayekians have argued, the knowledge relevant to addressing social problems includes local knowledge which is fragmented and dispersed throughout society. So although deliberative forums are based on explicit communication, this does not establish how such forums can obtain dispersed knowledge, to begin with. As we have seen, decentralising democratic forums can reduce this problem but cannot solve it. Deliberative democracy must, therefore, be able to overcome the division of knowledge in society.

Although deliberative theorists have not addressed this Hayekian problem directly, steps towards overcoming it can be found in recent deliberative theory and particularly in its systemic turn (Dryzek, 2016; Mansbridge et al., 2012; Parkinson, 2006). The systemic approach has expanded deliberative democracy away from deliberation within the forum to deliberation within a wider system and has been influential in areas such as environmental democracy (Dryzek and Stevenson, 2011; Stevenson and Dryzek, 2014). Through this systemic approach, we can start to see how the division of knowledge may be addressed by deliberative democracy.

A deliberative system 'encompasses a talk-based approach to political conflict and problem-solving' (Mansbridge et al., 2012: 4–5). It is, therefore, based on the explicit communication of speech. The fact that it is a 'system', however, means that speech is not confined to empowered decision-making forums and also takes place in a number of 'differentiated yet linked components' in 'public space' (Stevenson and Dryzek, 2014: 27). These components include universities, trade unions, think tanks, social movements, businesses, voluntary associations, newspapers, television, non-governmental organisations (NGOs) and charities. Although differentiated, discussion and talk within each of these components are connected and integrated into the wider system so each can 'consider reasons and proposals generated in other parts' (Mansbridge et al., 2012: 23). Importantly, there are 'transmissions' between deliberation within 'public space' and deliberation within the 'empowered spaces' of more formal decision-making institutions (Stevenson and Dryzek, 2014: 27–29). Through campaigns and lobbying, for instance, discussions in NGOs or think tanks can come to influence the final decisions of parliaments.

Part of the reason for the systemic turn is the epistemic benefits which can be discovered by considering the wider system (Christiano, 2012; Mansbridge et al., 2012). Important to the systemic model developed here, is that the different components within public space can gather and aggregate different forms of dispersed knowledge, which can then be communicated to empowered democratic forums. Consider, for instance, the connection between the scientific deliberations of the Intergovernmental Panel on Climate Change and International negotiations on emission reductions. The former providing detailed scientific knowledge which is utilised by the latter empowered space. Alternatively, campaign groups and social movements can be seen to gather knowledge on the local effects of social problems which can then influence decision within empowered spaces. Hayekians have focused on the problem of centralising dispersed knowledge in the forum. However, on a systems approach, democratic forums are not isolated islands of decision-making but are rather connected to many components within a wider system. These components, such as scientific bodies, campaign groups and academic groups, gather and aggregate different forms of knowledge which are dispersed throughout the system and then aim to communicate this information to democratic forums. As we have already
seen, decentralisation can help to reduce the problems highlighted by market advocates, so we can also imagine that the empowered space of an effective deliberative system will involve a number of decision-making forums. This epistemic model of a democratic deliberative system is illustrated in Figure 1, which shows the movement of knowledge through the system. This model helps us to see how deliberative democracy can start to overcome the problem of the division of knowledge.

As it currently stands, however, deliberative systems ran up against a significant problem in relation to the market. What needs to be shown is that a democratic deliberative system is better able to gather explicit knowledge than markets. However, the different knowledge gathering components of a deliberative system can communicate explicit knowledge to individual market actors as well as democratic forums. As Mansbridge et al. (2012: 7–8) point out, there can be deliberative systems which are not democratic. We can, therefore, conceive of a market-based deliberative system where final decisions are not taken by democratic forums, as in a democratic deliberative system, but by individual market actors (Figure 2). Within such a system, institutions within public space would aim to communicate their explicit knowledge to market actors rather than democratic forums. For instance, many environmental groups make information campaigns aimed directly at consumers, attempting to provide them with information about the effect of their market transactions on valued environmental goods. Similarly, many health charities attempt to communicate the conclusions of scientific research to market actors, in order that they can make more informed consumer choices.\(^9\)

We can imagine then two alternative deliberative systems which we can call a democratic system and a market system. Both deliberative systems involve interconnected deliberations within public space which gather and aggregate different forms of knowledge. However, in a democratic system, final decisions are taken in a number of democratic forums, while in a market system, final decisions are taken by a much greater number of individual market actors. As it stands then, deliberative systems can be used to support either democracy or markets. In the next section, these alternative deliberative systems will be compared, and it will be argued that a democratic system has a number of significant advantages when it comes to communicating and utilising the explicit knowledge required for low feedback goods.
Democratic Systems Versus Market Systems

The first advantage of a democratic system is that it reduces the number and distribution of decision-makers to whom explicit knowledge needs to be communicated. In a market system, decision-making is decentralised to the level of the individual, while in a democratic system, decision-making takes place in a smaller number of democratic forums. In a market system, relevant explicit knowledge needs to be communicated to a very large number of highly dispersed market actors, while in a democratic system, it needs to be communicated to far fewer decision-makers contained within a smaller number of forums. The challenges involved in communicating explicit knowledge are, therefore, dramatically increased in a market system.

These challenges will differ depending on the form of knowledge. Consider general scientific knowledge. Many low feedback goods will require scientific knowledge. Knowledge concerning environmental goods and human health, for instance, involves a significant scientific component. Scientific knowledge is general knowledge that is often available only to those with significant training. It is then, unlike local knowledge, centralised in the scientific community or academy. As O’Neill (2012) has argued, this means that communication of scientific knowledge in markets will face the opposite epistemic problems to those identified by Hayekians in centralising local knowledge to a democratic institution. Instead of centralising dispersed knowledge, a market system will have to communicate centralised general knowledge to a large number of highly dispersed individuals. The greater the number of decision-makers, the greater the difficulty there will be in communicating centralised scientific knowledge to all relevant parties. A democratic system, therefore, reduces these problems as knowledge needs to be communicated to a smaller number of democratic forums. A democratic system reduces the number and distribution of decision-makers relative to a market system, which decreases the challenges of explicitly communicating scientific knowledge.

Burdens for explicit knowledge also include local forms of knowledge. The ways in which a production process affects particular people or ecosystems, for instance, may only be known to certain on-the-spot individuals who have experience of these effects. A market system would, therefore, need to explicitly communicate a large amount of local
knowledge dispersed through society to an equally large number of individuals dispersed throughout the market. Local knowledge must be communicated to a vast number of decision-making nodes spread throughout the economy. Alternatively, a democratic system will again greatly reduce the problem of communicating knowledge, as it significantly reduces both the number and distribution of decision-makers relative to a market system. In a democratic system, local knowledge needs to be communicated to a much smaller number of decision-making forums. A democratic system, therefore, reduces the challenges of explicit communication relative to markets, for both scientific and local knowledge.

The second advantage of a democratic system is that it reduces the epistemic and cognitive burden placed on decision-makers. Individual market actors will engage in a very large number of market decisions which will affect the low feedback goods they value. They will, therefore, require explicit knowledge relevant to each of these decisions. Consider, for instance, individuals who value low feedback environmental goods. These individuals will need to be aware of the environmental impact of all the products they buy. This simply places an unreasonable epistemic and cognitive burden on individuals, as almost every market transaction will confront them with a sizeable requirement for both local and scientific knowledge. It also helps us to see why market advocates cannot claim that individuals can merely seek out the information they need. Such a reply fails to recognize the size of the epistemic burden facing individuals. An environmentally minded consumer, for instance, would have to search out information about nearly all their market transactions to determine their effect on low feedback environmental goods. The reverse of Oscar Wilde’s quip that socialism would take up too many evenings with meetings is that free-markets would take up too many evenings with research.

Alternatively, a democratic system does not require that individuals possess such large amounts of information as there is a division of epistemic labour. The transmission of knowledge to democratic forums can be undertaken by different components within public space which each focuses on particular kinds of knowledge. This knowledge can then be communicated to more specialist democratic forums. Unlike market actors who will make decisions in relation to a large number of low feedback goods, a democratic forum may be tasked with providing a particular good or range of goods. They do not, therefore, place such large epistemic and cognitive burdens on individual decision-makers. Forums may still require information about how the good they aim to provide affects others. Too analytic an approach can miss important ways in which the resolution of one problem can affect another. However, the burden is significantly reduced relative to a market system which leaves decision-making to individuals.

The third advantage of a democratic system is that it can increase the quality of explicit communication. The vast number of decision-makers in markets means that information must be greatly simplified in order that it can reach large numbers of people. The information which is relevant to low feedback goods is often highly technical, such as scientific information, and difficult to understand. It can often also involve uncertainties, say about the effects of substances on health, which are not easily quantifiable and can be difficult to apply (Slovic, 2000). This means that the simplification of such information can be highly problematic and lead to large reductions in its quality. Consider, for instance, product labelling as a method to spread health or environmental information to consumers. Communicating information in this way necessarily requires significant simplification: first, so that it can fit on a single label, and second so it can be easily and quickly understood by consumers. Now compare this to the
communication of knowledge within a democratic forum. Knowledge can be explained and communicated at length to decision-makers and in a way which recognises its complexity. Take deliberative institutions such as citizens’ assemblies. These approaches allow citizens to come into direct contact with experts through structured events such as expert panels and workshops. A deliberative project on kidney donation, for instance, held a ‘specialist fair’ where participants were able to approach any specialist they wished in order to ask further questions and have information further explained (Burgess et al., 2007). These features of democratic forums can allow for a greater quality of explicit communication compared to a market system. Of course, when it comes to very specialist knowledge, some simplification is inevitable for those without particular training. However, the need for simplification in a market system is significantly greater than in a democratic system which can allow for a more detailed and complex understanding of explicit knowledge.

A democratic system has a number of important advantages over a market system which increases its ability to overcome the burdens of explicit knowledge produced by low feedback goods. It reduces the challenges of communicating explicit knowledge to decision-makers, reduces the cognitive and epistemic burden placed on decision-makers and increases the quality of explicit communication. A democratic system is, therefore, better placed, relative to markets, to provide low feedback goods.

Conclusion
This article has argued that there are good epistemic grounds for granting a greater role to democratic institutions than their pro-market critics have suggested. Low feedback goods represent a broad range of goods, including important ethical goods, which are better dealt with by democratic institutions, whether this is through market regulation or direct democratic provision. A democratic system, where decisions are taken in forums, is much better placed to deal with the burdens of explicit knowledge than a market system, which leaves decision-making to individual market actors. There may, of course, be some very large burdens for explicit knowledge which even a democratic system may fail to satisfy. However, this does not dispute that democratic institutions are generally better placed to deal with such burdens relative to markets.

This problem of low feedback goods may, in fact, go farther and suggest an epistemic priority of democracy over markets. Before we can know if a particular good can be provided by markets, we need first to determine whether such a good is valued by individuals who are disconnected from it and, therefore, whether it is a low feedback good. In other words, we need to determine how a good is valued before we can establish whether a market can provide it. A priori process, such as democratic deliberation, is therefore required in order to discover the public values which exist for certain goods before any kind of market can be advocated. Although there is no space to explore this claim here, the argument of this article at least suggests that priority needs to be given to democracy over the market. A full defence of such a claim, however, is a subject for another paper.

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Notes

1. DeCani (2014) discusses the decision of voters in elections. However, his argument focuses on the singular and exclusive nature of democratic decisions so that it also applies to forums.
2. If there are high levels of market concentration, such as monopoly or oligopoly, then the number of decision points might not be higher in markets.
3. DeCani (2014) allows for the redistributive function of democracy and may, therefore, be consistent with certain levels of equality. Pennington (2003), alternatively, defends market inequality on epistemic grounds.
4. Such issues can also cause problems for market approaches which rely on tort law to resolve environmental harms (see Benson, 2013).
5. It may be argued that individuals are less motivated to act on ethical values in markets relative to democracy. Here such motivations are assumed to be equal in order to focus on the epistemic question.
6. Low feedback goods can also be distinguished from demand goods. Demand goods are defined as goods which have a negative impact on the consumer who buys them. Examples include unhealthy products such as alcohol and tobacco. Demand goods, however, do not necessarily suffer from a lack of feedback as people may be aware of these negative impacts when making their decisions. The concept of low feedback goods focuses directly on the epistemic problem resulting from a separation between a good and those who value it. It also includes ethical goods which are not well accounted for by the concept of demand goods.
7. This appears to be the case for individual voters in elections who face the same burdens for explicit knowledge as individual consumers.
8. Hayekians have themselves pointed to advertising, trade magazines, books and environmental and religious groups, as forms of explicit communication which can be utilised by markets (Pennington, 2001: 180). There may be important questions over the relative effectiveness of public space in a system dominated by markets as compared to a democratic system. Sadly, however, there is no space to pursue such questions here.
9. Some market advocates may object, in reference to Coasean theory, that if forums do in fact possess these advantages, then a process of market competition would itself select for similar institutional structures (Pennington, 2011). In the same way that large firms may prosper if they reduce the costs of individual bargaining, those institutional forms which reduce the costs of acquiring knowledge can also be selected through market competition. I think there are general reasons to be sceptical of the capacity of competition to always select for beneficial institutional forms. However, there are specific reasons for why this reply cannot be made against the problem of low feedback goods. Selection by market competition requires that the benefits of particular institutions can be recognised by individual market actors who then select for them in their market decisions. If larger firms produce better quality cars, then individuals can recognise and select for this. The problem of low feedback goods, however, is that they are disconnected from individuals and do not provide them with clear information. As a result, a particular institution may provide a low feedback good more successfully and yet not have this recognised by market actors due to a lack of feedback. Market competition cannot, therefore, be relied on to select such an institution.

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Appendix 3: Deliberative Democracy & the Problem of Tacit Knowledge

Deliberative democracy and the problem of tacit knowledge

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Abstract
This article defends deliberative democracy against the problem of tacit knowledge. It has been argued that deliberative democracy gives a privileged position to linguistic communication and therefore excludes tacit forms of knowledge which cannot be expressed propositionally. This article shows how the exclusion of such knowledge presents important challenges to both proceduralist and epistemic conceptions of deliberative democracy, and how it has been taken by some to favour markets over democratic institutions. After pointing to the limitations of market alternatives, deliberative democracy is defended by arguing that tacit knowledge can be brought into deliberation through the mechanism of trust in testimony. By trusting the testimony of a speaker, deliberators are able to act on knowledge even without it being explicitly expressed. The article then goes on to discuss the implications of this defence for deliberative theory, and particularly, the forms of reason which deliberative democrats must see as legitimate.

Keywords
deliberative democracy, tacit knowledge, proceduralism, epistemic democracy, trust, markets

Introduction
Over the past few decades, deliberative models of democracy have become a dominant approach to democratic theory. Such models take rational discussion between free and equal citizens to be at the heart of democratic decision-making. It has been objected,
however, that deliberative democracy gives a privileged position to linguistic forms of communication and therefore excludes tacit forms of knowledge (Pennington, 2003, 2011). Tacit knowledge is practical knowledge embodied in experience, skills and know-how which cannot be expressed in propositional form. It is, therefore, said to be excluded from deliberative institutions which are based on verbal dialogue.

This problem of tacit knowledge has been argued to undermine deliberation as a process of social learning. As we will see, however, it actually creates more general and significant problems to both procedural and epistemic conceptions of deliberative democracy. The exclusion of tacit knowledge undermines equal participation and fair proceduralism by showing that deliberation necessarily excludes certain people’s perspectives, while it also undermines the ability of deliberation to make good and effective decisions, by showing an important body of knowledge which deliberation will fail to utilize. This critique of deliberative democracy draws on Fredrick Hayek’s (1948a, 1948b, 2013) epistemic rejection of collective social coordination and defence of a market society. Unlike deliberation, the price mechanism is said to have the potential for extralinguistic communication which can allow tacit knowledge to be utilized for social coordination. The problem of tacit knowledge is, therefore, taken to be an important reason for favouring a market society over one which gives a prominent role to democratic and particularly deliberative institutions.

The purpose of this article is to defend deliberative democracy against the problems of tacit knowledge and to argue that it does not necessarily give clear reasons to favour market institutions. It also argues that this defence has significant implications for deliberative democratic theory, and particularly for the forms of reason which deliberative democrats see as legitimate. The next section will discuss the problem of tacit knowledge and its challenge to deliberative democracy. It has previously been aimed only at certain aspects of Habermasian deliberation; however, this article brings out its wider significance for both proceduralist and epistemic conceptions of deliberative democracy. The article will then argue that market approaches to tacit knowledge face significant limitations, before moving on to develop a defence of deliberative democracy itself. It will be argued that verbal deliberation can incorporate tacit forms of knowledge through the use of ‘trust in testimony’. By trusting the speech acts of others, deliberators are able to act on a speaker’s knowledge even when it is not explicitly expressed. The latter half of the article will then discuss the wider implications of this defence for deliberative theory. The inclusion of tacit knowledge through trust in testimony will be shown to create important problems for influential conceptions of deliberative democracy, such as Habermas, which are based on impersonal reason. Deliberation must involve not only impersonal forms of reasoning but also reasoning about credibility and trust. The article will then end with a discussion of the different ways trust in testimony operates in deliberation, markets and everyday talk.

**Deliberation and the problem of tacit knowledge**

Deliberative democracy is an approach to democratic decision-making based on a reasoned dialogue. Unlike aggregative models of democracy, which focus on the summing up of given preferences through voting, deliberative democrats emphasize the role of
open discussion between free and equal participants (Cohen, 1989; Dryzek, 1990, 2000; Elster, 1986; Gutmann and Thompson, 2004; Habermas, 1996; Mansbridge et al., 2012; Rawls, 1996; Sunstein, 1991). Preferences are not taken as given to the democratic process but rather as evolving in relation to the decision-making procedures themselves. Through discussion, preferences are not simply aggregated but informed and transformed in relation to each other. Although deliberation may lead to a vote, theories of deliberative democracy focus on the importance of a prior discussion and debate. In Chambers (2003) words they are ‘talk-centric’ as opposed to ‘vote-centric’. It involves a process of critical reflection in which preferences and opinions can be considered and challenged, and alternative values and policies can be held up to scrutiny. Decisions are then taken in relation to the outcome of this free and equal deliberation.

Institutions of deliberative democracy can take many different forms. On the one hand, they may involve the formal deliberations of legislative parliaments, or the structured deliberation of citizens in mini-publics, citizen assemblies and consensus conferences (Smith, 2009). Alternatively, deliberation can form the basis of a radical participatory economy where firms and economic planning are controlled on a democratic basis (Devine, 2002). Recent work in deliberative democracy has also moved on to conceptualize deliberative systems, which involve the interconnected deliberation of many different institutions within both government and civil society (Benson, forthcoming; Mansbridge et al., 2012).

It has been objected, however, that such models of democracy cannot account for tacit forms of knowledge. Mark Pennington (2003, 2011), in developing a Hayekian critique of deliberation, argues that theories of deliberative democracy give a privileged position to linguistic forms of communication which present them with significant epistemic challenges. This draws on Fredrick Hayek’s (1948b, 1978) distinction between theoretical and tacit forms of knowledge. Theoretical knowledge is an explicit, abstract or statistical knowledge which can be expressed in propositional form, whereas tacit knowledge is non-explicit and includes practical skills and know-how. Tacit knowledge, unlike theoretical knowledge, cannot be communicated linguistically or statistically. It cannot be expressed propositionally but can only be learnt through participation in a social action or practice. Polanyi (1997) gives the example of our ability to recognize a face among thousands of others despite our inability to explain exactly how or why we are able to do so. Perhaps a better example, however, would be our inability to articulate and explain all the rules of grammar and language which we abide by in our everyday conversations.

The implication of tacit knowledge is that we ‘know more than we can tell’ (Polanyi, 1997: 136). Much of the knowledge we act on day to day we could not express even if called upon to do so. Take, for example, the knowledge needed for conducting many occupations. Such knowledge cannot be fully learnt simply by reading a manual, no matter how detailed, but requires participation in that occupation itself. It requires learning while doing. Although we cannot fully express it, the tacit knowledge we gain through experience is often vitally important to our understanding and ability to make decisions in the complex social systems we occupy. It is also often very important to political decision-making and to public policy.
Take, for instance, environmental policy. It is often recognized that environmental policy can be greatly informed by the tacit knowledge of on-the-spot managers and local communities, who have a deep understanding of their environment (Fazey et al., 2005, 2006a, 2006b; Raymond et al., 2010). People can acquire a large and detailed understanding of an ecosystem through extended experience, living and interacting with it. This understanding can allow them to recognize changes and emergent properties within these systems and even form reliable predictions. Despite the depth of their knowledge, however, these individuals are often unable to articulate or explain how and why they know what they know (Fazey et al., 2005, 2006a, 2006b). Examples of people with this knowledge include indigenous communities whose experiences and learning over generations can greatly inform and benefit environmental management (Raymond et al., 2010). This knowledge is particularly important when dealing with complex ecosystems where theoretical scientific research is often absent or incomplete. Theoretical knowledge also makes generalized claims which may not hold for a particular context-specific decision. Drawing on tacit knowledge alongside explicit knowledge can, therefore, benefit the production of environmental policy. It can fill gaps in theoretical research and provide a specific understanding of particular ecosystems.

Tacit knowledge is, in fact, inherent to social and intellectual practices. As Polanyi argues, and Hayek (1978) accepts, part of the information that a scientific expert has is based on practical knowledge and skills which they have acquired through years of participating in their discipline. This know-how includes, for instance, the ability to organize, interpret and derive understanding from bodies of information. This knowledge cannot be taught to a student of science in a lecture or book but can only be acquired through their engagement in the practice of science itself. Scientific knowledge is, however, vital to policy areas such as energy, public health and the environment. Medicine, chemistry, climatology, nuclear physics, biogenetics and many other bodies of scientific information are all highly relevant to policymaking, and all involve a tacit dimension.

Many people, such as scientists, indigenous people, farmers, care workers, fishers and civil servants, may all have specific practical knowledge because of their social roles which may be relevant to certain policy areas. However, Pennington (2003) argues that the inarticulate nature of this knowledge means that deliberative institutions will fail to utilize it. Deliberative democracy bases decision-making on a verbal discussion, meaning that its central form of communication is linguistic. Citizens, or their representatives, are to form a conception of the best policy purely on the bases of listening to, and participating in, verbal argument. Such communication, however, restricts the forms of knowledge which can be expressed. It is necessarily unable to articulate tacit knowledge because such knowledge is non-linguistic and cannot be communicated in propositional form. The privileging of linguistic communication, therefore, ignores important kinds of non-explicit knowledge. The inarticulate nature of tacit knowledge means that it is necessarily excluded from deliberative decision-making based on verbal dialogue.

Pennington aims this critique at Habermasion theories of democracy and in particular the role they give to deliberation as the process of social learning. By bringing people together in a forum, values can be exchanged and tested so that participants can learn from each other and have their own values informed and transformed as a result. For
Pennington, however, social learning must also account for tacit bodies of knowledge. Learning via conversation, although able to communicate explicit knowledge, will fail to include information which is by its nature inarticulate and can only be acquired through participation, observation and emulation. There are then epistemic limits to linguistic forms of learning which require that all information be articulated. Forms of social learning, such as the market (discussed further below), which have a capacity for extra-linguistic communication should, therefore, be favoured in order not to restrict the kind of knowledge which can be included.

The problem of tacit knowledge actually has much more general and significant problems for both Habermas and deliberative democracy than those highlighted by Pennington. First, issues of procedural fairness are also threatened by the exclusion of practical knowledge in deliberation. As proceduralists, Habermasians see deliberation as having to meet criteria such as full participation rights and equal voice. This appeal to egalitarian decision-making is, however, undermined as the decision process itself disadvantages and excludes certain kinds of knowledge and thereby certain people’s perspectives. People with relevant tacit knowledge are unable to share their knowledge in verbal decision-making. They are unable to articulate their perspective or their reason for it and are therefore limited in their capacity to participate equally in collective deliberation. Importantly, this challenges not just Habermasians but all deliberative democrats who require equality of voice and participation on grounds of procedural fairness (Cohen, 1989). The process of verbal decision-making itself disadvantages certain people’s knowledge and perspective and therefore limits their participation compared to others. This problem becomes particularly pressing when the holders of tacit knowledge are from social groups which already face marginalization or oppression. Indigenous communities, for instance, not only have important tacit knowledge but are often the most adversely affected by environmental problems. Similarly, women or ethnic minorities can have a unique understanding of social oppression which may also involve a tacit component. Such groups may be unable to fully express this knowledge and are, therefore, disadvantaged by verbal discussion. The problem of tacit knowledge, therefore, undermines the egalitarian defence of deliberation as a process which gives all an equal opportunity to influence the outcome.

Second, the problem of tacit knowledge has epistemic implications for deliberative democracy. In Habermas’ (1984) theory, for instance, deliberation is a process for testing certain validity claims. Speech acts presuppose claims, such as to empirical truth or moral rights, which aim to gain acceptance. If they fail to gain acceptance in ordinary speech, then they are shifted to a new level of discourse. Discourse is a special kind of speech, conducted in an ideal speech situation, where all claims and assumptions within speech acts are made explicit and are open to criticism. In his consensus theory, the truth or rightness of a proposition consists in the agreement of everyone within a discursive argument, where the reasons given must also be able to convince all participants. However, the linguistic nature of discourse limits the kinds of reasons which can be expressed. Tacit knowledge cannot be expressed linguistically so cannot be given in support of any claim. Reasons based on tacit knowledge cannot be given, no matter how idealized the speech situation. This actually undermines the ideal speech-situation itself, as it requires the realization of particular normative conditions; including the requirements of equal
voice and equal opportunity to effectively participate. The realization, or approximate realization, of the conditions for an ideal speech-situation, is frustrated by inarticulate bodies of knowledge.

An alternative approach to deliberation which also has an important epistemic component is epistemic democracy (Benson, forthcoming; Estlund, 2008; Landemore, 2013). Epistemic democrats differ from Habermas in that they take there to be procedure independent standards by which democratic decisions can be judged. Broadly speaking, they advocate deliberation based on its ability to communicate and utilize knowledge in order to arrive at rational, good or correct decisions, where rational, good and correct are defined by some non-procedural standard. Collective deliberation is argued to be the best process to gather, transfer and generate relevant information for effective decision-making. The problem of tacit knowledge, however, underlines deliberation epistemic potential by pointing to a significant knowledge base which will be necessarily absent from its decision process. There will often be relevant tacit knowledge which can inform policy but which is excluded from verbal deliberation, therefore, reducing the quality of its decisions. Deliberation will not, for example, be able to draw on the tacit knowledge of specialist scientists which could aid public policy. Epistemic democracy can only base decisions on explicit forms of knowledge which reduces its epistemic potential.

The problem of tacit knowledge presents an important challenge to deliberative democracy from both proceduralist and epistemic perspectives. By prioritizing linguistic forms of communication, deliberative democracy privileges explicit knowledge at the cost of excluding tacit forms of knowledge. One may reply to this by arguing that deliberation need not include tacit knowledge as deliberation is a process which can make such knowledge explicit. Through deliberation, the assumptions and foundations of different claims can be examined in order that they can be made explicit. To an extent this is true, and it is certainly one advantage that deliberation has over the market approaches considered in the next section. For example, it is observed that when environmental managers talk with each other, they are able to recognize and articulate some of their previously non-articulated knowledge (Fazey et al., 2005, 2006a). However, there are a couple of reasons why this will be limited. First, some of the knowledge that people have, such as knowing how to ride a bike, may have an irreducible tacit component which cannot be made explicit even through extended conversation (Ryle, 1945–1946). Second, some tacit knowledge will be too complex for people to fully propositionize it, especially under the time constraints of real-world deliberation, although it may be theoretically possible. For instance, it may be theoretically possible to express all the rules of language and grammar propositionally. However, this does not mean that I, through conversation with others, will be able to work out all the rules I tacitly follow when I speak. In fact, given the complexity of these rules, it is very unlikely that I will ever be able to do so. Similarly, an environmental manager may not be able to fully propositionize their knowledge of a complex ecosystem under the time constraints of actual deliberation, despite the fact that it may be conceptually possible to do so. So although deliberation may be able to make some practical knowledge explicit, it still needs to show how it can include that knowledge which cannot be articulated if it is to overcome the problem of tacit knowledge.
The market over the forum?

Following Hayek (1948a, 1948b, 2011, 2013), Pennington takes the problem of tacit knowledge to be not just a critique of deliberation but also a positive argument for market institutions. Markets are argued to have the capacity for extralinguistic communication in the form of market prices. Market participants act on their own knowledge and through acts of (or not) buying and selling products influence the formation of prices. The knowledge upon which they act, whether it is explicit or tacit, is then communicated throughout the economy as others adjust to changes in price signals. Individuals who act on price changes will not be fully aware of the knowledge upon which they act. However, this exact knowledge is not required. Prices give signals about the relative supply and demand of goods which allows people to adjust their actions without ever needing to know the reasons behind any particular price change (Hayek, 1948b). As well as price signals, free markets also allow greater opportunity for knowledge transfer through emulation, as people learn from the success or failure of others. This mechanism of emulation is also open to deliberative democracy. Deliberative institutions are able to learn and copy one another, and the opportunity for this will increase with the level of decentralization. However, this opportunity is argued to be greater in markets as a system of individual property rights expands the number of decision points and therefore the number of decisions from which to learn. Market institutions, unlike deliberative institutions, are therefore said to have the potential for extralinguistic communication which can utilize tacit knowledge. The acknowledgement of the importance of tacit knowledge is, therefore, said to give good reason to support markets over democratic institutions.

There are, however, significant limits to the market approach to dealing with tacit knowledge. There are, for example, well-recognized problems with the ability of markets to deal with things such as public goods or externalities, which will often require alternative mechanisms to price signals. However, there are also specifically epistemic problems with price-based communication which affect how markets utilize tacit knowledge. Stiglitz (1996), for instance, has argued that market prices are ‘too coarse’ a signal to communicate all the information required by market actors. A market actor will not, for instance, know whether a price change results from the actions of traders or from actual changes in relative scarcity, nor will they know if these changes are short or long-term. Although Stiglitz does not discuss tacit knowledge, this general informational problem will affect the ability of markets to utilize tacit knowledge as actors will not necessarily know how to adjust to the price fluctuations this knowledge creates.12

In addition to the problems highlighted by Stiglitz, inequalities also present in markets can adversely affect the communication of tacit knowledge. A persons’ ability to communicate is dependent on their ability to influence price formation and therefore their ability to buy and sell. The communication of knowledge is therefore open to distortion by inequalities in wealth and income. Even allowing for a certain amount of social mobility, the price mechanism risks amplifying the knowledge of those with large amounts of buying power and property, while ignoring the knowledge of those with fewer resources. The knowledge of people with little property or buying power, such as the indigenous communities discussed previously, may have their knowledge drowned
out by the large influence wealthy individuals and corporations have on price formation. Furthermore, markets can also struggle to deal with inequalities in the distribution of tacit knowledge itself. Much important tacit knowledge is not evenly distributed but instead only known to certain specific individuals, such as specialist scientists, who have training and experience in a field. The ability of these people, however, to communicate their knowledge through prices is very limited. A handful of scientists, for instance, are unlikely to be able to communicate their unique knowledge through acts of buying and selling. Often the greatest epistemic challenge is getting access to unique or scarce knowledge which is crucial to a given social problem. However, markets will often struggle to deal with this problem as small groups of people with a large amount of scarce knowledge may be unable to influence prices.

Finally, the free-market society which Hayekians advocate can be seen to suffer from the opposite problem to deliberation. The importance it gives to communication through market prices can be seen to reduce the scope for linguistic communication and high-quality explicit knowledge. As Pennington (2003: 732) points out, markets do allow for linguistic communication via ‘advertising and gossip about new prices/products’. However, this will not amount to the communicative potential of deliberative democracy (also see Benson, forthcoming). Deliberative institutions bring dispersed people, who may not otherwise meet, together and into dialogue with each other. Bringing dispersed individuals together means that they can be subjected to forms of explicit knowledge with which they would otherwise not come into contact. People with diverse perspectives, expertise and knowledge can join in structured deliberation where they have the opportunity, through linguistic communication, to share explicit knowledge and learn from each other. Just as deliberation may not have as great a capacity for emulation as private markets, markets also do not have as great a capacity for linguistic communication as institutions of deliberative democracy which can bring dispersed individuals together. Markets could, therefore, be seen to privilege non-linguistic forms of communication at the expense of limiting, relative to deliberative democracy, explicit forms of knowledge and reasoning.

This brief discussion has aimed to show a number of limitations and imperfections in the market approach to tacit knowledge, reducing the strength of the positive Hayekian argument. Although imperfect, markets do at least have some mechanisms for utilizing tacit knowledge, something which deliberative democracy is said to necessarily exclude. It is, therefore, necessary to return to our discussion of deliberative democracy.

**Bringing tacit knowledge into deliberation**

The problem of tacit knowledge argues that non-explicit knowledge is necessarily excluded from deliberative democracy because it is based on verbal dialogue. Contrary to this, it will be argued that a linguistic process does have the potential for incorporating tacit knowledge. The mechanism by which this can be done is that of ‘trust in testimony’. Here, testimony is simply defined as a speech act of an individual saying, telling or asserting something (Searle, 1969). Testimony is sometimes taken to refer only to storytelling or expressions of lived experience. However, it will be taken here to refer to speech acts more broadly. Trust in testimony is then the acceptance of speech acts, or
part of speech acts, on the word of the speaker. It is the acceptance of speech acts on the credibility or authority of the speaker as opposed to solely an evaluation of the propositions of the speech acts themselves.  

The importance of trust in testimony is that it can allow deliberative decision-making to utilize knowledge even when it is not explicitly expressed in linguistic communication. To see how this is possible, we can first consider ordinary kinds of testimony. Testimony can be given in the absence of trust, and it can be received by an audience who place no trust in, or even mistrusts, the speaker. In such a case, the audience would accept or reject any part of that testimony purely on its propositional content. They would hold the testifier’s words up to scrutiny and evaluate them in terms of consistency, accuracy and correctness. Where the testimony meets the necessary standards, it would be accepted or otherwise rejected by its audience. Because the acceptance of the testimony is based purely on scrutinizing the propositional content of speech acts, any knowledge communicated must be contained within those very speech acts. Any information which is communicated must, therefore, be explicit and not tacit knowledge as it must be contained within speech acts.

Now, we can consider testimony which is accepted, at least in part, on the bases of trust. When receiving testimony under conditions of trust, explicit theoretical knowledge will still be communicated, and the scrutiny of the testimony’s propositional content will remain a necessary and important component of the audience’s acceptance or rejection of it. However, if the audience accepts testimony on the basis of trust, they will also be able to utilize knowledge beyond that which is directly contained within the speech acts of the testifier. Trust allows deliberators to act upon the knowledge of the speaker even when this knowledge is not, or cannot be, explicitly expressed. To see how this is the case, it is useful to consider a non-deliberative example of a doctor and a patient. When a doctor diagnoses an illness and recommends a treatment, she does so on the basis of her explicit and tacit medical knowledge. She draws from her theoretical knowledge acquired through her training and her practical knowledge acquired through practising medicine itself. This wealth of knowledge is never expressed to the patient and in the case of tacit knowledge cannot be expressed to them. However, if the patient trusts the doctor who prescribes them the treatment, they will still be able to utilize that doctor’s knowledge in their own decision-making. If, for example, they decide to accept the recommended treatment, that decision will be utilizing all the explicit and tacit knowledge on which the doctor based that recommendation. Such knowledge was never directly expressed to the patient. However, they are able to utilize it because they place trust in the doctor’s advice. Through this example, we can see that trust in testimony is able to communicate more than just explicit information because it allows people to utilize and act upon the tacit knowledge behind the claims of others.

By this same mechanism, tacit knowledge can be utilized within institutions of deliberative democracy. When someone gives testimony in a deliberative forum, people can act upon and take into account the tacit knowledge which supports their claims, assertions and recommendations without the requirement that it be explicitly articulated. If, for example, a member of an agricultural community or a specialist scientist speaks in a citizen’s assembly about the effects of a policy on a particular ecosystem, they will partly do so by drawing on their non-explicit knowledge. They will draw on knowledge
which they are unable to express to other deliberators explicitly. However, if other deliberators accept their speech acts on the basis of trust, then they will be able to act upon and utilize this tacit knowledge. They will be able to take the recommendations and opinions of the speaker into consideration and utilize all the knowledge which supports them, without needing that knowledge to be explicitly communicated in propositional form. If the speaker claims that the policy under consideration is changing the ecosystem in some way then by accepting, or partly accepting, this on the basis of trust allows deliberators to utilize the tacit knowledge on which this claim is based and bring it into their decision making. The speaker will of course also be able to give some linguistic reasons for their claims and draw from their explicit knowledge. In practice then, utilizing tacit knowledge through trust in testimony will rarely, if ever, involve the acceptance of claims purely on trust. However, to the extent that a speaker’s claims are supported by tacit knowledge, trust will be required.

It is important to note that the audience to such testimony will not know the content of the knowledge on which they act. As discussed previously, tacit knowledge can only be learnt fully through participation in a practice or skill. However, accepting speech acts on trust allows people to utilize the tacit knowledge of others without the need to know it themselves. In this respect, it overcomes the problem of tacit knowledge in a similar way to market prices. Price signals are not able to communicate the content of knowledge. However, they do communicate to people the necessary information in order that they can adjust their actions. For this reason, Horwitz (2004: 314) argues that the price mechanism is a ‘knowledge surrogate’ rather than as a mechanism for full communication. It does not convey the content of knowledge so that we ‘know what others know’ but rather makes the knowledge ‘socially accessible’ so we ‘are able to act as if we knew what others knew’. Trust in testimony should similarly be thought of as a knowledge surrogate. It does not allow participants in deliberation to come to know practical knowledge, but it does allow deliberators to utilize the tacit knowledge of others without ever coming to know it themselves.

**Communicating through trust**

Trust in testimony, like market prices, can act as a knowledge surrogate which can allow deliberative institutions to utilize tacit knowledge. How well, however, can trust communicate knowledge in a deliberative setting? Trust requires deliberators to evaluate the credibility of a speaker and then accept or reject knowledge based on this evaluation. It requires a deliberation about the credibility of speakers. The different factors involved in such evaluations will be discussed in the next section. This section will look to address some problems which question the effectiveness of trust in testimony as a mechanism for knowledge transfer in deliberative democracy.

The first problem comes from Sanders (1997) and Fricker (2009), who have pointed to the influence that social positions, gender and ethnicity can have on the acceptance and evaluation of claims. Trust in testimony requires us to accept claims and knowledge based on the credibility of speakers. However, judgments of credibility can be adversely influenced by the social positions of speakers, with those from marginalized groups being seen as less credible than those from more privileged groups. A common example
of such influences would be suggestions of female workers not being considered in professional meetings, while the same suggestions being quickly accepted when expressed later by a man. These social influences can present specific wrongs, or epistemic injustices in Fricker’s terms, to those whose credibility is undermined. However, they also present significant epistemic problems to the communication of knowledge based on trust in testimony. If such influences prevail then knowledge will be accepted/rejected on epistemically irrelevant grounds such as the gender or ethnicity of the speaker. Another somewhat related issue is examined by Mackie (2006). Mackie argues, in relation to work in psychology, that people are unlikely to accept new information or change their minds in deliberation. Part of the reason for this is that people face social influences not to express changes in their positions. It is also because peoples’ beliefs do not exist in isolation but are connected in a network with other beliefs they hold. New information or reasons which would be sufficient to alter a belief in isolation may not, however, alter the belief when it is part of a wider network. In terms of trust in testimony, this means that knowledge expressed even by very credible speakers may still fail to be transmitted if it is inconsistent with deliberators’ prior beliefs. This does not mean that people never accept new information, but rather that it may take a long time for them to do so when it contradicts other beliefs they hold (Mackie, 2006).

There are then a number of social influences and psychological mechanism which question the ability of trust in testimony to communicate knowledge effectively. A number of things need to be said in reply to these problems. First, it is important to note that these problems affect deliberation generally and not just the mechanism of trust in testimony. Both Sanders and Fricker show that people may give extra weight to reasons and argument expressed by people in privileged positions while giving less weight or even ignoring those expressed by people from marginalized groups. Even if trust judgments are excluded from deliberation, prejudicial social influences can still affect the communication of knowledge and arguments. Similarly, Mackie shows how people may not alter their beliefs when confronted with reasons which have nothing to do with trust. The communication of knowledge through trust in testimony may not, therefore, be any worse off than other forms of communication which take place in deliberation. Such problem will also affect markets, to the extent that they also involve linguistic forms of communication.

Despite affecting other approaches, these problems still present challenges the communication of tacit knowledge through trust in testimony. Advocates of deliberative democracy have, however, pointed to a number of ways deliberation can be structured in order to reduce these problems significantly. Fishkin (2009), for instance, has argued that deliberative designs which use trained moderators and place less emphasis on consensus, are empirically much less affected by social positions as compared to the jury deliberation examined by Sanders. Similarly, giving more space to compromise and repeated deliberations can allow people to accept new information and change their minds more easily. In fact, empirical evidence suggests that people actually do often change their minds in deliberation (Fishkin, 2009; Goodin and Niemeyer, 2003; Luskin et al., 2003). Changes in positions are also most often the result of people being introduced to new information which is the particular issue when we are considering trust in testimony. Therefore, although social influences and psychological mechanisms can
affect the communication of knowledge via trust in testimony, there are ways of structuring deliberation in order that they can be significantly reduced.

Finally, trust judgments and explicit evaluations of credibility may help to tackle some of these problems. Sanders (1997: 353) argues that prejudice and privilege do not ‘emerge’ in deliberations as bad reasons as they are too ‘sneaky, invisible, and pernicious’. As a result, they will not typically be opened up to argument or challenge. However, trust in testimony makes evaluations of speakers explicit in deliberation. At least where trust is required, it makes considerations about the credibility of speakers explicit and opens up such considerations to argument. This can help to check the influence of unconsidered or implicit prejudice and privilege by forcing deliberators to consider a speaker’s credentials directly. This will not overcome all such influences. People with strong prejudicial attitudes may not give credibility to certain speakers even when they are presented with good reasons to do so. However, coupled with structural factors, this mechanism can at least help to check the influence of social position on credibility judgments.

This section has addressed some of the challenges facing the communication of knowledge through trust in testimony. The problems are important, and they cannot be completely eradicated from deliberation. However, there are still a number of ways that these problems can be significantly reduced and made less influential. The fact that they cannot be removed completely points to the fact that trust in testimony is an imperfect mechanism for knowledge transfer. As O’Neill (2004) has argued, trust judgments always run some risk that trust will be placed in the wrong people. However, no alternative mechanism for communicating tacit knowledge is perfect, and we have seen the weighty limitation facing its communication through markets and price signals. Trust in testimony then needs to be seen as an imperfect mechanism for communication, although its imperfections can be significantly managed and reduced.

**Forms of reason in deliberative democracy**

It has been argued that through trust in testimony deliberative democracy can communicate and utilize tacit knowledge. This section will argue that this defence has important implications for deliberative democratic theory more generally. In particular, it will be argued that tacit knowledge and trust in testimony create significant problems for certain influential approaches of deliberative democracy. These are approaches which see impersonal forms of reasoning as the only legitimate forms in persuasion and include the work of Habermas and his followers. These accounts of deliberative democracy have been criticized from a number of fronts, such as their inability to account for emotions, self-interest and compromise (Mansbridge et al., 2010). This section will argue that by confining deliberation to impersonal reason, these approaches will also fail to incorporate tacit forms of knowledge through trust in testimony. They cannot, therefore, avoid the significant problems both procedural and epistemic conceptions of deliberative democracy face when they exclude tacit knowledge.

The important aspect of these approaches, for our current discussion, is that they base deliberation on purely impersonal forms of reason. They see the ‘first and most important characteristic’ of deliberative democracy as ‘its reason-giving requirement’ (Gutmann
and Thomson, 2004: 3). Any testimony, claim or fact given within deliberation must be explicitly supported by clear reasoning. Habermas (1976: 108), for instance, writes that deliberators are ‘required to state their reasons for advancing proposals’. They must support their claims with ‘reasons that could convince anyone irrespective of time and space’ (1994: 52). Decisions are then formed in relation to these reasons. As Gutmann and Thomson (2004) argue, reason-giving is common to many conceptions of democracy because of its connection with autonomy. Basing decisions on clear reasoning treats persons as ‘autonomous agents who take part in the governance of their own society’ rather than merely ‘objects of legislation’ (Gutmann and Thomson, 2004: 3). It recognizes that persons are ‘autonomous agents whose capacity for rational judgment must be respected’ (Chambers, 1996: 100). Deliberators should, therefore, ‘attempt to convince each other that there are inherently good reasons to pursue one course of action over another’ (Chambers, 1996: 99). It is only when they do this that they act autonomously as opposed to being swayed by the coercion of others.

This connection between reason and autonomy is closely linked to the distinction between reason and power (O’Neill, 2002). While people may exercise their power to coerce others to support their ends, reason supplies an impersonal force of persuasion. Reason is impersonal in that it convinces others, not because of the authority or position of the individual giving those reasons, but through the adequacy or truth of those reasons themselves. Reason has a force of persuasion independent of any individual or institutional power because it can appeal to abstract propositions, such as claims or statements, as opposed to persons. A discourse based on impersonal reason, therefore, involves only ‘non-coercive persuasion’ which gives protection against ‘manipulation and domination’ (Chambers, 1996: 152). Deliberation between free and equal persons must involve ‘no force except that of the better argument’ (Habermas, 1976: 108). Impersonal reason is seen as the sole legitimate factor in persuasion as it protects individuals’ autonomy. The ‘only remaining authority’ in deliberation should, therefore, be ‘that of a good argument’ (Dryzek, 1990: 15).

The introduction of tacit knowledge, however, is problematic for these approaches to deliberative democracy. This is because claims and proposals made on the basis of tacit knowledge cannot be supported by impersonal reasoning. When deciding to accept or reject testimony made in deliberation, the usual task would be to assess whether there are inherently good reasons to support the claims, assertions and statements given. These propositions should be considered abstractly, and questions should be asked about what knowledge or argument can be given in support of these abstract propositions. However, when testimony is based on tacit knowledge, no such knowledge or argument can be given. Tacit knowledge cannot be expressed linguistically, so it is impossible to articulate clear reasons to support testimony based on such knowledge. In practice, testimony is unlikely to be based on tacit knowledge alone so some explicit impersonal reasons can be made. However, to the extent that this testimony is based on tacit knowledge, no such reasons can be given. As a result, the requirement that deliberators must support their claims with impersonal reasons cannot be met.

This is the reason why trust is required. Deliberators cannot directly evaluate claims based on tacit knowledge so must instead evaluate the trustworthiness of the speaker. As O’Neill (2002) argues, however, trust moves us away from impersonal reason.
Evaluations of trust or credibility require an assessment not just of the propositions of testimony, irrespective of the speaker, but also an assessment of the speaker themselves. An assessment of speakers’ statements may still be important to evaluating trust. Whether speakers’ statements are clear and consistent will impact on whether they are speaking with authority on a subject. However, evaluations of trust also require deliberators to assess speakers’ expertise and character. They need to access whether speakers have the expertise, training and experiences in order to have the knowledge to support their claims and whether they have the good character and intentions in order to make their claims truthfully. For example, an accomplished medical scientist may be judged to have the necessary expertise to testify on the risks of passive smoking, but be thought unreliable if their research funding and salary come exclusively from big tobacco companies. Trust, therefore, departs from impersonal reason. Reasons that appeal to the expertise and character of a speaker ask people to accept testimony not because there are inherently good reasons to support the statements themselves, but because the person giving them has certain qualities. Such reasons ‘attend to persons, not propositions’ (O’Neill, 2002: 256).

Approaches to deliberative democracy based on purely impersonal reason cannot, therefore, deal with tacit knowledge. When it comes to tacit knowledge, the requirement that all deliberates must give impersonal reasons for their claims cannot be met, as such knowledge cannot be articulated to others. Instead, such knowledge requires reasoning which appeals to evaluations of credibility and trust. It requires reasons which attend to speakers, not just speech acts. This is not a problem only for Habermasian approaches to deliberation but any which rejects considerations of speakers. Rawls (1989: 238), for example, has written that in reasonable political discussion we should not ‘readily accuse one another of self- or group-interest, prejudice or bias and of such deeply entrenched errors as ideological blindness and delusion’, and goes as far as to say that ‘accusations without compelling grounds’ can represent ‘a declaration of intellectual war’.

Importantly, this problem is present for such positions even in ideal conditions. Even in an ideal speech situation or an ideal discourse, certain claims cannot be supported by impersonal reasons as the knowledge behind them is non-propositional. Approaches based on impersonal reason will fail to incorporate tacit knowledge even in ideal deliberation. They will, therefore, face the challenges that the exclusion of such knowledge produces in terms of deliberation’s egalitarian value and its epistemic ability. In order to deal with the problem of tacit knowledge, deliberative democracy must include other forms of reasoning. Deliberation cannot involve only impersonal reasoning about abstract propositions but must accept reasoning about trust and credibility.

Trust, rationality and autonomy

The discussion of tacit knowledge and trust in testimony has been argued to present important problems for deliberative theories which include only impersonal forms of reasoning. Supporters of these approaches may, however, object to the introduction of trust into deliberation democracy and argue that it produces more problems than it solves. This section will respond to two of most important of these objections.
The first objection to trust in testimony is that accepting propositions on the authority of a speaker leads deliberation in the direction of irrationalism. The problem with this objection, however, is that judgments of credibility are not judgments about the actual truth value of propositions. These judgments do not and cannot directly answer the question of truth value. Whether the proposition ‘Manchester is in England’ is said by someone who is knowledgeable or ignorant, wise or foolish and benevolent or malicious, has no bearing on the truth of that statement itself. These factors do, however, have a bearing on whether we should accept the statement when we are in a position where we cannot access its truth value. Judgments of credibility and character do not determine the actual truth value of statements, but they do act as reliable proxies which give us reason for accepting a statement as true when we do not have direct access to its truth value. It is not irrational to accept testimony based on the knowledge, experience and intentions of the persons giving it as these are not direct claims about the absolute truth value of the testimony. When we cannot access the truth of a statement ourselves directly, it is completely rational to accept the credibility of the speaker and base our acceptance of the statement on this assessment.

The second objection is that accepting claims based on trust is incompatible with autonomy. As we have seen, autonomy is a key reason for wanting to keep deliberation confined to impersonal reason, and the acceptance of testimony based on the authority of a speaker may be seen to violate this. However, autonomy should not be threatened by the introduction of trust, as trust judgments are not equivalent to the acceptance of claims based on unquestioned authority or power. To trust someone is not to be coerced or to fail to think for one’s self. Rather it is to determine in accordance with reasons that it is justified to accept certain things given the credibility of those who express them. Trusting an epistemic authority does not involve surrendering one’s judgment but rather the use of one’s judgment to evaluate and scrutinize whether someone, in fact, has such epistemic authority (Warren, 1996). When trusting the diagnoses of a doctor, for example, we do not give up our judgment to the authority or power of the doctor, but rather use our judgment to determine that the doctor has the kind of expertise and intentions to suggest they are communicating correct knowledge. Accepting knowledge on trust requires scrutiny and considered judgment; two things are inherent to a deliberative process where people reflect collectively on reasons. Accepting testimony on trust does not then compromise autonomy, but actually requires people to make considered judgments about a person’s status as an epistemic authority.

In fact, seeing trust as inconsistent with rationality or autonomy would seem to create an unreasonable condition for their achievement. A large amount of our knowledge is not obtained through direct experiences but rather the testimony of others. Information acquired via friends, books, documentaries and academic papers all rely on the acceptance of testimony through trust and credibility. David Hume (2007: X:IV) goes as far as to argue that ‘there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men and the reports of eye witnesses and spectators’. To take the acceptance of testimony on trust as incompatible with rationality or autonomy would, therefore, require us to give up much of the knowledge we possess and create too high a burden for their achievement. It would mean, for example, that someone in a city unknown to them, who follows the directions
of a stranger or a map to the local train station, acts irrationally or relinquishes their autonomy by doing so.

**Deliberation, markets and everyday talk**

It has been argued that trust in testimony can allow deliberative institutions to incorporate tacit forms of knowledge and that deliberative theory needs to include more than purely impersonal forms of reasoning if it is to do so. As the passage from Hume quoted above suggests, trust in testimony is actually a significant source of much of our knowledge. When we gain knowledge in our day to day lives this is often, if not mostly, through trusting the claims of some authority rather than through our direct experience. Trust in testimony is an important part of knowledge acquisition in everyday life and in everyday talk. As a result, it is also important to knowledge in markets. As we have already mentioned, markets have space for linguistic forms of communication, although this was argued to be less significant than in deliberative democracy. People do not just respond to price changes but also make decisions in relation to the knowledge they require through their everyday talk with others. The last part of this article will, therefore, consider and compare the ways that trust in testimony operates in everyday talk, markets and deliberation.

An account of knowledge in everyday talk is given by Hardin (2009). Hardin puts forward a 'street-level epistemology' which analysis people's ordinary knowledge and how it is mostly gained through accepting the claims of others. A key aspect of this account is that it is of personal or private knowledge. To the extent that it is concerned with justified beliefs, it is concerned with how it is justified to the individual who accepts it. It does not aim at justifying knowledge *tout court* but looks at how and when it is justified for a particular individual to acquire certain knowledge, given its possible benefits and costs to that individual (Hardin, 2009: Ch. 1). In terms of acquiring knowledge through trust in testimony, this suggests that people will accept the knowledge of others when it benefits them to do so. This leads Hardin to be rather pessimistic about how individuals evaluate the credibility of authorities. Although people may invest time in such evaluations when it is particularly important, people are mostly said to have little concern for the credibility of sources and accept knowledge on little more than 'faith' (Hardin, 2009: 10–13, 28, 90, 108). Hardin seems overly pessimistic in this respect. Often making judgments about someone's credibility can be done with little cost or can rely on easily available heuristics such as someone's profession. However, the aspect of Hardin's account which is of particular interest here is how ordinary knowledge is justified in everyday life and talk. They accept the testimony of others when it is justified to them as individuals. In the sphere of everyday talk and markets, people will accept the testimony of others when it is justified for them as individuals.

This, however, is markedly different to how knowledge is accepted in the formal institutions of deliberative democracy. When people deliberate together about collective decisions knowledge is not and should not be accepted because it is justified to any one individual. Rather knowledge in deliberation must be justified to others. If someone makes a claim in deliberation, people must give reasons to their fellow deliberators for why they should accept it. When testimony is given on the basis of tacit knowledge,
deliberators must justify to others why it should be accepted given the expertise and intentions of the speaker. The acceptance of knowledge in deliberation must be justified not to any one individual but to others. Knowledge in deliberation, therefore, not personal but public. This is not to say that it is at the level of scientific knowledge. Deliberators do not apply, nor could they apply, the methods of empirical science to knowledge claims in deliberation. However, knowledge in deliberation is public in the sense that its acceptance has to be justified to others with reasons, reasons which include the credibility of speakers. This public justification is built into a deliberative process as people must look to convince others in order that their views gain acceptance.

The different way trust in testimony operates within formal deliberation, as compared to everyday talk and markets, has both normative and epistemic significances. First, when people accept and act upon knowledge in the market, they are not required to justify this to anyone else. In many cases, this may be unproblematic. However, when market decisions significantly affect others, this becomes normatively significant. If someone decides to pollute because they have accepted some authorities claim that climate change or air pollution are not real or harmful, they are never required to justify this acceptance to others who will be affected by their actions. Formal deliberation is a process where people must justify the acceptance of knowledge on which they base decisions which affect their lives. People must justify why certain knowledge should be accepted and form the basis of decisions which affect others. Second, this kind of justification also has epistemic significance as it shows how trust in testimony goes through a more rigorous process in deliberation than in other settings. Although people’s everyday evaluations of credibility may not be as poor as Hardin often suggests, they are not equivalent to those within formal deliberation where reasons must be given to convince others to accept knowledge. People must justify the acceptance of knowledge to others and, therefore, give greater consideration to the credibility of epistemic authorities. This highlights deliberations advantages over markets when it comes to trust in testimony, but also over everyday talk. Some deliberative theories, such as systems approaches, see the everyday talk which happens in democracy as an important part of deliberation (Mansbridge et al., 2012). However, given the difference in how trust operates in different settings, the quality of knowledge transfer will likely be greater in the formal deliberations of representative parliaments or citizen assemblies than in everyday talk in society. Formal deliberation, therefore, also has particular epistemic qualities when it comes to utilizing knowledge through trust in testimony.

Conclusion

This article has defended deliberative democracy against the problem of tacit knowledge. Through trust in testimony, non-explicit knowledge can be brought into deliberative institutions even though they are based on linguistic communication. The problem of tacit knowledge does not, therefore, produce a clear case for supporting markets over democratic institutions, as has been argued by Hayek and his followers. Both institutions have mechanisms for utilizing such knowledge, and both face their respective imperfections when doing so. The article also brought out the wider implications of this defence. It was argued that the acceptance of tacit knowledge through trust could not be accounted
for by deliberative theories which involve purely impersonal forms of reason. The result of this is that even in ideal conditions, these approaches will exclude tacit knowledge and risk undermining the procedural and epistemic value of deliberation. Instead, deliberative democrats should accept evaluations of credibility and trust as legitimate forms of persuasion, and they should do this without fear that it will compromise either autonomy or rationality.

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Notes
1. As well as the tacit nature of knowledge, Hayek’s and Pennington’s defence of markets is also based on the dispersed and distributed nature social knowledge. For a reply to these arguments, see Benson (forthcoming).
2. In the beginning of the article, no one conception of deliberative democracy will be advocated. Instead, it will examine the implication of tacit knowledge for a variety of deliberative theories. Later, however, it will be argued that tacit knowledge highlights certain limitations with particular accounts of deliberation.
3. The tacit knowledge problem is one of three key Hayekian arguments Pennington (2003) makes against deliberation, which include critiques of conscious social coordination and egalitarianism, and also makes similar claims elsewhere (Pennington, 2001, 2005). For a more general defense of democracy against Hayekian critiques, see Benson (forthcoming).
4. This distinction is similar to Polanyi’s (1962) distinction between ‘tacit’ and ‘explicit’ knowledge and Gilbert Ryle’s (1945-1946) distinction between ‘knowing that’ and ‘knowing how’, both noted by Hayek (1978: 38). There are also similarities Oakeshott’s (1962) distinction between technical and practical knowledge, and the broader Greek concepts of ‘metis’, as used by Scott (1998), which includes tacit knowledge.
5. This article will use the terms ‘theoretical’ and ‘explicit’, and the opposite terms ‘tacit’, ‘non-explicit’ and ‘practical’, interchangeable to describe the two different forms of knowledge.
7. The type of discourse will differ depending on the type of validity claims being tested.
8. In later work, Habermas moves away from seeing these as conditions to which real discourse should approximate but rather as ‘pragmatic presuppositions’ which deliberators must implicitly accept. See Habermas (2008: 82) for a list of the most important of these.
9. Epistemic democrats often support vote aggregation as well as deliberation (Landemore, 2013).
10. This is of course not a democratic form of deliberation as it involves only similarly experienced experts who are able to draw out knowledge from each other. The process may be much less affective when fellow deliberators do not have a similar experience or training.
11. This will be dependent on the level of market concentration.
12. For a Hayekian reply to Slightz, see Pennington (2017).
13. Hayek (2011: 494) claimed that general scientific knowledge could be communicated downward to market participants by other means than prices. However, as O’Neill (2012) has argued, this proposal also suffers from the problem of tacit knowledge which cannot be communicated to market actors linguistically.
14. There is an epistemological debate over testimony as a source of knowledge. This debate is conducted between non-reductionist accounts, which see testimony as a foundational source of knowledge equivalent to perception (see Coady, 1994), and reductionist accounts, which see testimony as a non-foundation source which requires appeals to other sources (see Fricker, 1995). The argument here is agnostic on this debate and merely assumes that testimony can be a source of knowledge in some way.
15. Sanders’ solution to these social influences also appeals to a form of testimony. Importantly, however, her definition differs from that used here. Here, testimony refers to expressions of speech acts generally, while for Sanders it refers particularly to expressions of lived experiences, such as those found in black churches in the US. Sanders (1997: 371) takes this kind of testimony to be distinct from deliberation as it aims to represent certain critical voices rather than at pursuing commonality. This distinction, however, is somewhat less clear in relation to more recent work on deliberative democracy where the role of experiences, consensus and dissenting voices has been challenged. Furthermore, although Sanders’ alternative may help deal with the unequal speaking time these social influences may create, it does not directly deal with the credibility problem in focus here. Even in these forms of testimony, there are still problems of whether an audience will accept them as true or weighty, given the social position of the speaker.
16. It is not in tension with other accounts. Trust is, for instance, given a prominent role in Aristotelian or Athenian accounts of deliberation (O’Neill, 2002; Remer, 2008; Yack, 2006). Alongside applies to reason (logos) and the emotions (pathos). Aristotle (1991) saw the ethos of a speaker to be an important mode of persuasion. Trust in testimony is also not ruled out by epistemic accounts of democracy.
17. Aristotle (1991) noted these epistemological and ethical components of trust.
18. For a wider discussion of the importance of trust in testimony, see Coady (1994).
19. On this account, there is little distinction between a person’s knowledge and their beliefs as both are justified from the perspective of the individual.
20. Harlin also discusses Hayek’s case for markets. However, this is only in reference to Hayek’s analysis of the distribution of knowledge and benefits of decentralization, and does not discuss it in relation to either testimony or authority. Harlin (2009: 3) also doesn’t consider the role of tacit knowledge which he excludes from his analysis.
In replying to Sanders and Fricker, we saw how the structure of deliberation also affects the quality of credibility judgments. This gives additional reason to think trust in testimony will be more effective in formal structured deliberation. These points do not reject a systems approach, but do point to the importance of formal deliberations within a deliberative system.

References


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