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RESCUING PUBLIC REASON LIBERALISM'S ACCESSIBILITY REQUIREMENT

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ABSTRACT. Public reason liberalism is defined by the idea that laws and policies should be justifiable to each person who is subject to them. But what does it mean for reasons to be public or, in other words, suitable for this process of justification? In response to this question, Kevin Vallier has recently developed the traditional distinction between consensus and convergence public reason into a classification distinguishing three main approaches: shareability, accessibility and intelligibility. The goal of this paper is to defend the accessibility approach by demonstrating its ability to strike an appealing middle course in terms of inclusivity between shareability (which is over-exclusive) and intelligibility (which is under-exclusive). We first argue against Vallier that accessibility can exclude religious reasons from public justification. Second, we use scientific reasons as a case study to show that accessibility excludes considerably fewer reasons than shareability. Throughout the paper, we connect our discussion of accessibility to John Rawls's model of public reason, so as to give substance to the accessibility approach and to further our understanding of Rawls's influential model.

I. INTRODUCTION

Public reason liberalism is defined by the idea that laws and policies should be justifiable to each person who is subject to them. But what does it mean for reasons to be *public* or, in other words, suitable for this process of justification? This question, which is of fundamental importance, concerns the 'structure' of public reason. Traditionally, the field has been pictured as divided between 'convergence' theories, according to which public reason is satisfied if a law or policy is justifiable to different people based on completely different reasons, and 'consensus' theories, which require an element of agreement among citizens at the level of the reasoning backing the law or policy

in question.[1] Recently, Kevin Vallier took a very useful step ahead by developing this standard classification into a tripartition. In Vallier's terms, while convergence theories of the structure of public reason all qualify as 'intelligibility' theories, an analytically important distinction should be drawn among consensus approaches, setting apart 'shareability' (according to which a reason is public if and only if everyone can accept it as their own) from the less demanding 'accessibility' (which, roughly speaking, only requires that the reasoning standards behind a reason, but not the reason itself, be shared).[2]

The goal of this paper is to defend the accessibility approach to public reason. Specifically, we aim to consolidate an important source of appeal of accessibility, namely, its ability to strike a middle course in terms of inclusivity between shareability (which, we will see, excludes too much from the set of public reasons) and intelligibility (which leaves out too little). Section II reconstructs Vallier's innovative distinction between shareability and accessibility before clarifying a few ambiguous features of Vallier's account, which risk muddling that distinction. Section III zooms in on John Rawls's conception of public reason, which is the most influential in the literature, showing how Rawls defends an accessibility conception of public reason. Next, it builds on resources from within Rawls's theory to sharpen Vallier's arguments against shareability. Section IV discusses intelligibility, explaining why it should be rejected. Also, it refutes Vallier's attempt to undermine accessibility through the suggestion that it allows far more reasons (including many religious reasons) into public justification than its defenders intend to.

Sections V, VI and VII turn to scientific reasons, which we use as a case study to demonstrate that accessibility also avoids the over-exclusive excesses of shareability. While public reason liberals have mostly neglected the analysis of scientific reasons,[3] they seem to take as self-evident that such reasons are public. For example, Rawls claims that in applying principles of justice from within public reason, we can appeal to 'the methods and conclusions of

[1] Fred D'Agostino, *Free Public Reason: Making It Up as We Go* (Oxford: Oxford University Press, 1996), pp. 30–37.

[2] Kevin Vallier, 'Against Public Reason Liberalism's Accessibility Requirement', *Journal of Moral Philosophy* 8, no. 3 (2011): pp. 366–389; and Kevin Vallier, *Liberal Politics and Public Faith* (New York: Routledge, 2014).

[3] A notable exception is provided by Karin Jønch-Clausen and Klemens Kappel, 'Scientific Facts and Methods in Public Reason', *Res Publica* 22, no. 2 (2016): pp. 117–133.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

science when these are not controversial'.[4] Our goal is to show that accessibility (examined in Sections V and VI) is much more hospitable towards scientific reasons than shareability (examined in Section VII), therefore falling better in line with widespread intuitions on this issue.

II. UNPACKING CONSENSUS: SHAREABILITY AND ACCESSIBILITY ACCOUNTS OF PUBLIC REASON

Both shareability and accessibility are *consensus* conceptions of public reason.[5] To explain the difference between them (and with intelligibility), Vallier distinguishes reasons from evaluative standards. In Vallier's words, 'a reason to Φ is a consideration that counts in favour of Φ-ing'.[6] However, under either of Vallier's three conceptions of the structure of public reason, no reason can figure in public justification unless it is recognised by other members of the public as being epistemically justified, at least for the person who holds it. This recognition should be based on evaluative standards, i.e. norms on the basis of which members of the public can epistemically evaluate any reasons that are being proposed by other citizens, and determine whether such reasons can be justifiably held.

Shareability is the most demanding of the three conceptions of the structure of public reason, since it requires 'combining shared evaluative standards with shared reasons'.[7] In other words, it requires both that all members of the public share the same evaluative standards *and* that they recognise a reason A as epistemically justified *for all of them*, based on those shared evaluative standards. Under shareability, therefore, a reason is only admitted into public justification if 'each citizen will affirm the reason *as her own* at the right

[4] John Rawls, *Political Liberalism*, expanded edition (New York: Columbia University Press, 2005), p. 224; see also Jønch-Clausen and Kappel, 'Scientific Facts and Methods', pp. 132–133. Here it is worth clarifying that, unlike Jønch-Clausen and Kappel, we do not intend to argue that scientific reasons have a privileged place in public reason, but only that they have *a* place (as opposed to religious reasons).

[5] Vallier, *Liberal Politics and Public Faith*, p. 104.

[6] Kevin Vallier, 'In Defence of Intelligible Reasons in Public Justification', *The Philosophical Quarterly* 66 (2016): pp. 596–616, at 599.

[7] Vallier, *Liberal Politics and Public Faith*, p. 109. Shareability has been endorsed, for example, by Micah Schwartzman, 'The Sincerity of Public Reason', *The Journal of Political Philosophy* 19, no. 4 (2011): pp. 375–398; and by James Bohman and Henry S. Richardson, 'Liberalism, Deliberative Democracy, and "Reasons That All Can Accept"', *The Journal of Political Philosophy* 17, no. 3 (2009): pp. 253–274. Section VII will discuss the theory proposed by R.J. Leland and Han van Wietmarschen, 'Reasonableness, Intellectual Modesty, and Reciprocity in Political Justification', *Ethics* 122, no. 4 (2012): pp. 721–747 as another example of shareability public reason.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

level of idealisation'.[8] Vallier summarises this point by stating that shareability establishes that A's reason R_A can only figure in public justification 'if and only if members of the public regard R_A as epistemically justified for each member of the public, including A'.[9]

Contrary to shareability, accessibility requires that only evaluative standards, but not reasons, be shared among members of the public.[10] For A's reason R_A to legitimately play a role in public justification, according to this conception, it is sufficient that members of the public 'regard R_A as epistemically justified for A according to common evaluative standards',[11] even if some of them do not endorse that reason. On Vallier's definition, a person should be regarded as epistemically justified in holding a reason if her fellow citizens simply find that she 'makes no gross epistemic error in affirming [that reason]'.[12]

What would an example of gross epistemic mistake be in the application of common evaluative standards? Vallier does not provide any, but he sometimes describes epistemically unjustified reasons as *defeated* reasons, borrowing the concept from John Pollock, Joseph Cruz and Gerald Gaus.[13] Building on these authors' analyses of defeaters, we suggest that members of the public might legitimately argue that A makes a gross epistemic error if, for example, A fails to consider a counterexample to a generalisation her reason R_A rests on,[14] or if R_A mistakes a sufficient for a necessary condition, or if she forgets or gives little weight to an important value consideration when the values relevant to a law are balanced against one another.[15] These are only some examples. The key point is that unless they make these or any other similarly gross epistemic mistakes, citizens can put forward conflicting reasons, both for and against a given law, which can all be regarded as justified for their

[8] Vallier, *Liberal Politics and Public Faith*, p. 109.

[9] Vallier, *Liberal Politics and Public Faith*, p. 110.

[10] Accessibility has been endorsed, for example, by Robert Audi, *Democratic Authority and the Separation of Church and State* (New York: Oxford University Press, 2011). As we aim to demonstrate in the next section, Rawls largely accepts it too.

[11] Vallier, *Liberal Politics and Public Faith*, p. 108.

[12] Vallier, *Liberal Politics and Public Faith*, p. 106.

[13] Vallier, *Liberal Politics and Public Faith*, p. 27; and Vallier, 'In Defence of Intelligible Reasons', p. 603.

[14] John Pollock and Joseph Cruz, *Contemporary Theories of Knowledge*, Second Edition (Lanham: Rowman and Littlefield, 1999), p. 196.

[15] Gerald Gaus, *Justificatory Liberalism* (Oxford: Oxford University Press, 1996), pp. 144–145.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

holders based on common evaluative standards, and can all satisfy accessibility.

Having shed light on the notion of gross epistemic mistakes, let us return to the key notion of 'evaluative standards', which we have already defined as norms on the basis of which members of the public can epistemically evaluate the reasons that are being proposed by other citizens, and determine whether such reasons are suitable candidates for public justification. But what are, exactly, evaluative standards?

Following Vallier, we consider evaluative standards to be both 'prescriptive and descriptive'.[16] They may include, for example, both prescriptive moral principles for action, such as those that characterise most religious and ethical doctrines, and physical and metaphysical descriptive beliefs. Prescriptive and descriptive evaluative standards, while analytically distinguishable, are often interdependent. Marxism's prescriptive evaluative standards, for example, are deeply entangled with Marxism's descriptive analysis of capitalism. Furthermore, prescriptive evaluative standards may include both *moral* principles, *e.g.* substantive values populating a conception of justice (liberty, equality of opportunity, etc.), and *epistemic* rules for the collection of factual evidence and for drawing inferences, *e.g.* what Rawls calls 'guidelines of inquiry', and without which 'substantive principles cannot be applied'.[17] Both substantive values and guidelines of inquiry, intended as prescriptive evaluative standards, are necessary (alongside descriptive evaluative standards, *e.g.* commonsensical beliefs) both to produce and to epistemically evaluate reasons advanced in favour or against a proposed law. Accessibility demands that only shared evaluative standards should be employed in order to decide whether a reason should be allowed into the process of public justification. In this paper we will mainly focus on epistemic (as opposed to moral) evaluative standards, and especially on two particular categories of such standards, i.e. those of conceptual analysis and those of science.

Also, at what level of abstraction should we require agreement on evaluative standards, in order for accessibility to be satisfied? While this question is never explicitly considered by Vallier, Gaus

[16] Vallier, 'In Defence of Intelligible Reasons', p. 607.

[17] Rawls, *Political Liberalism*, p. 223.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

argues that public reason liberals might require agreement at different levels: on a list of substantive values to be applied to political issues; on a gross order of priority among them; or even on exact trade-off rates. At each of these three levels, according to Gaus, a different (and increasingly more specific) set of evaluative standards operates. The key point, Gaus notes, is that requiring consensus at the most concrete level amounts to requiring that 'there is no disagreement at all' among citizens discussing political issues, at least if we assume that they also share the same factual information.[18]

The lesson to be learned from Gaus's analysis is that if accessibility required consensus on evaluative standards at too concrete a level (the level of a complete weighing of values *and* of a fully-specified procedure for applying and weighing against one another rules of inference and evidence), shared standards would involve shared reasons, and the distinction between accessibility and shareability would collapse. Therefore, for this distinction to remain meaningful, accessibility's common standards requirement should be interpreted as applying at a fairly abstract level. Although Vallier does not explicitly discuss this issue, his examples of shared evaluative standards appear to confirm our solution. For example, Vallier claims that arguments from climate science are accessible because of consensus on climate science's scientific method, which, however, does not reach the concrete level of consensus on the specific rules of application producing 'climate change models that generate specific predictions', which are controversial among scientists.[19] We will return to the relationship between accessibility and scientific arguments in Section V.

III. ACCESSIBILITY AND RAWLSIAN PUBLIC REASON

In this section we would like to refocus our attention on Rawls's conception of public reason, which remains the most influential in the literature. The reason for our choice is twofold. First, throwing light on Rawls's approach to public reason will help our defence of accessibility. By classifying the core of Rawls's approach as an example of accessibility public reason, this section will give concrete

[18] Gerald Gaus, *The Order of Public Reason* (Cambridge: Cambridge University Press, 2010), p. 284.
[19] Vallier, *Liberal Politics and Public Faith*, pp. 28 and 108.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

shape to the general definition of accessibility provided by Vallier, therefore increasing its appeal. Also, resources from within Rawls's theory are well-suited to strengthen Vallier's argument that shareability is especially under-inclusive. Second, our analysis has an intrinsic exegetical value. While Rawls's theory of public reason has been the object of enormous scrutiny in the literature, no author, as far as we are aware, has endeavoured to explain in what sense, for Rawls, reasons need to be *public* in order to be suitable for public justification. By showing that Rawls endorses an accessibility conception of public reason, therefore, we aim to unveil an important and overlooked aspect of Rawls's theory.

As briefly acknowledged by Vallier,[20] it is difficult to determine where Rawls's conception of public reason falls in relation to shareability and accessibility. It has rightly been noted that even after Rawls's political turn, different views of public reason can be found across his texts.[21] For example, in his *Reply to Habermas*, Rawls describes as necessary conditions for public justification and the related notion of stability for the right reasons that 'the most reasonable conception of justice' (i.e. Rawls's theory of justice as fairness) be 'endorsed by an overlapping consensus comprised of all the reasonable comprehensive doctrines in society'.[22] This apparently downplays reasonable pluralism in the political domain and reveals a move towards shareability's all-the-way consensus.

However, elsewhere Rawls points out that the exercise of public reason normally leads to 'stand-offs' where different reasonable citizens endorse conflicting decisions regarding a law and conflicting supporting rationales, making a vote necessary. He claims that 'this is the normal case: unanimity of views is not to be expected'.[23] For example, Rawls suggests that a range of both pro-choice and pro-life arguments bring to bear on abortion reasonable interpretations and balances of *shared political liberal values* (i.e. shared moral evaluative standards), therefore satisfying public reason.[24] Public justification is

[20] Vallier, *Liberal Politics and Public Faith*, p. 140, note 6.

[21] Gerald Gaus, 'The Turn to a Political Liberalism', in J. Mandle and D. Reidy (eds.), *A Companion to Rawls* (Malden: Blackwell, 2014), pp. 251–264.

[22] Rawls, *Political Liberalism*, p. 391.

[23] Rawls, *Political Liberalism*, p. lvi; see also pp. 240–241.

[24] Rawls, *Political Liberalism*, pp. lv–lvii.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

an exchange within a family of different liberal conceptions of justice, which might well interpret and balance those values differently.[25] Using Vallier's vocabulary, this means that on a Rawlsian account, *reasons* suitable for public justification can differ but also that citizens' proposed reasons for or against a law must be ratified by a common set of norms (i.e. shared political liberal values) that work like *evaluative standards* under accessibility. Consensus on such norms is required only at a rather abstract level, in order to avoid the aforementioned risk, highlighted by Gaus, of de facto neglecting reasonable disagreement. But what does this abstract consensus exactly amount to?

First, public reason requires that 'we should sincerely think that our view of the matter is based on political values everyone can reasonably be expected to endorse' – values that, *at the abstract level* preceding fine-grained interpretation and balancing, we know are shared among reasonable persons.[26] The latter are the members of Rawls's idealised constituency of public reason who, among other things, want society's terms of cooperation to be fair to everyone. At the most abstract level, this idea of society as based on fair terms of cooperation can therefore be employed as a basis for public justification, together with its sister idea of persons as free and equal. At a slightly less abstract level, reasonable persons still agree on the notion that to be true to those two basic ideas, a society must provide '[f]irst, a list of certain basic rights, liberties, and opportunities […]; second, an assignment of special priority to those rights, liberties, and opportunities […]; third, measures ensuring for all citizens adequate all-purpose means'.[27]

Second, and as we have already noted, Rawls also believes that to bring these values to bear on a concrete question of law or, in Vallier's language, to effectively produce a reason that speaks either in favour or against a law, citizens need rules of evidence and inference. However, they cannot just use any rule they might endorse individually. Such rules must be *shared*, *e.g.* they must include guidelines such as those provided by common sense and the scientific method.[28]

[25] John Rawls, 'The Idea of Public Reason Revisited', *University of Chicago Law Review* 64, no. 3 (1997): pp. 765–807, at 774–775.

[26] Rawls, *Political Liberalism*, p. 241.

[27] Rawls, 'The Idea of Public Reason Revisited', p. 774.

[28] Rawls, *Political Liberalism*, p. 224. Sections V, VI and VII will analyse what Rawls says specifically about science, which will be criticised as too close to shareability.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

Finally, citizens must reasonably think that they have applied shared values and shared rules of evidence and inference *well enough* for others to find the resulting reasons at least reasonable, i.e. suitable to enter what Vallier calls the 'justificatory pool' where they will then be assessed and weighed against each other.[29] In other words, citizens 'must also think it at least reasonable for others to accept them'.[30] This mirrors Vallier's requirement that for a citizen's reason to be accessible, it must be regarded as justified for her by the members of the public, in the sense that *no gross mistake* can be detected in the application of common standards. Echoing one of the examples of gross mistake we have provided earlier, some arguments about the legalisation of abortion are found to fail this Rawlsian test because they virtually *ignore* (rather than just assigning them somewhat *less weight* in the value balancing act) one or more shared relevant values, *e.g.* the reproductive freedom of women.[31]

Reconstructing the bulk of Rawls's discussion of public reason as an example of accessibility, while drawing on Vallier's characterisation of shareability and accessibility, should help us to better understand Rawls's conception. Moreover, even though we have deemed it in need of clarification, we agree with the substance of Vallier's characterisation. We also agree with Vallier's arguments against shareability, which he shows to be so strict as to lead to an empty or otherwise implausibly restricted set of public reasons, thus making it virtually impossible to justify any law or policy.[32] At a low level of idealisation, where the constituency of public reason is made up of the citizens of our societies very much as they are, there is no decision about any law and relative supporting reason that every citizen would assent to. The problem is not solved by moving to a higher level of idealisation, where bad information, defective rea-

[29] Vallier, 'Against Public Reason Liberalism's Accessibility Requirement', p. 372. Vallier explicitly adapts this term from Marilyn Friedman, who uses the expression 'legitimation pool' in 'John Rawls and the Political Coercion of Unreasonable People', in V. Davon and C. Wolf (eds.), *The Idea of a Political Liberalism: Essays on Rawls* (New York: Rowman and Littlefield, 2000), at p. 16.

[30] Rawls, 'The Idea of Public Reason Revisited', p. 770.

[31] Rawls, *Political Liberalism*, pp. 243–244, note 32; see also Jonathan Quong, *Liberalism without Perfection* (Oxford: Oxford University Press, 2011), p. 207.

[32] Vallier, 'Against Public Reason Liberalism's Accessibility Requirement'.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

soning and bad will are idealised away. The 'burdens of judgement',[33] resulting from such factors as complex evidence, vague concepts, and the weighing of contrasting considerations, are meant to explain why broad disagreement is to be expected precisely among persons who are reasonably well-informed, intelligent and well-intentioned.[34] In sum, we cannot expect many shared reasons at any level of idealisation. Shareability, in other words, is under-inclusive.

IV. INTELLIGIBILITY, NATURAL THEOLOGY AND RELIGIOUS TESTIMONY

Having clarified the notions of accessibility and shareability, and highlighted the under-inclusivity of shareability, we now intend to challenge Vallier's attempt to undermine accessibility by attributing to it the opposite flaw, i.e. over-inclusivity. Vallier's ultimate goal is to suggest that there is no other plausible way of understanding public reason than by abandoning consensus for *convergence*. Therefore, he argues, a reason should be admitted into public justification simply when it is intelligible, which is to say, when 'members of the public regard… [it] as epistemically justified for A according to A's evaluative standards'.[35] Under intelligibility, and this is Vallier's key point, *neither* reasons *nor* evaluative standards need to be shared.

We aim to resist Vallier's shift to intelligibility because it strikes us as lying outside the framework of *public* reason. Despite Vallier's belief that the public character of intelligible but inaccessible reasons is guaranteed by the fact that *others* regard A's reasons as justified for her based on her individual standards, we believe that this fact is better described as the public certifying that A's reasons are *private*. More importantly, we wish to strengthen the position of accessibility vis-à-vis intelligibility by demonstrating that Vallier is wrong in suggesting that accessibility is a much looser constraint than its

[33] Rawls, *Political Liberalism*, pp. 54–58.

[34] Vallier, *Liberal Politics and Public Faith*, pp. 121–123; see also the critique of so-called 'acceptability' requirements proposed by Christopher Eberle, *Religious Convictions in Liberal Politics* (Cambridge: Cambridge University Press, 2002), pp.198–233.

[35] Vallier, *Liberal Politics and Public Faith*, p. 106. Intelligibility has also been endorsed by Gaus, *The Order of Public Reason*; and by Gerald Gaus and Kevin Vallier, 'The Roles of Religious Conviction in a Publicly Justified Polity', *Philosophy and Social Criticism* 35, no. 1–2 (2009): pp. 51–76.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

supporters recognise, to the point that it cannot even exclude religious reasons from public justification.[36]

To prove his point, Vallier maintains that the arguments offered by natural theology are accessible. He also discusses religious testimony, but his argument about it falls back on the accessibility of natural theology. Indeed, he believes that the testimonies about God provided by, say, the Bible or the Pope are accessible because there are arguments from natural theology that purport to establish the reliability of such sources. Also, Vallier's case for the accessibility of the testimony of common priests is rooted in their training in natural theology, which forms the basis of their testimonies.[37] Therefore we believe that Vallier's analysis of religious testimony does not add anything to his account of natural theology, which constitutes the core focus of his account of intelligibility.

From natural theology, which is concerned with the existence and activities of the supernatural, Vallier mentions traditional arguments for the existence of God, both *a priori* and *a posteriori*, arguments for the existence of the soul, arguments for the goodness of God, and many others. These arguments, he claims, aim to appeal to 'pure reason' or, in other words, rely on 'rational grounds alone' without any reference to revelation.[38] Moreover, he states that reasonable people would acknowledge that 'they cannot be immediately dismissed, even if they ultimately fail'.[39] Combined together, these elements appear to provide both shared evaluative standards and recognition by the public of lack of gross epistemic mistakes, thus guaranteeing accessibility.

However, here Vallier seems to assume, mistakenly, that natural theologians' *belief* that they are appealing to pure human reason and,

[36] The convergence view has also been criticized because it relies on a controversial relativist conception of justification (Quong, *Liberalism without Perfection*, pp. 261–273); because it fails to guarantee assurance among citizens (Stephen Macedo, 'Why Public Reason? Citizens' Reasons and the Constitution of the Public Sphere', unpublished manuscript, p. 2; subject of a response by Brian Kogelmann and Stephen Stich, 'When Public Reason Fails Us: Convergence Discourse as Blood Oath', *American Political Science Review* 110, no. 4 (2016): pp. 717–730); and because it allows most laws and policies to be defeated by merely intelligible reasons (Christopher Eberle, 'Consensus, Convergence, and Religiously Justified Coercion', *Public Affairs Quarterly* 25, no. 4 (2011): pp. 281–303, at 300-1). While these debates are important, they are tangential to the core theme of our paper.

[37] Vallier, 'Against Public Reason Liberalism's Accessibility Requirement', pp. 380–385; and Vallier, *Liberal Politics and Public Faith*, pp. 116–119.

[38] Vallier, 'Against Public Reason Liberalism's Accessibility Requirement', pp. 375 and 376, respectively.

[39] Vallier, 'Against Public Reason Liberalism's Accessibility Requirement', p. 376.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

relatedly, to universally shared evaluative standards, is sufficient to render such standards *effectively* shared among the citizens of societies characterised by reasonable pluralism. The general form of the evaluative standards appealed to by natural theologians to construct and evaluate arguments is something like the following: there are strategies of rational conceptual analysis based on which we can develop substantive arguments that can provide support for beliefs about the supernatural. Here rational conceptual analysis can be understood, in a general sense, as 'a process of isolating or working back to what is more fundamental by means of which something, initially taken as given, can be explained or reconstructed'.[40] Rational conceptual analysis, therefore, offers the evaluative standards upon which natural theology arguments are grounded. Such strategies might include *a priori* analysis of concepts, used for instance in Anselm's ontological argument for the existence of God (which is one of the theological arguments discussed by Vallier), and inference to the best explanation, used in arguments for intelligent design.

However, some doctrines place the very effort to produce evidence about the supernatural beyond the scope of conceptual analysis, and in fact beyond the limits of what we can meaningfully argue about. In other words, they deny that there is *any* strategy of rational conceptual analysis that can provide support for beliefs about the supernatural, making natural theology's evaluative standards controversial and natural theology inaccessible.

Kant famously made a similar point regarding both the *a priori* and *a posteriori* arguments for the existence of God mentioned by Vallier. For Kant, the problem is that the very project these arguments set for themselves transcends the possibilities of human reason, and this is equivalent to rejecting any norms that natural theologians might then employ to justify conclusions about the existence of God – in Vallier's language, any of their evaluative standards.[41] Even for a strong believer like Søren Kierkegaard God is radically 'unknown' to human reason and the application of no standard of reasoning could possibly take us any closer to a proof of

[40] Michael Beaney, 'Analysis', in E. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Summer Edition, 2018), available at https://plato.stanford.edu/archives/sum2018/entries/analysis/.

[41] Peter Byrne, *Kant on God* (Aldershot: Ashgate, 2007), pp. 19–56.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

his existence.[42] Looking at society at large, it seems fair to assume that many agnostics are motivated by a similar sense that traditional arguments about God enter an area that is closed to rational analysis and, therefore, to evaluation based on reasoning standards that they can share.

At this point, a critic of accessibility could still observe that Kantians have nothing to say *in general* against, say, the *a priori* analysis of concepts, which they themselves employ to justify certain reason affirmations (although not those concerning God). The critic might argue that conceptual analysis constitutes the evaluative standard that Kantians need to share with the proponents of the ontological argument for such an argument to count as accessible; after all, Section II pointed out that accessibility requires consensus over evaluative standards at a rather abstract level.

In response to this objection, we would like to argue that it is analytically implausible (at any level of abstraction) to divorce the norms that a person uses to construct and evaluate reasons (in this case, those of conceptual analysis) from the 'meta-norms' that determine *the broad scope of applicability* of such norms. For example, many Kantians and other philosophers may accept that *a priori* analyses of concepts are applicable in certain fields, but deny that they can provide any support for *any* claim whatsoever about the supernatural. This seems intuitively to create a different norm governing the production of reason affirmations, which is to say, *a different evaluative standard*, from the one employed by the supporters of the ontological argument, as long as the focus is on reason affirmations about God.

This, in our view, signals the need for adopting a revised version of the notion of evaluative standards and, therefore, of accessibility. More specifically, evaluative standards (*e.g.* in this case, conceptual analysis with its basic rules and norms) should be taken to involve not only shared prescriptive and descriptive norms for epistemically evaluating the reasons that are being proposed by citizens but also *shared beliefs regarding the scope of applicability of such norms*. In other words, if norms of evaluation (*e.g.* those of conceptual analysis) are shared among citizens but there is disagreement regarding their applicability to a specific field of inquiry (the supernatural), then we

[42] Sylvia Walsh, *Kierkegaard: Thinking Christianity in an Existential Mode* (Oxford: Oxford University Press, 2009), pp. 51–79.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

are not in the presence of shared standards of evaluation with regard to that specific field of inquiry.

We would therefore like to put forward a new conception of accessibility, involving two jointly necessary conditions: a) shared standards of evaluation and b) shared beliefs regarding the scope of applicability of such standards. In the case of natural theology, many philosophers and ordinary citizens simply deny that both conditions are met. The relevant evaluative standards in this case are not those of conceptual analysis per se, but those of conceptual-analysis-as-applied-to-the-supernatural, and *these* standards are not shared. Therefore, arguments about the existence of God and other claims about the supernatural remain inaccessible. This does not mean that the reverse is also true. Natural theologians, that is, do not normally deny that conceptual analysis (or, as we will explain in the next section, science) offers sound evaluative standards for analysing the natural world. In a sense, their willingness and desire to embrace conceptual analysis testifies to their acceptance and endorsement of it and its principles as evaluative standards.

However, we might encounter here a different kind of challenge. One might observe that our revised conception of accessibility will exclude not only natural theology but also many philosophical doctrines from the realm of public reason. And this challenge may not come from natural theologians but rather from philosophers such as logical positivists. The latter, for example, might argue that philosophical-reasoning-as-applied-to-ethical-issues does not provide shared evaluative standards, since ethical issues do not constitute for them a suitable realm of applicability for philosophical analysis. We accept this point but we do not consider it particularly problematic. After all, Rawls himself famously excluded philosophical doctrines (including comprehensive ethical doctrines such as those of Kant and Mill) from the realm of public reason. Therefore, we do not see any problems in excluding from the realm of accessible public reasons both natural theology arguments *and* (many, perhaps most) philosophical doctrines. Our intention in this paper is not to rescue such doctrines via the accessibility conception of public reason, and we do not find it problematic to conclude that philosophical analysis may only offer truly shared standards of evaluation when it comes to such areas of inquiry as mathematics and science. In other words, we do

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

not think that excluding philosophical reasons from the realm of accessible public reasons constitutes a loss for political liberalism, since it is exactly this kind of controversial reasons that political liberalism aims to eschew in order to realize its political legitimacy and public justification goals.

Furthermore, like Rawls we endorse a 'wide' view of public reason, according to which controversial reasons may be appealed to in public debate as long as 'in due course' they are supplemented by political (according to our argument, accessible) reasons in order to justify legislation.[43] The rich conceptual and epistemic resources offered by philosophical doctrines can therefore still play a central role throughout the process of public deliberation that precedes (public reason-based) decision-making.

V. THE ACCESSIBILITY OF SCIENTIFIC REASONS

The analysis of religious reasons helped us to conclude that accessibility, if reformulated in the way we suggested, provides an authentic alternative to the loose constraints imposed by intelligibility on the kind of arguments that may count as public. But does accessibility also avoid the opposite over-exclusive excesses of shareability? This section and the next two aim to answer this question by using scientific reasons as a case study, and by demonstrating that accessibility is much more hospitable towards them than shareability.

But what is science, and what are its methods and evaluative standards? We have already pointed out, at the end of the previous section, that conceptual analysis offers evaluative standards that can be considered shared when applied to such disciplines as mathematics and science (but not to philosophy or natural theology). However, science involves much more than mere conceptual analysis. Like Robert Audi, we believe that, for the purpose of discussing public reason, 'there is no need … to define "science"' exhaustively, as opposed to highlighting its key features.[44] These include science's commitment to the testability of its statements, as well as the views that empirical matters (both natural and social) exhaust the subjects

[43] Rawls, 'The Idea of Public Reason Revisited', p. 784.

[44] Robert Audi, 'Religion and the Politics of Science: Can Evolutionary Biology Be Religiously Neutral?', *Philosophy and Social Criticism* 35, no. 1–2 (2009): pp. 23–50, at 24.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

of scientific inquiry, and that proposed explanations must be sought within the natural world, broadly understood in contrast with the supernatural.[45] Along similar lines, and as a confirmation of this generally accepted understanding of science, the UK Science Council states that '[s]cience is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence'.[46] By endorsing these definitions, we do not intend to claim that there is no supernatural, or that science is the only valid form of knowledge. We only want to stress that the common understanding of science conceives it as concerned with the natural and social world (to the exclusion of references to the supernatural) and with its regularities, which are linked to the testability of theories.[47]

What are science's standards of evaluation? In response to this question, we would like to embrace Thomas Kuhn's five shared desiderata of theory choice, which in our view provide sufficiently broad and therefore inclusive shared standards for evaluating scientific theories.[48] According to Kuhn, these are the following:

> First, a theory should be accurate within its domain, that is, consequences deducible from a theory should be in demonstrated agreement with the results of existing experiments and observations [accuracy]. Second, a theory should be consistent, not only internally or with itself, but also with other currently accepted theories applicable to related aspects of nature [consistency]. Third, it should have broad scope: in particular, a theory's consequences should extend far beyond the particular observations, laws, or subtheories it was initially designed to explain [scope]. Fourth, and closely related, it should be simple, bringing order to phenomena that in its absence would be individually isolated and, as a set, confused [simplicity]. Fifth…a theory should be fruitful of new research findings: it should, that is, disclose new phenomena or previously unnoted relationships among those already known [fruitfulness].[49]

According to Kuhn, these five desiderata 'provide *the* shared basis for theory choice',[50] i.e. they help scientists to choose between different scientific theories, especially when new theories are introduced and challenge existing ones.

That such desiderata are sufficiently vague is something that Kuhn himself acknowledges. According to him, '[i]ndividually the criteria are imprecise: individuals may legitimately differ about their

[45] Audi, 'Religion and the Politics of Science', pp. 24–30.

[46] http://sciencecouncil.org/about-us/our-definition-of-science/.

[47] Michael Ruse, 'Methodological Naturalism under Attack', *South African Journal of Philosophy* 24, no. 1 (2005): pp. 44–60, at 49–50.

[48] Thomas Kuhn, 'Objectivity, Value Judgment, and Theory Choice', in *The Essential Tension* (Chicago: University of Chicago Press, 1977), pp. 320–39, at 321–322.

[49] Kuhn, 'Objectivity', p. 331.

[50] Kuhn, 'Objectivity', p. 331, original emphasis.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

application to concrete cases'.[51] Individual scientists, for example, may differ with regard to the weight they assign to each of the different criteria, or to their interpretation,[52] and this kind of disagreement, as we explained in Sections II and III with reference to Gaus and Rawls, is perfectly compatible with evaluative standards being shared. All of this suggests that disagreement among scientists is likely to persist on most matters despite their agreement on the five desiderata, due to what we might consider a somewhat more complex version of the Rawlsian burdens of judgment.

But even if one accepts that Kuhn's five desiderata offer sound shared evaluative standards for science, such standards (and, therefore, scientific reasons) might still seem to be in tension with accessibility. Let us explain why. If one takes the members of the general public as they are in actuality, they typically have no real understanding of science's evaluative standards. For example, they may not understand what renders climate science a science, i.e. in what sense it meets Kuhn's five desiderata. As a result, they may be unable to understand the basis of the expert opinions that climatologists offer about various questions when involved in political decision-making. This is, for example, what leads Catriona McKinnon to argue that '[t]he epistemic abstinence built into the ideal of democratic justification excludes from political debate scientific (and other expert) judgments […] because such judgments are not a product of "the general beliefs and forms of reasoning found in common sense", to which debate in public reason [according to Rawls] must be restricted'.[53] Similarly, Karin Jønch-Clausen and Klemens Kappel argue that '[c]itizens must be able to come to know and accept the basic political principles and structure of their society and they must therefore be supportable by facts or modes of reasoning that are not highly speculative, tremendously elaborate or complex'.[54] According to them, science and scientific arguments do not meet these criteria.

Translating this into the language of accessibility, the members of the public are unable to understand expert opinions, which consti-

[51] Kuhn, 'Objectivity', p. 331.

[52] Kuhn, 'Objectivity', p. 333.

[53] Catriona McKinnon, *Climate Change and Future Justice: Precaution, Compensation and Triage* (New York: Routledge, 2012), p. 21.

[54] Jønch-Clausen and Kappel, 'Scientific Facts and Methods', p. 126.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

tute the experts' reasons, and to see for themselves that the experts' application of the evaluative standards of science (i.e. Kuhn's five desiderata) has made those opinions justified, at least for their proponents. Are the non-experts, in this example, in the same position as the agnostics faced with natural theology? Is the impossibility to assess expert opinions, and to find them justified, to be explained by the fact that (as in the case of the agnostics) members of the public deem that science's evaluative standards cannot be appealed to in climatology to provide support for any arguments advanced in that sub-discipline? If this was the case, it would mean that climatology's evaluative standards (i.e. Kuhn's-five-desiderata-as-applied-to-the-scientific-study-of-climate) are controversial and scientific reasons as presented by climate scientists inaccessible.

This strikes us as an implausible explanation; even under the conditions of relative freedom of thought that have historically allowed the burdens of judgement to generate reasonable pluralism in our societies, it is hard to imagine anyone (including religious believers) opining that the world's climate is *not at all* amenable to scientific analysis or, more generally, having *no faith* in the epistemic value of the methods of science *in this or other aspects of the natural world that are normally object of scientific inquiry*. As Kent Greenawalt points out, for example, '[a]lmost no one denies that scientific investigation is a source of truth, so few will reject all scientific conclusions as without force'.[55] Similarly, we believe that most citizens in contemporary societies, including most religious citizens, do acknowledge the soundness and validity of scientific inquiry as applied to empirical issues.[56] Science's evaluative standards, that is, are much more broadly shared than, for example, those of natural theology and of most philosophical inquiry (when the scope of applicability, as well as the relevant prescriptive and descriptive norms of evaluation, are taken into account, as we argued in the previous section). As Rawls himself points out, political liberalism and the idea of public reason are concerned with the 'basis of social unity avail-

[55] Kent Greenawalt, 'Establishing Religious Ideas: Evolution, Creationism, and Intelligent Design', *Notre Dame Journal of Law, Ethics & Public Policy* 17, no. 2 (2003): pp. 321–397, at 337. For the idea that many creationists do not dispute the epistemic force or the field of application of the methods of evolutionary biology, see also Kent Greenawalt, *Does God Belong in Public Schools?* (Princeton: Princeton University Press, 2005), pp. 96–97.

[56] This is the case even when, as we will show in Section VII, conclusions that religious believers consider scientifically sound, based on evaluative standards they also share, clash with their broader religious views.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

able to citizens of a *modern* democratic society',[57] and modernity is characterised, if not defined, by a widespread belief in the value of the scientific method and its applicability to the study of the natural world (including climate issues).[58]

This is an important assumption in our argument, but it does not introduce a circularity in it, as some critics might be tempted to object. Indeed, even if we presuppose a widely shared confidence in the standards of scientific inquiry, this does not yet tell us in what sense, exactly, scientific reasons can be public, and whether *both* the methods *and* the conclusions of science must be shared for scientific arguments to count as public reasons, as Rawls suggests.[59] *These* are the questions that we are interested in, and which our analysis of accessibility and shareability aims to answer.

At this point, though, the critic might insist that the (alleged) inaccessibility of many scientific reasons is due not to the lack of shared evaluative standards among the population but rather to the complexity of many of those reasons and standards. That is what McKinnon's and Jønch-Clausen and Kappel's aforementioned statement also seem to suggest. Similarly, Rawls himself argues that public reason rules out 'elaborate economic theories of general equilibrium', which would seem to exclude from public reason the standard Arrow-Debreu general equilibrium model, arguably the foundation of neoclassical economics.[60] In other words, even if science's evaluative standards are shared, most lay people will be unable to assess whether certain scientific arguments and approaches comply with those standards to the extent necessary for them to be justified for their proponents.

In response to this further criticism, we argue that the struggle with scientific reasons experienced by lay persons should be traced back to a fact which characterises any minimally complex society, and which is the starting point of several philosophical arguments concerning the challenges that science poses to democratic life. This

[57] Rawls, *Political Liberalism*, p. xxxix, emphasis added.

[58] John Rawls, *Collected Papers* (Cambridge, MA: Harvard University Press, 1999), p. 324.

[59] Rawls, *Political Liberalism*, p. 224.

[60] Rawls, *Political Liberalism*, p. 225. We thank an anonymous reviewer for this comment. However, it should be noted that in the same place, Rawls also states that such complex economic theories may be excluded from public reason if they 'are in dispute', thus leaving it unclear whether it is their complexity or their controversial character that justifies ruling them out. If the latter, Section VII will also provide a response to this point. Moreover, we will discuss the implications of accessibility for the social sciences more extensively in Section VI.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

fact concerns the division of epistemic labour within society, i.e., the need for different groups of citizens to specialise in different areas, in order for society at large to cultivate a broader range of better developed skills, given the limited lifetime available to each individual. By its very nature, this process of specialisation deprives the outsiders to each expert community of the necessary resources to judge how well its methods have been applied in specific cases.[61]

This creates the room for scientific arguments to count as accessible, provided that we adopt what Cristopher Eberle calls 'in principle', as opposed to 'actual', accessibility, where he discusses the concept in a slightly different sense than us and Vallier.[62] In principle, each normal member of the public *could have channelled* her time, energy and cognitive capacities towards the study of, say, climate science to the extent necessary to understand its methods and to become able to see for herself if someone else has applied such methods without gross epistemic mistakes and, therefore, well enough to justifiably hold the resulting opinion. This possibility, which makes scientific arguments public in an important sense, is supported by the view of those who believe that there is continuity between people's common sense and complex scientific inquiry or, in other words, that '[s]cience is not a substitute for common sense, but an extension [although more complex and sophisticated] of it'.[63]

In view of this argument, and in order to dispel any residual misunderstanding of the contrast between natural theology and science, we reiterate that we have never attributed the inaccessibility of natural theology to a struggle on the part of the public to *understand* its reasoning standards – a problem that, if present, could have been solved by an in principle perspective. Rather, natural theology is inaccessible because for many citizens its subject matter lies beyond the very limits of what we can meaningfully argue about through the reasoning methods and evaluative standards of conceptual analysis, or those of science. This contrasts with modern

[61] James Bohman, 'The Division of Labor in Democratic Discourse: Media, Experts, and Deliberative Democracy', in S. Chambers and A.N. Costain (eds.), *Deliberation, Democracy, and the Media* (Lanham-Oxford: Rowman & Littlefield, 2001), pp. 47–64, at 50-1. See also John Hardwig, 'Epistemic Dependence', *Journal of Philosophy* 82, no. 7 (1985): 335–349; and Harry Collins and Robert Evans, *Rethinking Expertise* (Chicago: Chicago University Press, 2007).

[62] Eberle, *Religious Convictions*, pp. 256–260.

[63] Willard Van Orman Quine, 'The Scope and Language of Science', *British Journal for the Philosophy of Science* 8, no. 29 (1957):1–17, at 2.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

societies' characteristic widespread belief (also among religious citizens) in the epistemic value of the scientific method and in its applicability to the natural world.

Eberle's distinction between 'actual' and 'in principle' accessibility can also be understood as a distinction between two different levels of idealisation of the constituency of public reason, i.e. the kind of agents to whom laws and policies ought to be justified. Theories of public reason generally idealise the members of such constituency – i.e. they assign to them moral and/or epistemic qualities that actual citizens, with their moral and epistemic imperfections, do not normally possess.[64] What is relevant, in our present analysis, is the epistemic (as opposed to the moral) dimension of idealisation, which implies that '[a] citizen's rationale R counts as a public justification for some coercive law only if R would be acceptable to his [...] *rational*, and *adequately informed* compatriots'.[65] Eberle's distinction between 'in principle' and 'actual' accessibility corresponds to the distinction between agents who have been idealised in this way and non-idealised agents. For non-idealised people in the real world, with their imperfect grasp of many reasoning methods and limited knowledge of science's evaluative standards and of many empirical facts, many if not most reasons (including scientific reasons) are *actually* inaccessible. Nevertheless, once we idealise them and assign to them all the relevant rationality and knowledge (*e.g.* the proficiency in reasoning methods and the knowledge of science's evaluative standards that they could have acquired if they had followed a different path in their lives), we can see that many of those reasons are *in principle* accessible to them.

Although idealisation is common to most accounts of public reason, we should note that *radical* idealisation has been rightly criticised for introducing too wide a gap between real citizens and their ideal counterparts, assigning to the latter capacities and knowledge that go beyond human possibilities, and for failing to sufficiently acknowledge the fact of reasonable pluralism.[66] Therefore, we need to show that in principle accessibility only involves a

[64] Jonathan Quong, 'Public Reason', in E. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Summer edition, 2013), available at http://plato.stanford.edu/archives/sum2013/entries/public-reason/.

[65] Eberle, *Religious Convictions*, p. 223.

[66] Gaus, *The Order of Public Reason*, pp. 232–260.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

moderate form of idealisation.[67] With regard to rationality, the idealisation involved by in principle accessibility is as moderate as the one adopted by Vallier, who, in his attack on radical idealisation, claims that all that is required for agents to be rational is that they engage in an adequate amount of thinking in order to arrive at 'justified beliefs that may be overturned by further reasoning'.[68] Now, in principle accessibility does not involve the ascription to citizens of the superior ability to complete *all* the reasoning relevant to the issues at hand. It only idealises citizens to the point where they become able to follow standards of reasoning and evaluation that they have faith in and that would have been *within normal human capacities* to learn about. With regard to the informational set, we agree with Vallier that we can only idealise agents to the extent that the information we ascribe to them does not have unaffordable 'collection costs', since '[r]easons cannot be attributed to citizens on the basis of information they cannot possibly collect'.[69] While difficult and time-consuming, the collection of the information relevant to assessing scientific reasons is not *impossible*. While it is true, as Vallier points out, that 'we should not ascribe reasons to Newton based on Einsteinian physics',[70] a person with normal capacities and moderately idealised rationality living in today's world would not have had to go through the impossible effort of discovering Einstein's theories on their own; in other words, it would not have been beyond their normal capacities to have passively learned and generally understood Einsteinian physics, had they decided to pursue that life route (instead of becoming, say, a history teacher or a lawyer).

VI. THREE OBJECTIONS TO THE ACCESSIBILITY OF SCIENTIFIC REASONS

The previous section's goal was to demonstrate that (in principle) accessibility is hospitable towards scientific reasons, while the next section will bring (in principle) shareability to the table and demonstrate that it is considerably less accommodating towards

[67] Gaus, *The Order of Public Reason*, pp. 276–277; and Vallier, *Liberal Politics and Public Faith*, pp. 145–180.

[68] Vallier, *Liberal Politics and Public Faith*, p. 161.

[69] Vallier, *Liberal Politics and Public Faith*, pp. 162 and 161, respectively.

[70] Vallier, *Liberal Politics and Public Faith*, p. 161.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

scientific arguments. Before proceeding, however, we need to consider a three-pronged objection to our claim that adopting an in principle specification suffices to make scientific reasons accessible.

First, it could be suggested that unless someone was born with a sufficient aptitude for numbers, they could have never become experts in a highly quantitative field like science. Therefore, scientific arguments are not accessible to each member of the public, not even in principle. This worry about varying natural aptitudes can be eased by stressing that, on Eberle's definition, it is only required that reasons be in principle accessible to citizens who are born with intellectual capacities in the *normal* range.[71] Moreover, for a scientific argument (*e.g.* an argument from climate science) to be in principle accessible to lay members of the public, it is necessary to assume that by differently channelling their time, energy and intelligence, they could have developed an essentially *passive* understanding of science's evaluative standards, and of how these are applied by experts to produce sound theories and arguments; however, it is not equally necessary to assume that they themselves could have all become fully-fledged experts, capable of actively advancing the discipline. Once this more demanding requirement is excluded, it seems considerably more plausible to assume that scientific arguments are generally accessible to citizens with normal intellectual capacities, at least in principle, and regardless of innate talents.

Second, one could object that our argument forgets that even in scientific disciplines that are well established and are not undergoing any revolution, there might be some disagreement over whether a certain theory and its methods of analysis are of any epistemic value. For example, philosophers of science have recently picked up on several complaints, voiced from within clinical research and public health, which call upon the dominant frameworks of evidence-based practice to recognise the importance of physiological mechanisms and other sources of evidence of causation that are different from randomised control trials' statistical associations.[72] Given that several influential hierarchies of evidence do not mention mechanisms,[73] it

[71] Eberle, *Religious Convictions*, p. 256. See also the references to normal capacities in Rawls, *Political Liberalism*, *e.g.* p. 81.

[72] Brendan Clarke, Donald Gillies, Phyllis Illari, Federica Russo, and Jon Williamson, 'The Evidence that Evidence-Based Medicine Omits', *Preventive Medicine* 57, no. 6 (2013): pp. 745–747.

[73] Jeremy Howick, 'Exposing the Vanities - and a Qualified Defense - of Mechanistic Reasoning in Health Care Decision Making', *Philosophy of Science* 78, no. 5 (2011): pp. 926–940, at 927.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

appears that even in principle members of the public would come across many scientists denying that mechanisms are of any use, as scientific methods, in demonstrating causation in clinical research. This apparently seems to mirror the situation of *a priori* analyses of concepts as used by advocates of the ontological argument in natural theology and, therefore, appears to exclude scientific reasons based on evidence of mechanisms from the set of accessible scientific reasons available to clinical researchers.

This conclusion, however, is misguided. Kuhn's five desiderata, we have seen, offer significant scope for disagreement among scientists. We consider the disagreement between defenders of mechanisms in science and their detractors not as a fundamental disagreement regarding science's evaluative standards but as a disagreement existing within the boundaries of those standards. Such disagreement can be traced back to the many different ways in which defenders and detractors apply such evaluative standards as accuracy, consistency and simplicity to the assessment of mechanism-based theories, without challenging those very standards. Neither defenders nor detractors of mechanisms in science deny that the Kuhnian desiderata provide the evaluative standards based on which any scientific theory or model should be assessed, and that the study of the natural world is a suitable realm of applicability for those standards. In this sense, therefore, we believe that both those scientific approaches based on randomised control trials and those based on mechanisms meet the evaluative standards provided by Kuhn's five desiderata, and that therefore both can generate accessible reasons that should be allowed into public justification.

Third, one might point out that while our revised account of accessibility allows us to include the natural sciences in the realm of public reason, it excludes from it reasons grounded in the social sciences, since social scientists disagree significantly (and much more than natural scientists) regarding the range of applicability of certain norms and models. This, the critic might continue, would constitute a great loss for public reason, as it would prevent citizens and legislators from appealing to most social science arguments and evidence when justifying laws and policies. In response to this criticism we would like to stress, first of all, that we believe Kuhn's five desiderata (and our conclusions regarding the natural sciences, which

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

draw on Kuhn's theory) also apply to the social sciences. It has indeed been highlighted that 'Kuhn's picture of science…permit[s] a more liberal conception of what science is than hitherto, one that could be taken to include disciplines such as sociology and psychoanalysis' and, more generally, all the social sciences.[74] What is more important, however, is that agreeing over Kuhn's five desiderata of theory choice still allows scope for significant disagreement not only within the natural sciences (as we have seen in the aforementioned example involving physiological mechanisms), but also within the social sciences.

Take, for example, economics, where there is deep disagreement between those embracing a neoclassical approach, grounded in rational choice theory, and those endorsing behavioural economics, which draws extensively on cognitive psychology.[75] Some neoclassical economists might think, for example, that the realm of economics is not one to which psychological models and methods can be applied.[76] These disagreements, however, do not necessarily signal a lack of shared *evaluative standards* (as opposed to shared models and methods). Accessibility does not demand that social scientists working within a certain discipline endorse the same specific models and methods, and agree on their scope of applicability. What it does require is that both supporters and detractors of specific models and methods share Kuhn's five desiderata, and the view that the study of the social world (and, more specifically in our case, the realm of economics) is a suitable realm of applicability for those standards. In other words, what needs to be shown is that '[d]espite the possibility of divergence [*e.g.* with regard to specific theories, models, methods, approaches, etc.], there is nonetheless widespread agreement on the desirable features of a new puzzle-solution or theory'.[77]

[74] Alexander Bird, 'Thomas Kuhn', in E. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Winter edition, 2018), available at https://plato.stanford.edu/archives/win2018/entries/thomas-kuhn/ >.

[75] For example, Daniel Kahneman and Amos Tversky, 'Prospect Theory: An Analysis of Decision under Risk', *Econometrica* 47, no. 2 (1979): pp. 263–291; and Daniel Kahneman, Paul Slovic, and Amos Tversky, *Judgement Under Uncertainty: Heuristics and Biases* (Cambridge: Cambridge University Press, 1982).

[76] There is also disagreement, within economics, regarding such diverse issues as macroeconomic forecasting, standard equilibrium theorizing, and the traditional approach used in the optimal taxation literature. We thank an anonymous reviewer for suggesting these examples.

[77] Bird, 'Thomas Kuhn'.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

Based on these premises, we believe that it is not implausible to argue that despite their disagreements, neoclassical and behavioural economists agree that a) whichever theory, model or approach should in their view be dominant within economics, it should meet the broad evaluative standards provided by Kuhn's five desiderata, and that b) the realm of economic phenomena constitutes a suitable realm of applicability for those standards. The same conclusion, we believe, could be reached regarding other social sciences, where disagreement is inevitably as frequent and deep as in economics. In summary, accessibility does not exclude the social sciences from the realm of public reason.

Having responded to these objections, we can finally turn to arguing that shareability is considerably more exclusionary towards scientific reasons than accessibility.

VII. THE INHOSPITALITY OF SHAREABILITY TO SCIENTIFIC REASONS

Shareability requires lack of controversy beyond accessibility's wide acceptance of shared standards of evaluation such as Kuhn's five desiderata. Shareability also requires that, at least in principle, arguments offered by an expert when applying shared standards to a specific issue must be affirmed by each member of the public as their own. R.J. Leland and Han van Wietmarschen appear to endorse shareability when they argue that public reason 'can permit appeal to complicated scientific findings that are uncontroversial among experts', who can reasonably be conceived as the maximally competent judges within their field.[78] For example, they point to climate scientists' shared belief that available evidence demonstrates that global warming is caused by human emissions.

We do not need to deny that at the high level of generality that characterises the claim that climate change is happening due to human activity, many scientific reasons are shareable. Although Leland and van Wietmarschen do not provide any other example, there probably are shared scientific reasons supporting similarly general conclusions in many other scientific fields. However, Leland and van Wietmarschen never discuss the scientific reasons addressing the huge amount of more specific issues that are still extremely

[78] Leland and van Wietmarschen, 'Reasonableness, Intellectual Modesty, and Reciprocity', p. 741.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

relevant to law. For example, what is the time frame of climate change? What is the potential of mitigation interventions, and that of adaptation, broken down by geographical regions? When it comes to these sorts of questions, climate scientists sharply disagree as to what answer is best supported by available evidence.[79] Yet this disagreement (which will sometimes manifest itself in the development of different theories and specific methods of inquiry), as we have repeatedly argued, can perfectly coexist with their endorsement of shared evaluative standards, i.e. Kuhn's five desiderata.

Shareability theorists must face the disagreement normally dividing scientific experts. Such disagreement, we have seen, is the norm. Even when they work from within broadly shared disciplinary standards of inquiry, different experts generally make different judgements in interpreting and weighing evidence, although they often fudge disagreement when communicating with the general public, who generally misconceive science as a consensual enterprise.[80] At a normative level, it is a common recommendation to protect this space of disagreement because integral to healthy scientific practice.[81]

This leads to the first reason why shareability rules out many more scientific arguments than accessibility. According to accessibility, we have seen, it is sufficient that the public can see that the application of broadly accepted evaluative standards can lead to the proposed expert opinion without any gross epistemic mistake being made in the process. In contrast with shareability, there is room to disagree over whether a different application of the relevant standards would have led to a somewhat different opinion. As Vallier claims, 'the scientific method is a common evaluative standard among scientists, yet it might only justify a scientific conclusion for a sub-group of scientists given how they apply the standard to their data set'.[82] Given that disagreement about *the scientific merit* of scientific arguments and conclusions is intrinsic to good scientific practice, it would still divide the public even if each of us had

[79] Warren Pearce, Reiner Grundmann, Mike Hulme, Sujatha Raman, Eleanor Kershaw, and Judith Tsouvalis, 'Beyond Counting Climate Change Consensus', *Environmental Communication* 11, no. 6 (2017): pp. 723–730, at 727–728.

[80] John Beatty, 'Masking Disagreement among Experts', *Episteme* 3, no. 1–2 (2006): pp. 52–67.

[81] John Beatty and Alfred Moore, 'Should We Aim for Consensus?', *Episteme* 7, no. 3 (2010): pp. 198–214; and Andy Stirling, 'Keep it Complex', *Nature* 468 (2010): pp. 1029–1031.

[82] Vallier, *Liberal Politics and Public Faith*, p. 108.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

developed a full understanding of the relevant scientific discipline. This would therefore prevent many scientific arguments (i.e. those which are considered controversial among scientifically-minded persons) from being shareable in principle as well as in actuality.

There is also a second sense in which scientific arguments can be controversial, while remaining accessible. An argument can be controversial, even if it is undisputed among scientifically-minded persons, if a person cannot accept it as their own because of *the sheer tension* with strongly-held beliefs they hold as part of their comprehensive doctrine. This understanding of the potentially controversial character of scientific arguments seems to capture, at least in part, what underlies the public rejection of scientific opinions in some important controversies. For example, some people reject arguments from evolutionary biology because these arguments cannot possibly fit with deeply-held beliefs in their comprehensive doctrines (which might be very strongly invested in the divine creation of all living beings, in intelligent design, etc.). Nevertheless, it is plausible to assume that in most cases these people do not stop considering the arguments from evolutionary biology accessible, i.e., having at least some positive epistemic status based on scientific evaluative standards that they share with those who are not their co-religionists. As we explained earlier, modernity is characterised by a widespread belief in the value of science and the applicability of its methods to the natural world.

This means that the religious person in our example is not in the same position as the Kantian agnostic faced with the ontological argument, examined in an earlier section. In the evolutionary biology example, science's evaluative standards are shared, and the disagreement is not about whether the scientific reasons under considerations are grounded in such standards, or whether such standards are suitable for that area of inquiry. A religious person might well ultimately reject those reasons, but only because she reaches beyond the scientific method into her personal fund of religious beliefs, which clash with the scientific reasons – *not* because she finds those reasons inaccessible. The tension between scientific arguments and her overall set of convictions, therefore, will justify excluding those arguments from public reason only under shareability, not under accessibility.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

There is, in summary, a key asymmetry between religious and scientific reasons. While there are people who believe that only science is a source of truth, and people who believe that both science and religion are sources of truth, almost no one believes that *only religion* constitutes a source of truth.[83] The religious believer will grant scientific evaluative standards pro tanto epistemic support, even though she may ultimately assign greater force to religious evaluative standards for explaining certain phenomena. Scientific evaluative standards *are* shared in modern societies, also by religious people, and they can thus provide the foundations for accessible reasons. Many agnostics faced with natural theology, instead, *never grant* that the application of any shared evaluative standards gives the same sort of 'pro tanto epistemic support' to any argument from natural theology, which therefore is truly inaccessible.[84] Such shared standards, according to them, do not even exist, since for them we cannot apply conceptual analysis or science's evaluative standards to the supernatural.

We would like to conclude by briefly returning to Rawls's theory of public reason which, we explained earlier, can *at its core* be considered an instance of accessibility. From the perspective of accessibility, and in light of the fact that many (perhaps most) accessible scientific arguments are controversial, as we have illustrated throughout the paper, Rawls seems wrong when he claims that public reason requires lack of controversy not only at the level of scientific methods, but also at the level of the *conclusions* offered by scientific inquiry, as suggested by his statement that public reason includes 'the methods and conclusions of science when these are not controversial'.[85] Even though Section III reframed a large part of Rawls's theory around accessibility, his statement about science falls close to shareability, and should therefore be rejected. If, like Rawls, we want science to have a place in public reason, requiring shared conclusions appears misguided in that this would only admit an extremely small set of scientific arguments into public reasoning.

[83] Greenawalt, 'Establishing Religious Ideas', p. 337.

[84] We acknowledge, however, that for some agnostics, theistic arguments may provide some reason to think that God exists, but those reasons are overridden by other factors. We thank an anonymous reviewer for highlighting this point.

[85] Rawls, *Political Liberalism*, p. 224.

Journal : 10982 | Dispatch : 16-8-2019 | Pages : 31
CMS No. : 9360 | ☐ LE | ☐ TYPESET
MS Code : LAPH | ☑ CP | ☑ DISK

Finally, we would also like to point out that referring to shared scientific *methods*, as Rawls does, may also be misleading. Of course, at a rather broad level of generality, *the* scientific method, which involves 'systematic observation and experimentation, inductive and deductive reasoning, and the formation and testing of hypotheses and theories',[86] can be considered (similarly to Kuhn's five desiderata) a source of shared evaluative standards in science. However, beyond this general level, different scientific theories are likely to also support different kinds of specific methodologies, as shown for example by the aforementioned disagreement between supporters of mechanisms, who tend to endorse 'interventionist experiments',[87] and those who focus instead on randomized control trials. Such methodological differences can coexist with agreement on shared evaluative standards and on the scientific method broadly intended.

VIII. CONCLUSION

Debates on public reason are often framed around the distinction between consensus and convergence approaches. However, as stressed by Vallier, it is important to distinguish shareability and accessibility when critically assessing consensus conceptions of public reason. In this paper, we have defended accessibility against those authors who, like Vallier, consider it over-inclusive and able to accommodate too many religious reasons. Moreover, we have examined scientific reasons, which have surprisingly been neglected by public reason liberals. We have shown that accessibility, but not shareability, accords with our intuitions in this area in that it allows appealing to the conclusions and methods of science during the process of public reasoning.

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[86] Hanne Andersen and Brian Hepburn, 'Scientific Method', in E. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Summer Edition, 2016), available at https://plato.stanford.edu/archives/sum2016/entries/scientific-method/.

[87] Carl Craver and James Taber, 'Mechanisms in Science', in E. Zalta (ed.), *The Stanford Encyclopaedia of Philosophy* (Spring Edition, 2017), available at https://plato.stanford.edu/archives/spr2017/entries/science-mechanisms/.

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Journal : **10982** Dispatch : **16-8-2019** Pages : **31**
CMS No. : **9360** ☐ LE ☐ TYPESET
MS Code : **LAPH** ☑ CP ☑ DISK