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'We Want Experts': Fracking and the Case of Expert Excess

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ABSTRACT

The assumption that the democratisation of environmental law is central to ensuring the legitimacy of decisions permeates the literature. Using an empirically grounded counter narrative, this article confronts and contests that assumption. It argues that in the context of shale gas/fracking, public understanding positions expertise not as an obstacle to legitimacy, but rather as a foundational factor. This involves a role in which experts fulfil a publicly delegated role, the delineation of which warrants a form of participation that repositions its purpose and value. However, this conceptualisation of an expert's role, and the type of participation required, demonstrates a fundamental public misunderstanding about what experts can deliver: 'expert excess'. This article argues that we, as scholars, need to reflect upon: (1) the weight given to empirical perceptions of legitimacy and participation when developing theoretical models; (2) why there is such a misconception around what experts can deliver in decision-making.

KEYWORDS: Legitimacy, participation, decision-making, expertise, fracking

1. INTRODUCTION

The assumption that the democratisation of environmental law is central to ensuring the legitimacy of decisions permeates the literature. Yet the empirically grounded counter narrative, from the shale gas context, presented here confronts and contests that assumption.

> We want experts. We want people who know about these things. I'm only a lay person. I'm a farmer. I've dealt with the land all my life, but we want people who know what's happening 2 miles down and there aren't many of those, are there?[1]

Shale gas developments in England have proved to be controversial. Attention first focused on the shale gas industry when, on the 1 April 2011, a seismic tremor of magnitude 2.3 affected residents close to the Preese Hall shale gas exploration site in Lancashire.[2] This triggered a temporary moratorium on all hydraulic fracturing

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1 M1 Interview 16.

2 British Geological Survey, 'Blackpool Earthquake' (27 May 2011) <www.earthquakes.bgs.ac.uk/research/events/BlackpoolMay2011.html> accessed 3 July 2019.

(fracking) activities in England. Although this ban was lifted in December 2012, exploratory progress since then has been notably slow with the first post-ban fracking taking place in October 2018.[3] Planning appeals, legal challenges and protests have been prolific.[4] In the controversial context of shale gas and fracking, this article seeks to re-evaluate the current theoretical assumptions underpinning how we define legitimate decision-making. It contests the assumption that direct participation and the democratisation of decision-making is central to achieving such legitimacy. It examines what the public consider to be legitimate decision-making in this context by drawing on data from interviews and focus groups with 36 people (27 members of the public impacted by shale gas exploration; eight members of the shale gas industry; and one member of a regulatory body). This article defines 'legitimate' to mean decision-making that is accepted, by the public, because it is considered worthy of recognition. For these interviewees, legitimate decision-making was underpinned by legitimate decision-making procedures. Where the decision-making process was considered legitimate (ie worthy of recognition) this generated acceptability of the procedure itself, but also triggered the perceived legitimacy of the decision's outcome (even if this was counter to interviewees personal views on shale gas). Given the highly controversial nature of shale gas and fracking, the public's perception of decision-making procedures is thus important.[5] If decision-making procedures are not considered legitimate, visible public opposition and protest are likely to increase.

The people in this study expressed a clear preference for expert-led decision-making procedures. As such, the assumed need for the democratisation of decision-making, a staple of contemporary environmental law, across jurisdictions, is questioned.[6] Expertise, rather than being an obstacle to legitimacy, is in fact the foundational factor which affects interviewees' perception of decision-making legitimacy. For this section of the public, the data shows that 'expert' is a trust-based status, bestowed upon a group of people to whom decision-making power can be delegated with a clearly delineated goal; namely environmental protection. By dictating this

3 'Written Ministerial Statement by Edward Davey: Exploration for Shale Gas' (*News Story*, 13 December 2012) <www.gov.uk/government/news/written-ministerial-statement-by-edward-davey-exploration-for-shale-gas> accessed 3 July 2019; Cuadrilla Resources, 'Hydraulic Fracturing to Go Ahead at Shale Gas Site in Lancashire' (12 October 2018) <https://cuadrillaresources.com/media-resources/press-releases/hydraulic-fracturing-to-go-ahead-at-shale-gas-exploration-site-in-lancashire/> accessed 3 July 2019; Fracking at the Preston New Road site in 2018 triggered a number of minor earth tremors, some of which halted activities due to the new traffic light management system. Further details can be found at British Geological Survey, 'Seismic Activity at Preston New Road: FAQs' <http://earthquakes.bgs.ac.uk/research/PrestonNewRoadFAQ.html> accessed 3 July 2019.

4 See for *Preston New Road Action Group v Secretary of State for Communities* [2018] EWCA Civ 9; *Planning Appeal for Roseacre Wood Exploration Site* (APP/Q2371/W/15/313438) (August 2015); *Planning Appeal for Preston New Road Exploration Site* (APP/Q2371/W/15/3134386) (August 2015).

5 Tom Tyler, 'Procedural Justice, Legitimacy, and the Effective Rule of Law' (2003) 30 Crime and Justice 283; Tom Tyler, 'Governing Amid Diversity: The Effect of Fair Decision-making Procedures on the Legitimacy of Government' (1994) 28 Law & Society Review 809.

6 See, for example, Jane Holder, *Environmental Assessment. The Regulation of Decision-making* (OUP 2006); Maria Lee, 'Experts and Publics in EU Environmental Law' in Damien Chalmers and Anthony Arnull (eds), *The Oxford Handbook of European Law* (OUP 2015) 993; Maria Lee, 'The Legal and Institutionalization of Public Participation in the EU Governance of Technology' in Roger Brownsword, Eloise Scotford and Karen Yeung (eds), *The Oxford Handbook of Law, Regulation and Technology* (OUP 2016).

goal, the act of delegation places the public in a position of power reconstructing their relationship with experts.

However, despite the explicit demand for expert-led decision-making, the data reveals two inherent contradictions. First, the misconception of 'expert excess': an excessive expectation about what experts can and will deliver in decision-making. At present experts are under no obligation to pursue any broader social/political goal (eg environmental protection) and what they can achieve in decision-making is inherently constrained by their own inherent values and knowledge traditions; something that interviewees did not acknowledge. Second, that despite calling for expert-led decision-making, delegation of a goal requires an opportunity for the public to define this goal, necessitating some form of public input. However, the participation needed has a different purpose and value to that of the familiar call for the democratisation of decision-making. This difference forces us to reflect on the difficulty of designing the type of participation that is needed, and the type of participation that the public consider to have legitimating value. This compels us to consider the need for fresh perspectives on participation.[7]

Given the qualitative nature of the study, this article does not claim that the findings are generalisable, nor that our understanding of legitimate decision-making is necessarily misplaced in all arenas. However, it highlights the need to reflect on why current theoretical assumptions about what constitutes a legitimate decision (eg the assumption that direct participation in decision-making is desirable) which may be justifiable on grounds of better procedural representativeness or better openness in decision-making, fail to correspond with empirically grounded public perceptions of legitimate decision-making.[4] The empirical findings presented here are based on data from multiple sites in multiple locations and emphasise how important it is that we map theoretical discussions against empirical data. This forces us to reflect upon how the scholarship does and should define legitimate decision-making, and the extent to which this definition should give weight to the empirical. Given the lack of empirical socio-legal work in environmental law and on fracking in England this research begins to address a significant scholarly gap.[8]

This article opens by providing an outline of hydraulic fracturing/fracking and why it provides such an interesting lens through which to examine perceptions of decision-making legitimacy, followed by an overview of the research methodology. It moves on to discuss how existing scholarship has approached legitimate decision-making before discussing the central finding of the research; the desire for expert-led decision-making. It then explores how the public conceptualisation of an expert's role, and the type of participation this warrants, differs greatly from scholar's

7 Jenny Steele, 'Participation and Deliberation in Environmental Law: Exploring a Problem-solving Approach' (2001) 21 Oxford Journal of Legal Studies 415; Renée Irvin and John Stansbury, 'Citizen Participation in Decision-making: Is It Worth the Effort' (2004) 64 Public Administration Rev 55, 62; Anna Davies, 'Hidden or Hiding? Public Perceptions of Participation in the Planning System' (2001) 72 The Town Planning Review 193, 194; Alan Irwin, Torben Elgaard Jensen and Kevin Jones, 'The Good, the Bad and the Perfect : Criticizing Engagement in Practice' (2013) 43 Social Studies of Science 118, 120.

8 Elizabeth Fisher and others, 'Maturity and Methodology: Starting a Debate about Environmental Law Scholarship' (2009) 21 *JEL* 213, 247; Cary Coglianese and Catherine Courcy, 'Environmental Regulation' in Peter Cane and Herbert Kritzer (eds), *The Oxford Handbook of Empirical Legal Research* (OUP 2010) 449.

traditional understanding; this public conceptualisation hinging instead on the delegation of a pre-determined role with associated goals. The data and discussion offered up below are important because they pose significant challenges to our existing understanding of legitimate decision-making and the value and purpose of public participation.

2. WHAT IS FRACKING?

Hydraulic fracturing/fracking involves injecting wells (vertical wellbores with numerous horizontal drillings extending outwards) at high pressure with water, proppants, tracers and chemical additives to fracture and release natural gas.[9] While fracking only comprises one part of the process of shale gas extraction, the term is often used as shorthand to describe (if somewhat inaccurately) the whole process from site construction and the drilling of a wellbore to the underground injection and even further to the abandonment of the well.[10] As such, when interviewees discussed decisions relating to fracking, they included any decision which related to the shale gas exploration site (not just the technical injection phase). Accordingly, it is only by looking at the process as a whole, from design through to abandonment, that public perceptions of legitimacy can be evaluated. As such, the term fracking will be used to cover the entire process of exploration and utilisation.

Fracking is associated with a number of concerns, predominantly at the local scale. First, there are risks of groundwater contamination through the fractures by pollutants from the extraction process.[11] Due to the height to which fractures extend (US data suggests that fractures are unlikely to extend more than 1 km vertically above the depth of drilling) and the low porosity of shale in the absence of pressure conditions (ie fracking), this type of contamination is considered unlikely.[12] There are however additional concerns over migration of gas, fracking fluids and natural polluting substances due to inadequate well integrity and surface spills.[13] At present, the recycling of water is not a common practice (although this may change if shale gas developments move beyond the exploration stage to the production stage) and the supply of/volume of freshwater required is a significant problem (particularly in areas which experience water shortages) given that water is likely to be sourced from utilities operators. Estimates of water use in the literature have ranged from 250 to 4,000 m^3 for drilling and 7,000 to 23,000 m^3 for hydraulic fracturing.[14]

9 Department for Business, Energy and Industrial Strategy, 'Guidance on Fracking. Developing Shale Gas in the UK' (12 March 2019) <https://www.gov.uk/government/publications/about-shale-gas-and-hydraulic-fracturing-fracking/developing-shale-oil-and-gas-in-the-uk> accessed 4 June 2019.

10 Evan House, 'Fractured Fairytales: The Failed Social License for Unconventional Oil and Gas Development' (2013) 13 Wyoming Law Review 5, 45; this difference in definition was also clear throughout the interviews with members of the public and industry members.

11 Royal Society and Royal Academy of Engineering, *Shale Gas Extraction in the UK; A Review of Hydraulic Fracturing* (DES2597, June 2012) 31–35.

12 ibid; M Kevin Fisher and Norman Warpinski, 'Hydraulic Fracture Height Growth: Real Data' (2012) 27 Society of Petroleum Engineers Productions and Operations 8, 10.

13 Royal Society and Royal Academy of Engineering (n 11) 19, 22, 30, 34.

14 Chartered Institute of Water and Environmental Management, 'Shale Gas and Water 2016 Summary Report. An Independent Review of Shale Gas Extraction in the UK and the Implications for the Water Environment' (24 February 2016) <https://www.ciwem.org/assets/pdf/Policy/Policy%20Position

In addition, emissions from machinery and release of gas from flaring pose problems for local air quality and health.[15] Moreover, due to the high population density in England, the increased levels of heavy duty traffic have prompted concerns over noise and disruption as well as raising questions about the suitability of roads and the effects of industrialisation on the local community.[16] Conversely, at the local scale, the establishment of a new shale gas industry could offer significant job opportunities and financial benefits for local communities.[17] Beyond the local scale, it is arguable that UK shale gas has the potential to provide increased energy security.[18] However, in light of the recent Intergovernmental Panel on Climate Change (IPCC) report and our binding carbon reduction targets the establishment of a new fossil fuel industry raises questions.[19]

Evidently, fracking is a contested and controversial issue. The debate has triggered a range of responses from different jurisdictions. While several bans have been implemented in different countries across the globe, so too has there been active support for shale gas exploration.[20] As such, fracking offers an interesting context in which to examine what the public consider to be a legitimate decision and how this perceived legitimacy is constructed.

3. METHODOLOGY

The research used an inductive analysis to build key findings from emergent themes in the data. As such, this article draws on a strong base of empirical evidence, questioning established trends in the existing literature regarding the role and value of

%20Statement/Hydraulic-fracturing-of-Shale-in-the-UK.pdf> accessed 3 July 2019; Department of Energy and Climate Change, *Fracking UK Shale: Water* (UK Government February 2014).

15 Air Quality Expert Group, 'Potential Air Quality Impacts of Shale Gas Extraction in the UK' (Advisory Report prepared for Department for Environment, Food and Rural Affairs; Scottish Government; Welsh Government; and Department of the Environment in Northern Ireland, July 2018).

16 Refracktion, 'Fracking and Its Impact on the Fylde' <www.refracktion.com/index.php/why-be-concerned/fracking-and-its-impact-on-the-fylde/> accessed 3 July 2019.

17 Andrea Leadsom, 'Government's Vision for Shale Gas in Securing Home Grown Energy Supplies for the UK' (Speech at the Shale World UK 2016 conference in London, 25 May 2016) <https://www.gov.uk/government/speeches/governments-vision-for-shale-gas-in-securing-home-grown-energy-supplies-for-the-uk> accessed 3 July 2019; HM Treasury, 'Shale Wealth Fund. Response to Consultation' (11 November) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/658793/shale_wealth_fund_response_web.pdf> accessed 3 July 2019.

18 Department for Business, Energy and Industrial Strategy, 'Shale Gas and Energy Security' (11 October 2018) <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/747940/Factsheet_1_-_Shale_Gas_and_Energy_Security.pdf≥ accessed 3 July 2019; House of Commons Library Briefing Paper, *Shale Gas and Fracking* (CBP 6073, 6 November 2018) 8.

19 John Broderick and others, 'Shale Gas: An Updated Assessment of Environmental and Climate Change Impacts' (A Report Commissioned by the Co-operative and Undertaken by Researchers at the Tyndall Centre, University of Manchester, November 2011); Climate Change Committee, 'The Compatibility of Onshore Petroleum with Meeting the UK's Carbon Budgets' (March 2016); Valerie Masson-Delmotte and others (eds), *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty* (Intergovernmental Panel on Climate Change 2018).

20 See, for example, moratorium in place in France, Germany, Ireland and in some US states such as New York.

public participation.[21] Ultimately, the way in which interviewees (also referred to as 'the public' throughout) were selected means that the research findings reflect the perceptions of 'local' publics. This research does not claim that the findings are representative of the public as a whole in the context of shale gas.[22] Although focused on 'local' publics, the findings pose significant challenges to our existing understanding of legitimacy and highlight the broader importance of mapping theoretical accounts against empirical data. These findings were drawn from multiple sites in two very different geographical locations in the North (Lancashire) and South of England (West Sussex). These different geographical areas and five current/potential shale gas sites were chosen for two key reasons.[23] First, public attitude surveys available at the time of the research design showed that awareness levels surrounding fracking were not particularly high.[24] Therefore, in order to collect meaningful data, the research targeted those who had actual lived experience of shale gas-/fracking-related decisions.[25] Secondly, at the time, different sites had seen varying degrees of development and impacts. One Lancashire site, and interviewees at this location, had suffered directly negative consequences ie physical damage from seismic tremors while others had seen little development. This meant the research could examine whether perceptions of legitimacy differed with experience of various stages of exploratory development.[26]

21 Ethical approval was obtained from the University of Bristol's ethics committee and all empirical research was conducted in line with the Socio-Legal Studies Association ethical guidelines.

22 Notably, a regional study in 2015 (Lorraine Whitmarsh and others, 'UK Public Perceptions of Shale Gas Hydraulic Fracturing: The Role of Audience Message and Contextual Factors on Risk Perceptions and Policy Support' (2015) 160 Applied Energy 419) found that in Lancashire, local publics were more likely to be supportive of shale gas exploration than non-local publics. However, a 2018 study (Rachel A Howell, 'UK Public Beliefs about Fracking and Effects of Knowledge on Beliefs and Support: A Problem for Shale Gas Policy' (2018) 113 Energy Policy 721) (using a national sample and so likely those not living in affected areas) found that respondents showed less support for shale gas exploration when asked about development in their local area compared to development in the UK more broadly. While these results offer some insight, both studies only provide data of a limited nature, and are focused on the issue of support/non-support. They do not give us a clear understanding of how local/national attitudes vary and given that the data in this article came from a mix of those against/for/ambivalent about fracking, the question over whether the findings would be replicated in non-local publics remains.

23 Note data were collected in late 2013/early 2014 and at the time these were the only sites with some level of activity in England.

24 A 'Britain Thinks' report conducted found that 48% of people (in a survey of 1,001) in Blackpool; Fylde and West Lancashire felt they knew little or nothing about shale gas in October 2012 and 35% said the same when re-surveyed in December 2012 (following Department of Energy and Climate Change's lifted ban on fracking in the UK); Britain Thinks, 'Attitudes to Natural Gas from Shale. A Report from a Telephone Survey of 1001 Adult Residents in Blackpool; Flyde and West Lancashire' (November 2012); A recent Department for Business Energy and Industrial Strategy (BEIS) survey suggests that this has not changed significantly with 2018 findings showing (15%) claimed to know a lot about it, 42% claimed they knew a little bit about fracking and 20% were aware of fracking but did not really know what it was. BEIS, *Energy and Climate Change Public Attitude Tracker: Wave 24* (January 2018); Cuadrilla was the only company operating in England at these current/proposed sites.

25 Caroline Stenbacka, 'Qualitative Research Requires Quality Concepts of Its Own' (2001) 39 Management Decision 551, 552.

26 There was no noticeable difference in perceptions of legitimacy across the sites despite being at different stages of development. At present, shale gas development in England remains at the exploratory stage and has not moved to a production phase.

Addresses within a two-mile radius of sites were contacted (using the list of neighbours attached to planning applications, or if these were not available using the Post Office postcode finder).[27] All respondents were interviewed. Although there was some concern over who would respond to invites (that is, a risk of bias from those with strong views/those inclined to participate), final interviewees could be roughly split into even groups of pro-fracking, anti-fracking and fracking-ambivalent.[28]

The research used a mixed-methods approach composing of six phases. Phase 1 consisted of eight pilot interviews (10 interviewees) at a site in West Sussex (November 2013), and Phase 2 was a single pilot focus group (five participants) at the same site in West Sussex (December 2013). For Phase 3, 10 further interviews (16 interviewees) were conducted at five locations in Lancashire (April 2014). Phase 4 then comprised one focus group with eight participants from different sites within Lancashire (May 2014). Phase 5 was a focus group with eight industry members (September 2014); and the final phase comprised a semi-structured interview with a regulator (May 2015). Data from these final two stages were not intended to form the central element of the research and were used to provide perspective and comment on the findings from members of the public. In total, this article draws on the views of 36 people (27 members of the public; eight industry members and one member of a regulatory body). Due to the inductive nature of the research brief analysis was conducted concurrently with data collection throughout, so that interview and focus group schedules could be amended to reflect emerging themes.[29] No changes were made to the data collection methods following the pilot. The continual review and analysis of emergent themes throughout the data collection phases rendered the data from the pilot comparable with the data from phases three and four.

Interviews were conducted in person and lasted approximately 50 minutes. Focus groups were conducted in public halls close to interviewees' addresses and lasted around one and a half hours. Interview schedules provided a guide set of themes which allowed interviewees to give an account of their own personal experiences/their own perceptions of regulatory decision-making.[30] Follow-up focus group discussions, and a medium level of moderation, enabled the exploration of emergent themes in a way that would not have been possible through the use of interviews alone.[31] All interviews, and

27 Population sizes according to the 2001 consensus: Singleton 877, Westby 1,107, Weeton 1,096, Banks 3,359, Balcombe 1,765; this two-mile radius was chosen as the list of 'neighbours' available on the Lancashire planning applications provided these. Number of neighbours listed: 13 for Grange Road Singleton site, 28 for the Preese Hall site, 55 for the Becconsall site and 57 for Anna's Road site.

28 At the start of each interview/focus group, participants were asked about their general attitude towards fracking.

29 David R Thomas, 'A General Inductive Approach for Analyzing Qualitative Evaluation Data' (2006) 27 American Journal of Evaluation 237, 238; Jennie Popay, Anne Rogers and Gareth Williams, 'Rationale and Standards for the Systematic Review of Qualitative Literature in Health Services Research' (1998) 8 Qualitative Health Research 341, 348.

30 Bruce Berg, *Qualitative Research Methods for the Social Scientist* (6th edn, Pearson Education 1989) 105; Monique Hennick, Inge Hutter and Ajay Bailey, *Qualitative Research Methods* (Sage 2011) 137; Thomas (n 29) 238; Further details on this methodology can be found in ch 2 of Joanne Hawkins, 'The Legitimisation of Hydraulic Fracturing Regulation: Power, Prejudice and Public Participation' (PhD Thesis, University of Bristol 2016).

31 Richard A Kruger and Jean A King, *Involving Community Members in Focus Groups, Focus Group Kit 5* (Sage Publications 1998) 54; Ann Cronin, 'Focus Groups' in Nigel Gilbert (ed), *Researching Social Life*

subsequent focus groups, were transcribed, coded and analysed. Anonymised labels were given to the data and are used throughout this article (eg 'C, Focus Group 2').

4. LEGITIMATE DECISIONS AND THE LITERATURE

The data collected provides an empirical insight into what the public consider to be legitimate decision-making (considered worthy of recognition and consequently accepted by the public). For my interviewees, legitimate decision-making was rooted in decision-making procedures. Legitimate procedures generated acceptability of the procedure itself, but also triggered the perceived legitimacy of a decision's outcome, and consequently it's acceptability (even if this was counter to interviewees' personal views on shale gas). Given how central the decision-making process is to the way in which interviewees define legitimate decision-making, understanding how the public construct their understanding of a legitimate procedure in this context is important.[32]

The literature on legitimate decision-making is vast, spanning across disciplines and legitimacy has been understood in several ways. To contextualise the arguments presented in this article, the following section provides a brief overview of how the literature has historically shifted away from an expert dominated/technocratic vision of decision-making legitimacy, and the key debates involved. Throughout these debates a recurrent theme is how we should assess 'better/more legitimate' regulatory decisions. Do we consider this in terms of a decision's substance, and/or procedural openness or representativeness, and/or public acceptability/public perceptions of legitimacy, and how much weight should we give to each of these elements? While debates over legitimate decision-making in the literature often focus on legitimacy in a broader sense (ie not solely focused on what the public perceive as legitimate as is done in this article), the public's perception of legitimacy is a fundamentally important issue that should not be ignored when we construct our definition.[33] The value of this public perception and acceptance element should not be underestimated. Government institutions and actors need public co-operation. Having decision-making procedures that are perceived as legitimate (ie worthy of recognition/acceptable) is advantageous to legal authorities and decision-makers in implementing such decisions. Accordingly, regulation and decision-making that are sensitive to public concerns and perceptions about the procedure are important.[34]

In defining legitimate decision-making, there has been a historical shift in emphasis, within environmental law and more broadly within Science and Technology Studies (STS), away from a purely technocratic decision-making procedure and the associated vision of legitimacy. This technocratic model of legitimacy relies heavily on the law's deference to expertise and scientific authority.[35] As such, technocratic

(Sage 2008) 228; Uwe Flick, *An Introduction to Qualitative Research* (4th edn, Sage 2009) 197; David L Morgan, *Focus Groups as Qualitative Research* (Sage 1988) 65; Hennick, Hutter and Bailey (n 30) 137, 159.

32 Tyler, 'Procedural Justice' (n 5); Tyler, 'Governing Amid Diversity' (n 5).

33 Julia Black, 'Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes' (2008) LSE Law, Society and Economy Working Papers 2.

34 Tyler, 'Procedural Justice' (n 5); Tyler, 'Governing Amid Diversity' (n 5).

35 Royal Society, *The Public Understanding of Science* (The Royal Society 1985).

legitimacy is underpinned by the assumption that expertise should be privileged in decision-making, with technical experts dominating by virtue of their specialised knowledge.[36] The historical shift away from this definition reflects that we, as scholars, now recognise that while expertise still has a role to play in legitimate decision-making, it should not dominate.[37]

The recognition of the limitations of technocratic legitimacy, and the dominance of expertise, has produced the corresponding assumption in the literature that participatory decision-making, which includes expertise as but one voice, is better or more legitimate. This shift towards democratising decision-making can be seen in literature from the field of STS, which has examined in depth the limitations of particular approaches to decision-making procedures. This literature argues that expertise should not be the only voice heard in decision-making.[38] Participation is posited as a crucial alternative to expertise because of the difference in how different parties will shape an issue. This shaping, termed 'framing', is influenced by parties' inherent values and worldviews. As a result, the use of a certain frame will determine the way in which an issue is diagnosed and evaluated, shaping the available outcomes and solutions.[39] Given the power this affords the dominant frame, public concern over decisions regarding developments are not considered to be reactions to misperceived risk or the result of a 'deficit' of understanding. Instead, they are considered to be a response to the often dominant role that experts play in regulatory decision-making

36 See collection of scholarship in 'Special Issue: Public Engagement in Science' (2014) 23(1) Public Understanding of Science; Frank Fischer, *Technocracy and the Politics of Expertise* (Sage 1990) 17.

37 We now recognise that the public are not 'lacking' and should not be excluded from decision-making on the basis that they are unable to contribute to the decision (ie as under a public deficit model of understanding, and the assumption that public concern over developments could be overcome if experts simply explained more accessibly). The public are now considered to have alternative views/values, which provide a valuable contribution that should be incorporated into decision-making alongside expertise. That is, we acknowledge that experts have a particular set of world views/values, and are an important contributor to decision-making, but should not be permitted to dominate at the expense of alternative voices such as the public.

38 See collection of scholarship in 'Special Issue: Public Engagement in Science' (n 36); Brian Wynne, *Rationality and Ritual. Participation and Exclusion in Nuclear Decision-making* (2nd edn, Routledge 2013); Brian Wynne, 'Creating Public Alienation: Expert Cultures of Risk and Ethics in GMOs' (2010) 10 Science as Culture 445, 450, 452; Brian Wynne, *Rationality and Ritual. The Windscale Inquiry and Nuclear Decisions in Britain* (The British Society for the History of Science 1982) 11,129; Kristen Shrader-Frechette, 'Evaluating the Expertise of Experts' (1995) 6 Risk: Health, Safety and Environment 115,116; Alan Irwin, 'Risk, Science and Public Communication: Third Order Thinking About Scientific Culture' in Massimiano Bucchi and Brian Trench (eds), *Handbook of Public Communication of Science and Technology* (Routledge 2008) 167; Brian Wynne, 'Public Participation in Science and Technology: Performing and Obscuring a Political-Conceptual Category Mistake' (2008) 1 East Asian Science, Technology and Society: An International Journal 99, 109; Paul Slovic, 'The Risk Game' (2001) 86 Journal of Hazardous Materials 17, 19.

39 Robert Entman, 'Framing: Towards Clarification of a Fractured Paradigm' (1993) 43 Journal of Communication 51, 52; Elaine Vaughan and Marianne Seifert, 'Variability in the Framing of Risk Issues' (1992) 48 Journal of Social Issues 119, 121; Donald Schon and Martin Rein, *Frame Reflection: Toward the Resolution of Intractable Policy Controversies* (Basic Books 1994) 29; Regula Hanggli and Hanspeter Kriesi, 'Frame Construction and Frame Promotion (Strategic Framing Choices)' (2012) 56 American Behavioural Scientist 260, 266; Amos Tversky and Daniel Kahneman, 'The Framing of Decisions and the Psychology of Choice' (1981) 211 Science 453, 458; Sally Eden, 'Public Participation in Environmental Policy: Considering Scientific, Counter Scientific and Non Scientific Contributions' (1996) 5 Public Understanding of Science 183, 187.

and the lack of power afforded to the public.[40] The public do not claim to have expert authority or dispute the expert assertions regarding risk, but they are questioning the degree of control that experts have and the imbalance of power this generates.[41] Such scholarship, which focuses on the limitations of particular approaches to decision-making, highlights that without public participation, imbalances of power (eg where experts dominate decision-making) can generate dissatisfaction with both the decision-making process and the decision outcome.[42] In light of the definition of legitimacy used in this article, such dissatisfaction and failure to recognise the procedure as worthy is problematic. Accordingly, whilst focusing on the limitations of different approaches to decision-making, the scholarship supports a vision of legitimacy which centres around the need for a democratic right to participate directly in decision-making, alongside expertise, to remove this imbalance.

The recognition of the limits of expertise as the sole basis for legitimate decision-making is also evidenced more broadly in the growing literature on the role and value of public participation in decision-making; in particular, the democratisation of environmental law.[43] Again, this literature illustrates that whilst expertise still has a role to play, alternative values and voices (eg the public) should also be included. Although the terms used to describe participation vary, Arnstein's seminal work is demonstrative of the centrality of public participation (and the democratisation of decision-making) in achieving decision-making legitimacy. Her conceptualisation of the varying degrees of participation as a ladder places low levels of participation (eg the public right to know) at the bottom and high levels of public participation and control (eg citizen control of decisions) at the top.[44] The ladder rungs have been subject to various names, but the explicit assumption is that higher rungs of participation should be preferred/confer greater legitimacy.[45] This demand for the democratisation of decision-making is also present in Black's call for thick proceduralisation. This model emphasises the need to move away from purely technocratic/expert dominated decisions and the need to also include direct participatory mechanisms within decision-making.[46] In a related vein, Holder calls for a cultural model of decision-making which sees participation as a fundamental part of the decision-

40 ibid; see collection of scholarship in 'Special Issue: Public Engagement in Science' (n 36).

41 ibid; Brian Wynne, 'Misunderstood Misunderstandings: Social Identities and the Public Uptake of Science' in Alan Irwin and Brian Wynne (eds), *Misunderstanding Science? The Public Reconstruction of Science and Technology* (CUP 2009) 21, 39.

42 Wynne, 'Creating Public Alienation' (n 38); Wynne, *Rationality and Ritual* (n 38); Shrader-Frechette (n 38); Irwin (n 38); Wynne, 'Public Participation in Science and Technology' (n 38) 109; Wynne, 'Misunderstood Misunderstandings' (n 41).

43 See, for example, Holder (n 6); Lee, 'Experts and Publics in EU Environmental Law' (n 6); Lee, 'The Legal and Institutionalization of Public Participation' (n 6).

44 Sherry Arnstein, 'A Ladder of Citizen Participation' (1969) 26 Journal of American Planners 216; Anne Marie Goetz and John Gavanta, 'Bringing Citizen Voice and Client Focus into Service Delivery' (2001) Brighton IDS Working Paper 138; Scott Davidson, 'Spinning the Wheel of Empowerment' (1998) 1262 Planning 14; Maria Weimer and Gaia Pisani, 'Expertise as Justification: The Contested Legitimation of the EU "Risk Administration"' in Maria Weimer and Anniek Ruijter (eds), *Regulating Risks in the European Union* (Hart 2017) 168.

45 ibid.

46 Julia Black, 'Proceduralizing Regulation: Part 1' (2000) 20 Oxford Journal of Legal Studies 597, 607; Julia Black, 'Proceduralizing Regulation: Part 2' (2001) 20 Oxford Journal of Legal Studies 33, 35.

making process and necessitates the public's direct involvement in decision-making.[47] Lee too emphasises the inherently political nature of environmental decisions and argues for the inclusion of a broad range of values and voices.[48]

This shift towards the democratisation of decision-making within the literature may be justified on the basis of increased representativeness/openness within decision-making, but may not, as this study suggests, be of value in terms of public perceptions/public acceptability. The findings of this article force us to reflect upon how we, as scholars, define both a legitimate decision and the purpose/value of participation. In turn, we must question the weight we do, and should, give to different measures when defining a legitimate decision (ie substance, and/or procedural openness or representativeness and/or public acceptability/public perceptions of legitimacy).

4.1. Fracking: A New Context

Literature from the social sciences shows that the fracking debate is contentious.[49] The practical difficulties faced when the public do not consider a decision to be legitimate is particularly visible in the context of fracking with numerous protests having taken place across England. Between January 2017 and December 2018, a total of 435 arrests were made at the Preston New Road Site in Lancashire and almost all (429) resulted in charges sanctioned.[50] In September 2018, a public nuisance prosecution of protestors from this site resulted in a somewhat surprising imposition of custodial sentences for three protesters.[51] Such protests have been compounded by numerous legal challenges from those on both sides of the debate.[52] Bradshaw and Waite have warned that despite exploration activities continuing in Lancashire, further conflicts and constraints on commercial development are likely to occur if the issue of public acceptability is ignored.[53]

The centrality of public acceptability to fracking developments has yet to be explored in the literature on shale gas. While a number of surveys have explored public perceptions of shale gas and fracking, such work has focused on whether people

47 ibid; Holder (n 6).

48 Lee, 'Experts and Publics in EU Environmental Law' (n 6) 993.

49 Chris Hilson, 'Framing Fracking: Which Frames are Heard in English Planning and Environmental Policy and Practice' (2014) 27 *Journal of Environmental Law* 1; Elen Stokes, 'Regulatory Domain and Regulatory Dexterity: Critiquing the UK Governance of 'Fracking' (2016) 79 Modern Language Review 1468; Elizabeth Bomberg, 'Shale We Drill? Discourse Dynamics in UK Fracking Debates' (2017) 19 Journal of Environmental Policy and Planning 72; Laurence Williams and others, 'Framing "Fracking": Exploring Public Perceptions of Hydraulic Fracturing in the United Kingdom' (2015) 13 Public Understanding of Science 1.

50 Lancashire Constabulary, 'Fracking' <www.lancashire.police.uk/help-advice/safer-communities/fracking> accessed 3 July 2019.

51 *R v Roberts (Richard)* [2018] EWCA Crim 2739—the sentences were later overturned by the Court of Appeal as being 'manifestly excessive'.

52 See, for example, *R (on the Application of Dennett) v Lancashire CC* [2018] 10 WLUK 224; *R (on the application of Friends of the Earth Ltd) v North Yorkshire CC* [2016] EWHC 3303 (Admin).

53 Michael Bradshaw and Catherine Waite, 'Learning from Lancashire: Exploring the Contours of the Shale Gas Conflict in England' (2017) 47 Global Environmental Change 28; Matthew Cotton, 'Fair Fracking? Ethics and Environmental Justice in United Kingdom Shale Gas Policy and Planning' (2017) 2 Local Environment 198.

agree or disagree with shale gas exploration and have not encompassed perceptions' of the decision-making system itself.[54] A Sciencewise report first drew attention to the issue of public engagement with decisions on fracking in 2016.[55] This report, designed to inform the Office of Unconventional Gas and Oil's (OUGO) public engagement policy, focused on pragmatic means to engage the public in current decision-making. Again, this was built on the assumption that such engagement was desirable and did not explore the role that participation or expertise played in legitimating decisions. This article is about confronting, contesting and challenging the assumption that direct participation in decision-making plays such a legitimating role. As this article will show, for my interviewees, participation is posited in a very different role for a very different purpose.

While the literature on fracking to date has not focused on the perceived legitimacy of decisions, the issues around framing and the power afforded to different voices/frames in the debate have become very visible. Williams and others' study of fracking in the North of England emphasised how the use of a technical frame (that focuses on technical risk) has already been employed by the Government and other institutional actors.[56] Both Hilson and Stokes have demonstrated that the issue can and has been framed in a number of different ways by different actors.[57] These different frames are visible in both the debate and the way in which current decision-making systems, ie planning and regulatory systems, have justified different approaches. Nyberg and others have also highlighted the way in which current developments are enmeshed in a framing contest to determine the future of development.[58] While scholars such as Bomberg have argued that the anti-fracking discourse has expanded beyond economic or environmental concerns to include potent issues of local power and democracy, this has not been mirrored in the frames present within decision-making and policy.[59] Cotton has drawn attention to the shift in fracking-related policy which has seen a move from emphasis on the protection of communities towards pro-industry economic planning controls and legislation, whilst Aczel and others have highlighted the perceived lack of concern for the local scale in decision-making.[60]

Although a number of years have elapsed since data collection began, there have been no significant changes to fracking decision-making procedures. However, changes have been made to planning guidance which means that local councils who fail to reach a decision on planning consent within 16 weeks (the statutory time

54 See, for example, Sarah O'Hara and others, 'Public Perceptions of Shale Gas Extraction in the UK: Two Years on from the Balcombe Protests' (*Better Society*, 15 October 2015) www.bettersociety.net/images/Public%20Perceptions%20of%20shale%20gas%20in%20the%20UK%20sept131015MH.WK.JA-H.pdf> accessed 3 July 2019; Whitmarsh and others (n 22); BEIS (n 24).

55 TNS BRMB, 'Public Engagement with Shale Oil and Gas' (URN 14D/262, December 2014) 3.

56 Williams and others (n 49).

57 Stokes (n 49) 5; Hilson (n 49).

58 Daniel Nyberg, Christopher Wright and Jacqueline Kirk, 'Fracking the Future: Temporality, Framing and the Politics of Unconventional Fossil Fuels' (2017) 1 Academy of Management Proceedings 104.

59 Bomberg (n 49).

60 Cotton (n 53); Miriam Aczel, Karen Makuch and Manel Chibane, 'How Much Is Enough? Approaches to Public Participation in Shale Gas Regulation Across England, France, and Algeria' (2018) 5 The Extractive Industries 427.

frame for an application) may see their oil/gas applications decided by the Secretary of State.[61] The changes also extend the Minister's power to 'call in' applications and to decide on planning appeals.[62] This is unlikely to alter the key themes discussed here given the reasons behind interviewees' desired model of decision-making. If excessive use is made of the power to call in applications and decisions ie they are not left to local authorities, further data may be required. This is particularly so if changes from the recent consultation regarding permitted development rights for non-fracking shale gas exploration activities and the re-classification of shale gas production as an NSIP are implemented.[63]

5. 'WE WANT EXPERTS': THE EXPLICIT DESIRE FOR EXPERTS

While the theory behind legitimate decision-making has shown a progressive move away from expert dominated decision-making and emphasised the importance of embedding participation, the data from my research offers a very different narrative. As highlighted by the opening quote of this article, interviewees 'want experts. We want people who know about these things'.[64] Interviewees were keen to 'talk to people that understand science'[65] because they 'Joe Soap . . . don't know enough about it'.[66] This demand for expert-led decision-making stands in clear contrast to the way the scholarship has defined legitimate decision-making.[67] The strong demand for expertise from the people I spoke with and 'a totally independent body . . . with qualified people in each section of everything that there is'[68] was striking and surprising, given I conducted the interviews and focus groups after immersing myself in the literatures discussed above. This is particularly so because such an expert dominated process is often associated with the dismissal of public concerns that do not align with an experts' own world view/values.[69]

The idea that interviewees 'wouldn't particularly feel the need to do what we're doing [in reference to their anti-fracking opposition] if they were truly independent'[70] suggests, somewhat to the contrary, that from interviewee's perspective,

61 Greg Clark, Secretary of State for Communities and Local Government, 'Planning for Onshore Oil and Gas: Written Statement' (HCWS201, 16 September 2015).

62 ibid.

63 Ministry of Housing, Communities and Local Government, 'Permitted Development for Shale Gas Exploration Consultation' (19 July 2018). <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/726916/Consultation_document_-_shale_gas_permitted_development.pdf> accessed 3 July 2019.

64 M1 Interview 16.

65 Interview 6.

66 Interview 13.

67 Entman (n 39) 52; Vaughan and Seifert (n 39) 121; Yvonne Rydin, Maria Lee and Simon J Lock, 'Public Engagement in Decision-making on Major Wind Energy Projects' (2015) 27 *Journal of Environmental Law* 139, 142; Schon and Rein (n 39) 29; Hanggli and Kriesi (n 39) 266; Tversky and Kahneman (n 39) 458; Mark Brown, *Science and Democracy* (MIT Press 2009) xi, 44, 108; Arie Rip, 'Experts in Public Arenas' in Harry Otway and Malcolm Peltu (eds), *Regulating Industrial Risks: Science, Hazards and Public Protection* (Butterworths 1985) 98; Eden (n 39) 187; Shrader-Frechette (n 38).

68 C Focus Group 2.

69 Wynne, 'Creating Public Alienation' (n 38) 450, 452; Wynne, 'Misunderstood Misunderstandings' (n 41) 39; Claire Marris and others, 'Public Attitudes to Agricultural Biotechnologies in Europe' (EU FP6 PABE Final Project Report, Commission of European Communities, 2001) 91; Shrader-Frechette (n 38) 116.

70 C Focus Group 2.

expert-led decision-making in the context of fracking is actually desired. Twenty of my participants explicitly called for expert-led decision-making (two of these interviewees believed this could only lead to a moratorium on fracking, one wanted expert-led decision-making to be accompanied by a local liaison with experts so they could address public concerns, one wanted more expertise and financial underwriting of the risk).

Two further interviewees engaged with the issue of expertise but were less clear in their demand for expert-led decision-making: one interviewee wanted increased expert input but coupled with greater public participation, and one interviewee showed great deference to expertise without explicitly calling for experts to play a greater role. Two further interviewees were focused on the role of regulatory controls and were happy for experts to lead on these but wanted better communication about risk management. An additional two interviewees did not engage with the issue of expertise: one interviewee felt that democratisation of the process was the single most important issue, and one interviewee was focused on compensation/compulsory purchase for property.

From interviewees' perspective, expert dominance is not perceived as an obstacle to legitimate decision-making. This illustrates a clear divergence between the public's perception of legitimacy and the conceptualisation in existing scholarship of expert dominance as something which generates a problematic imbalance of power within decision-making.[71] Given this contrast, why was the demand for expertise and 'an independent body that can take a balanced view of what it's (fracking) going to do to an area, and if it's going to have a serious impact or if it's not'[72] so explicit and so persistent in the data? Importantly, it became clear that interviewees perceived fracking as a primarily technical issue with emphasis on the need to assess and manage the associated risks. The lack of desire to engage with these technical risks stemmed from the perception that experts would be better placed to provide answers on the extent of these impacts and how/whether they could be managed. Interviewees felt that there should be a 'panel of experts assessing risk'[73] with their concerns focusing on local environmental impacts. Accompanying this concern was the desire to see decision-making that committed to environmental protection. Interviewees considered experts best placed to achieve this.

> We don't know what we don't know, so I wouldn't be able to say, to question on what risks are, because they could say, oh, there are 3 risks, a, b and c – there may be another 20, but they're not telling me and I wouldn't know that.[74]

In light of this, the assumed need to shift away from expert dominance in decision-making in the context of fracking does not reflect the vision of legitimacy as

71 Wynne, *Rationality and Ritual* (n 38) 11, 129; Wynne, 'Creating Public Alienation' (n 38) 450, 452; Shrader-Frechette (n 38) 115, 116; Irwin, 'Risk, Science and Public Communication' (n 38); Wynne, 'Public Participation in Science and Technology' (n 38).

72 Interview 16.

73 Interview 1.

74 Interview 13.

advanced by interviewees. Interviewees wanted to both see experts and to rely on them in decision-making: 'A forum of experts should be available to answer questions from the floor . . . as residents living close to a site we have a right to know what to expect.'[75] As this quote, illustrative of the wider data, demonstrates, it is not that the public does not want to be involved at all, but that their involvement should be, they feel, framed and buttressed by expert-led decision-making.

5.2. Reconceptualising Expertise

5.2.1 Defining a status

Whilst interviewees were focused on the role that they wanted experts to play, analysis of the data showed that the status of experts was an important pre-cursor. Only those who met interviewees' 'expert' status, could go on to fulfil the desired decision-making role. This status was based on trust. Trust in actors dealing with risk has come to be recognised as an important factor in shaping the overall public perception of/acceptance of risk and decisions involving risk. This is because public concerns are not confined to technical risks eg pollution, but extend further to encompass concerns over the way in which actors making decisions about risk will behave and their trustworthiness.[76] Despite their focus on technical risks, and although interviewees did not explicitly recognise the split between technical risk and trust in experts, it became clear from the data that some of the concerns over fracking were in fact intrinsically linked to actors' trustworthiness.[77]

This importance of trustworthiness and status was clear when interviewees discussed current expert evidence, in decision-making, which often comes from consultants paid by the shale gas operator/developer or by in-house teams.[78] Interviewees did not feel (in relation to an environmental statement about the development) that 'Arup, being Cuadrilla's employee, should be doing it.'[79] They felt that it 'should be a totally independent body'[80] that was in a position to pursue 'environmental protection'. Industry experts were not considered to be experts by interviewees and did not have the necessary status. As such their dismissal of a concern/risk was not accepted. One interviewee told of the way he was made to feel like 'a nutcase by prattling on

75 Interview 10.

76 Paul Slovic, 'Perceived Risk, Trust and Democracy' (1993) 13 Risk Analysis 675; Brian Wynne, 'Technology, Risk and Participation: On the Social Treatment of Uncertainty' in Jobst Conrad (ed) *Society, Technology and Risk Assessment* (Academic Press 1980); Roger E Kasperson, Dominic Golding and Seth Tuler, 'Social Distrust as a Factor in Siting Hazardous Facilities and Communication Risks' (1992) 48 Journal of Social Issues 161; Michael Cardwell, *The European Model of Agriculture* (OUP 2004) 80; Wynne, 'Misunderstood Misunderstandings' (n 41) 20; The BSE Inquiry, *The Report. Volume One Findings and Conclusions: Executive Summary of the Enquiry 1. Key Conclusions* (2000).

77 This corresponds with findings from work on chemical hazards: Alan Irwin, Peter Simmons and Gordon Walker, 'Faulty Environments and Risk Reasoning: The Local Understanding of Industrial Hazards' (1999) 31 Environment and Planning A 1311, 1324.

78 See, for example, Cuadrilla's appointment of Arup as provider for its Environmental Impact Assessments and Environmental Statements (14 June 2013) <www.arup.com/news-and-events/news/cuadrilla-appoints-arup-to-conduct-independent-eias> accessed 3 July 2019.

79 Interview 18.

80 Interview 18.

about it'[81] when he raised a concern at an industry event. Yet this is not simply a preference for public perception of risk over experts. It is a manifestation of the distrust/failure of those currently categorised as experts in our decision-making process (eg industry actors) to meet interviewee's requisite expert status. The data suggest a general preparedness amongst interviewees to accept such a dismissal of risk if it comes from an actor with this expert status.

> So there has to be a long-term scientific input that's taken very seriously. And that means it isn't paid scientists who give them the answers they want because that's sycophantic and a recipe for disaster.[82]

Trust and independence are the central issue at play here. At present many of those who are currently treated as experts in decision-making are not trusted due to their perceived lack of independence. To facilitate the new role that the public foresee for experts these issues of status and distrust must be acknowledged.[83] This need is demonstrated by the fact that distrust extended beyond industry and encompassed the Environment Agency (EA) who were viewed as 'not fit for purpose'.[84] Distrust here in relation to the EA, stemmed from a general perception that they lacked the relevant onshore oil and gas experience and were not sufficiently independent from government pressure to support fracking.[85]

In short, the public want experts to make decisions, but they need to be experts in whom the public has trust. The factors underpinning this trust warrant further examination but are predominantly shaped by the perceived independence of an expert.

5.2.2 Defining a delegated role

While one could argue that this desire to rely on independent experts is simply a manifestation of the inherent dominance of existing institutional orthodoxies and expertise's oppressive nature (ie the issue has already been constructed as, and reduced down to, one of technical risk through existing institutional traditions), it is crucial to note that interviewees were not deferring to expertise in the abstract. They made very clear assumptions about how those with expert status would act and/or the role they would fulfil, revealing that the boundary between technical and political was in fact pervasive and challenging. This was brought to the fore by the inherent assumption in the data that in making their decisions 'the correct resources will be engaged from up high to look after the environment for residents'.[86] Interviewees held clear assumptions about how expertise would be deployed in decision-making. It was clear that an expert was much more than someone who was just independent,

81 Interview 11.

82 Interview 6.

83 A further work on how the public construct the notion of trust in decision makers will explore this issue in more depth.

84 D Focus Group 2.

85 Distrust of such bodies is not a novel finding, see, for example, Luc Bodiguel and Malcolm Cardwell (eds), *The Regulation of Genetically Modified Organisms: Comparative Approaches* (OUP 2010) 12.

86 M6 Focus Group 1.

it was someone to whom the public could delegate a role: environmental protection (pre-dominantly focused on local impacts and local environment).[87]

This finding is problematic because it means that contrary to what my interviewees said (that they wanted to defer to expert-led decision-making), interviewees did in fact have a very strong view on the values that should shape decision-making (ie environmental protection). This illustrates that interviewees were not prepared to defer to expertise and its own frame/values in the abstract. Interviewees actually wanted to reposition public values (in this context environmental protection) as the dominant value frame. However, they wanted to delegate the pursuit of these values to experts, rather than advancing these values in the decision-making procedure themselves (ie through direct participation).

The inherent contradiction revealed here is of significant interest. It is a vision of expertise founded upon a fundamental misconception. The misconception of 'expert excess': an excessive expectation about what experts can and will deliver in decision-making. Traditionally, expertise is not aimed at securing a broader political or social goal, rather it is shaped and restricted by, its own inherent values and views.[88] Interviewee's conceptualisation of experts and their role posits an idealised vision with both theoretical and practical challenges. It cannot be ignored that throughout the decision-making process experts are making normative choices.[89] This misconception demonstrates that interviewees vision of expertise does not acknowledge, or engage with, the idea that experts are inevitably influenced by their own inherent values and knowledge traditions. In turn, there is a fundamental misconception over experts' ability to simply hold up a mirror, providing assessments which reflect an objective reality.[90] The public's assumption that experts can access an objective reality, and make decisions on it which transgress the deeply embedded knowledge traditions and inherent normative choices, in pursuit of a broader social goal (ie environmental protections), is problematic.[91] Pursuing any kind of broader social/political goal will be constrained by these pre-existing values and knowledge traditions which will inevitably shape an expert's construction of the issue, its evaluation and potential outcomes. In an area such as fracking, which involves uncertainties and where data often cuts across disciplines, the disciplinary and social biases of experts are particularly problematic. In such a context, it can be difficult for experts to be sufficiently

87 This article engages with issues relating to decision-making procedures. However, the definition of environmental protection is one that requires further attention. This is particularly so in analysing how we determine the relevant content eg *local v global scale*. It is beyond the scope of this article to engage in debate over the substance of this term. This will be further explored in additional scholarship.

88 Wynne, *Rationality and Ritual* (n 38) 129; Max Weber, *The Vocation Lectures* (Hackett Publishing Company 2004) 17; Karin Knorr Cetina, *Epistemic Cultures: How the Sciences Make Knowledge* (Harvard UP 1999) 6; Douglas Kysar, *Regulating from Nowhere. Environmental Law and the Search for Objectivity* (Yale UP 2010) 231; Barbara Shapiro, 'Fact and the Proof of Fact' in Austin Sarat, Lawrence Douglas and Martha M Umphrey (eds), *How Law Knows* (Stanford UP 2007) 28, 60; Brian Wynne, 'Seasick on the Third Wave? Subverting Hegemony of Propositionalism: Response to Collin and Evans (2002)' (2003) 33 Social Studies of Science 401, 402, 407.

89 Cetina, ibid 6; Kysar, ibid 231; Shapiro, ibid 28.

90 Yvonne Rydin and others, 'Black-boxing the Evidence: Planning Regulation and Major Renewable Energy infrastructure Projects in England and Wales' (2018) 19 Planning Theory and Practice 218, 220; Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Harvard UP 1999).

91 ibid.

detached and able to reflect on these biases and/or question the objectives and methods underlying particular claims and knowledge.[92] This means that even if deeper reflection and transparency regarding how, within legal decision-making, normative choices are made takes place (ie relating to the weight given to pieces of evidence, the underpinning assumptions present and crucially, the way in which the choice reflects the aim of environmental protection), this still risks reducing the issue to one dominated by experts' own inherent values/worldviews.[93]

The misconception of expert excess present in the data suggests that the public view experts as knowledge producers for the service of others.[94] This conception places great emphasis on the trust placed in such experts to create usable knowledge in areas of uncertainty and contestation (emphasising the importance of also ensuring experts meet the status requirements of independence). However, it fails to recognise the drivers and influences inherent in expertise that will inevitably shape what experts are able to deliver in decision-making, and the way that this will restrict any pursuit of a broader goal (ie environmental protection).

While the misconception renders this new conceptualisation of expertise a somewhat unrealistic model, the important question remains; why has such a misconception emerged and what does this say about our current decision-making procedures?[95] Although not explicit in the data, it would be easy to revert and say that this misconception merely echoes the scholarship which argues for the increased democratisation of decision-making to ensure these alternative views and values (broader social/political goals) are incorporated in decision-making.[96] This, in turn would, as the literature argues, challenge the knowledge that is used under an expert frame and the inherent assumptions within it.

However, it is clear from the data, that interviewees do not consider direct participation in decision-making procedures, which enable the inclusion of such alternative views/values, to be a legitimating factor. Further exploration is needed of why interviewees do not see direct participation as the best means to ensure their values are given weight in the decision-making process. Instead, they feel the need to reposition themselves as delegators, leaving the pursuit of such values to a public champion; experts. The following section explores what level of involvement was called for and the type of/purpose of the participation that was warranted.

92 Sheila Jasanoff, 'Transparency in Public Science: Purposes, Reasons, Limits' (2006) 69 Law and Contemporary Problems 21.

93 Sheila Jasanoff, 'Serviceable Truths. Science for Action in Law and Policy' (2015) 93 Texas Law Review 1723, 1743; Shapiro (n 88) 103, 104; Donald Braman and Dan M Kahan, 'Legal Realism as Psychological and Cultural (Not Political) Realism' in Sarat, Douglas and Umphrey (eds) (n 88) 94.

94 Jane Hunt and Simon Shackley, 'Reconceiving Science and Policy: Academic, Fiducial and Bureaucratic Knowledge' (1999) 37 Minerva 141; Jasanoff (n 93).

95 See, for example, empirical research on Marine Conservation Zones by M Pieraccini which highlights the connection between the form of participatory opportunities and the negative pragmatic effects that such design can have how the issue/development is perceived; Margherita Pieraccini, 'Rethinking Participation in Environmental Decision-making: Epistemologies of Marine Conservation in South-East England' (2015) 27 *Journal of Environmental Law* 45, 66.

96 See collection of scholarship in 'Special Issue: Public Engagement in Science' (n 36).

5.3 Direct Participation: People 'Couldn't Give a Monkeys'[97]

The above discussion demonstrates the lack of explicit demand, from interviewees, for direct participatory opportunities to voice views, values or knowledges that might be broader than those advanced by experts. This is so even though the data reveals the inherent presence of strong interviewee views on the values that should shape decision-making (ie environmental protection). Despite this, interviewees called for expert-led decision-making suggesting that under the role they envisaged for experts, they did not consider there to be a problematic imbalance of power between experts and the public.[98] This is supported by the lack of desire to contribute directly to the decision-making process.

As such, how can we continue to claim that direct participation is vital to securing legitimacy?[99] It would be a rather striking claim if we were to say that the public do not know what they need. It would continue to unquestioningly privilege academic views on legitimacy, giving little weight to the empirical. This suggests that in defining legitimacy, we are privileging the concepts of representativeness/inclusiveness over public perceptions of legitimacy/public acceptability. Given the striking difference between theoretical and empirical understandings, there is a need to re-evaluate the weight we give to public perceptions of legitimacy. This in turn necessitates a subsequent re-evaluation of the assumption that expertise is necessarily a problematic basis for decision-making and that direct participation/the democratisation of the process is always desired.

Yet why, when interviewees had strong inherent views on the values that should shape decision-making, were calls for direct participation notably absent or considered with scepticism? My interviewees showed clear concern over the way in which direct participation allowed for non-expert influences over the decision-making procedures as this quotation highlights:

> . . . But I don't think somebody that has no knowledge of it can come in and say, 'well, you should do this and you shouldn't do that' because it's like me going and saying, 'oh well, you should do this and you should do that', and I don't know.[100]

The assumption that direct participation is either desired or an improvement for decision-making is questionable (a point that this article is not alone in making). The proposition that direct participation is not always desired (for various reasons eg citizens/the public do not care enough to actively take part in participatory processes) and so financial resources would be better directed elsewhere (eg at

97 Interview 16.

98 Irwin, Simmons and Walker (n 77) 1319; Lee, 'Experts and Publics in EU Environmental Law' (n 6) 993; Irwin, 'Risk, Science and Public Communication (n 38) 167; Slovic, 'The Risk Game' (n 38) 19; James Wilsdon, Brian Wynne and Jack Stilgoe, *The Public Value of Science – Or How to Ensure That Science Really Matters* (Demos 2005) 27; Williams and others (n 49) 3.

99 The assumption that direct participation is always desired or an improvement for decision-making is something that has been challenged in the literature, see, for example, Steele (n 7); Irwin, Jensen and Jones (n 7) 127; Irvin and Stansbury (n 7) 62; Davies (n 7) 194.

100 Interview 14.

implementation/enforcement) resonates with the absence of a demand for such opportunities.[101] The data from my research question the very purpose of direct participation in decision-making procedures. This form of participation not only fails to contribute to interviewees' perceptions of legitimacy, but conversely raises additional concerns for interviewees over the limited range of voices which direct participation advances:

> . . . and we've got the people that will have it . . . they've no interest in this whatever on whatever basis, the green people and all this – it's a 'no', irrespective of whatever. And the other people are saying, well, we need this and it's going to go ahead, whatever. And in the middle we as a community are squeezed.[102]

While parties such as non-governmental organisations (NGOs) undoubtedly have a significant role to play in advancing under represented interests, and in countering business and industry groups, a move to a participatory system which sees such groups dominating participatory opportunities is problematic. It raises fundamental issues surrounding the exclusion of other interests, and voices/values outside this set of participants.[103] This is particularly problematic when my interviewees believed that 'there's probably 70% of the population couldn't give a monkeys about it'[104] and that they, the interviewees, themselves were 'too laid back and apathetic' and were more concerned with 'just want[ing] to know how the carrots are growing'.[105]

The data suggest that active direct participation in relation to fracking decisions is not considered a legitimating factor by interviewees. With the need to redress elite domination a central argument in favour of such a form of participation, it is of note that there was an absence of any concern over such elite domination by experts in the data.[106] This suggests that a broad democratic right to participate directly in decision-making, as argued for in the literature, and an indiscriminate extension of participatory rights are unwarranted for these interviewees.[107] The problematic nature of this indiscriminate extension is evidenced in the concerns, discussed above, that interviewees expressed regarding the role of direct public participation. Instead, legitimacy for them revolves around the extent to which decisions are made by trusted experts who are pursuing a delegated role (ie environmental protection).

101 ibid.

102 M6 Focus Group 1.

103 Maria Lee and Carolyn Abbot, 'The Usual Suspects? Public Participation under the Aarhus Convention' (2003) 66 Modern Language Review 80, 86–88.

104 Interview 16.

105 Interview 13.

106 Harry M Collins and Robert Evans, 'The Third Wave of Science Studies: A Study of Expertise and Experience' (2002) 32 Social Studies of Science 235, 278.

107 See discussion in Harry M Collins and Robert Evans, *Rethinking Expertise* (University of Chicago Press 2007) 2; for discussion of this theory, see Sheila Jasanoff, 'Breaking the Waves in Science Studies: Comment on HM Collins and Robert Evans "The Third Wave of Science Studies"' (2003) 33 Social Studies of Science 389; Wynne, 'Seasick on the Third Wave?' (n 88); Harry M Collins and Robert Evans, 'King Canute Meets the Beach Boys: Responses to "The Third Wave"' (2003) 33 Social Studies of Science 435.

Expert-led decision-making, rather than being an obstacle to legitimacy, is in fact the foundational factor which affects interviewees' perception of decision-making legitimacy. Such data prompts reflection upon why, as scholars, we continue to shape our definition of legitimacy around a form of participation which is not desired or considered legitimating by the very group upon whom we impose it. Are we saying, in effect, that we know better?

Yet, as highlighted, the data reveals a contradictory inherent assumption: that experts would be committed to environmental protection. Without this commitment to a broader political/social goal of environmental protection (as defined by interviewees), even trusted experts cannot fulfil the role that interviewees have set out. Yet, it is impossible to ascertain what this desired goal is in any given context unless the public tell us. This by its very nature necessitates some form of public input, even if not explicitly recognised by interviewees. If interviewees do not want to participate directly in decision-making, we need to explore the alternative form and purpose of any such participation.

Examining the purpose of the participation needed to facilitate this new expert role reveals another contradiction in the data. Alongside the explicit desire to see expert-led decision-making, this suggests an implicit desire to see the privileging of public values (ie through the publicly defined goal that experts must pursue). If the public want to delegate, the terms of delegation will likely vary in the context of different decisions. If the public are to set the terms of delegation, demarcating the overarching political/social goal to be pursued by experts, this places them in a position of elevated power. They become a powerful group who dictate the overarching decision-making goal. This power is far greater than that afforded to them under a model of direct participation where their voice is only afforded equal weight in the decision-making process. The participation that is needed here is not the familiar one that legitimises decisions because the procedure is more democratic or inclusive. It repositions both the purpose and value of participation. Interviewees do not want to take part in the decision directly; they want a body of experts to act as a kind of public champion, pursuing a publicly defined goal. This forces us to reflect on two things: first, the difficulty of designing the type of participation that is actually needed/wanted and that the public perceive to have legitimating value and secondly, why the public do not want to participate directly in decision-making and feel that delegation, and the type of participation it warrants, is the best means of ensuring they are empowered within the decision-making process.

The model that interviewees are advancing is not simple to implement. However, the expert role envisioned by interviewees, and the type of participation this necessitates, is neither devoid of epistemological considerations, nor a blind following of what has come before. It is a positive choice to reconstruct the relationship between experts and the public through defined terms of delegation. Such a model empowers the public within decision-making without requiring them to directly participate in the decision, something which interviewees do not want to do. The allocation of decision-making responsibility to experts is done on the proviso that they comply with delegated terms, which acknowledge broader political and social values. [108] This

108 Jasanoff (n 93) 1723, 1742

provides an explicit yardstick against which such experts can be judged.[109] This concept of delegation on clearly delineated terms is not something that we currently engage with in defining the role we construct for experts in decision-making. As such, the vision of expertise propounded by my interviewees, and the type of participation it necessitates, digresses from the traditional understanding of an expert's role/how expertise operates and the purpose/value of public participation in decision-making.

The data demonstrate that many of the problems we traditionally associate with expert dominance (such as power imbalance and elite domination) stem from the way in which we, as scholars and policy makers, traditionally conceptualise the role of experts and the form/purpose of participation. We should reflect on why (if the public explicitly want to delegate decision-making to experts and reposition the purpose of participation) we refuse to re-evaluate our current conceptualisation of the role and purpose of both expertise and public participation. This data from the context of fracking shows that at present, if we define legitimacy according to interviewees' perception of legitimacy, the assumption that direct participation in decision-making is desirable is misplaced. Such a model may be justified on alternative grounds, ie better representativeness, better openness in decision-making. However, the contrast between the public perception of legitimacy and the models that we promote as scholars begs the question: to what extent should our model of legitimacy, and how we define a legitimate decision, give weight to the empirical and the public's perception of legitimacy? In the context of a development that has proved to be highly controversial, and over which there have been numerous challenges to regulatory decisions, this is a significant question.

6. CONCLUSION

For my interviewees, empirically grounded perceptions of legitimacy in the context of shale gas revolve around the presence of expert-led decision-making. This challenges the assumption in the literature that expert dominated decision-making is necessarily undesirable and damaging to decision-making legitimacy.[110] Consequently, this contests the existing assumption in the associated literature that direct participation/the democratisation of decision-making is central to legitimacy. While this article does not claim that the role of expertise is misconstrued in all decision-making arenas, it highlights how current theoretical assumptions and definitions relating to legitimate decision-making fail to correspond with empirically grounded public perceptions of decision-making legitimacy.

Notably, definition of an expert's role amongst my interviewees digressed significantly from our traditional conceptualisation. They saw experts as a body of people,

109 Elizabeth Fisher, 'Expert Executive Power, Administrative Constitutionalism and Co-Production: Why They Matter' in Weimer and Ruijter (eds) (n 44) 39; Chris Anderson, 'Evolving Conception of Science and Legitimacy: Insights from American Administrative Law' in Weimer and Ruijter (eds) (n 44)194.

110 Data from the USA and the UK have shown that in the context of shale gas, independent scientists are amongst the most trusted body of people; See Merryn Thomas and others, 'Public Perceptions of Hydraulic Fracturing for Shale Gas and Oil in the United States and Canada' (2017) 8 WIREs Climate Change e450; Ipsos, 'Ipsos MORI Veracity Index 2018: Trust in Professions' *Ipsos MORI*, (18 November 2018) <https://www.ipsos.com/sites/default/files/ct/news/documents/2018-11/veracity_index_2018_v1_161118_public.pdf> accessed 3 July 2019.

public champions, to whom decision-making responsibility could be delegated. This delegation was only made to 'trusted' experts who met with the requisite status (centring on their perceived independence) and involved a clearly defined goal: namely that experts would be committed to 'environmental protection'.

This re-positioning of the public as delegators places them in a position of power which legitimises expert-led decisions without the need for direct participation, unwanted by the public, in the decision itself. The issue at present around expertise in decision-making, and the public's refusal to recognise many of those we currently call experts, stems first from their failure to meet the requisite expert status. Second, at present, experts are operating on the basis of their own traditional knowledges/values free from the obligation to act as public champions, pursuing a delegated political/social role that has been defined by the public. It is this lack of scope for delegation that this article argues is damaging to public perceptions of legitimacy, not the dominance of expertise itself.

Given the empirical grounding of this work, in relation to an issue with very direct impacts upon members of the public, the desire for and repositioning of expertise and participation does, and rightly should, raise significant questions around why we seek to enhance and embed the role of the public directly in decision-making itself. That is, if the public want to reposition participation as a mechanism for setting terms of delegation, and want experts to make decisions, why should we as scholars tell them we know better? Reflection is needed upon the extent to which we should continue to impose a direct form of participation on a public who do not want it, on the basis that we have a better understanding of what a legitimate decision looks like.

Despite the clear demand for expert-led decision-making, it cannot be ignored that there are inherent contradictions present in the data. The public assume that experts will pursue the publicly delegated goal of environmental protection. This evidences two key issues. First, converse to the historically problematic notion of 'public deficit', what we appear to have here is the misconception of 'expert excess': an excessive expectation about what experts can and will deliver in decision-making.[111] Secondly, it provides a stark illustration of how challenging it is to design and implement participatory procedures which are actually desired/have legitimating value. For my interviewees, participation was not explicitly called for but was inherently necessary to facilitate the new role they set out for experts (ie to define terms of delegation). Yet, this version of participation is far removed from the one with which we are familiar in the literature. It repositions participation, not as a legitimating factor because it enhances the openness/representativeness of decision-making directly, but as a means of empowerment which elevates the status and power afforded to the public voice and values. The type of participation that is necessary to implement interviewee's expert-led system repositions the public as the overriding determiners of decision-making goals and values, privileging their role in decision-making. We must probe further into why the public feel that their views warrant this privilege, and why they believe that allocating the fulfilment of such goals to experts is a better model than participating directly in the decision themselves. In particular, it forces us to reflect upon, and question, the extent to which this demand echoes a lack of

111 Jasanoff (n 93).

empowerment under existing participatory mechanisms which may result in the perceived need for a more powerful public voice and public champion. This misconception around expertise, and the insights into the type of participation that my interviewees need, offers an exciting empirical insight into how the public are building their own perceptions of legitimate decision-making. It also offers a new and unexplored insight into how this perception of legitimacy reflects our current system and, importantly, what this tells us about the failures and power imbalances that exist within it.

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