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Crossing Disciplines in Planning: A Renewable Energy Case Study

MARIA LEE, SIMON LOCK, LUCY NATARAJAN AND YVONNE RYDIN

Introduction

One of the most heartening things about the community of environmental law scholars is the openness of the sub-discipline, which rarely succumbs to a theatrical policing of internal legal boundaries and is underpinned by a recognition of other disciplinary (including other legal) perspectives. Some incoherence, and even (dare we say) some poor quality scholarship,[1] is a small price to pay for this openness, for avoiding a world in which 'sensible' people know and police what constitutes 'good' environmental law scholarship. The absence of a 'single guiding logic' for environmental law scholarship is neither unique to this element of legal academia nor a bad thing.[2]

But reflection and self-criticism can also be bracing. One of the striking themes of environmental law scholarship is an assumption about the necessity and ease of interdisciplinarity (a tricky term, to which we return), including in the lone scholar model of law. This chapter provides personal reflections on collaboration between academics from different disciplines in a project on public participation and knowledge construction during decision-making on major renewable energy projects. The four individuals involved (the authors of this chapter) work at University College London (UCL), based in the Faculty of Laws, the Department of Science and Technology Studies and the Bartlett School of Planning. We work in cognate areas, and we share a fundamental belief

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[1] Ole Pedersen, 'The Limits of Interdisciplinarity and the Practice of Environmental Law Scholarship' (2014) 26 *Journal of Environmental Law* 423.

[2] Elizabeth Fisher et al., 'Maturity and Methodology: Starting a Debate about Environmental Law Scholarship' (2009) 21 *Journal of Environmental Law* 213 at 219.

that words matter and institutions matter. We take, broadly, a social constructionist approach to our work, and a co-productionist approach: 'the facts' cannot be taken for granted, but neither can 'the social'; the facts and society are mutually constitutive.[3] Perhaps self-evidently, we also share an interest in the governance processes around a transition to renewable energy, and we have all studied in different ways on knowledge and expertise, and on public participation. We understand planning as an element of broader democratic processes and seek to explore that.

Our shared perspectives and languages have made this collaboration less difficult than others can be. But even here, reflecting on our methods prompts interesting and occasionally challenging questions about our own and one another's disciplines. We have all worked in cross-disciplinary teams before, on big projects and small, within UCL and beyond, with more or less joy and success, but we focus here on our joint project. Following a brief introduction to that project, we discuss inter-disciplinarity and the nature of our collaboration. We then turn to reflect on lessons learned in this project. The social side of our collaboration has been crucial. Working with people you like, and whose work you respect, is perhaps not a bad starting point for scholarship across disciplines. But a cohesive team does not just happen, and we would like to reflect a little on the factors beyond the personal that have contributed to that.

The Project

Our project, *Evidence, Publics and Decision-Making for Major Wind Infrastructure*, funded by the Economic and Social Research Council (ESRC), examines the decision-making process for Nationally Significant Infrastructure Projects (NSIPs) under the Planning Act 2008, with a focus on renewable energy development. Applications for a Development Consent Order are made to an Examining Authority, appointed by the Planning Inspectorate, which makes recommendations and reports its findings and conclusions to the Secretary of State. The Secretary of State makes the final decision. The Planning Act (and associated regulation such as environmental impact assessment) provides a number of opportunities for interested parties to be consulted on applications for development consent. The strong policy commitment to certain low carbon energy infrastructure raises questions about the

[3] Sheila Jasanoff (ed.), *States of Knowledge: The Co-Production of Science and Social Order* (Abingdon: Routledge, 2004).

ways in which decision-makers might take local impacts and the views of affected communities into account. This 'public participation' strand interacts with an exploration of the construction and use of 'knowledge' in the process, and the ways in which diverse professional, government and lay actors introduce knowledge claims into the process, and how they are heard and used as evidence in the reasoning and justifications for recommendations.

A total of fourteen renewable energy projects had gone through the process at the start of our empirical research. Three of these were taken out of the assessment as being so far out to sea that they raised relatively few issues for 'local' publics, although we did return to them for some of the work on evidence. We initially selected eleven cases to study,[4] adding the Navitus Bay wind farm a few months later, when it became the first (and still only) offshore 'nationally significant' wind farm to be refused consent.[5]

We discuss 'our differences' later and hope that the necessarily messy nature of even the apparently neatest methodology comes out there. In this project, we combined the insights from our multiple methods, triangulating and enriching insights from one with the results from another. Almost all of the documentation submitted to the Examining Authority (ExA) in respect of NSIP development consents is kept on the Planning Inspectorate website, providing an extraordinarily rich source of material.[6] We focused on reading and analysing all of the ExA Reports and Secretary of State decision letters, as well as a certain amount of other material submitted during the examination. Alongside this close reading, the documents were coded to enable comparison and identification of themes under the five headings of actors, impacts, evidence, deliberative processes and mitigation (and dozens of subheadings). The coding was conducted in NVivo and tested through blind re-coding of randomly sampled text extracts by two coders. Code runs were iteratively

[4] Kentish Offshore Wind Farm Extension, Galloper Offshore Wind Farm, Burbo Bank Offshore Wind Farm Extension, Rampion Offshore Wind Farm, Walney Offshore Wind Farm Extension, Triton Knoll Offshore Wind Farm, Brechfa Forest West Wind Farm, Clocaenog Forest Wind Farm, Swansea Bay Tidal Lagoon, North Blyth Biomass Plant, Rookery South Energy from Waste Plant. All of the documents can be found at https://infrastructure.planninginspectorate.gov.uk/.

[5] On Navitus, see Maria Lee, 'Landscape and Knowledge in Nationally Significant Wind Energy Projects' (2017) 37 *Legal Studies* 3. The Mynydd y Gwynt *onshore* Wind Farm application was rejected on 20 November 2015.

[6] https://infrastructure.planninginspectorate.gov.uk/.

undertaken to build up the analysis; the initial runs selected extracts for close reading, which then suggested lines of analysis and further code runs.

The fieldwork consisted primarily of focus groups, telephone interviews, an online survey and workshops. More ad hoc observation visits enriched the analysis and ensured its firm grounding. Nine focus groups, with local people who had been involved in eight of our cases, plus an additional 'control' non-renewables case, were held at libraries and community facilities.[7] Focus group research is a well-established qualitative research method for studying complex social phenomena, and it is particularly useful for understanding experiences. It can help silent or quieter 'voices' come to the foreground. The purpose here was to get a deeper understanding of public concerns and aspirations regarding decision-making processes. The events included up to twelve local people, including residents, those with business interests and those representing a third sector organisation. In addition, staff and consultants working for some of the applicants as 'public engagement' professionals, who interact directly with local people and manage the statutory pre-application consultation, were interviewed. Interviews were also conducted with national NGOs that did not fit neatly into the roles identified for other actors, and with certain key actors to explore the unique perspectives involved in Navitus Bay. The online survey was a short questionnaire to follow up on the focus group findings with a larger number of people.[8] The survey data were both quantitative and qualitative, providing a snapshot from across the fieldwork, and commentary to unpack the detail. Towards the end of our project, we held workshops with developers and members of ExAs to discuss our emerging findings and recommendations.

The evolution of our collaborative experience is perhaps as important as our use of these formal methodologies. Our interest in the NSIP regime began several years before we applied for funding for this project. We were part of a larger 'climate change technologies' group, convened by Maria. This group explored the ways in which the legal and policy context shaped the implementation of legally guaranteed rights of participation around large wind farms and carbon

[7] See 'NSIPs Research', University College London, www.ucl.ac.uk/nsips.

[8] Lucy Natarajan et al., 'Navigating the Participatory Processes of Renewable Energy Infrastructure Regulation: A "Local Participant Perspective" on the NSIPs Regime in England and Wales' (2018) 114 *Energy Policy* 201.

capture and storage.[9] It was supported by the UCL Grand Challenges programme,[10] and whilst this had not been the explicit intention, it turned out to be a 'pilot' project for this bigger piece of work. We were able to pilot our ideas, our ability to work together and also aspects of our methodology, given that earlier work involved both close reading and some focus groups. The smaller group emerged organically, on the basis of shared interests and personal affinity, rather than as an institutional requirement.

UCL is no exception to the pattern of institutional efforts to incentivise cross-disciplinary working, and it has been extremely proactive in stimulating work across faculties. Although UCL seems to have been less directive than we understand might have been the case elsewhere, the encouragement of cross-faculty work has occasionally felt artificial and even burdensome, notwithstanding some undeniably exciting outputs. We benefitted from the less direct, relationship-building benefits of institutional pressure towards collaboration. Relationships build during work on 'a project', creating both personal bonds and familiarity with colleagues' work. With Yvonne as principal investigator, we built on our personal and professional links, as well as our shared sense of the practical and scholarly significance of the NSIPs regime, to apply for ESRC funding for our project.

Disciplines and Their Transgression

Academic disciplines bring with them an organisation, working methods and years of tacit and explicit knowledge that can be enabling and empowering, as well as a more-or-less collectively agreed notion of rigour and quality. Disciplines can also be rigid and restrictive and may fail to flourish in changing contexts.[11] From the initial application to the ESRC, we have described our work as cross-disciplinary. Any discussion of cross-disciplinarity needs to start out by acknowledging the complexity of the ways in which we describe an activity where individuals from

[9] Maria Lee et al., 'Public Participation and Climate Change Infrastructure' (2013) 25 *Journal of Environmental Law* 33; Simon Lock et al., 'Nuclear Energy Sounded Wonderful 40 Years Ago: UK Citizen Views on CCS' (2014) 66 *Energy Policy* 428; Yvonne Rydin et al., 'Public Engagement in Decision-making on Major Wind Energy Projects' (2015) 27 *Journal of Environmental Law* 139.

[10] 'UCL Grand Challenges', University College London, www.ucl.ac.uk/grand-challenges.

[11] See e.g. D. W. Vick, 'Interdisciplinarity and the Discipline of Law' (2004) 31 *Journal of Law and Society* 153.

different academic disciplines work together, or where individuals enrich their own work by calling on insights from other disciplines. Three approaches are commonly identified in the literature.[12] First, 'interdisciplinarity', in which there is 'an attempt to integrate or synthesize perspectives from several discussions'.[13] Second, 'multidisciplinarity', in which there is no effort to transform the disciplines, which remain intact within their own boundaries. And third, 'transdisciplinarity', in which disciplinary boundaries are transcended and broken down. This threefold classification of interdisciplinarity could never capture the variety of work between disciplines, and the boundaries between them must be fluid. In any event, disciplines themselves are constructed and mutable, and their shapes and borders are not inevitable: they are 'constructs borne out of historical processes involving both objects and methods of study; they provide "frames of reference, methodological approaches, topics of study, theoretical canons and technologies"'.[14]

The term 'interdisciplinarity' is often used generically (as well as in the first sense earlier) to capture a spectrum of approaches to working across disciplines;[15] we have worked with the term 'cross-disciplinarity' in the same way. We were never hoping to break down the boundaries of our disciplines on this project, which in any event are not rigid in respect of our individual disciplinary approaches. We are working across at least the three disciplines of law, planning, and science and technology studies (STS). These are all potentially generous disciplines, exploring a very wide range of issues from many perspectives, and using a plurality of methodologies. We each take, broadly speaking, an interdisciplinary approach to our own work. Our project is an example of 'moderate'[16] or 'cognate'[17] interdisciplinarity, rather than radical interdisciplinarity, for example, between the physical sciences and law.

[12] E.g. Andrew Barry et al., 'Logics of Interdisciplinarity' (2008) 37 *Economy and Society* 20; Judith Petts et al., 'Crossing Boundaries: Inter-Disciplinarity in the Context of Urban Environments' (2008) 39 *Geoforum* 593.

[13] Barry, 'Logics of Interdisciplinarity', 27.

[14] Petts, 'Crossing Boundaries', 596, citing the Chambers English Dictionary.

[15] Barry, 'Logics of Interdisciplinarity'; Petts, 'Crossing Boundaries'; Pedersen, 'The Limits of Interdisciplinarity'. See also the British Academy on interdisciplinarity as a 'family resemblance concept': 'Crossing Paths: Interdisciplinary Institutions, Careers, Education and Applications', British Academy, July 2016.

[16] Gavin Little, 'Developing Environmental Law Scholarship: Going Beyond the Legal Space' (2016) *Legal Studies* 48.

[17] Petts, 'Crossing Boundaries'.

STS is *itself* described as an interdisciplinary field aiming at the creation of 'an integrative understanding of the origins, dynamics, and consequences of science and technology'; STS has 'through three decades of interdisciplinary interaction and integration, shifting intellectual continents and cataclysmic conceptual shocks, perseverance and imagination . . . become institutionalised and intellectually influential'.[18] Many of its ideas and methods have been adopted and employed extensively in other social science and humanities disciplines, including law and planning studies, but also history, geography and political science. Planning scholars often come from different disciplinary backgrounds (such as economics, political science, sociology or geography) as well as from a variety of multidisciplinary educational routes (such as urban studies or land economy). Planning scholars embrace many approaches to research, focusing on particular domains, such as transport or housing; or practices, such as collaboration, regulation or design; or outcomes, such as sustainability or inclusion. Planning is theoretically diverse, with different researchers adopting approaches as distinct as Marxist, Habermasian or governmentality perspectives, with equally diverse methodological underpinnings. Legal scholarship is also theoretically and methodologically diverse.[19] Few academic lawyers consider themselves purely doctrinal scholars, and the call on other disciplines by legal scholars is diverse in range and depth. Environmental law is especially permeated by different approaches to interdisciplinarity.[20] Whilst the pluralism of our disciplines is often generous, it can be conflictual. In law, crossing some boundaries between legal sub-disciplines can seem much more transgressive than moving outside law is for environmental lawyers.

The authors of this chapter were (presumably) invited to participate in this collection because one of our members (Maria) self-identifies and is identified as, amongst other things, an *environmental* lawyer. And we instinctively class this project (in part) as an environmental law project. But it could equally be described as a planning law project, and it might matter. Planning law is arguably one of the precursors to our current environmental law. It was once a hot topic of academic study, forming an

[18] Edward J. Hackett et al., 'Introduction' in Edward J. Hackett et al. (eds.), *The Handbook of Science and Technology Studies* (Cambridge, MA: MIT Press, 2008), p. 1.

[19] Vick, 'Interdisciplinarity and the Discipline of Law'; David Feldman, 'The Nature of Legal Scholarship' (1989) 52 *Modern Law Review* 498.

[20] E.g. Fisher, 'Maturity and Methodology'; Pedersen, 'The Limits of Interdisciplinarity'; Little, 'Developing Environmental Law Scholarship'.

important core of administrative law scholarship.[21] It went through a period of *relative* academic neglect from the end of the 1980s until very recently. Planning became a practitioner-led area,[22] as fresh issues stimulated administrative law, and the new discipline of environmental law became established, absorbing planning law as a small element within it. Analysing planning as a part of environmental or administrative law must shape its scholarly reception, emphasising the legitimacy of the exercise of state power, or the effectiveness of environmental protection. The construction and role of both publics and expertise may well come into a different sort of focus depending on the perspective taken, and of course the broader contribution of planning law to working out how we want to live (beyond environmental protection) may be neglected. The focus on renewable energy superficially reduces the dilemma, and climate change may partly explain the renewed interest of environmental lawyers in planning. But it reminds us that the boundaries of environmental law, a relatively new discipline, are dynamic and potentially contested. And even in this open-hearted area, what the discipline 'is' cannot be taken for granted.[23] As well as its porous borders, profound but little-addressed disagreements on the value of theory, the value of description and exposition,[24] the role of internal legal analysis, the place for political engagement in scholarship,[25] the necessity and nature of interdisciplinarity and the centrality of method underlie our approaches and our judgements.

Cross-disciplinary work is nothing new, and disciplines necessarily evolve and disappear. The debate about the pressures and directions of interdisciplinarity has intensified over recent years. There seems to be a growing appreciation that certain complex social challenges (climate

[21] See e.g. Patrick McAuslan, 'Administrative Law, Collective Consumption and Judicial Policy' (1983) 46 *Modern Law Review* 1.

[22] Both law and planning have close relationships with practice and the professions, which have not always been happy for scholarly confidence and identity; e.g. William Twining, *Blackstone's Tower: The English Law School* (London: Sweet and Maxwell, 1994).

[23] A focus on reflection and self-criticism within environmental law was started by Fisher et al., 'Maturity and Methodology'. We do not share the pessimistic (although not uniformly pessimistic) perspective on existing environmental law scholarship, primarily because weak and strong scholarship can be found anywhere.

[24] For a continuation of the debate, see Steven Vaughan, 'My Chemical (Regulation) Romance' (2015) 27 *Journal of Environmental Law* 167.

[25] See Jane Holder and Donald McGillivray, 'Bringing Environmental Justice to the Centre of Environmental Law Research: Developing a Collective Case Study Methodology' in Andreas Philippopoulos-Mihalopoulos and Victoria Brooks (eds), *Research Methods in Environmental Law: A Handbook* (Cheltenham: Edward Elgar, 2017).

change, ageing, poverty are frequently cited) demand input from multiple disciplines. This is matched by an assumption, widely but not universally shared, that one of the responsibilities of academics and our institutions is indeed to respond to social challenges. Asking for 'useful' research responds to certain demands that we become more accountable to 'society' for how we spend our time.[26] The social demand goes alongside a sense that academically exciting things can happen when we push at the edges of our disciplines. The perceived importance of interdisciplinarity stimulates an anxiety among some that interdisciplinarity is structurally under-incentivised and under-rewarded in career structures, publishing opportunities and academic funding.[27] This has led to certain institutional changes, which have led in turn to some academics experiencing institutional pressure towards interdisciplinarity, which is thought to attract funding and prestige to universities.

The positive agenda is potentially powerful. But the instrumentality of this approach, addressing particular identified social (and economic and industrial) problems, as well as institutional (university and funding body) needs, brings with it a risk that the 'transient political agenda of the day',[28] or an overly commercial agenda, may dominate. A more recent dilemma is whether work in universities may temporarily mask a loss of capacity and expertise within government.[29] There must also be questions about the ways in which government or other funders identify problems, which as discussed later may involve looking for 'the' answer to small technical questions, isolated from the rich complexity of the discipline. Equally though, 'the' problem is likely to be reframed and reposed by the researchers during their work.[30]

None of this is either unique to interdisciplinary work or a necessary part of it. Disciplinary work can be instrumental, and work across disciplines need not be. Certain additional questions are raised specifically by interdisciplinarity. Interdisciplinarity is said to have the potential to undermine academic autonomy,[31] empowering the managerial over the intellectual, over 'the relevant collectivity of scholars who are the only people capable of creating and maintaining intellectual value in

[26] E.g. Barry, 'Logics of Interdisciplinarity'.
[27] This is captured by 'Crossing Paths', British Academy, July 2016.
[28] Stefan Collini, *Speaking of Universities* (London: Verso, 2017), p. 198.
[29] See 'Crossing Paths', British Academy, July 2016, on how academic advice to government has allowed government science to absorb funding cuts (expressed without criticism).
[30] Barry, 'Logics of Interdisciplinarity'.
[31] Ibid.

a particular discipline generation to generation'.[32] Further, assessing the quality of interdisciplinary work is a widely acknowledged challenge. It creates difficulties for the scholars and academic development if holding work to the standards of distinct disciplines means that genuinely important interdisciplinary insights are unable to find a home. But equally, the criteria for assessing interdisciplinarity on its own grounds are only beginning to emerge,[33] and developing new scholarly values will take time. Even identifying an appropriate literature may be difficult. One of the delights of cross-disciplinary work is being referred to papers we may not otherwise find, and yet publication can push us back to a particular disciplinary corpus of work.

More specifically, when social problems are packaged in a particular way for academic investigation, we might see an undervaluing of some disciplines relative to others. One discipline might be seen as simply providing a service, 'making up for or filling in for an absence or lack'[34] on behalf of another, rather than entering into a collaboration. A simplistic approach to the division of labour (including seeing the 'social' (sciences) as inevitably and always subsequent and subservient to the 'physical' (sciences)) is likely to reduce understanding of the problem.[35] The danger of instrumentalisation of STS scholarship within large, science-focused interdisciplinary projects is real. It can rest on an unexamined assumption that social scientists 'represent' public views, that 'the social' is simply a barrier to be overcome, or that the 'ethical, legal, social issues' are completely separate from the scientific work.[36] Similarly, other researchers might 'ask lawyers to identify "the law", stripped of complexity and preferably in the form of a rule of obligation that is specific to a limited social setting'.[37] Law though is not 'a datum, a fact, unproblematic and one-dimensional',[38] but as complex and

[32] Collini, *Speaking of Universities*, p. 48.
[33] 'Crossing Paths', British Academy, July 2016.
[34] Barry, 'Logics of Interdisciplinarity', pp. 28–29.
[35] Petts, 'Crossing Boundaries', on the perception of the 'social' in energy efficiency as a barrier to be addressed after the science and technology are right.
[36] Andrew Balmer et al., 'Taking Roles in Interdisciplinary Collaborations: Reflections on Working in Post-ELSI Spaces in the UK Synthetic Biology Community' (2015) 28 *Science & Technology Studies* 3; Jane Calvert, 'Collaboration as a Research Method? Navigating Social Scientific Involvement in Synthetic Biology' in N. Doorn et al. (eds), *Early Engagement and New Technologies: Opening up the Laboratory* (Dordrecht: Springer, 2013).
[37] Christopher McCrudden, 'Legal Research and the Social Sciences' (2006) *Law Quarterly Review* 632 at 648.
[38] McCrudden, 'Legal Research and the Social Sciences', 648.

constructed as any other area of social life. Similarly, planning is about more than technocratic development control, including a messy socio-political dimension in its scholarship. It might be satisfying to contribute to this sort of instrumental knowledge in a worthwhile project, even if it does not contribute to our own academic agenda or create genuinely joint knowledge relevant to our own discipline. But it is important to avoid rendering a simplistic account of our own expertise, reinforcing our discipline as either facilitative or a barrier to substance decided elsewhere.[39]

Our Differences

Meaningful work between and across disciplines is difficult.[40] It takes more time than work within a single discipline, it requires patient learning and teaching,[41] there are risks around finding an audience and recognition and there are risks that the whole project will fail to produce anything of interest. Happily, these risks are lessened among a group of collaborators who share the common ground we do, and who are accustomed to working on the edges of their own disciplines. But collaboration even within a single discipline increases the time and risks of academic work, in our output-driven academic culture. Even in our cohesive team, there was potential for disciplinary misunderstandings.

The most obvious issue from the outset was the methodological divide in terms of the core social science methodologies of coding, focus groups and interviews, which Maria had not used directly before, and her focus on reading and analysis, which experience suggests is not always valued as a distinctive contribution to interdisciplinary activities. This did not cause significant problems, essentially through a mutual respect for, and enthusiastic interest in, one anothers' methodology: what we can and cannot learn from 'mere' close reading and analysis, what we can and cannot learn from focus groups. The gap occasionally took more work to bridge with other audiences;[42] a willingness to teach, learn and explore was crucial. Notwithstanding our different starting points, we

[39] Liz Fisher, 'The Substantive Role of Law in Framing Energy Transitions: Wind Energy Development in the UK', paper for *Regulating the Energy Transition*, University of Oxford, 30 July 2016.

[40] This is a theme that runs through the literature.

[41] Fisher et al. conceptualise this in terms of the *expertise* needed for environmental law scholarship, Fisher et al., 'Maturity and Methodology'.

[42] Including our advisory group and some of our workshops.

were all involved in the process, reviewing codes and focus group preparation, attending focus groups, discussing findings from the empirical work and from the reading.

A connected, but less obvious and possibly more interesting methodological divide was in the ways we approached the cases. The starting point for Simon and Lucy was the focus group and interview material, emphasising the exploration of participants' experience of the process. Maria undertook a detailed analysis of a single or a small number of particularly appropriate cases for any point, having selected them from an initial reading of all of the cases, and a rereading of some of them. The empirical work was used to enrich the understanding of the documents, and to provide background understanding and context. Maria did not make use of the codes but read and reread the material, placing it in the broader literature (including the other cases), and analysing that case in a way that might tentatively build up to broader conclusions. By contrast, Yvonne used the coding to find a route back into the entire group of cases. However, going back and rereading the text is essential; so although attention to an individual text varies, we both seek to understand the words in context. Yvonne's work focused on generalisations from our group of cases as a whole, and the identification of patterns across cases, using a conceptual framing to identify key features. It can be tricky to find a home for this small-n case study research in the planning literature, notwithstanding its merits, since some reviewers see it as falling between the in-depth case study and aggregate statistical/quantitative analysis.[43]

These different approaches may reflect our disciplinary experiences. The disciplinary divide may be glimpsed in the (un)familiarity of the NSIPs reports, which read like (very long) legal documents. They are structured and argued differently (e.g. a linear argument, 'flatter' language) than material more often analysed in planning, such as media reports and policy and policy-related documentation. The task is not one of trying to 'surface' a storyline or discourse, or looking at metaphors. But our different approaches also reflect individual scholarly practices, preferences and interests. The differences were more productive than they were disruptive, primarily because our approaches were not mutually exclusive. Importantly, there was time in the project for each of us to take the lead in different areas, so that following one approach did not squeeze

[43] Joachim Blatter and M. Haverland, *Designing Case Studies Explanatory Approaches in Small-N Research* (Basingstoke, UK: Palgrave MacMillan, 2012).

out another. A productive way of working (not carefully planned) emerged, in which we each wrote to our own discipline, with one person taking the lead in writing for a predominantly legal, STS or planning audience. This also sidestepped the deeper questions about the ontological bases of our different approaches, congruent with but possibly masked by the methodological issues noted earlier. The boundaries between the disciplines were not rigidly maintained, however, even in the 'first drafts'. So for example, the 'legal' papers, led by the lawyer, were not primarily driven by doctrinal legal analysis. They were deeply influenced especially by STS, but also planning scholarship. Importantly, we also had time to learn from one another, without any particular pressure to produce quickly. And this was more carefully planned. Frequent, and reasonably relaxed, discussions of our plans and our drafts were built into our work. We added some material and made suggestions, and each of our publications draws on one anothers' insights. Mutual trust and respect for our different approaches, and a genuine interest in what we might learn from one another were central. The reflective nature of our conversations around the documents and the fieldwork opened up the potential for a more creative approach than we might have achieved on our own. Fieldwork stories, for example about the different tone of the discussions in different focus groups, were helpful in identifying issues for further exploration, and in providing more nuanced ways of thinking about the documentation.

A brief aside about the preparation of this chapter might be illustrative. The four of us had an 'away day' in summer 2017, the main purpose of which was to begin 'brainstorming' our conclusions and recommendations for our practice-oriented closing event (in December 2017). For the first part of that meeting, we had each prepared brief presentations, articulating our 'discipline', our approach to scholarship, what we had learned personally from our collaboration and what we thought of as the most important findings and conclusions from our work thus far. This discussion, including follow-up written contributions, was incorporated into a substantial first draft by Maria, alongside research and reflection on legal scholarship, environmental law scholarship and interdisciplinarity. There was a primarily legal lead for a primarily legal audience, but embedded in the cross-disciplinary collaboration. This draft was circulated twice around the team for amendments, suggestions and additions, plus one final review, and the draft was enriched and improved, and completed in early 2018.

The divisions of a common language are a recurrent theme in discussions of interdisciplinary work. We were not entirely immune from this. Although neither planners nor lawyers ignore cases of protest and unrest, when lawyers talk about 'public participation', we generally turn quickly to legally mandated rights, especially rights to be consulted; planners also focus on institutionalised moments for participation. The NSIPs process fits neatly into this approach. Rather than focusing on a legal or institutional mandate, STS explores, from multiple normative positions,[44] the case for inclusion of publics as a substantive aspect of the construction of good science and technology policy. These different starting points might imply a different focus, in particular a greater emphasis on substantive rather than procedural justice in STS.[45]

But as this example perhaps indicates, terminological confusion is not the main challenge when the collaborators are as inherently concerned by all three disciplines. It is most striking that we developed a common language very quickly, perhaps because we already worked with similar concepts and methodologies and shared a common set of understandings. Our most obvious methodological challenge had nothing to do with cross-disciplinarity or collaboration. Between being told our application for funding had been successful and the formal start date of the project, the government announced that onshore wind in England was to be removed from the NSIPs process.[46] This was admittedly disappointing. However, we had more than enough material to work with, and now a richer perspective on how high-level policy might change, even when one of the purposes of the regime is to avoid having to revisit policy.[47] The rejection of the application for consent in Navitus similarly enriched the material we had to work with, but not in a straightforward way. Our starting point had been that policy framed the way in which publics could be heard in the process, restricting the possibilities for an application to be turned down (and focusing the public participation on mitigation).

[44] See e.g. Jack Stilgoe, Simon Lock and James Wilsden, 'Why Should We Promote Public Engagement with Science?' (2014) 23 *Public Understanding of Science* 4; Jason Chilvers and Matthew Kearnes (eds), *Remaking Participation: Science, Environment and Emergent Publics* (Abingdon: Routledge, 2015).

[45] Andrew Stirling, '"Opening Up" and "Closing Down" Power, Participation, and Pluralism in the Social Appraisal of Technology' (2008) 33 *Science, Technology, & Human Values* 262.

[46] Onshore wind was removed from the NSIP regime in England (SI 2016/306 Infrastructure Planning (Onshore Wind Generating Stations) Order 2016).

[47] For earlier examples, see Susan Owens, 'Siting, Sustainable Development and Social Priorities' (2004) 7 *Journal of Risk Research* 101.

Navitus was clearly an exceptional case, and the construction of evidence in that case provided food for thought.[48]

At a personal level, we have found this project rewarding and worthwhile. Cross-disciplinarity of this type seems to be as much a social as an academic activity,[49] dependent on mutual trust, respect and compatibility, if the work is to be as good as it can be. A little bit of luck can go a long way, but this social and academic good fortune does not just happen. It requires skills of communication, and these can be learned and improved. It also requires confident and modest leadership, not just of the project but also as representatives of our disciplines. In that respect, it is worth saying that the mentoring in different disciplinary approaches came from junior as well as senior members of the team.

Three factors have, we think, been especially important. First, the project was self-motivated and organic. We did not follow an external agenda, but our mutual scholarly interests, although we did reach some conclusions for practice.[50] Second, our project was based on pre-existing relationships. Three of the participants (Yvonne, Simon and Maria) had worked together before, including publishing three papers and holding several events.[51] We began with mutual trust and respect. Lucy had written her PhD under Yvonne's supervision, and they had a strong pre-existing relationship. However, we would not want to dismiss involvement in the more constructed projects. Not only have we all been involved in exciting, if not always straightforward, projects of this sort ourselves. But further, our own project emerged out of the relationship building that has been an element of UCL's institutional encouragement of cross-faculty working.

The first two issues are closely related to the third, which is the importance of time. We began our work together (in the larger group) in 2011; we applied for our funding in 2014 and started the project in July 2015; and it came to a formal end in December 2017. The rewards of collaboration do not always come quickly. We could be relatively confident about our ability to work together before any big risks

[48] Lee, 'Landscape and Knowledge'.

[49] See also Gavin Little, 'The Pitfalls and Promises of Interdisciplinary Collaboration', paper for Society of Legal Scholars Conference, 2016.

[50] 'NSIPs Research', University College London, www.ucl.ac.uk/nsips.

[51] Lee et al., 'Public Participation and Climate Change Infrastructure'; Lock et al., 'Nuclear Energy Sounded Wonderful 40 Years Ago'; Rydin et al., 'Public Engagement in Decision-making'; 'UCL Grand Challenges', University College London, www.ucl.ac.uk/grand-challenges.

were taken. Time was also important within the project – time for discussion, a willingness to give time to talking and thinking about work without expecting anything particular in return. And time for outputs to evolve, with all of us working at our own pace and producing work we could be pleased with in our own contexts. Frequent meetings were a vital part of this. The general calmness of the project might largely be attributed to the talent and effectiveness of the research associate working full time on the project, and running the empirical work, as well as to the experience and leadership of the principal investigator.

But we should assess a little more the criteria of success. That is of course a difficult notion to pin down. We might start with the idea that scholarship is about knowledge, with the object 'to discover more about whatever is being considered, and to understand it better'.[52] Our project has certainly allowed each of us to deepen and extend our disciplinary, as well as our cross-disciplinary, knowledge. We have produced work we are proud of, drawing on collective insights from the group. We have also made some proposals for practice. There is always a tension between being truthful to the subtlety of academic findings and being influential. When our recommendations require additional resources for the NSIPs process, they are not likely to be implemented any time soon, although others may have more immediate potential. The quality of our work as a whole is for others to judge, and it is too soon to say what level of contribution we have been able to make even within our own disciplines.

What has been gained by cross-disciplinarity is perhaps not a 'better' or 'more complete' way of knowing,[53] but a completeness that is a different shape from anything we might have produced individually. We did not aim to meet ambitious criteria for interdisciplinarity that require a breaking down of disciplinary borders, or perhaps even a genuine integration between disciplines, and some readers will be disappointed by that.[54] The jeopardy in our collaboration was low, and this certainly did not feel like the 'hazardous disciplinary border zones' described by Judith Petts and her colleagues.[55] There is surely much to be learned in more risky and socially challenging projects.

[52] Feldman, 'The Nature of Legal Scholarship'.
[53] Jasanoff, *States of Knowledge*.
[54] See e.g. Catherine Lyall et al., 'The Role of Funding Agencies in Creating Interdisciplinary Knowledge' (2013) 40 *Science and Public Policy* 62.
[55] Petts, 'Crossing Boundaries', 593.

Conclusion

Careful efforts to bring disciplines together have considerable potential benefits, whether as a scholarly extension of our understanding or as a self-conscious effort to respond to social challenges. Our observations in this chapter are personal and reflective and may not be easily applied beyond our own case. Ours has not been the most stretching form of interdisciplinary work, and it developed organically amongst a group of people who knew one another and knew they could work together. Our project was not a narrow instrumental result of institutional pressure, but it did arise out of the incidental relationship-building effects of an institutional effort to incentivise work across faculties. It has been personally and intellectually rewarding. In December 2017, we hosted an 'academic exchange', attended by a mix of academic lawyers and planners, to mark the end of our project. The warmth and intellectual vibrancy of that event suggest much scope for future collaboration between these disciplines, and who knows, perhaps a breaking down of some disciplinary borders.

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