

SPEAKING

FOR THE SOCIAL

A Catalogue

of Methods



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Fig. 1. Detail from Hieronymus Bosch, Ship of Fools (1490–1500)

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spontaneous acts of scholarly combustion



ADVANCED METHODS

SPEAKING FOR THE SOCIAL

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of Methods

Hannah Knox &

Gemma John (eds.)



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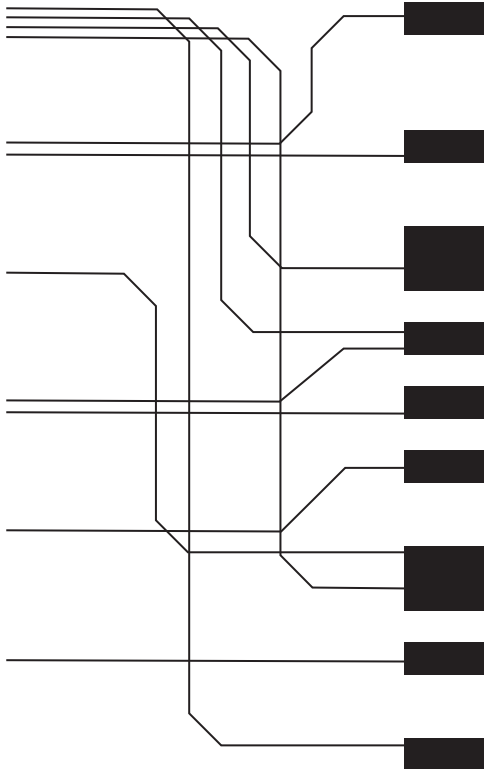
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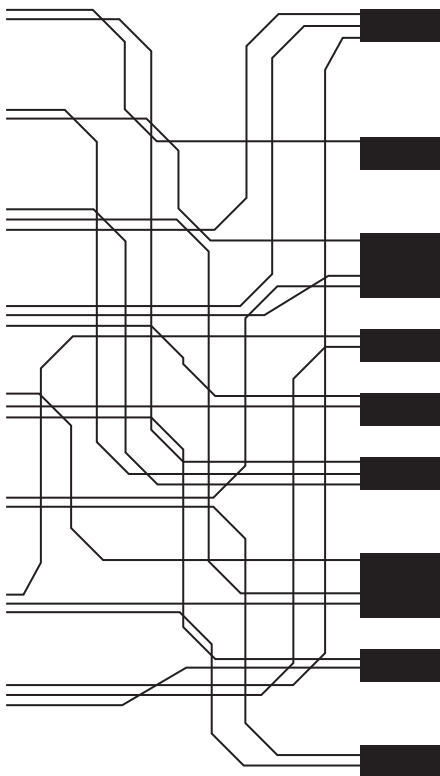
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Introduction

Hannah Knox and Gemma John

This book sets out with a programmatic agenda to find new ways of “speaking for the social” in projects of technical and infrastructural change. It takes as its starting point the ongoing challenge of communication between scholars in the social sciences and humanities who study the social dimensions of technical and infrastructure projects, and those working in engineering and policy who seek bring about social change through technical interventions. Rather than locating this difficulty in the bifurcation of epistemic cultures along a fault line of technical versus social disciplines, what we propose in this volume is that this communicative challenge rests on deep, but often unarticulated distinctions in the way “the social” is itself conceptualized, developed, enacted, and deployed within the social sciences, humanities,

engineering, and policy. Taking this as our starting point, the chapters of this book present a series of creative, experimental, collaborative, and revisionist approaches to tracing, unravelling, and communicating the social dimensions of technical projects, each of which emerges from the confrontation of different implicit understandings of what the social is, where one might find it and how it can be accounted for. What results is a catalogue of concrete and yet contingent methods for engaging the social dimensions of technical projects that neither simplifies the social as the site of measurable impact, nor relativizes the social as so endlessly complex that it cannot be pinned down.

Relocating the Social

In recent years the social sciences have undergone something of an “infrastructural turn.” Prompted in part by the political saliency of infrastructure as an object of policy concern, and in part by the appearance and recognition of infrastructure-based politics in fieldsites around the world, anthropologists, sociologists, architects, geographers, and political scientists have begun to explore the many ways that technical systems – from roads, to water systems, data centers, and energy networks, are shaping social

worlds and remaking social relations (Anand et al. 2018; Harvey et al. 2017; Harvey and Knox 2015; Larkin 2013). This work has led to many important insights about how social relations are entangled in and shaped by technical systems. Drawing heavily on the well-established methods and theories of science and technology studies, ethnography, critical Marxist analysis, and Actor Network Theory, social researchers have sought to demarcate the role of standards, expertise, materials, bodies, imaginaries, data, and ideology in the creation of infrastructural systems (Graham and Thrift 2007; Jensen 2015; Lampland and Star 2009; Seaver 2018; Starosielski 2015; Sterne 2012).

One effect of this turn to infrastructure is that social scientists have found themselves newly located vis-à-vis technical projects. Whereas conventionally, social researchers may have been seen as responsible for speaking for communities affected by infrastructures, articulating local concerns and surfacing other stories about what infrastructure looks like from a local point of view, the social has now expanded to incorporate a much broader range of actors. Nowadays social scholars of infrastructure are just as likely to be interested in the relationship between scientists, regulatory standards and the materials made by materials science (Walford 2015), or the link between

the structure of databases and the ethics of data-analytics (Lowrie 2018), as in the already existing sociality of groups of people affected by infrastructure projects. Nonetheless, anthropologists, geographers, sociologists, and organization theorists who study infrastructure are still often asked, by those they work with in such infrastructure projects, to speak for social relations and contexts that are understood to lie clearly outside the material and engineering details of technical projects and firmly in a human-centered social world.

At the same time that the social of infrastructure studies has become ever more materialist, infrastructure and policy have undergone a parallel transformation experiencing something of a “social turn”. The UK’s 2012 Public Services (Social Value) Act set into law long running concerns about how to measure and account for the social effects of engineering and infrastructure projects. Already manifest in concepts such as corporate social responsibility, cost-benefit analyses, social impact studies, and social value, contemporary infrastructure projects have increasingly had to justify their existence and social effects that they seek to bring about and the negative social impacts against which they must protect. The social, here, is seen as messy and unknowable in

comparison with other categories such as economic and environmental impact. Previously dismissed as too “subjective” to be considered for the purposes of impact measurement, policy-makers have been urged to revisit the notion of the social in response to the perceived failures brought about by the privatization of public services designed to deliver cost-savings and a better return on investment to the tax-payer (du Gay 2000; John 2011, 2015). A new emphasis on the social is now articulated in the prioritization of best contribution over best value within local government and has marked a turn away from returns to the social as tax-payer towards returns to the social as stakeholders in infrastructural projects. This shift in turn opens up the question of how the social becomes calculated despite its so-called messiness.

Andrew Barry and Georgina Born (2015) have characterized this interdisciplinary attention to social issues in scientific and technical settings as coming in two main forms – the form of accountability and the form of innovation. Under the rubric of accountability, engineering projects must justify their interventions in terms of the social impact that they will have and the social value that they can bring about (Doubleday 2007; Strathern 2004). This is evidenced through both ex-ante analyses like feasibility studies, and social impact studies, as well as through the develop-

ment of post-occupancy metrics like ASROI (Applying Social Return on Investment), which seek to understand the social value of building projects (Watson and Whitley 2017). Here publics are invited into infrastructure decision-making through mechanisms such as public consultations, future-casting workshops, and co-production methods (Callon et al. 2011; Kimbell and Bailey 2017; Whatmore and Landstrom 2011). Under the rubric of innovation, the doors of engineering projects and policy processes are opened up to the social world in ways that seek to create new methods and approaches in policy and engineering processes. To be innovative is to bring new voices, those of the social, into the room. It is largely because social interaction has unanticipated affects, that the social world is perceived as having the potential to spark innovation or create financial value. The turn to innovation, in the context of impact, then, is in some way an acknowledgement that an accounting for the social delivers impact that cannot be known in advance. Previously “useless knowledge” (Strathern 2006) becomes newly “useful” within the framework of innovation.

In many respects a coming together of the materialist sensibilities of social scientists, coupled with the social sensibilities of engineers and policy

makers, would seem an ideal meeting place for social researchers and engineers to work together on unpacking, exploring, debating, and transforming the relationship between infrastructure, policy and society. Indeed with the advent of grand challenges like climate change, artificial intelligence, and the restructuring of work enabled by new technologies, clarion calls for interdisciplinary or transdisciplinary collaborations between engineering, the natural sciences, social sciences and humanities have arguably never been louder (Barry and Born 2015; Nowotny et al. 2001). Yet, such calls for interdisciplinarity revolve around a rather unstable and yet rarely interrogated concept of the social. For it is just at the point that social studies of infrastructure have questioned the human boundaries of the social, that engineers and policy makers have been asked to account in new ways for the all too human social impacts of infrastructure projects.

The expectation that the social might be found outside technology in social or cultural contexts, rather than within the very design of infrastructural systems themselves, has influenced how social impact, and social responsibility have been commonly approached within design and engineering projects (Marcus 2002). An opening up of the social, even in terms of the rather outdated concept of culture as

a geographically coherent and stable set of values and beliefs whose variation can be mapped, is met with the need to close down and further define what is meant by the social. The contemporary social scientists' desire to invent new ways of being in the world cannot easily be reconciled with an impetus to discover truths about the social. Building on squarely humanist or positivist forms of social science, the social is often invoked in these projects as a domain made up of classifiable types of people who are understood to be either users who are the imagined recipients of infrastructure or technology projects, or publics who are those likely to be affected by the anticipated and unforeseen consequences of such projects (Collier et al. 2016; Green 2010). Speaking for the social, in this sense, has often meant speaking for these users or publics, voicing their concerns, gathering their opinions, mapping their values or attitudes, and capturing their behavior, through consultative methods such as opinion polls, public consultations, or participatory workshops, that aim to make sure that all social issues have been adequately addressed before, during and after a project (Marres and Lezaun 2011).

This has led to a conundrum that characterizes the situation of several of our contributors. As

researchers of the social dynamics of technical or infrastructural projects, many of us have felt an injunction not only to describe the projects that we are researching, but, on the basis of our research, to contribute to the redescription or redesign of these projects themselves, or to speak, as it were, for the social. Yet we find ourselves expected to speak about a chimeral social which is often radically different to the kinds of social relations we seek to unravel and understand in our own work. Our expertise has often been preemptorily demarcated by those working in infrastructure projects, as belonging to a domain that does not accurately characterize the current materialist, techno-political sensibilities of contemporary critical infrastructure studies. As we have already noted, the turn to infrastructure in the social sciences, building on longer running traditions of social critique, disrupts an understanding of the social that would seem to provide the grounds for us to contribute our knowledge to the redesign of infrastructure projects. For if the domain of the social is no longer only users, communities or publics, but a more hybrid community of technology, materials, and human and non-human agencies, then how might we bring our sensibilities as social analysts into view for the purpose of feeding back into the process of infrastructure development?

This collection responds to this challenge by resituating the problem of the social not as a gap in a particular domain of knowledge that should be filled by the social sciences, but as a problem of speaking, or articulation. As Barry and Born's (2015) recent work on interdisciplinarity has shown, both the idea and practice of interdisciplinarity entails much more than bringing together discrete disciplined forms of knowledge in an additive mode. The idea that interdisciplinarity is a matter of suturing together disciplinary perspectives to create new knowledge is captured by what they term an integrative understanding of disciplinary working. Here disciplines are conceived as having a complementary role in producing new understandings and at times new transdisciplinary knowledges. A second mode of interdisciplinarity working that Barry and Born put forward is based on a more hierarchical understanding of interdisciplinarity where particular missing disciplinary perspectives are brought in to fill knowledge gaps. This resonates with our experiences of calls for social understanding of technical projects, where the social sciences are invited to inhabit a subordinate position that can service the problems set by the dominant framings of engineering or policy and provide accountability. But they also point to a third version of interdisciplinarity which they term an agonistic–antagonistic form of

interdisciplinary practice. Here interdisciplinarity is seen to stem “from a commitment or desire to contest or transcend the given epistemological and/or ontological assumptions of specific historical disciplines, a move that makes the new interdiscipline irreducible to its ‘antecedent disciplines’” (Barry and Born 2015: 12).

If our book offers a contribution to discussions about how to situate the social sciences and humanities vis-à-vis engineering and policy as a practice of interdisciplinarity, it is this third mode that most closely characterizes the ambitions of the volume. Seeking to speak for the social in projects of technical change is not about fixing and then communicating an immutable definition of social life, but attending to the circumstances within which different articulations of the social can be elicited, troubled, extended and experienced through inventive and creative encounters. As the contributions to this volume attest, such encounters are not easy. They require an openness, reflexivity and inventiveness to the slipperiness of the social as a “boundary object” (Leigh Star 2010; Star and Griesemer 1989). Attending to the social as a contested category, rather than a self-evident term, offers us an opening that we suggest allows us to speak across communicative boundaries and forge approaches to social life that are capable of travelling out from the pages of academic monographs, into

the minutes of planning meetings, the materiality of infrastructural forms, and into the wild, undisciplined spaces of collaborative knowledge production (Michael 2012). When we seek to find ways of speaking for the social, we approach this challenge as an inherently contingent, open, and situated process. Far from requiring a fixity of methods that can be easily replicated, what the volume shows is that forging interdisciplinary spaces for rearticulating the contemporary social in projects of technical change requires flexibility, creativity, and a receptivity to the significant affordances of methods as they are produced in particular times and places. In this respect this book might be read as a contribution to a wider conversation about rethinking social science as a practice of invention (Barry and Born 2015; Lury and Wakeford 2012; Marres et al. 2018). In this vein, several of the contributors make explicit the very conditions in which a knowledge of the social is methodologically produced so that the context is carried forward with the method itself (Dilley 1999). Other contributors reveal a multiplicity of socials, setting different versions of the social side by side, and explicate both the social and its genealogy as reflective of a different set of interests, politics, and preoccupations that carry equal weighting.

Inventive methods

To hear the voices of this wider range of objects, people, and things that constitute this version of the social, the contributions gathered here suggest that one way of reconstituting this relationship is through the creation of new methods: of engagement, communication and research. Framing the problem in terms of methods rather than communication offers a means of developing modes of engagement, alternative kinds of description, and fresh understandings of how the participation of social scientists in infrastructure processes might be conceived. It moves us from questions of how to transmit our knowledge, to broader questions about how knowledge is made, socialized and activated in practice. To understand this demands that we approach methods not just a means of describing an external reality, but as performative, world-making processes, with a capacity to bring that which they describe and reveal into being (Law 2004; Marres et al. 2018; Poovey 1998; Strathern 2005; Szerszynski et al. 2003). It is in this respect that we might characterize the approaches presented here as inventive methods, in that they are both invented (created anew in the course of research), and inventive (actively changing the world that they seek to describe) (Lury and Wakeford 2012).

All methods presented in this book are distinctive for the way they both enable understanding of the socio-infrastructural entanglements under study, and creatively engage with the question of who is being invited into a process of building and understanding the social implications of technical projects. We start with chapters that explore methods that emerged as tools or techniques to translate, smooth or rework the boundary between the social and the technical in projects of technical change. Johnson's chapter describes the creation of a method statement as a method in its own right, which sought to rework and translate understanding of community, carefully dismantling the notion of community as a group of stakeholders and attempting to insert a more contingent, emergent, and relational understanding of community relations. Smith recounts her attempts to introduce the technique, shared by actor network theory and material culture studies, of "following the object." Brought in this case to a collaborative research project looking at bovine tuberculosis, Smith traces out the latent possibilities of a method that would find sociality by following not people, but a pathogen. In Şalaru's chapter it is the ubiquitous method of all collaborative projects that constitutes her focus – the method of the meeting. Şalaru's contribution highlights how meetings perform different formulations of the social.

Meetings appear as a space of discourse where ideas are worked out; as sites of encounter between people and electric cars; and as generative of distinctions between social groups such as the project vs. the public. Reflecting on interdisciplinary collaborative projects as both metaphorical and literal meeting places between people and things, the meeting moves from ground to figure, allowing us to observe the work that the idea of meeting does in constituting where the social might be placed within socio-technical projects.

In the chapters that follow a series of methodological themes begin to emerge. Walking for example, figures in several of the chapters – including those by John, O’Doherty, and Knox, Jurgensen, and Atkinson. Here walking – whether in the form of a walk around a building, the walk across an estuary or a walk through the history of electricity in a city – offers a way of knowing infrastructures as things whose social implications are revealed only in the moment of moving through them (Mattern 2013). Moving through infrastructure becomes a way of both doing social research and inviting others into the possibility that the sociality of infrastructure might lie in the interstices between bodies, spaces, and the imagination. John illustrates this through an attention to the way the walk opens up phenomenological, affective qualities

of space, which fall out of the more ocularcentric approach of buildings designers. A tour through a building offers a reimagination of the social impetus for communal life, away from notions of transparency and visibility toward the idea of atmosphere. Here we find the social following not from the particular material arrangements of building design, but emerging from the interactions and relations that the method of the walk sets in motion as it moves through inhabited and repurposed spaces.

Another method that looms large is that of performance. Attending to the theatricality of interviews with nuclear industry officials, for example, Kalshoven shows in her chapter how social understanding emerges in the performative and rhetorical play of position-taking and that this is taking place even in that most conventional of social science moments, the formal interview. Repositioning interviews from moments of knowledge exchange to sites of rhetorical performativity, many of the latent social dimensions of nuclear industry life start to resolve into view, articulated not by the social researcher but by the manager or engineer as they are asked to reflect on the history and meaning of technical interventions. As with walking, the social is explored here in terms of what lies beyond the overt focus of the conversation. Kalshoven brings what is seemingly out of bounds back into view

to show how new knowledge and affective relations reconstitute the social in moments of interaction. Knox, Jurgensen, and Atkinson's chapter combines the walk and the performance to unpack theatricality as a technique capable of provoking an appreciation of the latent sociality of past, present, and future energy infrastructures. Describing a performative energy walk through the electric history and energy futures of the city of Manchester which they curated together, the chapter works to reveal multiple implicit versions of the social that frame the interactions between policy makers, activists, artists and anthropologists.

In Pschetz and Bastian's chapter, the social dimension of that seemingly most universal phenomenon, time, are elicited through practices of exhibition. By creating a series of temporal probes, which are objects which place time into relation with the visitors of a gallery space, the sociality of time is invited to emerge, appearing in, through and out of the probes as they elicit gasps of surprise, or an invitation for reorganization and the redesign of the temporal probes themselves. In contrast to O'Doherty's chapter, which takes exhibition as a practice that abstracts estuarial materials from their embeddedness within landscape, for Pschetz and Bastian, exhibition offers a collaborative, public, and reflexive way of rethinking time. If time, or the nuclear industry or an estuary or

a building are social, it becomes clear through these accounts that the social that appear through the use of creative methods that aim to both elicit and engage people in the problem of technology's social life, is never singular, always inviting new kinds of social relations, social problems or social definitions into the frame (Sansi-Roca 2015).

This leads us to our second point which is that an attentiveness to inventive methods draws our attention to the inherent contingency and multiplicity of the social as it appears, mutates, and proliferates in the context of infrastructure projects. One of the key points to emerge from the contributions gathered here is that there is not just one social for which we as social scientists should expect to be able to speak, but multiple versions of the social which are competing for relevance, attention, and power. One of the questions that we posed to our authors was to reflexively consider what kind of social their methods were eliciting and how this differed from other kinds of descriptions of the social implications of infrastructure that those they were working with might often deploy. Unpacking this has revealed some surprising resonances across practices or techniques that might otherwise look very different or distinctions between methods that on the surface look the same. In Thoburn's chapter, Brutalist architecture as an

example of the artistic method of “as found”, reworks the notion that Brutalism is always and only a form of commodification and gentrification, showing how the material commitments of certain forms of Brutalist architecture offered a powerful means of articulating and making visible class relations. If for Brutalist architects, what gets crafted is classed forms of urban life, for O’Doherty the method of making, walking and working with clogs formed out of estuarial clay at the borders Northern England and Eastern Wales, offers the material grounds for a refashioning of management and organization and a rethinking of the sites and practices of business. O’Doherty’s rethinking of the business of doing business in the toxic landscape of the Dee Estuary, multiplies the social from that to which businesses must be accountable to a more lively society of chemicals, crabs, samphire, and sediment who demand to be taken into account in rethinking the future of business in such blasted landscapes (Tsing 2014). What both these chapters share is an attention to the way materials as method can offer grounds for new ways of thinking, ordering, and organizing social life.

Finally, Geismar, Gethin, and Walford’s chapter on the digital archive moves our discussion of the social into considerations of digital design. Geismar, Gethin, and Walford recount the experience of trying

to build a digital database of digital objects in order to unpack the epistemological commitments and implied relationships that structure digital systems of organization. In doing so, they discover that the social that inheres in technical systems is not just something which social researchers should seek to speak for, but something for which we might also wish to extend relations of care. Building a database is as much about maintenance, repair, and the nurturing of relations with contributors as it is about revealing the implicit socials contained within technical systems.

Having reviewed the chapters of the book, this brings us to our final point, which is to reflect on the kind of social that we ourselves might be invoking, eliciting, and provoking by organizing this book as a catalogue. Ordering the contributions as items in a catalogue rather than chapters in a book is meant as a playful attempt to reflect on the implicit knowledge claims that are often made in edited collections or methods books and to position our contribution vis-à-vis those claims. Whilst we want this book to stimulate ideas, and to guide those who might be exploring alternative modes of engaging and articulating their role as social scientists in engineering and policy projects, the methods presented are not and cannot be universally applicable blueprints of methods that will work in any time and any place. The form of the

catalogue helps to highlight this by emphasizing the contingency of the collection of contributions that we have gathered and their ability to frame and re-frame one another. The catalogue is a form which is familiar to the fields of both engineering and the humanities. Catalogues of objects, technologies or tools, consumer catalogues or exhibition catalogues all function as a gathering of contingent items whose potential use is not mandated by the catalogue itself, which seeks to merely provide a navigation device for making visible and available objects which were designed with particular uses in mind. At the same time the ambition of the catalogue to arrange but not to dictate leaves open the possibility that those objects might be repurposed for the contingent circumstances in which they end up being put to use. Unlike an instruction manual which seeks to mandate a standardized, disciplined way of acting or proceeding, a catalogue, whether compiling a collection of clothes, screwdrivers, car parts, camping equipment, or methods, operates as an imaginative space of possibility to be revisited, but also to be reworked as the circumstances under which the need for such objects changes over time.

Our catalogue works in this vein to open up an imaginative space within which the problem of the social can be pragmatically addressed and creatively rethought. Instead of an index at the end of the

book, we have included a navigation device at the beginning. This navigation device takes the form of a technical diagram which connects and cross-references the key *domains of application* and *inventive methods* presented across the book. Connecting lines allow you to trace either a domain (e.g., energy, time, business) or a method (e.g., navigation, walking, exhibiting) into the various chapters where it appears. Each of the black bars on the right hand side of the page corresponds to one of the chapters, with the diagram enabling you to trace themes into and out of different chapters and to see where similar methods appear in different parts of the book. Our hope is that this will help you to trace links between different chapters, and to observe how similar methodological registers appear and are deployed in different circumstances. Our ultimate aim is to enable you to use the book as a reference tool or manual, providing ongoing inspiration and reflection as you seek to devise your own creative ways of speaking for the social in projects of technical change.

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Deploying the Social in an Engineering Co-design Method Statement

Charlotte Johnson

Engineering Comes Home was a cross disciplinary project piloting ways to include residents in the design of local infrastructure systems supplying resources such as water, energy, food, or waste management. It was created by Sarah Bell, Professor of Environmental Engineering, with the aim of developing a process for her concept of bottom-up infrastructure. That is, infrastructure designed to support the values and needs of a local community, in contrast to the top down approach traditionally relied on to manage urban resource distribution. Infrastructure is usually designed by engineering experts working for private or public sector clients. Bottom-up infrastructure is about

exploring how non-expert end users can be brought into the technical design process (Bell et al. 2017). Given the resource intensity of the consumption that large scale infrastructure facilitates, bottom up infrastructure is an opportunity for groups to rethink the systems servicing their local environment and explore alternative, more sustainable ways of producing, distributing, and consuming resources (Borrion et al. 2018; Johnson et al. 2018).

Sarah Bell assembled a small team that included designers (Rob Comber, Associate Professor in communication & human-computer-interaction researcher, and the design team at iilab), an engineer (Aiduan Borrion, Associate professor in UCL's Engineering faculty and specialist in Life Cycle Analysis), and an anthropologist (myself). Our shared ambition was to create and pilot open-source tools that could be used by researchers, designers, and community groups to engage in technical projects. I was employed on the project as a social researcher, and my role was to learn from the group of residents participating in the project how they managed resources and to work with them to identify areas for intervention in their housing estate. I used standard qualitative research tools such as semi-structured interviews, home tours, and resource use diaries to learn how participants consumed things in their homes. These research methods

were familiar to me and enabled me to link residents' activities with their resource consumption, such as, for example, cooking, cleaning, and washing. The empirical data these methods generated also allowed me to reflect, using an anthropological lens, how this consumption related to social factors such as societal norms, household finances, faith, or personal ethics. I shared the data and my interpretations with the team and we used them as the basis for a participatory design process that could identify alternative, less resource intense ways to consume resources locally (Johnson et al. 2018).

One of the project's overarching aims was to make a toolkit to support other teams in taking this approach to designing infrastructure. I was therefore asked to produce what the project called the "characterizing communities method statement." This was one of six method statements produced by the project to describe the steps in our infrastructure co-design process.¹ In essence, this document is a step-by-step description of using qualitative research to understand domestic resource consumption. However, writing the "characterizing communities method

1 The Engineering Comes Home toolkit is located at <https://www.bottomupinfrastructure.org>. All the tools including the method statements are open source and downloadable.

statement” caused me to reflect on my responsibility to speak for the social and how I went about it. Writing it highlighted several tensions between my understanding of the social and its operationalization in the project. First was the way we conceived community. From my perspective, a community contains some form of self-identification or sense of belonging, a recognition of a shared set of interests, beliefs or way of life. To an anthropologist, applying the label “community” to a group of people invites a need to investigate what exactly is meant by it and how people experience community through their relationships to each other and their locale, as well as to their past and their future (Rapport 2010). In contrast, our project used an instrumentalist approach, applying the term community to our group of participants. Our project needed a group of people who collectively held some stake in the built environment with whom to pilot an infrastructure design process. In short, our group was a community of place and interest because our process needed it to be.

A second area of tension stems from the way different disciplines understand the relationship between the social and the technical. While within the project we all shared an understanding of the technical as deeply entangled with the social, our intention was for

the method statement to be used by practitioners who may not share this critical perspective. Engineering is a profession which profoundly impacts social life, but has historically resisted engaging with the social, as outlined by Chilvers et al. (2011) in their recent call to make engineering for sustainability a socio-technical profession. The engineering profession relies on technical and scientific metrics to understand sustainability, which structure the range of possible interventions and limit broader conceptions of problems and solutions. There is also a risk that technical solutions designed to deliver sustainability against these metrics will fail to function if they do not align with the cultural, political, and economic realities of the people who are expected to use them and produce sustainable outcomes while reproducing their social worlds (ibid.).

Design as a discipline has also seen a change in how the social is understood and engaged with. User engagement has evolved from a point when designers held power, through their expertise, over a design process and the product user had limited input, to a point where designers support end users in becoming co-designers. The discipline has a history of user-centered design which was used by designers to consider how social context may affect the use of a design, and a strand of participatory design which brought end

users into the design process (Sanders and Stappers 2008). The current interest in co-design in the discipline brings together these two strands and aims to support end users becoming co-designers with power to shape the design process and outcomes. Sanders and Stappers (ibid.: 5) explain how co-design is changing the “landscape of design practice” because it seeks to open up the point of creativity. The designers’ expertise is being reconsidered and processes are being used to share this power with non-expert design-using communities.

There is a difference between the observational tendency of anthropology and the interventionist approaches of Engineering and Design disciplines. From my perspective, engineering and design share a similar process of problem or opportunity identification, exploration of solutions, and then design and delivery. From an anthropological perspective, the social is relational. Understanding a person’s role in an infrastructural system is to question the identities, values, and flows of power that the socio-technical interaction produces. There is therefore a tension between my understanding of the social as relational and the mode of operation within professions like design and engineering, which requires a way of working with the social to produce an intervention or output.

My instinct is to search for understanding. I want to question what the social is, and resist containing the social to an input or output of a process. Nevertheless, I was working in a project that aimed to intervene in infrastructure, with a group of people keen to explore ways of working with the social and with participants keen to test our process.

A frequent theme within accounts of inter-, multi-, or cross-disciplinary academic work on urban sustainability is the need to establish a common frame of reference and terminology to enable collaboration (Longhurst and Chilvers 2012; Petts, Owens, and Bulkeley 2008). Producing a method statement was about this, and was intended to be a way to implement a critical understanding of infrastructure as a socio-technical system common to anthropological and STS analyses (Harvey and Knox 2012; Anand, Gupta, and Appel 2018; Star 1999). The hope was to turn this perspective into a way of working that can be used by a team developing technical systems for communities. On the one hand it was simply a statement of qualitative research methods that can be used to understand the local context in which a technical system is or will be used. On the other hand, when producing this artifact I felt that I was turning my understanding of the social as relational into a tool that could be deployed in the same way that a

technical understanding of a drainage plan could be deployed, that is, to explore forms of interventions that could be possible in the socio-material context of a 1930s social housing estate in London.

A method statement is an artifact. Method statements should be available for any tool or process that a construction worker or engineer may use. This artifact needed to be written in a certain way, conforming to the scientific method standards of indirect speech, linear narrative, parsimonious prose. It is a template to be followed to ensure that the person implementing the process described has considered its appropriate use and taken steps to mitigate any associated harm. I felt, as I bullet-pointed and decontextualized, that I was making the social safe, turning it into something that could be used optimally when designing technical systems, and asking the user of the template to consider social inputs and outputs. Strathern's (2006) lively critique of bullet-pointing to create best practice documents argues that the form nullifies the content. The form removes politics, strips out debate, and suffocates understanding with banal statements. However, Strathern's target is the language of audit, and her core criticism is that it removes the ability for the reader to make meaning. Best practice governance documents do not support learning, they are

not about translating content into a form that lets another group understand it. However, the form of the method statement is about translating content into a form that can be used by another group. In one sense the form is about de-risking the use of a relational understanding of the social, and outlining how it can be deployed through an interdisciplinary process. For example, as I listed the need to reflect on the ethics of the project, I turned harm from something biophysical into something more critical, raising the question of the project's social effects and ensuring that the politics, the context and the possibility for meaning making remained. Yet the method statement also keeps biophysical harm and social harm on the same plane of knowledge as factors that can be included in a process (fig. 1.1).

The intention behind this method statement is that infrastructure designers can broaden their understanding of the forms of interventions and systems that are possible. The dominant paradigms of resource management (neoliberalism or ecological modernization) focus on individualism and prioritize consumer social relations over others. I felt the form offered a mechanism to embrace the radical potential of letting the social in, to lessen the focus on technical or economic potential but to consider "social potential" (Moezzi and Janda 2014: 30). The method

Raise the need to understand context and that this context is both social and technical

Initialisation	Detailed Design	Evaluation
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describe stages 1 of the co-design process. This method is used to understand context. This method should include aims, approaches and

community. In the process we had a list of all members of the community (one housing estate), our approach (through introductions or knocking), and the location (in case 1 letter, 2 door at where possible).

a walk-round of the location with a resident liaison officer of the council to understand the residents and representatives.

recruitment process visiting and during the weekend opportunity to say yes to the co-design (and line working practices)

in joining the project we had a research process and received contributions from participants (£100 for participating outputs, the data was withdrawn. We asked

The person leading the engagement process is responsible for checking for appropriate ethics guides, engagement best practices, and data protection protocols for their organisation, sector and location.

The person leading the engagement process is responsible for complying with local health & safety regulations, carrying out risk assessments and following lone working practices.

The key personnel involved in this stage includes team lead and social researcher and/or community engagement officer.

of tools

- Recruitment strategy spread sheet
- Project information sheet
- Project consent form
- Characterising the community tool set
 - Opening interview schedule
 - Home tour schedule
 - WEL practice logging
 - Ending interview schedule

resources and further reading/training

lone working guidelines

(Research Association) 'A Code of Practice for the Safety of Social Workers' https://www.researchassociation.org.uk/wp-content/uploads/safety_code_of_practice.pdf

reconstructing household practices

Armet, Sandra Bell, Steve Lyon, Gareth Powells, Ellis Judson, and Lynch. 2014. "Customer Led Network Revolution Durham City Social Science Research April 2014 Report."

... and R. Wilk. 1987. "A Method for Self Reporting Household Use Behaviour." *Energy and Buildings* 10 (1): 73-79.

Provide qualitative research tools that can generate data on "lay expertise" or social values underpinning consumption

Fig. 1.1: Annotated engineering co-design method statement.

statement describes a simple process to understand the social realities of a group of people and make use of this to support environmental change. The hope is that this process engages with the potential subjectivities that are enlivened by infrastructure and opens up how sustainability is conceptualized and designed for. Understanding the social as relational means allowing people to question which relationships can provoke action and facilitate change, to explore which social identity has agency and under what circumstances. The process should allow those pursuing intervention to question how change is achieved: Through our identities as consumers, as citizens, or as carers? I wanted a tool that could give people the opportunity to act on the social, to create systems that draw on relationships of care, or compassion, or other social relations. The Characterizing Communities method statement is an attempt to achieve this, by asking engineering and design professionals to consider how they bring the social into their process of infrastructure design.

As an anthropologist whose work focuses on how our cities can reduce the amount resources needed, when speaking for the social I am trying to bring the potential for radical change into the way inter-disciplinary teams evaluate future possibilities. I want to assign the possibility of producing this change to the

social. This is an urgent issue to consider given climate change, and also perhaps part of a broader academic drive to rethink the ivory tower and the kind of tools for change that are produced within academia.

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Finding the Social Amid Pathogens, Cattle, and Scientific Research

Constance Smith

“What happens if we follow the pathogen?” asked my boss and social science team lead, at a workshop in Addis Ababa for researchers on a large interdisciplinary project about bovine tuberculosis and dairy farming in Ethiopia.

Bovine tuberculosis (bTB) is an infectious disease affecting cattle, caused by the bacterium *Mycobacterium bovis* (*M. bovis*). It is also a zoonotic disease, meaning it can spill over from cattle to infect humans, as well as other mammals, with tuberculosis-like symptoms. Transmission to humans primarily occurs through consumption of infected milk, though infection can also happen by inhaling airborne droplets directly from cattle. Reservoirs of infection can reside

in wild animal populations such as badgers and deer, and the UK's ongoing battle with bTB is frequently in the news for the controversial technique of badger culling favored by some authorities as a control measure (Woolhouse and Wood 2013). Until recently, bTB was not a major concern in most African countries as indigenous cattle are resistant to the disease. But in Ethiopia, bTB is rapidly on the increase, associated with an intensifying dairy farming sector that relies on new breeds of cattle imported from Europe. In this context, I was hired as a social science coordinator within a large multi-disciplinary research project led by veterinary scientists, with a roughly fifty-fifty split between UK-based and Ethiopia-based researchers. The project's objectives were to better understand the dynamics of bTB in Ethiopia, undertaking a wide range of field and laboratory research that would refine diagnostics and testing and develop strategies to mitigate the impact of the disease on humans and animals. The role of the social science team was to work on "social" issues related to bTB, including its impact on "stakeholders", consisting of cohorts as diverse as farmers, milk vendors, government officials, and public health and veterinary officers.

Back at the workshop, following my boss's question, others in the room looked at her somewhat askance. Their skepticism seemed to say, what did a

social anthropologist know about pathogens? More specifically, what did following a pathogen have to do with a workshop to develop social science methods for exploring the social impact of bTB? Our team was quite a diverse group of social scientists, including social anthropologists and sociologists as well as quantitative agricultural economists, with different methodological preferences. As we considered various methodologies for examining farmer livelihoods, cattle trading, local dairy industries, food consumption, and farm management, the workshop had become somewhat stuck in a debate about the relative merits of survey sample sizes, and how many interviews would be needed to accurately represent, or, in the terms of this volume, “speak for”, the cohorts of people affected by bTB. Frustrated with the positivist bent of the conversation, and with some assumptions being made in the wider project both about supposedly unknowledgeable farmers and the role of social science as provider of “useful” data for the “proper” science, my boss’s comment was a deliberate non-sequitur, an attempt to shake up the conversation. She wanted to get us to think differently about the task at hand.

In this short essay, I explore what it might mean for researchers to “follow the pathogen” as a technique for considering the social in science-led research.

Instead of presupposing the social as a purely human category, it conceives instead of a contingent landscape in which the social is constituted through the shifting relations between all kinds of entities. This more networked way of thinking posits that if we could follow the pathways of *M. bovis* as it moved in and out of animal and human hosts, dairy products, farms, and value chains, then we could start to see how it constituted its own particular ecology, setting in motion all kinds of decisions, policies, health-seeking behaviors, and consumption practices, not to mention research agendas, in which the social was made visible in new ways. This would, my boss hoped, allow us to ask different kinds of questions, forging linkages between disciplines, project teams, and research questions.

Since Sidney Mintz's (1986) classic study of sugar, "follow the thing" methodologies have seen anthropologists and geographers, among others, trace objects through complex networks of production, trade, labor, and extraction back to their origins, as a way to understand the value chains of globalized capitalism and the "social lives" of commodities we take for granted (Appadurai 1986; see also Harvey 1990; Cook et al. 2006; Hulme 2017). A related trajectory in Science and Technology Studies goes

further, examining the role of nonhumans in shaping social life. Actor Network Theory (ANT) decenters the notion of the social as a domain of solely human subjects in favor of a networked understanding of relations between humans and nonhumans (Callon 1986; Latour 1993b, 2007). These scholars argue that it is through examining the shifting flows and arrangements of relations between different types of actors that the social takes shape, a perspective in which nonhumans are also constitutive of the agentive world in which we find ourselves (Michael 2000). The suggestion that we follow the pathogen of bTB did not come out of nowhere, therefore, but drew upon a rich social science trajectory seeking to re-engage with an active and efficacious nonhuman world, undoing distinctions between lively subject and dull object. Indeed, one strand of this scholarship has emerged directly from contemplating pathogens and how their control has been crucial to ordering the modern world. In *The Pasteurization of France*, Bruno Latour (1993a) explores the emergence of modern bacteriology, showing how Pasteur's discoveries about fermentation and contamination in wine, and his development of techniques that would become known as pasteurization, were as much due to the agency of microbes and the relational effects of socio-political transformations as to the individual genius of Pasteur himself (Nimmo

2011: 114). Pasteurization would become foundational to the modern dairy industry: rapidly heating and cooling milk kills bacteria, including *M. bovis*, allowing it to stay fresher for longer. Along with other technologies such as refrigeration and the railway, this enabled the organization and commercialization of a dairy sector that could transport milk hundreds of miles from rural farms to urban consumers (Nimmo 2010).

Such infrastructures and technologies are now entrenched in European and North American dairy industries, but the situation in Ethiopia, the focus for our project, is somewhat different. There, bTB is a relatively novel disease, its spread entangled with an intensification of dairy farming, and consequent changes in relations between humans and cattle. Ethiopia has the largest cattle population in Africa, which until recently was managed through extensive grazing and herding systems reliant on indigenous *zebu* cattle that are largely immune from bTB. But rising urbanization has prompted a growing demand for milk and other dairy products, encouraging smallholders and other farmers to take up government subsidies and invest in more intensive dairy production. This relies on imported Holstein-Friesian cattle breeds that, though they produce more milk, are also

more bTB-susceptible, and which are permanently housed indoors, increasing risk of infection. Ethiopian dairy value chains have not kept pace with increased demand, and pasteurization capacity is low. This is compounded by a strong consumer preference in Ethiopia for unpasteurized milk, as well as high levels of informal milk vending which makes centralized regulation very difficult. Our project therefore tried to be rooted in this complex landscape. Though led by veterinary scientists, it adopted a multi-pronged approach as it sought to understand the causes and effects of bTB in Ethiopia, with a wider impact objective to design animal control strategies, develop public health campaigns, agricultural policy interventions, and improved disease surveillance. This necessitated research taking place on a variety of scales, from on-the-ground research by medical doctors and veterinarians, agricultural scientists, public health specialists, and social scientists, to epidemiological and systems modeling to plot disease dynamics, to immunology and vaccinology research working towards vaccination as an effective control strategy.

From the perspective of the project PIs, as well as Ethiopian government and research partners, bTB was in this way understood to present a wide range of challenges across many areas: for veterinary and public health, agriculture, food production systems,

and government policy, as well as for communities that rely on cattle and dairy products for their livelihoods. But from an ANT standpoint, we can also start to see how tracking the networks set in motion by bTB might provide a way in to connecting apparently disparate yet far-reaching social and economic changes in Ethiopia, from urbanization and visions of agricultural growth to middle class consumption and global networks of trade and disease surveillance. Further, for an anthropologist trained to think critically about the production of knowledge, the project itself presented a fascinating assemblage of expertise, technologies, and interventions that were trying to work towards a common objective, but which in reality were not always pulling in the same direction. In the last few decades, there has been a surge in social science attention to scientific and technical expertise, as well as to human–animal relations and zoonotic diseases. This has perhaps been seen most clearly in the converging interests of anthropology and Science and Technology Studies in topics such as laboratory cultures, medical trials, expertise, technocracy, and scientific infrastructures, which have become themes of major ethnographic concern (Latour and Woolgar 1986; Boyer 2008; Carr 2010; Crane 2013). To follow the pathogen, then, was not just to call upon

ANT approaches to conceiving the social beyond the human, but also to draw on this wider scholarship to understand how bTB experts and their practices, institutions, and methods of enquiry might shape how certain scientific problems are identified and interrogated, and what measures and interventions must be mobilized to address them (Crane 2013). This multi-stakeholder, international, interdisciplinary animal and human health research project would seem an ideal case study for examining such concerns.

And yet, that was not why I was there. Within the larger scientific aims of the project, our team of social scientists was expected to produce knowledge according to what were perceived to be our specific areas of expertise: generating data about risk factors for bTB prevalence; examining the economic impact of bTB; finding out what were bTB-related risk behaviors and how to mitigate them in communities, and identifying how to make the interventions that the scientists might recommend more acceptable to farmers, consumers, and other parties. The social here was understood to be the non-scientific, pertaining to such preconceived categories as community, the public, and culture. Essentially, following the logic of many development interventions, the project had already glossed “the social” to mean that which related to “stakeholders”; our job was therefore to work with local stakeholders

to provide data to feed the scientific research, and in turn to transmit the project findings and outcomes back to other categories of stakeholder in ways that made the science more palatable or understandable. In this way, as well as conducting our own work on livelihoods challenges, milk production and consumption, trade, human-cattle relations, or local health ecologies, the social science team was frequently called upon to act in a variety of roles: as translators who could make sense of local habits or customs, data collectors providing demographic or economic figures to feed into mathematical models, educators who could lead behavior change workshops, and as policy implementation advisers who could help to make interventions more acceptable.

Our team of social scientists was also internally diverse, ranging from anthropologists to quantitative agricultural economists. Our methods approached the social in more nuanced ways than the stakeholder model assumed by much of the rest of the project, but we all had different ideas about the parameters within which we were working; that is, where and how the social might be located in this science-led project. Some argued that we should prioritize the quantitative analysis of large survey data exploring questions of trade, farm management, incidents of ill health, and farmworker employment. Others proposed

modeling and measuring dairy farm productivity and efficiency, or conducting long term ethnography on farming and animal husbandry techniques, or market research on milk and cheese consumption. The varied methodologies were not always complementary, and tensions sometimes arose about how our work should feed into the wider project.

It was in 2015 at a workshop on qualitative methods that the suggestion to follow the pathogen emerged. Coming after the introduction provided here, hopefully this does not now seem such a perplexing proposition as it did to some team members at the time. It echoes a well-known ANT refrain to “assemble the social” by “following the network”, that is, tracing the ways in which messy and heterogeneous connections and associations between many types of actor come to produce what we think of as social relations (Callon 1986; Latour 2007). But at the workshop, the suggestion was so surprising to many of our colleagues that it prompted a short silence, followed by widespread discussion. What would it mean to begin qualitative research, presumed to mean interviews and focus group discussions, by starting from a pathogen rather than a person?

By putting *M. bovis* at the center, we could start to think about the ways in which sociality, politics, and environment are enmeshed and brought into

being through multi-species, multi-entity worlds (Latour 2007; de la Cadena 2015; Tsing 2017). Zoonotic diseases, including bTB, move back and forth across species divides, necessarily enmeshing animals and humans in particular viral or bacterial networks. Certain zoonoses such as Ebola, avian flu, or SARS have become notorious through recent disease outbreaks, and the lessons learned – or not learned – from them have resurfaced with renewed force with the COVID-19 pandemic, itself a zoonotic disease (Leach 2020). The global spread of the novel coronavirus, understood by some to have emerged in animal reservoirs with zoonotic spillover occurring in China, has realized many epidemiological fears of microbiological catastrophe (Maxmen 2022; Lynteris 2016). It has demonstrated both the entanglement of animals, humans and pathogens in global mobility economies, enabling diseases to spread at scale and at great speed, and their capacity to bring vast aspects of human life almost to a standstill (Xiang 2020). The emergence of novel strains of influenzas, coronaviruses, and others is not new, but the consequences of mutations and the effects of spillover have intensified in recent decades. What has changed is the way we encounter such pathogens. Changes to food production systems such as intensive farming and large-scale meat processing, growing antimicro-

bial resistance, faster and more expansive international trade networks, and new forms of multispecies interaction are affecting the intensity, frequency, and potential global reach of zoonotic disease outbreaks. In light of this, to equate “the social” only with “stakeholders” is to engage in what Latour (1993b) described as purification: the artificial separation of humans from environments, pathogens from hosts, cattle from farmers, citizens from healthcare systems. The lived topography of bTB transcends bodies and geographies, whether the focus is on international cattle trade or drinking milk (MacGregor and Waldman 2017).

At the workshop, after some debate, we decided to try and visualize what “following the pathogen” might look like. We broke into groups to discuss issues of animal infection, farm risk and decision-making, labor, and food preparation. It was relatively straightforward for us to map potential infection routes, following a hypothetical *M. bovis* bacterium as it traversed the different topographies of cattle and human bodies, homes, barns, milk containers, cattle trucks, and so on. Along the way, as key sites of risk emerged, so too did new questions, helping us to frame our enquiries slightly differently. Instead of asking a farmer “how many bTB infections have you had in your herd?”, we could start to trace instead what happened when the

farmer discovered her herd was infected. Did she close off her farm and inform the local veterinary officer? Or did she hurriedly start selling infected animals before anyone found out? Where was the milk from her farm going and what was happening to it next? Had any workers on her farm started developing respiratory problems? Could we trace infected cattle back to certain markets or sellers? From there, we began to draw networked maps of the project, making new kinds of associations between different disciplines, field sites, work packages, and research questions.

Following the pathogen did not magically solve our challenges of conflicting methodologies, managing the problematic category of “stakeholders” or the demands for translation and explanation of matters relating to “community” and “culture”. But it did help us to begin a new kind of conversation, both within the social science team and across the project more broadly. Rather than the social science component being an add-on to the core scientific objectives, there to improve impact pathways or raise public awareness, we could start to integrate other kinds of questions into the overall process of the project. Once we began to establish, for example, that farmers were less concerned with bTB infection than they were with drastically fluctuating fodder and milk prices, we could chart how actions by farmers, dairy coopera-

tives, and brokers to maximize income at times of low milk prices – through less thorough pasteurization or offloading dairy cattle, for example – had major downstream consequences for bTB transmission. This was important for the epidemiological modeling, and also for designing policy and veterinary interventions.

If we were starting the project afresh, then in an ideal scenario these kinds of interdisciplinary, networked ways of thinking could have happened much earlier, perhaps at the point of developing the research proposal and funding bid. It would be possible to develop an innovative and truly transdisciplinary project by putting *M. bovis* at the center, in which researchers of all stripes committed to following the pathogen and seeing where it led. This would require not setting out to test pre-conceived hypotheses, or translating scientific findings for stakeholders, but a commitment to being comfortable with the unknown by adopting open-ended ways of thinking that start from exploration as much as expertise. It would also require a commitment from funding bodies that is at odds with much of the current landscape of research finance. As it was, the project had already been underway for two years when this conversation began, and it was simply not practical at that stage to restructure research teams or redirect whole pathways of enquiry. As with all large research and impact

projects, we were also constrained by the objectives and priorities of the funding call, the interests of the partner organizations and the capacities and experience of all the researchers involved. We also still had some very tangible project outputs that had to be generated, such as policy briefings, improved diagnostics and testing, models and PhD theses. It was therefore not possible to rigorously implement ANT methodologies across the project, nor could we radically shake up the project design or its discipline-specific work packages.

Given these constraints, for us “following the pathogen” remained a largely heuristic exercise, a thought experiment rather than a project methodology. But what it did do was to help the project imagine the social as an assemblage both much larger and smaller than the bounded human figure of the stakeholder. The somewhat iconoclastic character of ANT and the open-ended possibility of following the pathogen helped to break open some conventional assumptions about our methods and research participants, and to think about the contingent relations between humans, animals, diseases, and knowledge production. It also began a conversation about how our own investigations and associations were also constitutive, themselves interventions in the complex landscape of bovine tuberculosis.

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Those who are interested in the possibilities of following networks of things, pathogens, actors, or others, and who wish to practically deploy this as a research method, might find the following texts useful as a starting point:

Hulme, Alison. 2017. "Following the (Unfollowable) Thing: Methodological Considerations in the Era of High Globalisation." *Cultural Geographies* 24, no. 1: 157–60. DOI: 10.1177/1474474016647370.

Latour, Bruno. 2007. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

MacGregor, Hayley, and Linda Waldman. 2017. "Views from Many Worlds: Unsettling Categories in Interdisciplinary Research on Endemic Zoonotic Diseases." *Philosophical Transactions of the Royal Society B: Biological Sciences* 372, no. 1725: 20160170. DOI: 10.1098/rstb.2016.0170.

Nimmo, Richie. 2011. "Actor-Network Theory and Methodology: Social Research in a More-Than-Human World." *Methodological Innovations Online* 6, no. 3: 108–19. DOI: 10.4256/mio.2011.010.

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Do Androids Dream of Electric Vehicles? The Meeting As a Method in Projects of Socio-technical Transformation

Maria Şalaru

In a *New Yorker* cartoon on March 16, 2020, a man in a polka dot pajamas and slippers is sitting at his desk, looking at his laptop with hollow eyes and his right hand on his chest. “My God... those meetings really *could* all have been e-mails.” A silver lining of working from home during the COVID-19 pandemic, the lack of face to face meetings has pointed towards the bad reputation of this institutional ritual. However, in this contribution, I will argue there is more to meetings than meets the post-it. I will reveal the ways in which meetings operate as key sites in which

multiple understandings of the social are constituted and transformed. Taking the meeting as a ubiquitous but generally overlooked method of speaking for the social, I will move away from a narrow interest in their content and aim, to address the specificity of their participants, location and form. This will allow me to examine what is practically and conceptually at stake when people meet.

In this chapter, I will draw on my experience working as a postdoctoral research associate in an EU-funded project at Durham University titled the PEOPLE project (People-Centered Development Approaches in Practical and Learning Environments). Running between 2017 and 2019, it was a project of socio-technical transformation that brought together Higher Education Institutions from the social sciences with industries from the sustainable living and energy sector. New learning modules were embedded in degree programs in the UK, Slovenia, Czechia, and the Netherlands, which had two aims: (1) to enable students to gain valuable practical skills to complement their theoretical education; and (2) to demonstrate the value of that education for industry and the third sector.

In Durham, our project aimed to help Durham County Council (DCC)'s Low Carbon Economy Team identify how it might sustain and encourage

the growth of electric vehicles in the area. To do so, the PEOPLE team (made up of students, faculty, and DCC advisors) decided on the research aims, among which understanding drivers' experience and assessing current barriers and possible incentives for EV uptake. The socio-technical transformation that was at the core of our work involved local drivers, roads, and charging stations, the digital infrastructure that allowed drivers access to the stations, and the electric vehicles themselves. As we will see in the following pages, the team members attended meetings with various social actors, including these material and digital objects.

The project was thus an analysis of collaboration between different European universities, between universities and industry/the public sector, and between students and the city. We continually reflected on the inner workings of this collaboration, and we did this through meetings. By focusing on the meeting as a method, I am making a case for attending to the social in the form of the project itself and analyzing the potential that emerges when we conceptualize the project in terms of a series of meetings. How does the frame of the meeting help us see what actually happens in a project of socio-technical transformations? What kinds of encounters does the meeting allow?

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“In a world that thinks of itself in terms of anonymous masses of faceless functionaries, on the one hand, and networks of personalized consumers or constant communicators, on the other, what is a gathering of a handful of people?” asked Marilyn Strathern in the afterword to a special issue of the *Journal of the Royal Anthropological Institute (JRAI)* on meetings (Strathern 2017: 201). Turning individuals into social persons, meetings have been a key ritual of modernity. However, due to the familiarity of the practices through which meetings operate, they have been surprisingly absent as an object of analysis in social theory. Instead, they have often been the modest backdrop. Most often than not, meetings have been a process to achieve something and not an aim in and of themselves. In the PEOPLE project, however, meetings were the aim. In other words, the authors of the project wanted to create a meeting space for industry and academia. Thus, the meeting was a practical answer to the question of how to bring about change in a project of social transformation, and is thus an analytical focus of this chapter.

It is worth taking a moment to think of the initial meetings where the conceptualization of the project

took place. In them, there were specific imaginaries of the socials that were implicated in academia and the energy sector, and these were refined continuously throughout the project. For instance, the project set out to address the lack of social science expertise in the energy sector, as well as the lack of applied work in academia. However, in Durham we were based at the Durham Energy Institute (DEI), a subsection of the university that was renowned for such collaborations. At the same time, some of the consultants working for DCC had graduated from masters programs taught at the DEI. There was also a trusting relationship between the DEI and the DCC, built on the long-standing collaboration between Prof Simone Abram and Prof Sandra Bell at the DEI, and Maggie Bosanquet, the Low Carbon Economic Development Manager at the DCC.

Apart from the subtle ways in which this institutional specificity framed our project, it is also important to attend to the relationship between the “big” social and the “small” meeting. In the project proposal, the partners stood for academia and the public sector. As such, meetings could be seen to miniaturize society as such: a particular kind of society, “describable in its parts (taken apart for descriptive purposes), actionable indeed a bit a time, and forever curtailing what lies beyond it” (Strathern 2017: 200). In the

following, I will argue that with each meeting, a different instantiation of the social was enacted, which “conjured up external contexts as the object of their purpose” (Simone 2017: 28). These contexts crucially involved the city itself, with its messy material and digital infrastructure of EV chargers.

This brings me to the second kind of meeting, the one with the object. In the introduction to the *JRAI* special issue, meetings are conceptualized as “dynamic sites in which networks are extended but also cut (Strathern 1996) in situated articulations of people, documents, technology and infrastructure” (Brown et al. 2017: 14). Linked with valuable insights from Actor Network Theory (Latour 2005), this could encourage us to see meetings as sites in which people and materials are assembled as networks with more or less durability and capacity to act (Brown et al. 2017: 14). When asking what is included and excluded in meetings, the answer in our project was often as broad as possible, encouraging an understanding of the social that was not only people-centered.

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On a cold December morning in 2018, our four students met to drive an EV in the city of Durham,

from charging point to charging point. They met with each other, but also with the EV, and this meeting gave them insights otherwise unavailable. While the driving process itself was very smooth, they struggled with the large variety of charging mechanisms. They could not charge the vehicle in some stations, while in others they found it difficult to pay. This led them to ask their research participants more precise questions about their driving and charging experience. More importantly, however, it led them to use the material infrastructure as a source of learning.

The students uncovered the difficulties in using the charging technology, from hardware malfunctions to the overwhelming variety of the charging points themselves. As one of their research participants said: “People do not want four or five cards, they want one... some [charge points] take card, some coins, some fobs; some need apps. Anyone should be able to operate any post” (student report). Indeed, the students had counted five networks of charging stations, four kinds of EV connectors, three methods of payment (card, app, and fob). Drawing on their meeting with the EV charging infrastructure, they thus advised the Low Carbon Economy team at DCC to focus on the reliability of the already existing infrastructure, sharing suggestions on addressing malfunctions, standardizing payments, and choosing better locations. Their

findings were taken into account in the Council's EV Strategy and were included in funding bids for future infrastructure developments.

What is important to note at this stage is that even if the students had not provided DCC with valuable insights, the meeting would have still been successful from the project's point of view. What was at stake here was the process of learning *through* meetings. Apart from driving the EV, the students interviewed a wide range of drivers and EV professionals, conducted an in-depth literature review, visited a charging infrastructure provider, and carried out censuses in car parks. They worked together as a team productively and separated themes among themselves, from journey patterns to gender divides, from EV costs to the quality of the charging infrastructure. They met one another at the university, in cafes, and in their various field sites (charging stations, various roads, private infrastructure companies, EV drivers' homes). Their meetings thus morphed shape each time: at times, they had an agenda and resulted in minutes, at times they were open and exploratory.

Among the meetings above, one particular kind stood out, the one between students, faculty, and DCC in the Brutalist building of County Hall. The seven-floor building welcomed us with a mural of a

miners' gala in the entrance hall made by Norman Cornish, who worked as a miner before becoming a professional painter. It had been commissioned by DCC to mark the opening of the building in 1963, and to evoke the mining history of the area. We waited in this impressive entrance, with visitors' badges clipped conscientiously on our coats. Walking through the long corridors of the building together with one of the Low Carbon Economy team members, we followed on the exposed concrete beams on to a long flight of stairs: "Each time, it's like a rite of passage," one of the students huffed and puffed, "you have to work hard to be worthy of joining the meeting."

Inside the meeting room, one found the usual suspects of the material culture of such meetings in the County Hall: the long, round table, the projector, the white board, the coffee, the sandwiches. This, we realized soon enough, was just as important as the topic of the meeting. Here we were, making jokes and telling stories, learning how to be together. By the time the students started their presentation, a convivial atmosphere had been created – indeed, such moments would be photographed by the students, and shared with other team members or research participants, making the meeting part of the key framework of their project from their own perspective. Their presentation began with the experience of driving the EV and

continued with detailed descriptions of the driving routines of the people they had interviewed. DCC team members suggested ways to go forward with the research and volunteered to contact possible research participants. On their way to a celebratory beer at the pub around the corner from County Hall, the students would share impressions of the meeting, and count the numbers of times they had said “co-creation.” The meeting, in their view, had been a success.

These meetings offered opportunities to regularly share their preliminary findings with the rest of the PEOPLE team and to refine their research strategy. This points to the iterative quality of meetings. It is not just about a meeting, but the process of meeting over time. Indeed, what was unique about this particular research was the constant flow of communication between all team members via the form of the meeting. The DCC team joined each class in the PEOPLE module and they contributed with ideas and resources. In between classes, they communicated with the rest of the team on Slack, a digital meeting space of students, faculty, and DCC members who suggested readings, possible research participants, events, etc. Through this process of meeting online and offline, the entire team was involved in the research process, from defining the research question, to establishing the methodology and assisting with data analysis.

This invites the question: When does a meeting begin and when does it end? More even, what is a meeting?

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Understood as “prescribed spaces for coming together” (Brown et al. 2017: 10), meetings are most often defined in terms of their attributes. They are assemblies that aid the functioning of a group, planned in advance, framed by particular documentary practices, and involving a particular material setup containing tables and stationery. They have very specific coordinates, especially in more formal meetings: “[D]iscussion must be generated, but talk must be controlled” (Strathern 2017: 202). They are mechanisms that help make decisions, and have been so since the 18th century (van Vree 1999: 11), bringing the “meeting-ization of society” in postwar understandings of “good governance” (Morton 2014). A complexity of meanings, actions and relations are thus animated by the meeting, which is a very particular and pervasive social form.

In the PEOPLE project, meetings took the form of visits, conferences, driving sessions, walks, site visits, classes, and online calls. This resonates with Knox’s description of *social 4* in this volume: “the social not as something stable that needed to be described, but as

a more relational, unstable, emergent and ongoing quality of being. [...] something that could be elicited under particular staged circumstances, made to reveal itself as artefact of historical and infrastructural circumstances, and in the process of being brought into view could also create the conditions for its transformation” (Knox et al., this volume: 209). In her chapter, the performance walk, operating as a meeting of sorts, becomes a layering of stories, memories and interpretations, and the city, an active participant in the research process. Similarly, in the students’ meeting with the EV car, the location contributes to the content of the meeting in surprising and productive ways.

While this is the most striking example, each meeting of the project had a similar effect, transforming participants’ understanding of the socials that were involved in the project. Everyone left these meetings with a newly articulated understanding of the other different from the one they entered with. If at the beginning the students entered with an understanding of the social that was involved in local government as a formal one, framed by long corridors and dusty bureaucracy, they left each meeting with a novel idea about the informal or even wild policy (Lea 2020) processes through which decisions are made and limitations that local budgets can impose.

More importantly perhaps, they learned how to speak to public servants in a way that resonated with their daily work, and they found ways to draw their attention towards the possibilities that arose from their research. During a particularly striking meeting, a member of the EV task force raised their hand: “I’ve been to so many of these meetings about EVs, and they’re all so boring.” The students visibly tensed. “But you have managed to actually bring something new to the table.” He went on to elaborate on the elements of their work he had never considered, and the meeting ended with plans for baking a Guinness cake for their final meeting at the DCC.

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In the introduction to this volume, Knox and John suggest that the topic of socio-technical change has been explored extensively as a theoretical question within the social sciences, but less so in the context of actual projects of socio-technical change. Advocating for a new kind of collaborative, applied social research, the volume opens up new possibilities of analysis for projects such as PEOPLE, which were specifically aimed at this very application and collaboration. Although many people have thought about collaboration, few have addressed possibly the most ubiquitous form

in which you do collaboration: the meeting. I have revealed how meetings help us focus on the ways in which the social manifests in the form of social projects that allow for collaborative applied social research to successfully develop.

In this essay, I also put forward a specific kind of materially grounded research that pays attention to the *stuff* that cities are made of and allows that stuff to also be understood as a key participant in project meetings. Although the name of the project, and indeed, its overt methodology, suggest a people-centered approach, I have shown how the team drew the material and digital infrastructure of the city into meeting spaces, in an attempt to understand the relationship between drivers, cars, charging stations, and the city. Material engagements with the infrastructure, enabled by the vernacular form of the meeting, thus created novel insights into the charging infrastructures. The students thus included them in the “wider range of entities [that] must be gathered into public engagement processes” (Knox and John, this volume) needed in response to the “infrastructural turn” in social studies (Larkin 2013; Harvey et al. 2017).

Apart from this analytical approach towards urban infrastructures, what is there to be taken away for others who might be interested in similar collaborations? DCC were themselves interested in

and influenced by collaborative methodology which operationalized the meeting as the basic method for doing collaboration, and they were keen to apply it in a different setting. Can it be done straightforwardly? Yes and no. Certain elements of the methodology could be deployed beyond the domain described, such as the continuous reconsideration of the social actors involved in the project, be they human or nonhuman, or the attempt to invite collaborators into each stage of the research, from the conception of the research question to the methodology, the analysis, and the dissemination.

What a focus on the meeting allows us to see is the work that goes into transforming a meeting into a space of social (re)production. Here, two things were crucial: resources and trust. Meetings take up people's time and take resources to organize. To speak for the social is not simply a discursive exercise of representation, but a practical exercise of co-production, which requires a level of investment to pay for people's time. This raises an important question in relation to collaboration more generally and the broader economies of meeting: Who is excluded if funding is not considered? The second thing I would like to stress is trust. For meetings to enable the complexities of the socio-technical to emerge, people had to either already know each other or be willing to get to know

one another. Meetings are formal mechanisms of organizational life, but they are also sites of conviviality. For meetings to operate as sites for the speaking of the social, trust and a depth of relationship is key.

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The Benefit of Birthing Forth Insights: Reflections on Rhetorical Moves in Ethnographic Conversation

Petra Tjitske Kalshoven

An anthropologist involved in fieldwork on technical projects is commonly taken to be a social scientist who can help solve problems of a non-technical nature – anything having to do with social dynamics, communication, or company culture, and in particular the improvement of these, must lie within the anthropologist's competence. Solutions to social problems is what many of my discussion partners (managers, scientists, engineers) in and around the nuclear industry in West Cumbria expect my ethnography, as a contextualized organizational analysis, to deliver. Rather than being left to ponder wonders of perception and morality, I have found myself looked to as the

person that may deliver “benefits” in the realm of the social. As someone who likes to maintain some critical distance and who is reluctant to perform the role of an underpaid consultant, I tend to resist and I plan to keep resisting. And yet, I find myself admitting that enlightening, perhaps even useful things do happen in conversations where one is thought of as the expert “speaking for the social,” with potential benefits for both researcher and discussion partner.

What is more, I acknowledge that I play an active role in making things happen in conversation. Having been struck by the rather one-sided emphasis on the technical and technological in a region dominated by the nuclear industry, with skills academies catering primarily to nuclear engineering and project management, I feel I am on somewhat of a mission to highlight the benefits (and even the moral requirement) of taking a step back and reflecting on taken-for-granted assumptions of what constitutes expertise, what educational requirements need attention, or how “the social” might benefit “the nuclear.” This piece, then, is both a confession and a plea to acknowledge, and even celebrate, rhetorical moves in research conversations. I will use the so-called Socratic Method, a line of questioning associated with the ancient Greek philosopher Socrates, as a lens through which to illuminate the method that I advocate here: namely,

the use of rhetorical moves in conversations, as part of the ethnographer's toolkit, aimed at eliciting salient responses that make one's technically-inclined discussion partners speak for the social *themselves*.

Expecting the unexpected

Social scientists play an increasingly prominent role in attempts to encourage the public to engage with science and technology. Reflecting on social science research that arises from such projects of engagement, meant to foster inclusivity and give voice to people otherwise not necessarily part of the discussion, Mike Michael (2012) writes that "misbehaving" research participants (those that act in ways that do not align with an event's framing or conceptualization) tend to be sanitized out of social science research results. In these cases, part of the social is thus erased as the social scientist chooses not to speak for it. Instead, Michael urges, paying attention to such misbehavior could enrich the analysis. In my ethnographic work with the nuclear industry, I am not directly involved in this kind of public engagement.¹ Discussion partners

1 I have been involved, however, in experimental workshops where members of the public had been invited to participate (June/July 2019, Sellafield Site Futures workshops; see

in the nuclear industry, however, do tend to associate social science with an expertise in knowledge transfer, in making the public understand or be more accepting of nuclear opportunities – so they expect a social scientist to facilitate projects of engagement as described by Michael.² Michael’s highlighting of a tendency among social scientists to focus on clearly framed project outcomes leading to useful results is surprising to me as an anthropologist interested not so much in applied research but rather in theoretical questions that arise from ethnographic evidence. Ethnographic evidence comes about precisely by not editing out voices at the outset: instead, speaking for the social implies close listening first. Ethnography involves, or should involve, as a matter of course, an opening up to both the taken-for-granted and the unexpected, and a drawing out of what these have to offer on a more general level. Misbehaving (digress-

Kalshoven [2019]). The free-flowing approach that we adopted in these workshops resonates with what Born and Barry (2010) call “public experiment.”

- 2 This transpired, for example, in informal chats I had during meetings organized by the UK government to explain its siting process for a deep geological repository (see Kalshoven 2020a) where it was assumed I would facilitate public engagement.

ing, engaging in conjecture, musing) on the part of discussion partners in ethnographic research sheds light on social relations and articulations in salient ways, making the ordinary and everyday stand out all the more clearly.³ This is what ethnographers savor rather than seek to ignore, and my guess is that most anthropologists would agree with this stance. Because of its attempts at arriving at a holistic picture through open-ended interviewing and conversing, paying close attention to situatedness and context,⁴ and its interest in analyzing tacit assumptions, anthropology is more at ease around dissenters to begin with, and the problems highlighted in Michael's piece are unlikely to arise. All human behavior in an ethnographic context is evidence to the anthropologist, and

- 3 Cf. Kalshoven (2012), chap. 3, on the unexpected and Kalshoven (2020b) on saliency.
- 4 Cf. Smith, Staples, and Rapport (2015) on the interview as an imagined space where discussion partners may discuss things they may not talk about in everyday encounters. Interviewing practice addresses "the agonistic and practical activity of engaging identity and society" (9). In addition, I would like to suggest, drawing on Goffman (1974), that an interview or a planned conversation takes place in a specific frame calling for a particular kind of performance, open to misunderstandings and frame breaking.

unexpected reactions make for potentially particularly rich moments.

What I would like to suggest here is that such salient moments may be elicited rather than hoped for, and that they are most likely to be piqued in conversation that occurs once relations of trust have been given adequate time to flourish. Longer-term immersive ethnography particularly lends itself to this, as opposed to purely interview- or focus-group-based research. This is because eliciting unexpected reactions (which I consider a rhetorical move) requires the ethnographer to have a good grasp of what is at stake in his or her field and what convictions tend to be expressed among conversation partners,⁵ plus the confidence to draw out, perhaps even provoke,

- 5 For the importance of a “topical understanding” in rhetorical practice, see Oesterreich (2012). *Topos*, he explains, was the concept used in classical rhetoric for “the linguistically constituted conventions and convictions that underlie all concrete cultural communication” (ibid.: 50-51). *Topoi* are bound in time and place. A grasp of these is necessary to be effective in persuasion. While everyday rhetoric does not follow the elaborate rules of classic rhetoric, it does involve “an intuitive sense of situational suitability and appropriateness” (ibid.: 52).

partners in conversation. But let me first provide some background on the ethnographic context I work in.

Context

From September 2017 onwards, I have conducted ethnographic fieldwork at and around the nuclear facilities at Sellafield, West Cumbria, located between the Irish Sea and the Lake District in North West England. These facilities, run by Sellafield Limited (SL), the so-called site licence company operating as a subsidiary of the United Kingdom's Nuclear Decommissioning Authority (NDA, a government body), are entering a stage of full decommissioning after having played a pivotal role in British nuclear history. It was here that scientists produced weapon-grade plutonium in a bid to keep up with the United States. It was here that the first commercial nuclear power plant operated, Calder Hall, which opened in 1956 and stopped generating in 2003. It was here that in 1957 an incident happened, the Windscale Fire, that could have become a major nuclear disaster but got nipped in the bud.⁶ The Sellafield site is perhaps best known, however, for its commercial reprocessing of

6 See Arnold (1992) for a detailed account of the Windscale fire; Hogg (2016) and Blowers (2017) for histories of Sellafield;

nuclear fuel, which will come to an end in 2022. SL's business will henceforth consist in the management of nuclear waste and in environmental remediation. In contrast with part of its former activities, this mission (which SL calls, in reference to its core business, a "transformation" from reprocessing to nuclear waste management) is largely uncontroversial as cleaning up the site and making it safe is in everyone's and the nation's interest.⁷

As it stands, SL is the major employer in West Cumbria with approximately 11,000 employees and a similar number of people working on site in its supply chain (Oxford Economics 2017). In the four years I have spent in the area, I have been struck by the intricate ways in which West Cumbria is entangled with the nuclear industry, not only socioeconomically, but also culturally and affectively. In conversation, this entanglement is often couched in terms of a parent-child relationship with the region cast in the role of a child looking to its parent, SL, for nourishment and

Davies (2012) for short first-hand accounts of living with the nuclear in West Cumbria.

- 7 Importantly, local support of the nuclear industry in the region has been generally strong throughout (Chapman 1997), and with the end of reprocessing activist resistance against SL operations has all but died down.

guidance. My discussion partners in SL tend to associate this relationship with dependency: both within the company, with employees dependent on known ways of working that are considered by some to be inimical to innovation, and in the region, with people continuing to strive for handsomely paid employment with SL for both themselves and their offspring.⁸

My ethnography in West Cumbria follows the transformation taking place both at SL and in West Cumbria, as the region begins preparing for a future in which SL will probably no longer play its current role as a major employer. Decommissioning of the Sellafield site, however, will be a long process of slow change, currently expected to take approximately 100 years. Once completed, the area's connection with the nuclear industry may disappear altogether, although part of preparing for the transformation means that initiatives are undertaken aimed at capitalizing on West Cumbria's nuclear expertise by presenting the area as the place par excellence for new nuclear ventures to flourish. In the meantime, SL seeks to empower the region, weaning off "the child," while complying with its corporate responsibilities towards host communities that have been generally supportive of the nuclear industry for many years (Sellafield Ltd

8 Discussed in more depth and nuance in Kalshoven (2022).

Social Impact Strategy). The focus on expertise is of particular interest to me: who has it, who is considered to have it, and how does expertise get harnessed both discursively and in practice?

Within the company, the explicit goal put forward by SL's management team (and its parent company, the NDA) is to speed up decommissioning. Some of the older, slowly crumbling facilities on site have been dubbed "intolerable hazards" because of the risk of radioactive leakage they pose to people and the environment. The sooner these are emptied of nuclear waste and decommissioned, the safer it is. Speeding up waste retrievals saves money as well, because keeping languishing installations filled with radioactive materials safe is costly as such. Reducing the hazards on site, then, in particular at obsolete high-hazard facilities, is considered key in delivering quality for taxpayers' money, while continuing to put safety before anything else. How to get everyone within the company aligned with this overall goal, which is associated with an acceptance of technological innovation, is a challenge, as it is called in management speak. This challenge of making the required transformation happen, and how it will affect both the company and the region, comes up in many of the conversations I have with nuclear-affiliated people eager to get on with the job of decommissioning. They

hope for expertise and insights from a social scientist like me into how to realize the transformation, in which “social” issues, including the alleged mentality of dependency, are seen as barriers to a desired change in attitude. The social is seen as something that certainly has an impact on the technical, which my discussion partners think of as their realm of expertise, but that may be approached and solved separately.

Rather than seeking to provide solutions, I am fascinated by the ways in which the technical and the social are discursively kept apart and allocated to different realms of expertise. This resonates with sociologist and ethnographer Brian Wynne’s critique in his seminal work on the reception of scientific knowledge in the public domain. Wynne suggests that “the boundaries of the scientific and the social are social conventions, predefining relative authority in ways which may be inappropriate, and which are open to renegotiation” (Wynne 1992: 297). Drawing on ethnographic research on science–public engagements,⁹ Wynne shows that the importance of social relationships and trust tends to trump any

9 Wynne’s 1992 study concerns tensions he observed between insights from scientists and from Cumbrian farmers concerning nuclear fallout on the Cumbrian fells following the Chernobyl disaster.

conveying of supposedly value-free scientific or technological information. Science, technology, and the social are intimately entwined, and exploring these articulations in conversation is exactly what ethnographers do. In the West Cumbrian case, the dependency on the nuclear industry that SL managers tend to refer to has another side to it, which is surprising to outsiders and complicates any easy distinction between the industry and the region, namely, a generally felt trust in the nuclear industry and the benefits it has brought to the region for many decades.

Fragments from a conversation

Below are partly paraphrased fragments from a conversation that I had in 2018 with an SL technical manager responsible for the decommissioning of a number of Sellafield's facilities. What I found interesting was how the manager professed straight away being focused on technological challenges yet in the course of our conversation appeared to be fascinated by social configurations:

I mention that I am intrigued by all the different measuring techniques that are used in the nuclear industry. Is measurement a technological, a material, or a social process?

The response is immediate: “We are engineers, all is technological!” Breaks into a smile, and continues: “I like doing Myers Briggs with my team,” rattles off the letter combinations associated with this psychological personality testing method. “We all turn out to be the same, with an emphasis on analyzing, thinking through, not so much people skills. It’s not surprising, because the whole recruitment process is a process of cloning. So in culture surveys, we don’t come out so good.”

But does this matter at all? I ask.

“Two things,” is the enthusiastic response. “Regarding recruitment into the company, it does not matter. But it is different from the perspective of West Cumbria. The bulk of recruitment, particularly for apprentices, perhaps less so for graduates, all comes from West Cumbria. All from an isolated hub. Everyone is related to the others somehow, and there is a strength of loyalty we could build on. We don’t capitalize on loyalty and connections here!”

After this unexpected shift, the manager goes on to express some frustration about an alleged mentality among long-time SL employees:

“It is all about holding on to one’s job. Not because people fear they would be unemployed but because they are reluctant to change. Shifts in particular are problematic. The mentality is: ‘I’ve always worked on this plant and so has my father, I’ve always lived in Cleator and so have my father and brother... Why would I want to go into the plant next door?’ People live with their shifts more than with their wives or husbands. Car pooling, holidays, everything has been planned for twenty years. They say it is about money, but I think it goes deeper than this.”

As we discuss the history of nuclear development in the UK, the impact of Chernobyl and Fukushima, the excitement of decommissioning, I ask: Is it important to have a sense of the history of a place? Should graduates and apprentices be educated in history and philosophy of science?

“This is not a focus in education and we should probably do better here. The nuclear has always been associated with the atomic weapons program. All UK sites started out as defense sites, sites of weapons production, except for Harwell and Aldermaston. An awareness of nuclear’s beginnings is now less present. When I chose to work in the nuclear, there were peace marches on Aldermaston; you had to decide on your

position back then. Nowadays, arguments made for or against nuclear submarines tend to be economic rather than moral, and the same thing holds for nuclear power generation. There has been a movement from ethics to economics.” The manager pauses. “I have never really thought about this. This is fascinating.” I ask: “So why this movement, do you think?”

The manager reflects and goes on to suggest that, perhaps, Thatcher turned Britain into a finance country, following the end of manufacturing. “I haven’t really thought about these things before. It’s fascinating stuff.”

On method

When meeting up with discussion partners both within and outside of the nuclear industry for a “formal” appointment meant to gather impressions and experiences, I arrive with a list of questions that I use mostly as a checklist towards the end of the discussion to see whether I have missed out points I was eager to learn about. What happens in what I think of as the most interesting meetings is that a conversation ensues in which the discussion partner departs from a focus on rather factual information to more philosophical musings on their involvement in or impressions of the

nuclear industry and West Cumbria. Meandering away from a set list of questions and digressing from the “potted career history” that managers expect to provide (and usually start out with) yields, as far as I am concerned, the richest ethnographic information. More interestingly from a perspective of engagement, this digressing sometimes provides insights to discussion partners that, produced to their own surprise by themselves, can be enlightening to both parties. It is the discussion partner rather than the anthropologist who comes to speak for the social. In the conversation fragment above, the manager seemed to enjoy the occasion to philosophize on less common, technical or corporate, themes, coming away with new ideas – and as the social scientist with an agenda, I flattered myself that perhaps a seed had been sown, an invitation was extended to someone with some influence to think beyond the rather relentless focus on STEM (science, technology, engineering, and mathematics) subjects in West Cumbria. Between us, a mutual understanding seemed to have emerged giving expression and weight to the cultural and historical context in which the transformation at Sellafield was expected to occur.

I suggest that ethnographers may indeed gently provoke unexpected reactions and coax their discussion partners into a sharing of insights with a moral

or ethical flavor, and that this can be achieved by finding cautious inspiration in a method that has been associated with midwifery, with birthing forth: the Socratic Method.

The Socratic Method

The ancient Greek philosopher Plato, active during the first half of the fourth century BCE, expressed his ideas through the format of the dialogue, presenting the historical figure of his teacher Socrates as principal interlocutor (and effectively, as Plato's mouthpiece). Analyzing the Socratic Method from a psychological perspective, scholar of ancient philosophy Rebecca Bensen Cain (2007) suggests that Socrates, as the main protagonist in Plato's literary-philosophical genre of the dialogue, makes use of creative ambiguity to persuade his interlocutor to adopt his moral point of view.¹⁰ He achieves this by questioning his partner's assumptions. Socrates's

- 10 Bensen Cain importantly points out that Socrates must not be naively interpreted as a historical figure expressing his thoughts; Plato, as the author of the dialogues, uses dramatic and literary methods to stage Socrates as main protagonist in dialogue with his interlocutors. Bensen Cain makes an apt distinction between what she calls the internal frame/dramatic

interventions usually, and very irritatingly so, aim at destabilizing the discussion partner's assumptions and undermining his expertise and getting him to acknowledge that, in fact, we cannot know anything. Socrates guides his discussion partner to give birth¹¹ himself to the "right" insight by having him answer relentless questions, often peppered with irony and even sarcasm.

Plato was fiercely critical of a successful school of rhetoric active during Socrates's life and also coeval with his own philosophical career, that of the Sophists. The Sophists offered an education to young men to prepare them for a career in Athenian political society, in which a mastery of debating was essential – a rather too pragmatic goal in Plato's eyes, not on par with the truth seeking he professed to be engaged in himself. Several of Plato's dialogues put Socrates in conversation with a Sophist, with the former triumphing over the latter through what is essentially a method of provocation and persuasion.¹² Somewhat

level (Socrates) and the textual frame / literary level (Plato) (Bensen Cain 2007: 4).

- 11 The association with midwifery comes from Socrates's mother's profession: she was said to be a midwife.
- 12 I read the *Gorgias* and *Protagoras*, dialogues named after Sophists with whom Socrates converses, as a classics student

ironically, then, Plato, as the author of the dialogues, and Socrates as main protagonist, use rhetoric (the method they chastise the Sophists for) to convey their philosophical stance: relentless probing becomes a tool of persuasion. What is more, positioning rhetoric and philosophy as mutually exclusive may be seen as a rhetorical move as such on the part of the Plato/Socrates pair. Just like Socrates, Plato, or Aristotle, the Sophists were philosophers of Being, rather than “‘mere’ rhetoricians” (Walters 1994: 144). The Sophists, however, in contrast to their critics who saw the quest for Being as an extralinguistic activity, conceived of the philosophical quest for Being as a language-bound activity.¹³ To the Sophists, it is through language that Being is explored – without discourse there is no possible exploration of Being.

Anthropology and rhetoric

This importance of rhetorical activity as central to human knowledge making resonates with recent approaches to rhetoric in anthropology. Michael Carrithers has called for anthropologists to attend to

at Leiden University.

13 This is an important element in the renewed interest in Sophist thought in postmodern scholarship (Walters 1994).

“the rhetorical dimension of life” (Carrithers 2005: 582) both in verbal and gestural expression. His call has been taken up in a series of edited volumes in anthropology on the relation between rhetoric and culture in the everyday (including Meyer and Girke 2011; Carrithers 2012a; Strecker and Tyler 2012; see also Finlayson and Martin 2014; Abbink and LaTosky 2021). Carrithers emphasizes the omnipresence of rhetoric in human action and interaction:

Rhetoric [...] places the will to make something happen, to make something change (or to make something abide against change) at the very foundation of our ideas about ourselves. It recognizes [...] the constant itch to adjust, move, improve, remove, and overcome the momentary and not so momentary conditions and needs which are a part of our [...] circumstances of life. So the urge among us, as a so very social species, to act on others, or to persuade others to act for or with you, is [...] foundational. (Carrithers 2012b: ix–x)

The methodological focus in these anthropological writings on rhetoric is, however, on paying attention to elements of rhetoric in discussion partners’ discourse and behavior. I am, instead, intent on highlighting the possibility of engaging in rhetorics on the researcher’s part as a performative tool. Rhetoric

and performance are neglected aspects of ethnographic enquiry, perhaps because performance, and rhetoric in particular, are viewed as insincere or even manipulative.¹⁴ I suggest we can learn from Socrates's rhetorical moves while leaving the manipulative out of the conversation.

Interesting to an anthropologist engaging in research conversations is how the figure of Socrates seeks to challenge unquestioned assumptions on the part of his discussion partner, by questioning these. In situations where the researcher is expected to speak for the social, this perception on the part of the discussion partner frames the conversation from the outset. In conversations like these, if they flow well, the tables are turned, and discussion partners are likely to reflect on the social *themselves*, with only gentle coaxing required from the interested ethnographer. My stance remains to resist the pressure of having to speak for the social. This does not mean that a discipline such as anthropology cannot have an impact – quite the contrary. This impact, in a context of science and technology, lies in making the discussion partner aware of assumptions that remain otherwise unquestioned – and this is a Socratic move.

14 See Kalshoven (2012), chap. 3 and 5, for a critique of this view of human performative behavior.

This awareness of an underlying moral framework guiding social and technological action enables the discussion partner to take ownership of new insights into the social, as something that is bound up with technical projects rather than tagged on, and as something that is anchored in moral assumptions that tend to go unquestioned. It allows both researcher and conversation partner to rethink what usually goes without saying, opening up the way for innovative thinking – exactly what is craved in nuclear decommissioning. In the conversation fragments above a few unchallenged ideas on the social, followed by a hint of a shared moral perspective, come about through (far too tentative) Socratic probing on the part of the ethnographer, acting as a catalyst in making the interlocutor's musings explicit. The conversation seems to birth the social into being through a process of co-making between ethnographer and conversation partner in which the social is not named as such but takes shape in a tentative sketch showing the lines that frame its existence. Importantly, this co-making is very different from the dynamics in Plato's dialogues, where Socrates is always right and unwilling to embrace the interlocutor's perspective. In ethnographic conversation, the anthropologist must be ready to have his or her own assumptions challenged.

What I failed to do in the conversation above was to draw attention to a potential link between two statements my conversation partner made. Something deeper might be going on than just money, the manager suggested. And, Britain had become a finance country rather than a place to think through ideologies and ethics. Was there a way of connecting the latter to the former? Was there a tension between the two statements? Could I have asked a question that would have birthed forth an even more unexpected thought process on the part of my interlocutor?

My choice of conversation fragments in this essay was, of course, a rhetorical move in itself. My intervention in the conversation centered on the primacy of STEM education in West Cumbria. Education was exactly what the Sophists and what Plato were interested in. Both epistemological approaches, the Platonic-Socratic one of essentialist truth seeking versus the Sophists' more pragmatic approach, have remained alive in other guises throughout the Western cultural history of education—the question whether one seeks to prepare students for a contemplative life or for a career in society keeps being posed. In advocating a broad, not immediately “useful” education by sneaking a seemingly innocent question on the philosophy of science into my interviews, I may be seen to side with Socrates not only in terms of method but

also content-wise, given his insistence on disinterested philosophy. Contemplation and social engagement, however, are not mutually exclusive. And research conversations are social, performative events where insights happen and are made to happen. Shared, perhaps temporary, truths are arrived at *in conversation*. Not only Socrates, then, provides some cautious inspiration to ethnographers – so do the Sophists, who urge us to converse and enjoy the linguistic capacities and rhetorical moves we have at our disposal.

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Sharing Knowledge, Making Place: Exploring “the Social” in Co/mmunity Living in London

Gemma John

How might a social scientist approach the creation of a different kind of place, or enable others to understand “place” differently? This was the question that framed my intervention as an anthropologist in an architectural design competition, organized by the Royal Institute of British Architects (RIBA) in April 2017. I had just left my position at a well known architecture practice, and was commissioned to carry out research to inform the design and use of a new shared living space in North East London. I was keen to show what I could bring to the project as an anthropologist, and enthusiastic about working alongside architects once again.

The focus of this paper is the building tour. The building tour is a useful methodological intersection between anthropology and architecture, and involves participating in and observing people living in a residential building in order to critically assess the way in which its inhabitants collectively produce and experience “place.” Within architecture, tours are a way of knowing what the potential constraints of a building project might be for design and planning purposes. By touring a building or the site of a potential new building, an architect can create a strong narrative about the benefits of a design that tips planning in favor of a good outcome. As a routine practice in architecture, building tours are mostly a means of gathering and sharing technical information. Yet tours are also a highly sociable experience and social scientists, and specifically, ethnographers studying technical projects often join tours (Yarrow 2019; Yaneva 2009; Yaneva 2017) as an aspect of participant observation. The building tour is part of their method.

As an anthropologist, I was using the architectural method of the building tour to establish what I could learn from, and indeed, what I might bring to the practice of architectural design. Such methodological intersections are not new territory for an anthropologist. For example, most of the literature on art and anthropology explores how both disciplines “could

learn and exchange ideas about the uses of ethnography” (Sansi 2014: 4). Schneider and Wright’s volume, *Contemporary Art and Anthropology*, focused on the collaboration between artists and anthropologists and methodologies of representation (ibid). The aim of the methodological exchange between art and anthropology is to explore new ways of seeing, working, and knowing other realities (Schneider and Wright 2005: 25). By focusing on the architectural method of the building tour, anthropologists temporarily step into a new way of thinking about place. Meanwhile, they also bring a different understanding of place to the practice of architectural design.

In anthropology, tours have been the focus of a theory of placemaking at an urban scale. Anthropologists explore the tour as a relational and embodied practice. Writing about city tours, Reed describes “the manner in which a set of persons animate a city and imagine that the city animates them” (Reed 2002: 129). In Reed’s description, walking tours are about a “sense of place” (Basso 1996: 11). Others focus on urban walking in relation to the human body and its movement, with particular attention to sociality and the senses (Ingold and Vergunst 2008). For example, Pink (2008) focuses on the sociality of walking, eating, imagining, drinking, photographing, and audio- and video-recording. She explores how ethnographers

and participants collaboratively constitute their urban environments through embodied and imaginative place making practices that are rooted in the senses.

In this chapter, I explore how the tour allows for a critique of the physical characteristics of a building, and is a method that enables us to understand the benefits of the building design for its inhabitants – what works and does not work based on how it was designed and is occupied. But the building tour is also participant observation. It is through participating in and observing the way people occupy the building that we are able to understand and appreciate how people make place. I argue that it is through sharing knowledge that “place” is collaboratively produced and collectively experienced, and community comes into being, both as a mode of relating and as a “thing” for which the building is designed. As a commentary on the social, the building tour shows us that community, as a version of the social, is not simply a group of inhabitants (or occupants). Rather, it is shaped and expressed in the relational exchange of knowledge that, in turn, produces and produces place.

Creating atmosphere

As the anthropologist involved in an architectural design competition hosted by RIBA, I was commissioned to carry out research to inform the design and use of a new shared living space in North East London. The design competition had been arranged by a small property development company, which specialized in homeless hostels but was branching out into other types of accommodation. The purpose of the competition was to find an architecture practice, and once found, to work with them on their design concept for shared living. After sending out a call for proposals, the property development company received submissions from some eighty architecture practices. We developed a shortlist of six proposals, and these became the focus of our discussions over the next six weeks.

In order to gather insight and evidence for the competition, I joined a junior architect, called Claire, on a tour of a shared living space in North West London. Claire was already living in the building, so it was relatively easy for us to gain access and walk around it. In this paper, I focus on our tour of the building in North West London but I also refer to ethnography that I carried out within the same building later the same year. On this second occasion, I and another

anthropologist, Dr. David Jeevendrampillai, lived in the building for one week, and spent considerable time talking, eating and socializing with the other residents. The purpose of the second visit was to study the behavior of the residents, and specifically, how they used their rooms for the purpose of providing the building operator with feedback on how to improve their spatial layout.

The tour of the shared living space in North West London started at 7 p.m. on a Tuesday evening in the restaurant on the ground floor. I joined Claire in the restaurant for a small salad and glass of wine, and I asked her about her experiences of living in the building. She explained that she had hardly spent time in it. She had been working hard on the RIBA competition, and on several other key development projects and continued to commute to work from her own flat in Clapham Junction.

Since Claire was unfamiliar with the building, we decided that we needed to make the most of our tour around it. After we finished our meal in the restaurant, which was open to residents and guests, yet remained relatively quiet for midweek dinner time, we made our way to Claire's bedroom on the fourth floor of the eleven story building. Opening the door to her room, it was clear that she had spent little time in it. The

bed was made (fig. 5.1), and the user manual for the kitchenette sat next to the small, plastic kettle and black electric hob on the sideboard (fig. 5.2). I asked her whether she found her small room (at 12 m²) to be comfortable. She frowned, and described its physical limits; the bathroom was too small and there was not enough storage space. She showed me around, and pointed to the walls and doors to demonstrate that there were no clothes hooks. She opened the wardrobe door to reveal how few clothes she could fit into it. She also commented on the lack of ventilation, and her sense of stuffiness in the small space.

Other residents were more specific about how they felt about their room. A new resident from Manchester, who had been living in it for eleven months, and was sharing his room with his girlfriend, complained that the room was not soundproof; he regularly overheard people. Another couple, in their mid-thirties, had been living in the building for almost a year. They grumbled that they could hear people cooking, eating, and talking through the night: “We can hear the man, who lives opposite, cooking his fry up at 11 p.m.; we can also smell it!” It was not only sound and smell but also fluctuating temperature that became a point of conservation. Other residents complained that their rooms got too hot in the summer, and resorted to sleeping in the communal laundry room.



Fig. 5.1: Claire's room and the double bed that was still made.

Fig. 5.2: Claire's room and the user manual for the kitchenette next to the small, plastic kettle and electric hob.

These people talked about spaces in terms of their atmosphere. In fact, most of the issues with the rooms were atmospheric: as Pink, Leder Mackley, and Moroşanu note, atmosphere “generates a particular way of feeling or quality of being there” (Pink et al. 2015: 353). They continue, “Atmospheres are [...] felt from inside, within, and not in analytical distance. Atmospheres are, moreover, felt differently by different people” (ibid). Drawing on Ingold and Vergunst (2008), they state, atmosphere is “part of the environment [...] That is, it is something that we live through, as much as being something that we make” (Pink et al. 2014: 354). Stewart goes further, and explores atmosphere in terms of an emotional sense of belonging. She explains “nameable clarities like family or friendship or love or collapse or laughing or telling stories or violence or place are all atmospheric” (2011: 448). Atmosphere is about attending to spaces in terms of what is felt, happens, lost and other proliferating possibilities.

Residents knew when their environment did not “feel right” (Pink 2015: 353), and sometimes even

made changes to make it more comfortable. They altered the layout of their rooms to create the “right” atmosphere. There were limits to what they could achieve, however. Each area of their room had been designed to suit a specific task, from sleeping to storage. Much of what was there was fixed in place, and designed so that residents could perform a predetermined task. As a result, it was difficult for people to be experimental, or even subversive in the way they used their space. Nevertheless, residents came up with small interventions to change the mood and layout of the room. For example, some lit candles to get rid of cooking smells and alter the lighting. Others used special pots and pans to avoid creating smoke when they cooked. Some people used fabric or a wardrobe door to create an internal division in their rooms, and this afforded couples privacy in otherwise small spaces where they felt there was none. Couples could use the fabric or wardrobe door as a visual barrier and avoid each other when they had had a disagreement. Some residents said they became “desensitized to the noises and smells,” whilst others were afraid of becoming “consumed by them.” Others tried to hide, and avoid someone’s gaze when they entered a space.

These small interventions and avoidance tactics were ways in which residents reclaimed some control, shaping their space so that it felt “right.” By add-

ing a candle or erecting a fabric curtain, adding or removing pots and pans, people rearranged their spaces and also managed their interactions and engagements with each other. Whilst the space had been designed for “community,” residents appeared to be keen to avoid each other as means of detachment or disconnection (see Candea et al. 2015). There were occasions when people wanted to connect, however. Indeed, people shared their experiences of shared living on social media and pin boards. They would exchange hints and tips on how to block out unwanted noise and smells and make other changes to improve levels of comfort through the online newsletter. Some residents, with innovative storage solutions, shared their knowledge with other residents in the Facebook group. Many of these solutions were oriented towards enabling people to live in the same building more easily, where space was limited and much of it was communal. It seemed that sharing knowledge was a key part of sharing space, and a way of forging shared interests expressed in shared behaviors, which needed to be in place as a collective act of making place.

Sharing knowledge

Claire and I walked from her small bedroom into the corridor in search of other residents with whom we

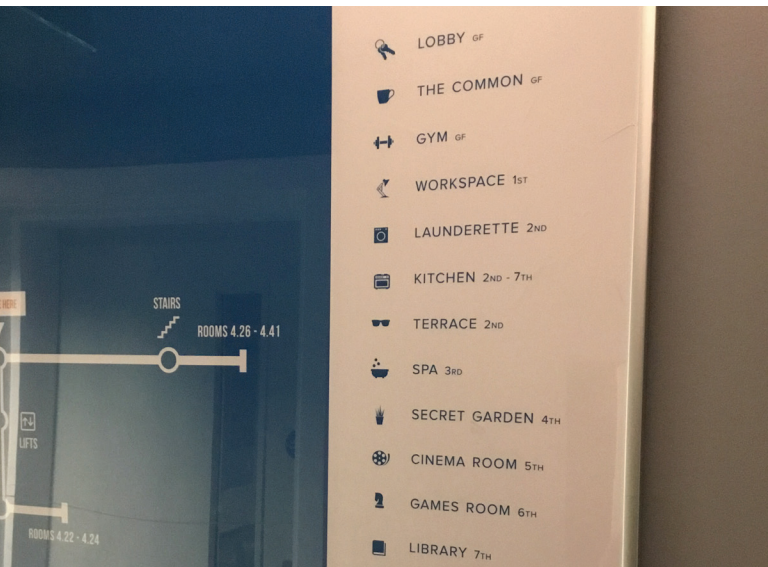


Fig. 5.3: The dark, grey corridor walls were illuminated by the bright strip lighting above our heads.

Fig. 5.4: We stopped at a wayfinding map pinned to one of the walls to locate the nearest shared kitchen.

could speak about their experience of living in the building. The dark grey corridor walls were illuminated by the bright strip lighting above our heads (fig. 5.3). As we walked along the corridor, we stopped at a wayfinding map pinned to one of the walls (fig. 5.4). We were trying to find the shared kitchen on the fourth floor. Every floor in the building had a shared kitchen, and each shared kitchen had a theme. We knew there was a shared kitchen close by and needed some help to find it.

After looking at the wayfinding map, we realized the shared kitchen on the fourth floor was next to the “Secret Garden.” We therefore made our way there, and found the shared kitchen tucked behind it. We walked in, pushing through the heavy double doors to see a woman who was making pasta on the stove. In contrast to the dark, grey corridor, the shared kitchen was bright and fun with yellow backsplash and multi-colored furnishing. We said “hello” to the woman at the stove, but she looked startled. Sensing that we



Fig. 5.5: We sensed that we had disturbed the woman cooking pasta at the stove in the shared kitchen.

had disturbed her, we took our photos and quickly moved on (fig. 5.5).

As we wandered around the rest of the building, Claire remarked that it was strange that we had not bumped into anyone else in the shared or communal rooms. Apart from the woman cooking at the stove, we had not seen anyone on our tour of the eleven story building consisting of 550 private bedrooms. If the space had been designed to “allow small intimate clusters of people to spontaneously form around

shared spaces [...] predicated on people feeling comfortable in each other's presence, [which is] key to community forming" (PLP Architecture n.d.) then it was a form of community that Claire and I simply could not find that day.

As a junior architect, Claire began to question the success of the design. It did not seem to allow for the kind of contemporary "community" that PLP Architecture sought to create. As she reflected on what she had seen during the tour and also her own experience of dwelling in the space, Claire concluded that the walls and doors blocked lines of sight across the building. In other words, the residents could not see each other and this was why we could not see them. She argued that the residents needed to be able to see inside the rooms and also one another in order for "community" itself to take form. If people cannot see inside the rooms and each other, then residents are unlikely to congregate. Visibility, here, was the key to community.¹

- 1 Within anthropology, Reed (1999) takes visibility as a starting point for exploring the limits and possibilities of architectural design. Writing about Bentham's Panopticon design in relation to a city gaol in Papua New Guinea, he argues that it is important to expand the possibilities of vision beyond an eighteenth century preoccupation with transparency. By

As an anthropologist, I started to question the kind of community that the design of the building was meant to foster and support. If community was deemed to be absent, then, what did it say about the community that had been envisaged? If we are to borrow the social form and language of PLP Architecture, perhaps it is worth contrasting the version of community that the building was designed to produce with the version of community that was being shaped and expressed by the residents themselves? This would be to suspend the assumption that visibility and community are linked, and to extend the analysis of the building to the techniques of (dis)connection that was the focus of the residents themselves.

Making place

Claire and I were coming to the end of the building tour, and walked four flights of stairs back down to the

drawing on Strathern's analysis of the decentered person, he puts forward a different vision of sociality as understood and revealed through distinguishing relations (*ibid.*: 45). Rather than limit his analysis to the visual characteristics of the building, then, Reed invites us to consider how inhabitants themselves shape and express relatedness, which opens up different questions about what needs to be made visible.

ground floor. In the lobby, we watched residents walk at pace through the entrance to the lift. Some of them walked through the front entrance of the building to the restaurant, and others straight to the communal letterboxes to pick up their mail. As is often the case in architecture, Claire and I made some notes on the activities we had participated in and observed during the build tour:

Tuesday, 11 April 2017

- Entrance/Reception/Lobby: Inactive; individuals passing through or working quietly; [G]: How is it different from a hotel / hotel lobby?]

Reception creates a particular atmosphere of being serviced space. I felt like the space was being monitored; I had to ask permission to be there?

Restaurant adjacent to lobby – private/public divide similar to other hotels?

Zoned

- Lounge style waiting area: (Is this only for guests? How is it used in the evenings? Is it an active or quiet space? What was its original purpose?)
- Co-working area: Three long tables available for co-working in the lobby, currently only one table occupied by three people; [CK:

The three people are community managers]
(How is this space used during the day/
evenings?)

- Access to The Common: Restaurant for residents and non-residents; (How do residents use this – as a public meeting space?)
- Atmosphere: Inactive; concentration music; no one in the lounge area; people move from entrance to lift/stairs, bypassing reception.
- Age: Mostly individuals in their late 20s early 30s
- Restaurant: Active; lively atmosphere; larger groups of people; older professional with family enjoying light open space / outside picnic area. It was occupied by about ten/fifteen people on Tuesday evening.

Co-working area: Individuals treating this as a workspace?

Bar: Three or four individuals gathered around the bar on high stools; chatting

- Themed spaces (e.g. British Pub)

Secret garden: Very quiet; three people working on laptops

Laundrette: One person passing through; otherwise empty

All other themed spaces were empty

- Kitchens: One on each floor; about half of the kitchens were empty; half of them were occupied by one person; kitchen adjacent to the Cinema was occupied by group six having sit down meal
- Circulation: very narrow; sufficient for one person / trolley to pass
- Lifts: Very small; standing room for six people

Questions

- Day/Night – is there a change in use during the evenings/at weekends?
- Profile – what is the typical resident (age/gender)? Why are they attracted to live here?
- Ground floor – layout and function- is it successful? How do people use it? What do they like / not like about it?
- General – what is the difference between The Collective and a hotel for young people? What is collective/collaborative about it?
- Layout – why are the themed spaces (e.g. British Pub) spread out over ten floors? Is it to get people to move between floors to meet each other?

These notes were a commentary on our experience of the spaces in the building, and its shortcomings as well as what we liked about it. They would be useful

material for the shortlisted architects because they could use them to create a strong narrative about the benefits of their design compared to existing shared living spaces in London.

Our notes also provided details of how we felt as we walked around the building, and the atmosphere(s) that we considered to exist within it. We remarked on the size of the space, the number of people in it but also the energy level and whether the space felt active or quiet. We expressed feelings of trepidation: “I had to ask permission to be there?” For us, the limits and possibilities of the building were not just physical but also emotional. We felt the social interactions and engagements that happened within the spaces that we visited. As Stewart explains, atmosphere is an emotional sense of belonging (Stewart 2011: 448).

When presenting our findings from the tour to the property development company, these notes helped us to remember what we considered to be the physical and emotional challenges of the building design for inhabitants – what appeared to function well from the perspective of the end-user based on the atmosphere that was created within it.

In this sense, it is important in this chapter to address the way in which the building as a technical project had been designed to make a particular

atmosphere possible and the way in which residents themselves used small interventions and adopted tactics to change the atmosphere so that it “felt right” to them (Pink 2011; cf. Yaneva 2009).

Claire highlighted the failings of the building layout for the property development company and, as part of the RIBA architectural design competition, explained how it could be improved on by the winning architects. In particular, she was concerned that the design of the building discouraged residents from meeting in small clusters. For the shortlisted architects, her suggestion was to design the shared residential building in North East London so that people could see inside the rooms and also each other. For her, visibility was key to the creation of “small intimate clusters of people” which was “key to community forming” as described by PLP Architecture.

In my comments to the property development company, I was keen to show how it was possible to take a different approach to the analysis of community, and also the creation of place. Whilst the building was an important backdrop, I explored how we might focus on people’s behavior as a model of and model for community. This would mean attending to what residents did in the space, not simply because it had implications for the design of the building (what “worked” and what did not), but because it had im-

plications for how we thought about the very concept of community that inspired the design of the building itself. In order to foreground people's behavior as a model of and model for community, we would have to think about ways of relating, such as sensory disconnection and epistemological connection. This supports a different kind of analysis, one that extends beyond good sightlines.

Whilst it is tempting to follow the argument that good sightlines were the key to community formation because visibility gives rise to knowledge (Reed 1999), I took a different approach in my feedback to the property development company. I argued that sharing knowledge was an aspect of sharing space, and an important way in which residents shaped and expressed common interests and relations. It was by sharing knowledge that residents changed the atmosphere, which enabled them to live in close proximity. I argued that sharing knowledge was not only about sharing information, but also about shared values. It was through these shared values that community became visible. In this way, the social emerged as a mode of relating, and in so being, was an aspect of producing and experiencing place. The question for the shortlisted architects, then, was how to design the building that allowed for shared knowledge?

Exploring the social

How might a social scientific approach inform the creation of a different kind of place; or enable others to understand “place” differently? This chapter takes the method of the tour as a means by which anthropologists and architects can each learn from the other. As participant observation, the tour enables an architect to spend time in a building with its inhabitants in order to understand how they are using the physical spaces, but also how the spaces should be adapted to work better. Drawing on insight from the tour, and subsequent period of research in the same building, the paper uses the lens of anthropology to explore the way in which people are making efforts to sensorially detach yet share knowledge about communal living, and in so doing craft their own version of community.

It is through sharing knowledge that residents found ways to distance themselves from one another. It was through shared knowledge that they were able to block out noise, smell, and avoid fluctuations in temperature in the shared space and create the right atmosphere. It was the act of sharing knowledge that forged common interests, and rendered community visible as a social form. How could the shortlisted architects accommodate this version of community?

This is the question that I posed as part of the RIBA competition in an effort to explore with them how this version of community could be supported and sustained in North East London.

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Method of the “As Found”: How Matter Speaks for the Social in Brutalism

Nick Thoburn

This chapter considers the Brutalist architectural method of the “as found,” a means by which matter expresses the social under crisis conditions. Coined in the 1950s by the London-based architects Alison and Peter Smithson, the as found is an immersive and self-decentering method for bringing the qualities and forces of the material world into expressive form, form that also registers and confronts – or “speaks” – the social. A method of architectural research and practice, the as found is as much a means of being *in* the world as creating *from* it, a world of prosaic enchantment and contingent encounter, of the confusion of

animate and inanimate matter, and of fragmentation and crisis.

Various in its scope and domains of application, the method of the *as found* was developed by the Smithsons more in its practice than by exegesis. I tease it out here by focusing on the material/social relation in two aspects of the Smithsons' work. Each of these is posited against a different approach to Brutalist social housing dominant in the UK today, attentive to the contrasting forms of the social that they presuppose and produce, that they speak.

The first half of the chapter, then, plots the *as found* through the Smithsons' understanding of Brutalism, and opposes this to the social-cleansing aesthetics of "beautiful Brutalism," as I call it, which accompanies the middle-class appropriation and inhabitation of working-class housing. In the second half, I turn to the Smithsons' interest in fragments and the ordinary *as found*, illustrating this with their site preparation for Robin Hood Gardens, the council estate they designed in Poplar, east London, and its mural, *Art of the "as Found."* This I pitch against a second dominant approach to Brutalist estates today, not appropriation but *demolition*, which I consider in relation to Blackwall Reach, the £600 million regeneration scheme that is rising on the demolition of Robin Hood Gardens. As will become apparent

through the chapter, the as found is developed here as a means by which matter can speak *class* society, where the working class is not a coherent identity but a fraught and unstable condition, buffeted and pulled out of shape by the social relations that course through it.

Matter as found

The Smithsons first used the term “New Brutalism” in print in 1953, where it described aesthetic features of the legibility and unadorned display of structure and materials in the couple’s unrealized domestic scheme, “House in Soho.” But in 1957 they added an ethical dimension, challenging the reception of Brutalism as a question only of aesthetic style. Their unstated object of critique was Rayner Banham’s movement-defining essay from 1955, “The New Brutalism” – though, as I will later show, the Smithsons’ 1957 statement is no less opposed to the stylistic reception of Brutalist architecture today. Now insisting on the centrality of the social to Brutalism, its attempt to be “objective about ‘reality,’” the Smithsons (2011: 37) give the movement its crystalline definition: “Brutalism tries to face up to a mass-production society, and drag a rough poetry out of the confused and powerful forces which are at

work. Up to now Brutalism has been discussed stylistically, whereas its essence is ethical.”

Taking the aesthetic aspects of the Smithsons’ Brutalism first, “rough poetry” here designates an expressive architecture of exposed materials. It takes shape quintessentially in concrete, patterned by the relief impressions of the wood shuttering into which it is poured in-situ, or by the gravel aggregate revealed by bush-hammer and sandblast treatment. The term is associated with Le Corbusier’s post-war style of *béton brut*, or “raw concrete,” as pioneered in his *Unité d’habitation* (1947–52) and *Maisons Jaoul* (1954–56). But this materiality draws also, via fellow Brutalist Eduardo Paolozzi, on the visceral expression of Jean Dubuffet’s “art brut,” a vital and elemental art produced by those untrained by or untethered from the class-bound normative structures of beauty and culture. For Brutalism – and this is the first feature of the as-found method – materials were to be used directly as encountered, or as they are found. Materials were not to be covered over or modeled through geometric form, as per International Style modernism, but valued in themselves for their particular forces, morphological capacities, expressive qualities, and contingent effects. In the Smithsons’ singular turn of phrase, engaging with materials as found was “the

seeing of materials for what they were: the woodness of wood; the sandiness of sand" (Smithson and Smithson 1990: 201). It was an attention both to qualities and to capacities, such that the Brutalist question to ask of any material was also, "what can it do?" (Smithson, in Smithson and Obrist 2004: 18).

Though it is not a term the Smithsons' use, we see in this approach to matter a break with the long dominant aesthetic schema of hylomorphism, a schema that approaches matter as base and inert, only shaped by active imposed form. It would be a leap to say that in pitching against hylomorphism, Brutalism establishes a class approach to matter; we need to understand the nature and place of the social in the as found before making that move. But it is notable that hylomorphism is correlated with the industrial paradigm and its social structure of work—the classed division of society into active governors and passive governed, vital intellectuals and brute manual laborers (Deleuze and Guattari 1987: 369). Contrary to hylomorphism, the as found is an immersive or *immanent* engagement with matter, where materials take on an unsettling, even agential, role. The artist or architect is decentered as an agent to become a "kind of resonator that builds in response to a poly-incidence of conditions," as the architect John Voelcker appraised Brutalism at the time (Voelcker,

cited in Highmore 2017: 15). Here is “a re-orientation of spirit in which the specialist-architect who aimed at putting the built world into a pre-determined and pre-planned order has been replaced by the man-architect (*sic*), who is almost passively receptive to the sequence of situations in which he finds himself” (ibid.).

Wrought in these ways through materials, structure, and forces, Brutalist architecture is experienced also as “image,” in Banham’s account. He refers to the visually arresting scale, shape, and heft of this architecture, but to this should be added also its haptic capacity to invest the eye with the property of touch, “press[ing] visual material toward the nervous system,” as Ben Highmore (2017: 179) describes Paolozzi’s monstrous bronzes.

Social relations as found

Turning now to the social aspects of the as found, it is apparent from the Smithsons’ 1957 statement that they weren’t referring to a domain separate from the aesthetic, from the material. Brutalist “rough poetry” was achieved only insofar as the style itself was a direct engagement with social relations. This was engagement with mass-production society in the

full breadth of that term, but pertaining in particular to urbanism and housing. The Smithsons took aim at modernist urbanism, for the complexity of social relations are such that “life falls through the net” of the functionalist partition of the city into the four functions and quarters of dwelling, work, recreation, and transport (Smithson 1991: 9). And the task of designing and building working-class housing was boldly affirmed: “In England,” they wrote in 1970, “the key problem is that of the council house” (Smithson and Smithson 1970: 108). Yet if the architect was to speak for society – to “drag a rough poetry” from it, to overcome the functionalist plan, to champion the building of working-class housing – the architect-as-resonator was not to impose a social ideal from above, but to operate immanently to the incomplete and fractured reality of social relations. The social, then, was to be no less engaged as found than were materials, where Brutalism is an architecture that cleaves to “the realities of the situation, with all their contradictions and confusions, and trying to do something with them” (Smithson and Smithson 1957: 332).

The Smithsons were not Marxists; their occasional remarks on politics tend to a rather anodyne social democracy. But in their immersive, critical, and self-decentering approach to the social as found, they share something of Manfredo Tafuri’s Marxist critique

of modernism's "'resolve' illusion" (Tafari, cited in Day 2012: 62), where social contradictions are seemingly resolved in architectural "islands of realized utopia," ersatz solutions that leave the underlying conditions of social life unchanged (ibid.: 56). On the contrary, the "poetry" of Brutalism, as Alex Kitnick (2011: 6) conveys, "was not meant to redeem society, but rather to create something of value in confrontation with it," to which end it had a strident quality, a "direct and brute" injunction to social relevance. As Peter Smithson put it: "We are interested in expressing not ourselves, but what is going on and building which denies what is going on is just the opposite of brutalism – it is chi-chi, which is a sort of evasion" (Smithson et al. 2011: 42–43).

Peter Smithson's words here shed an unfavorable light on a dominant trend in the booming interest in Brutalism today, where Instagram feeds and coffee-table books extol the "monumentality" and "beauty" of Brutalism in separation from its social relations – the "style" without the "ethic." "Beautiful Brutalism," I will call it. By the Smithsons' standard, this is not Brutalism at all, but a "chi-chi" evasion of social realities. It may seem harmless enough, perhaps even necessary, given the opprobrium long leveled at Brutalist architecture, a defence against demolition. But

through this asocial style, whether by intent or default, the positive appraisal of Brutalism becomes an active participant in urban regeneration, as working-class residents are socially cleansed from housing estates once decried as “concrete monstrosities” but now refashioned for middle-class habitation as “modernist masterpieces.” The signal examples are Sheffield’s Park Hill (1957–61) and east London’s Balfron Tower (1965–67), both of which have been recently sold from public to private housing and marketed heavily on the basis of their Brutalist aesthetic.

In this evasion of the fraught conditions of society, beautiful Brutalism expresses not an absence of the social, as it at first appears, but a particular social imaginary and experience, a social with which it is co-determined. It is instructive to chart the social of beautiful Brutalism in its difference to the social as found, for it will draw out the latent class dimensions to the conflictual social field of the Smithsons’ method. Useful here is Deleuze and Guattari’s (1986) typology of the different imaginaries and experiences of the social that inhere in “major” (bourgeois, white, male) and “minor” (working class, racially minoritized, gendered) subject formations (Thoburn 2016).

The major subject position, in our case, the middle-class consumer of beautiful Brutalism, is constituted in and nurtured by social relations, by the self-bolstering

security that class, race, gender, sexuality, citizenship, language, etc. confer upon those who inhabit the privileged position in these social formations. But this enabling fit between the subject and the social is such that, paradoxically, the subject appears to be autonomous from the social. The social is imagined and lived as an inconsequential background to the subject's various pursuits, interests, values, and, in our case, aesthetic tastes, as if they are untouched by the social relations that actually facilitate and endow them.

For the minor condition, on the other hand, the social permeates everything. Minorities are not numerically smaller than majorities, far from it. Rather, they are those who are positioned unfavorably in relation to the privileged poles in formations of class, gender, race, and so forth, such that social relations no longer facilitate coherent and autonomous identity, even when the formal equalities of citizenship obtain. Here the social milieu ceases to be a mere background and floods particular experience, rendering life fraught and unstable, buffeted and pulled out of shape by the tangle of social imperatives and constraints that course through it.

Nudging the Smithsons in this direction, it is the minor imaginary and experience of the social that informs and fashions the as found, where the social pushes into architectural form, and architectural form

confronts the social as the condition of its “brute” social relevance. The conflictual social field, as the Smithsons understood it, is experienced as such because it is cleaved by class relations. This places the method of the as found on hostile terrain, rendering it necessarily political. Or, in the terms of this chapter, it compels confrontation with beautiful Brutalism, not exactly because of the latter’s exclusively stylistic focus, but for the consequences of this focus, where, in its apparent excision of the social, beautiful Brutalism comes to *speak* the social as *social cleansing*.

Fragments and the ordinary

I turn now from the as-found attention to the matter/ social relation in the Smithsons’ formulation of Brutalism to the place in this method of the ordinary and the fragment. This leads us to the method’s origins in the photography of Nigel Henderson, the Smithsons’ friend and collaborator.

In the late 1980s, the Smithsons’ wrote a career-reflective essay titled “The ‘As Found’ and the ‘Found.’” It is a brief and fragmentary text, far from a comprehensive account of the concept or method, but this is appropriate to the situated and open-ended nature of the as found, and to the essay’s content, much of which concerns the nature of fragments.

The Smithsons indicate here that the as found was derived originally from Henderson's photographs of post-war street life in London's Bethnal Green. In these images, they found playful reappropriations of space, vernacular practices and expressive forms, a liveliness of ordinary artifacts, and a brute poetry of fragments – "children's pavement play-graphics," "items in the detritus on bombed sites, such as the old boot, heaps of nails, fragments of sack or mesh and so on" (Smithson and Smithson 1990: 201). Here "the 'as found' was a new seeing of the ordinary, an openness as to how prosaic 'things' could re-energize our inventive activity" in a "society that had nothing" (ibid.).

Amidst the essay's constellation of concerns one can detect an underlying cause and ambition of the method of the as found: an enchantment of objects, rooted not so much in the unconscious, as in the Surrealist "found object" with its chains of psycho-sexual meaning, but in the conditions and inflections of the ordinary, of everyday life. This "ordinary" is fraught. It is wrenched out of shape by crisis and fragmentation, in two senses. First, the ordinary is a classed experience, an experience of the working-class east end, of poverty and limited means, of those who "had nothing." Second, in their sense of everyday life, the social and psychic devastation wrought by the Second World War was still very much present for Henderson

and the Smithsons. Indeed, Henderson's compulsive walks and photographic practice, the origin of the as found, was a means of self-therapy, following a severe nervous breakdown caused by his experience as a war-time pilot (Highmore 2017). War continued to register too in the topography of the east end, still scarred by bombsites well into the 1960s. The integral experience of war to the as found also gives it another distinction to the Surrealist found object, the latter's sensory shock considerably diminished by contrast. As Henderson put it: "Houses chopped by bombs while ladies were still sitting on the lavatory, the rest of the house gone but the wallpaper and the fires still burning in the grate. Who can hold a candle to that kind of real life Surrealism?" (Henderson cited in Highmore 2017: 72). Sensory shock is not entirely evacuated from the object as found, but its place in Henderson's self-therapy indicates that it combines with a quality of *care*, a tentative and exploratory means of living amidst fragments, amidst crisis.

When the Smithsons pick up the as found from Henderson, its domain expands from urban drifting and street photography to architectural practice, and the context of war ebbs away, as crisis and convulsion are transposed into a sensitivity to contingency and irresolution. In particular, the as found becomes a method of site preparation. It conveys immersion

in the social and material environment of a site, engagement with the “situation of flux and change,” with a site’s different temporalities and trajectories, with parts that structure a site and parts for which the use has drained away (Smithson and Smithson 1990: 201). All are drawn into a contingent relation where “anything and everything can be raised by association to become the poetry of the ordinary” (ibid.). I will turn to this particular practice of the as found shortly, after consideration of the demolition of Robin Hood Gardens.

Robin Hood Gardens

Built between 1968 and 1972, Robin Hood Gardens comprised 214 apartments in two sculptured and dramatic concrete slab-blocks of seven and ten stories, nurturing between them a large garden and artificial mound (fig. 6.1). As with its near neighbor, Balfron Tower, Robin Hood Gardens had long been decried as a “concrete monstrosity,” but the recent fate of the two estates has markedly diverged. While at Balfron Tower this stigmatizing discourse ceded its governing hold to beautiful Brutalism, the estate privatized accordingly, the multi-ethnic, working-class residents of Robin Hood Gardens have been separated from their housing in a different way, by demolition. As I

write, the estate is half destroyed (the second of the two blocks is slated to be dispatched in 2022) and its replacement, Blackwall Reach, is partially built and occupied.

A relation between the material and the social is also in play in this process of stigmatization and demolition, though of a rather different kind to the as found. The trope of the concrete monstrosity takes aim at a material, concrete, as proxy for the real target, the council estate. Like its close partner, the “sink estate,” the concrete monstrosity generates and distributes social moods and symbolic frames that legitimize revanchist agendas in social and economic policy (Slater 2018). At their center is the governmental program of council-estate demolition and regeneration, iconicized in David Cameron’s prime-ministerial promise in 2016 to “blitz” 100 council estates, but a significant policy and developer approach to housing since Tony Blair’s New Labour administrations from 1997 (Davies 2016). Furnished in stigmatizing tropes and high moral tones, this agenda is consequent on the effects at the urban scale of global economic stagnation. As the state retreats from the provision of public housing, capital is shifting from the circuit of production, with its declining profitability, to finance, insurance, and real estate. Here housing is an investment asset with which to speculate, extract rents, park



Fig.6.1: Robin Hood Gardens. The estate's west block and mound, as viewed from the top of the east block. Photograph © Kois Miah.



surpluses, launder money and facilitate new financial instruments. It results in soaring housing costs and the demolition of buildings that drag on the prized “value uplift” – in the UK, council estates foremost among them. In addition to the tens of thousands of council units razed to date, a recent estimate has 31,000 Londoners facing the loss of their homes due to estate demolition and regeneration (Mellor 2018).

If the social, in the form of council housing, is denigrated by the protagonists of regeneration, they also speak the social positively, in the mode of “community.” Community is a potent word, traded on heavily by those seeking to demolish and disperse long established council estates and their working-class residents.¹ Government and developers also declare enthusiastically for regeneration’s provision of new housing, using dissimulating terms like “affordable housing” (which at up to 80 percent of local market rents is manifestly unaffordable for those on low or moderate incomes) to disguise the disparity in rent levels and tenure security compared to the demolished stock. Even when “social rent” tenancies (comparable

1 See, for example, the two reports most influential on David Cameron’s estate-demolition programme, Lord Adonis’ (2015) *City Villages: More Homes, Better Communities* and Savills’s (2016) *Completing London’s Streets*.

to council tenancies) are included in new developments, their effect is more to legitimize the development than address the crisis of housing affordability. At Blackwall Reach, which has double the footprint of Robin Hood Gardens, the local authority and the developer insist there will be an increase in social rent tenancies over the previous number of council tenancies. It remains to be seen if these social tenancies will remain on completion and into the medium term. Whereas the removal of the council estate and the local value uplift caused by the regeneration, whose apartments were first sold in Hong Kong at £565,000 for a two-bedroom, will increase local rents and thus pressure for further demolition.

I will say a little more about Blackwall Reach below, but I turn now to the place of the as found in the design and build of Robin Hood Gardens. As befits a method that calls for a situated, immersive, and groping engagement with social and material forms in their specificity, at Robin Hood Gardens it resulted in numerous and various co-determinations of the material and the social, each handling a particular problem in mass, working-class housing (Thoburn 2018 and forthcoming). To note three examples, first, the estate’s aerial access-decks, or “streets in the sky,” were a response to the social and spatial crisis of the working-class street. Second, the estate’s concrete

took form as an interpretation of the scale and repetition of slab-block system building, moving away from the increasingly aestheticized Brutalist style of wood-shuttered concrete. And third, the two-story mound at the center of the estate's garden emerged as a great assembling of existent rubble, where the demolished tenements that preceded the estate and other spoil from the construction were drawn into the new, a response in landscape to the problem of urban nature. But I choose here to focus on only one use of the as found at Robin Hood Gardens, the Smithsons' approach to site preparation.

The former docklands site of the Smithsons' only mass-housing scheme was blighted and fragmented, to say the least. It was traffic-bound, bordered on two sides by thunderous roads, and traversed by the geographic and economic conditions of industrial blight, deindustrialization, and the demise of the docks, finished off by the newly containerized Tilbury port downriver. There was no bind here between geography, people, and labor, no integrated class identity, and the scheme's attempt to re-establish one carried a strong counter tendency. Illuminating here is B.S. Johnson's television film, *The Smithsons on Housing* (1970), which served as a public introduction to the scheme.

The film includes long panning shots of Robin Hood Gardens half formed, vast and monumental like nothing around. It suggests a "Roman endeavor," as the Smithsons later described the estate, of sufficient scale to have a catalytic force of urban renewal. One might hence expect Alison Smithson's accompanying voice-over to present a unifying plan upon *tabula rasa*, the site-cleansing myth of industrial modernism. It is something of a surprise, then, that her narrative has a rather different content and sensibility, presenting the relation between territory, people, and architecture not as an integrating whole but as an as-found arrangement of fragments. The approach informed the couple's exhaustive research on the socio-economic histories of the territory, developed through a number of means and mediums, including walking, brass rubbings, diagrams, and collage. The result is not only an articulation through materials of the broken class identity of the territory, but also a figuration of renewed sociality, through an assemblage of fragments.

In Alison Smithson's narrative, these fragments can be of considerable scale: the decaying docks; the 1844 railway; the Thames. They are also mobile: the ships as decoration for the site, as "connectors of people to their district, and to the world around," approaching the estate from the east before the Thames



Fig. 6.2: *Art of the "As Found."* The Robin Hood Gardens tile mural in preparation, as fronting Alison and Peter Smithson's essay, "The 'As found' and the 'Found.'" © The Smithson Family Collection

loops south around the Isle of Dogs (Smithson, in Johnson 1970). Such fragments provided the means of knitting together the scheme and its environment, the “fix” as they called it, but in a mutable way. The 1806 East India Dock, intended as a key visual fix for the taller of the two blocks, was filled-in during the build, yet for the Smithsons this seems less to damage the environmental milieu of the estate than to illustrate the contingency of its fragmentary conditions. Then the scale of relations shifts from the large to the small. Walking the site prior to the build, Alison Smithson and the couple’s son, Simon, collected china shards – ships’ ballast or cargo fallout, their prior functionality uncertain – which were assembled and set in 54 tiles of shutter-formed concrete to fashion a mural for the estate’s old people’s club. *Art of the “As Found,”* the mural was titled. A photograph of the mural is the only image included in the essay “The ‘As Found’ and the ‘Found,’” and though there are existent photographs of the completed work and its in-situ placement, the image we see here, appropriately so, is of the work incomplete, half the tiles arranged in pattern but as yet un-set, still in fragments (fig. 6.2).

As Mark Crinson (2018: 70) notes, it would be a mistake to dismiss the Smithsons’ as-found approach to the site of Robin Hood Gardens as “a fetishizing of things peripheral to the job of designing the estate.”

Indeed, we might think of *Art of the "As Found"* as bearing a truth of the scheme. What the Smithsons' mural evokes is a method that blocks the socio-historical cleansing that is the modernist myth of *tabula rasa*, and instead works flush with the territory as it is. It shows the *as found* to be attentive to multiple histories and temporalities, to use and disuse, to situated lives and cultures, and to the expressive qualities of ordinary matter.

As such, *Art of the "As Found"* can be counterposed to the site preparation and public art of Blackwall Reach. History plays a role here too, but the historical fragments of fraught, incomplete, multi-layered society *as found* are here selected and corralled according to the strict agendas of regeneration. There is a class dimension too, no less arrogated to the same cause. While regeneration socially cleanses working-class populations, it often deploys clichéd representations of class and industrial heritage to provide the development with a sense of place; "nostalgic adornments," Malcolm James (2018: 297) calls them, "packages of working-class 'community' and 'spirit'" for "those investing in dehistoricized places." At Blackwall Reach, such a placemaking role is even played by the hitherto maligned Robin Hood Gardens, now that it is safely dispatched. A marketing brochure, for instance, commandeers local maritime

history and a photograph of the Smithsons' pioneering housing estate for the inspirational message of regeneration: "Blackwall has always been associated with visionaries and pioneers," "an area steeped in history with an exciting future," "the next big thing in East London urban living" (Blackwall Reach n.d.). And just as the fragmented, layered, and uncertain history of the as found was iconicized in an art work, *Art of the "As Found,"* the buffed, corralled, and ersatz heritage of regeneration has its own example of public art. Sited in the entrance square to Blackwall Reach is *The Blackwall Line* (2019), an 8-meter high steel sculpture in the image of a looped nautical rope, circled at its base with an uncredited text about an old sea-dog sailor come home to rest.

The as found feeding forward

The method of the as found can be summarized as follows. It is a key premise of Brutalism that materials and architectural forms have their own validity and expression, that they are not reduced to certain understandings of the social. But they do also speak the social, in their expressive, non-linguistic way. My argument here has been that they speak the social in crisis, bearing the fraught social conditions of class society. The as found is a visceral encounter with the

morphological capacities, expressive qualities, and contingent effects of matter; it is matter untethered from the class-bound normative structures of beauty; it displaces the hylomorphic order of the external imposition of form on inert matter. And the as found brings this materiality into play with the challenge to functionalist urbanism, today's aestheticized Brutalism, and the problem of working-class housing, while resisting any illusion that in islands of architectural form can be found resolution to the problems of society cleaved by class. The method of the as found is a confrontation with society, as it drags an architectural rough poetry from the confused and conflictual conditions of the social world.

Can the method of the as found, fashioned in the 1950s and 1960s, be of use today, and outside the domains of photography and architectural site preparation? Any reference to the Second World War must be made cautiously, lest it contribute to the imperial nostalgia of resurgent nationalism, whose nativist identity finds a key mobilizing component in cloying myths of war-time spirit (Valluvan 2019). Yet it is the impact of that war on the development of the as found that perhaps most potentializes this method. I have shown how war features in Henderson and the Smithsons not as nativist community but as crisis. And it is as a methodological articulation of crisis, crisis

without resolution, that the as found could be most pertinent today. In this regard, and as a concluding note, it can be placed in relation to Anna Lowenhaupt Tsing’s writing about the matsutake mushroom.

Subtitled *On the Possibility of Life in Capitalist Ruins*, Tsing’s (2015: vii) book makes a compelling case for new and attentive ways of being with matter amidst the crises of ecology, climate, and social life, when the industrial paradigm of “taming and mastering has made such a mess that it is unclear whether life on earth can continue.” The attunement to polytemporality in the as-found method tends in this direction, as does its decentering wonder at the expressive intensity of ordinary matter. And Tsing’s sense that “third nature” – “what manages to live despite capitalism” – is difficult to “even notice,” given the pull of the unidirectional temporality of progress, is shared in the attention of the as found to fragments. The as found also shares an orientation to the capacity of care that the other-than-human world can furnish, what Tsing calls “pleasures amidst the terrors of indeterminacy,” which both she and Henderson find through walking (ibid.: vii, 1). The method of the as found, then, is just as amenable to “picking up, turning over and putting with” as are the materials which are its fascinated concern (Smithson and Smithson 1990: 201).

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Performance Walking

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This chapter explores the challenge of speaking for the social in circumstances where the social is embedded in the pulses, wires, informational displays, protocols, and standards of mundane electrical infrastructures. As many social scientists have rehearsed at length, the domain of technical relations and technical decision making is a profoundly social affair (Anand et al. 2018; Collier et al. 2016; Harvey et al. 2017; Larkin 2013; Latour 1996). The final design of technical systems is the outcome of negotiations over issues of social and cultural importance: from the distribution of economic resources, to the reorganisation of labour relations, decisions over appropriate and ethical forms of ownership and access, the boundaries and potential of accumulation, negotiations over

the nature of the social contract between states and citizens as well as the material manifestation of core political ideas like freedom, equality and openness, liberalism and democracy (Bear 2007; Bear 2015; Joyce 2003).

Nonetheless, technical infrastructures also suffer from the affliction of often being an unremarkable, unthought and under-experienced part of everyday life (Star and Ruhleder 2010). We use them but often do not understand where they are located, where they came from, how they work, who owns and operates them, and who does or does not get access to them (Bridle 2018; Starosielski 2015). With infrastructures simultaneously hidden but also a crucial site for the making of social life, the social of which they partake can be hard to mobilize in projects of social transformation. And yet mobilize we must if publics are going to be actively involved in decisions that will shape the future of families, communities, cities, and even the planet. The question this chapter tackles is how might this be done? If infrastructures are the product of social and economic relations, how might these relations be made overt in order to further democratize these relations? How might mundane infrastructures and their social life be made more visible so as to encourage greater public engagement with these technologies of social transformation? And how

might such an elicitation of the social be mobilized to generate new opportunities for public deliberation about the socio-technical futures that infrastructures might usher in?

This chapter confronts these questions in relation to the social dimensions of a transforming electricity infrastructure in the UK. Electricity infrastructure in the UK has undergone major changes in recent years. Since 2008, when the EU's Large Combustion Plant Directive came into force, the proportion of electricity produced by the most polluting fuel source, coal, has fallen from 30 percent to around just 2 percent of energy generation in 2020.¹ Of the twenty-one coal fired power stations that were functioning in 2008, just three are now operational. Meanwhile a similar shift has occurred, in the opposite direction, for renewable sources of energy. In 2008 solar and wind power accounted for less than 2 percent of UK electricity generation, but by the last quarter of 2019, 20 percent of UK electricity was being generated by these power sources. And yet when one turns on a light, boils a kettle, or charges a smartphone, these background changes remain largely obscured. This would

1 This data is derived from Carbon Brief, who provide regular impartial analyses of the UK's energy infrastructure (Evans 2020).

perhaps not matter, except that it is in the detail of decisions about the future of electricity infrastructure that bigger social questions are simultaneously being worked out. What costs, for example, should society bear for integration of more clean energy generation into the electricity grid? What are the benefits or drawbacks for states, communities, and individuals of a Chinese-capital funded nuclear power plant vis-à-vis investment in solar energy or onshore wind or a municipal energy company? How far should the state be intervening in everyday uses of electricity to manage people's electricity demand? Is it appropriate or desirable for local authorities become energy-service companies? Could communities become generators and consumers of their own electricity? And what difference would this make to the social fabric of the country? What kinds of social inequalities might this tackle, and what new distributions of power and access to resources might it produce?

This chapter focuses on the development of an approach that had the ambition of surfacing the hidden sociality of a mundane, complex and changing electricity infrastructure, and in doing so to provoke or prompt the emergence of an infrastructural public capable of effecting radical change in the social possibilities inherent to electricity provision. What

emerged as one of the methods to achieve this aim, and which constitutes the focus of this chapter, was the immersive performance walk.

The performance walk was devised as part of a project called the *People's Republic of Energy*, which was funded by a wider research initiative based at the University of Sheffield entitled Jam and Justice, set up to support community-based groups to conduct co-produced research on the possibilities of decentralized and democratized governance (Perry et al. 2019). The *People's Republic of Energy* project was focused on the question of how to better involve citizens and workers in the design, governance, and delivery of municipal energy services, a challenge which entailed a broader appreciation of existing and potential future electricity infrastructure. The *People's Republic of Energy* initiative was established from the outset as a hybrid research/activist project that would both provide original insights into the past, present, and potential future of electricity provision in the city, and would intervene into policy discussions about transformations in energy with a particular emphasis on creating more democratic forms through which people might participate in energy infrastructure. The project was designed in a collaborative way, bringing together a group of around dozen participants conceived as co-researchers who would contribute to

the project, comprised of energy system practitioners, local authority officers, union representatives, sustainability campaigners, and researchers. The results of the project were presented in a variety of forms, including a series of workshops, site visits to energy installations, a prospectus for an imagined energy company that was designed to travel through policy and activist networks, a proposal for an infrastructure observatory which would monitor issues associated with local energy infrastructure development, and the performance walk with which this chapter is concerned.

The context for the development of the performance walk was a set of conversations about how to practice ethically driven, original, socially engaged, and research-based interventions around infrastructure in order to consider the possibility of its potential transformation. This project design was the outcome of an encounter between three overlapping modalities: activism, art, and anthropology. Run under the auspices of Carbon Coop, an activist cooperative oriented to the radical reduction of carbon emissions with a particular focus on buildings, the project pursued an explicit aim of social and environmental transformation. But the activities were also meant to be elucidatory as well as transformative, with the

terms upon which transformation might be pursued also under scrutiny. Jonathan, who was one of the founders of Carbon Coop described their work as both transformative but also disruptive, creating interventions that allowed new understandings to emerge and new questions to be posed about the answers to socio-environmental challenges like climate change. By exploring historical transformations in the governance of UK energy infrastructures, the hope was that this would reveal that current governance systems were far from unchanging and new models could be explored. As an anthropologist, Hannah was interested in the possibilities that an activist mode of questioning could bring to an understanding of social potential, that is, the latent possibilities of sociality as-yet-not-realised which might be elicited by engaging people creatively in the past and present socialities of existing energy infrastructures (Sansi-Roca 2015; Szerszynski et al. 2003). For Britt, a performance artist and community facilitator, the project offered an opportunity to work with these emergent relations, creating, and staging interactive set-ups in which people would be invited to participate in an experience that was capable of bringing about new ways of seeing and experiencing their world.

It was in response to the limitations of existing answers to the challenge of doing research that is

both insightful and effective, that we developed the method of the performance walk. Whilst there have been a number of examples of social scientists using the method of walking as a way of doing research, what we wish to draw attention to in this piece is less the knowledge-producing possibilities of the act of walking (Mattern 2013; O'Doherty This Volume; Powell 2018) and rather what happens when performance walking does the work of speaking for the social. Deflecting attention from social research as a form of knowledge production about a fixed external world, we find in the dramaturgical qualities of performance walking a technique of surfacing the social hidden in infrastructure. Performance walking emerged as a method capable of linking social research and social impact by refiguring the relationship between knowledge, the materiality of experience, and social transformation.

Preparing the walk

The first time that Britt and Hannah walked the city to think about how to connect people with electricity infrastructures, we found the infrastructures of electricity remarkably hidden. In the pavements there were manhole covers inscribed with the acronyms of

past and present utility companies but no sign of what lay behind the iron plates. “Sparkle Street” tempted us with its hints at an electrical past, but all we found was a car park and an abandoned brick building. Out on the distant hills at the edge of the city we could see wind turbines silhouetted against the grey horizon but we didn’t even know if the electricity they created came specifically to Manchester – a weak link for an attempt to create a place-based engagement with electrical pasts, present and future. Britt remembers walking with Hannah for the first time and thinking: how do we experience energy infrastructure? What are places of power?

Seeking out some way into understanding the existence of an infrastructure that seemed both so fundamental to the functioning of the contemporary city, but at the same time so intangible, we sought refuge in the local history section of the municipal library. Following the advice of the librarian and browsing the books in the local government section of the library, we were excited to find a pamphlet written by a local historian, that told a personal and institutional story of the history of electricity in Manchester from earliest days of electricity to the 1990s (Frost 1993). We were also enthused to be told by the librarian that the Manchester Museum of Science and Industry was home to a national electricity archive. Armed with our

local historical account of electricity in Manchester, we booked an appointment in the archives and soon found ourselves immersed in a visual spectacle of electricity in the form of advertising, information films, and educational resources going back to the early 20th century.

Neither of us being historians by training, we approached these materials with an idiosyncratic orientation. Here we had found a cornucopia of stories and details about electricity as it manifested in Manchester and beyond, in tales about the first power station, the engineers who built it, and the social contexts in which it was being explored. We had found a way into a treasure trove of information about electricity's imaginaries, ownership, and production, which we supplemented by seeking out and delving into further published academic books on the history of electricity in the UK (Bridge et al. 2018; Hannah 1979; Luckin 1990; Smith 1998), the comparative study of energy history in Europe (Hård and Misa 2008), and cultural historical analyses of the relationship between lighting and society (Schivelbusch 1988). But our aim in devouring these resources was not to create a history of electricity in Manchester, nor to produce a cultural analysis of electrical infrastructures and their meaning for people through the 20th century. Rather our aim was to use this material to engage an audience in

an infrastructural sociality whose contours were still emerging for us and whose form we were hoping to not only to trace out, but also help to reshape in the future.

This required that we treated the texts, photos, stories, and histories that we were collecting not just as information to be conveyed to an audience but as material through which we might provoke a rethinking of what the electric sociality of this city was both for us and for our participants. These materials were less windows onto an already existing understanding of social relations in the city, and more props that might enliven the city and in doing so elicit and shape sociality in generative ways. To link these texts back to the city that our audience was already familiar with, we had to think hard about how to link these materials to the city that people already knew. To this we returned, now armed with our stories and images, to the city's streets.

Returning to the streets of Manchester, its electrical past started to come into view in new ways. Walking along Portland Street where the first electrical cables were laid, we could now imagine the jump of the horses' hooves as corroded rubber under the city's streets created electrical shorts that caused horses to hop from the ground. We could almost hear the call of the bicycle messenger dispatched from the power sta-

tion to deal with a fault on a line down the road. On our first walk around the city we had not even noticed that right in the centre, there still existed the towering chimney of one of the city's earliest power stations. Now with a new mental map of the city that was emerging from our immersion in stories and photographs from the archives, we found ourselves tracing the route of the early electricity cables from the town hall to the hidden power station with its out-of-sight tower. Following this counter-map of the city center, we also found ourselves down an alley standing looking at the site of the very first power station that had been demolished in the 1960s. In its place were the offices of the current network grid operator in the city. Here, finally, we had found a tangible site of today's electricity literally built upon the ruins of the city's electrical past. The chimney of the disused power station provided a direct and affective link to overlooked energy pasts, and suggested to us ideas about how we might design a walk that sensitised people, through a renewed engagement with the urban fabric, to the echoes of an energetic past that still existed, albeit sublimated, in the contemporary city.

Building on this reimagination of the city, we began to construct our walk. Rather than starting with obvious technical sites of contemporary electrical production, the generation that now took place in

power stations outside the city, the distribution lines only visible in pylons that stopped at the city's semi-rural boundaries, or the consumption that inhered in electricity meters that clocked up consumption behind closed doors and aggregated it on spreadsheets, we had a new orientation to electricity in the city. Tacking between stories and places, we found ourselves surfacing infrastructure by finding sites that married stories of electrical pasts – from controversies over ownership, to shifting municipal power-relations, to the complexities of privatisation – with locations that helped us to stage these stories as encounters between people, place, and infrastructure. It was by moving between our emerging archive and city sites, we came to settle on nine locations or stops which served to structure our electrical walk through the city's energy past, present, and future.

Performing electrical sociality

Several of the nine stops were, interestingly, not obviously electrical. Our first stop was the John Rylands Library, a neo-gothic building and one of Manchester's key landmarks. Here, by projecting photographs of an electrical generator once used to power the building on the walls of the stairwell, we invited people to share in the story of the rich landowning elite who

were some of the first to use electricity in private residences. After having chosen John Rylands Library as one of our stops, were amazed when Jonathan discovered that John Rylands, after whom the library was named, made good less through hard work and industry, and more through access to capital and finding himself sitting, not on a gold mine but a coal mine, making his fortune after finding a seam of coal under his Lancashire farmland. Here was a surprising but very literal link between this spectacular architecture and the city's energetic past. This story also made it into the walk (fig. 7.1).

Other stops were more explicitly electrical but served less in terms of their significance in the here and now, and more as a hinge to pivot people into a point in history that bespoke a moment in the city's electrical life. A boardroom in the 1960s office block of Electricity North West, which we encountered when seeking out the site of Manchester's first (now demolished) power station, offered us a perfect place to rehearse the era of electricity's nationalization. Out of the cold, and sat around a table, we invited our audience to join a board-meeting of the Central Electricity Generating Board asking one of those who we had invited on the walk to don a moustache and to chair the meeting. He led us through the agenda for a meeting in which we conjured the making of the elec-

trical citizen, by showing state-advertising, circulating the electrical handbook for women, and recounting a poem by Stephen Spender, one of the Pylon Poets of the 1930s. Our audience asked questions and pointed out other histories of electricity that we had overlooked, such as the military entanglements of electricity and war.

One of the sites that we chose emerged from two sticking points that we confronted in designing the walk. The first was the question of how to bring people into contact with electricity itself. We had used a bicycle dynamo in one of the stops, to illustrate how electricity is made, but we also wanted to find a way of conjuring and capturing the pervasiveness of electricity in the contemporary city and its profound structuring effect on contemporary urban life. How, we wondered, might we sense the contemporary electrical city? The other challenge was how to convey in a simple and experiential way, the complexity of electricity privatization. We had found ways of telling a relatively straightforward story of small electrical operations that were brought together under a nationalization programme to create a national energy system, but since the 1980s the

Fig. 7.1 (overleaf): Inside the John Rylands Library.





organizational structure of the electricity industry has become both financialized and globalized. Whilst regional electricity boards existed until the 1990s, the subsequent period saw the buying and selling of electricity companies, and the splintering of electricity infrastructure in ways that made it ever more disassociated from place-based experience (Graham and Marvin 2001). Spanish owned firms traded electricity bought and sold through interconnectors between the UK and other European countries, transported by wires now owned by American and Australian banks. How, we wondered, would we tell that story through the landscape of the contemporary city.

The answer to both questions came in the form of the Beetham tower. We had first thought about the tower when walking around the city at dusk. As night fell, and thinking electrically, we had become sensitised to the sudden illumination of the city as streetlights and office lights turned on as the daylight waned. Seeking out somewhere to see this happening, we turned our heads up to the Beetham Tower, at the time Manchester's tallest building, which housed a cocktail bar half way up the tower, from which a spectacular panoramic view of the city could be appreciated. What if we could watch the city light up from the cocktail bar, timing our walk to coincide with the fall of dusk?

The idea of using the Beetham tower as the answer to our first question was to inadvertently lead us to the answer to our second, the issue of privatization. For when we visited the building, whose lower floors housed the Hilton hotel and where access to the cocktail bar was policed by entry through a single glass elevator flanked by doormen in top hats, we realized we had found the perfect location for evoking electricity's privatization. The affect of a group of energy enthusiasts, activists, and academics who had just walked the city in the rain and the cold, stumbling into the bright marble-floored, chandelier-lit entrance of the Beetham tower set the scene for an unfolding story of electricity's privatization. Squeezing everyone into the lift, we made explicit the link between the spectacle of neo-liberal capitalism exuded by the building's flashy décor and the moment of electricity's privatization by projecting a video of Margaret Thatcher heralding the age of privatization onto the glass ceiling of the elevator. Once up in the 23rd-floor cocktail bar, we gathered, enveloped by ostentatious décor and backed by the spectacular view of contemporary Manchester's twinkling lights stretching out to the horizon. Here we were told a very personal story from one of the people who had been offered shares at the moment of privatization and had struggled with the question of whether to join the act of what his

father called “selling the family silver” or taking what his mother described as “what you deserve.”

Speaking for the social

In what way then, did this performance walk help us speak for the social in a project of technical change? First by attending to the entanglements of infrastructure and ownership in place, the work of preparing for the walk sensitized us to the way that the social was already being invoked in infrastructure projects. In talking with local government officers both before and during the walk about the possibilities of different energy futures, it became clear that decisions being made by municipalities about whether or not they should pursuing new organisational forms for the future of energy – municipal energy companies, supporting community energy, etc. – already entailed a particular version of the social, what we will call Social 1. This was a social that emphasized the responsibility that public bodies had to balance the books and to avoid putting cities in a position of financial risk. The possibility of creating a locally owned energy company was framed by the parameters of a cost-benefit analysis. Here the social took the form of an urban citizenship to whom municipalities had a responsibility in terms of the expenditure of public

monies, and on whose behalf decisions about risk and value were evaluated. This was a passive social that was held in the lines of financial accounts managed by technocrats and consultants. It was also a social whose political agency was occluded by a technicity of calculation, that framed interventions as a technocratic exercise of balancing the books and balancing risks. The effect was to produce a social that could not be consulted itself, for it pre-existed the emergence of any object of infrastructure to even be consulted on.

Set alongside this we were also able to unpack and appreciate the social evoked by the electricity industry itself. Reading about the grid and talking to engineers we discovered what we call Social 2. This was a social that took the form of an energy public that had become disaggregated into individual consumers, and then reaggregated into the category of demand, units of electricity consumption whose collective effects formed the substance of grid management. Social 2 was concerned with how to balance electrons and desires in ways that was informing the siting of infrastructure (from power stations to roofs), the challenges of electric futures (grid load), and the need to open up electricity to a different kind of energy public to that which had been constituted in the age of nationalization (e.g., the invocation of behavior change as an aspect of demand management). If the

citizenship that needed protection by municipalities (Social 1) were not able to be consulted in relation to shifts in energy ownership, the consumers who were being imagined in a shifting grid system (Social 2) were also not understood as a collective entity who might have things to say about the design of electrical futures.

This description of two versions of the social as evoked by those working pragmatically on energy transitions constitutes in itself a third version of the Social 3. This is the social of anthropology, a social that can be revealed by qualitative or ethnographic research. This is the idea that the social lies in existing power relations and ways of seeing that are sustained by everyday interactions between people and between people and things. This is the “familiar social” of the social sciences, a social that often does not carry well into projects of technical change. Who, after all, wants to have their work deconstructed and re-described by a social scientist, when they are trying to bring about social change that is aiming to address Social 1 and Social 2?

The walk however offered a fourth version of the social: Social 4. This was an understanding of the social not as something stable that needed to be described, but as a more relational, unstable, emergent, and ongoing quality of being. The author

Rebecca Solnit evokes an idea of change in her work that highlights its stochastic, chaotic, unpredictable, and multi-directional character (Solnit 2016). Rather than understanding sociality as existing in a fixed structure, our approach, like Solnit's treated the social as something that could be elicited under particular staged circumstances, made to reveal itself as an artifact of historical and infrastructural circumstances, and in the process of being brought into view could also create the conditions for its transformation. The walk became a form that allowed for history to be experienced as a palimpsest of stories, memories, and interpretations as well as offering an invitation for yet more voices to enter the picture through discursive engagement with the walk's participants and with the materials that the walk brought into view.

In the walk, this emergent social was made to reveal itself through the technique of encounter: encounter between the past and the future, encounter between the people in the walk, encounters between national infrastructure, the city, and the people who live there (fig. 7.2). One of the most important elements of the project was the encounter between different people, both historical figures and the participants on the walk, who had radically different experiences of the energy system. The historical stories we found were staged for an invited audience

Fig. 7.2: The Walk as Encounter.





of officers and elected officials from local authorities, energy practitioners with a working experience of the sector, activists with an interest in democratizing public utilities, and a selection of other interested parties. The walk worked with the understanding that it is within this context of encounter that change might take place. The key request was that participants were willing to challenge and be challenged, and this was something we also tried to embody as well.

The final point to make about this emergent social is that it was not latent but demanded activation and ongoing work. In an online interview, thinker and activist Max Haiven has suggested that neoliberal capitalism “has a dramatic and powerful influence on our imagination regarding who and what is valuable” (Haiven 2016: n.p.). He goes on, “it depends on this transformation of the imagination, and depends on transforming each of us into an agent or a vector of neoliberal competition, individualism and fear. Thus challenging this system will take more than just economic and political policies or movements, we also need to transform culture and the imagination” (ibid.).

For us the walk was an activator of the imagination, bringing people together, stimulating conversation, prompting new thoughts, building its own momentum. We ran the walk six times and could

have done it again. We considered running it as a public event. But to turn it from a political activator into a tourist tour would have meant a shift in the social ambitions of the project and its place as a technique of speaking for the social in projects of technical change. The aim of the walk was to be part of a project of reimagination and an intervention into processes of infrastructural transformation. The final thing we discovered however, is that reimagining and transforming infrastructure is not a one-off moment, but an ongoing process of inserting oneself into and eliciting infrastructures' sociality. Haiven describes imagination not as something in people's minds, but as an embodied, collective exercise of care. The notion that the walk was an exercise suggests that interventions like the walk are a way of exercising, building up or training our collective imagination muscle. The immediacy of our performance walk was both its strength and its weakness, offering a way of provoking an intense moment of infrastructural sociality, whilst also challenging us to consider how we might nurture and support the social sparks set off by the walk, in a way that might one day enable them to kindle the fire of radical infrastructural change.

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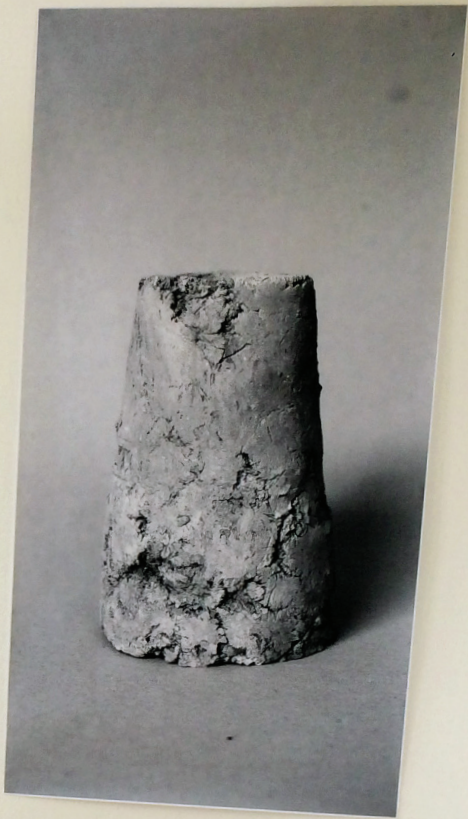
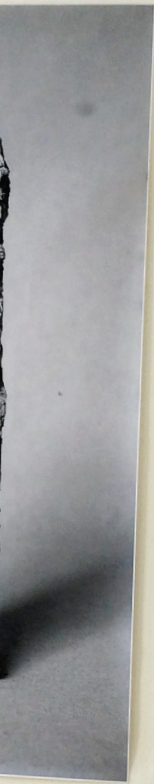
These Boots Were Made for Talking:
Speaking Landscape Socialities
against the “Businessification” of the
Dee Estuary

Damian O’Doherty

We are looking at a photograph that forms part of an installation commissioned for the 2018 “Ceramic Wales” annual exhibition, hosted by the School of Creative Arts at Wrexham Glyndwr University (fig. 8.1). Can you see a pair of boots or clogs? Look closely, they are not captured in the triptych of photographs. Instead, the clogs are placed outside, tucked away by the door, in the lower right corner. They appear almost as an afterthought, an embarrassment perhaps. Such afterthoughts are the result of a collaborative ethnographic experiment with the artists



Fig. 8.1: "Talking Boots". Photo by Paul Jones,
Reproduced with permission..



Wayne Clarke and Paul Jones, who have designed this installation and are helping to bring business and management studies into conversation with the landscape of the Dee estuary. In this chapter we take these clogs for a walk as a method to explore the ways in which business tries to make the social speak and the ways in which landscape might have business designs of its own for estuarial citizens of the future.

For business studies, all mention of shoes is an embarrassment, even though, as we shall see, such lowly material devices are central to enabling the performance of business and management. The shoes help us return to the earth (Latour 2018) and to circumscribe and escape the prevailing practices of business and management as taught in business schools. With this method we are able to explore a richer and more complexly entangled set of relations between landscape and socialities that allows the social to speak in ways more generative and responsive to the Anthropocene than has been achieved in the discourse practice of mainstream business and management studies. We ask, what social do these shoes speak, or rather, what *socialities* can they speak in the context of an expanding “businessification” of the social? Driven by narrow instrumental and calculative rationality (Alvesson and Willmott 1996; French & Grey 1996), students of business might be blind to

these clay clogs and only able to see an empty space in this photograph, at best a unit of square footage real estate awaiting sale or profitable use. Trained in academic business and management studies, you are unlikely to see much of landscape socialities in this exhibition photograph. The standard teachings of business and management studies would prompt one to ask about something called the “net present value” of this particular use of space. In these terms, the allocation of such a generous amount of space to house an old pair of clogs would provoke suspicion of underlying inefficiency and waste. However, taking a walk in these clogs allows us to explore affects and its thinking potential, that show how business is entangled much more profoundly in making socialities speak than suggested by these simple economic calculations.

In this chapter we show how these shoes are a far more potent and transformative element in weaving socialities than can be imagined within dominant business management discourse practice. Drawing on reports of ethnographic experiments with the Dee estuary landscape, we discover a surprising capacity for agency embodied in the clogs. This agency is realized through partnership with non-human or “techno-nature” socialities, that help us re-imagine futures beyond the threatened apocalypse

of economy, civilization, and the Anthropocene (de Cock and O’Doherty 2017). Around these shoes we are able to gather emerging stories and practices that are suggestive of new energies and livelihoods being cultivated in the Dee estuary, which are helping to enrich socio-ecological relations beyond what we might call their current businessification. The practices in which these are entangled suggest radically new possibilities for doing business and seeking livelihoods “in capitalist ruins” (Tsing 2015; Haraway 2016; Tsing et al. 2017; Puig de la Bellacasa 2019). They show how new socialities and identities might be possible when we acknowledge our inescapable dependence with multi-species ecology, and they help teach us how to walk and work in the ruins of modern industrial landscapes (Murphy 2017; Myers 2015).

Step 1

The photograph from the exhibition appears to depict items that might have been recovered from an archaeological dig; perhaps remnants, we might think, of a former stone-age community. For example, one of the items looks like a bowl, another appears to be a vase, and there is something that could possibly be an umbrella stand. These rough-hewn lithic

artefacts might be conceived as elements that speak of a social that is entangled in a harsh and ongoing struggle with the landscape, and from which these materials are scraped and plucked. Is there a business motive to these entanglements and the crafting of these shoes? What might the experts in business and management tell us about the clogs and their shadow social, the social, that is, which remains obscure and otherwise inaccessible to more conventional methods of social scientific enquiry that practice more positivist and representational modes of research? Are there things to which the discipline of business studies cannot easily attend, or that it refuses to see? What can contemporary business learn from the clogs in ways that might help socialities be spoken in ways that open and enrich these entanglements between humans and landscape?

Business has learned a lot from shoes and walking, despite what the textbooks might say. It has been claimed, for example, that walking adds value to any business. The popular conduct of “management by walking around” (MBWA), for example (Peters and Waterman 1982), or the Japanese variant known as the *gemba* walk (Womack 2013), are claimed to be indispensable to good management practice. Walking in businesses comes in a variety of forms including “walking the talk”, the zombie sounding practice of

“dead business walking” (Alesch et al. 2001), and the more recent merging of physical exercise and management practice in the form of “walking meetings” (Clayton et al. 2015; O’Doherty 2017: 109–55). In this respect it is worth recalling that one of the great capitalists, Andrew Carnegie, famously arrived in the United States without a pair of shoes (Nasaw 2006), but that the acquisition of his first pair of shoes proved pivotal in the accumulation of his fortune. His capacity for running around Pittsburgh and its environs as a telegraph and messenger boy for the O’Reilly telegraph company in the 1840s has been widely reported and according to some this running provided the formative education he needed in acquiring his business acumen (ibid). Indeed, Carnegie was by all accounts a runner of some speed and ingenuity and his sharp practices as an entrepreneur owed much to his fleet-foot methods of moving around the city. Shoes also served Carnegie well in later years when he had recourse to specially raised heels to elevate his modest five feet of height to a more respectable stature for a titan of industry.

In his perambulations Carnegie may also have had occasion to observe the canny practices of the shoe-shine entrepreneur, a line of business that in recent years has been relaunched as a hipster

start-up venture (Steffens 2019). Reflecting on the clogs depicted in the Glyndwr gallery, the erstwhile student of business might be encouraged to think about something their expertise describes as “foot-fall”. How much traffic, or how much footfall might be generated by this use of gallery space? Footfall is calculated by first estimating whether there is a public for an exhibition, and an exhibition featuring a pair of clogs might not strike the modern student of business as particularly propitious. What percentage of the local population is likely to visit? How much money will this sub-demographic spend during their time in such an exhibition? Are their equivalent or competitive goods and services with which the gallery might be in competition and which might depress expected footfall? The existence of something called “shoe leather costs” in discovering these alternatives and their relative economic merits has been known since Bailey (1956). Shoe leather costs are too high, in other words, for an exhibition featuring a pair of clay clogs, and other commodities are likely to be more economically rational.

A public is being spoken into life by this rational actor model of economics, and this kind of knowledge does inevitably shape and speak the social, but in ways that elude the calculus of economists. Can a visit to the gallery be sold as an economically rational

thing to do? An opportunity to increase cultural capital, for example? Can we design the exhibition and the gallery space in such a way that the viewer is led from the clogs to a merchandise shop that sells replicas or posters? Is there a possible social or public that wants to dress in T-shirts displaying the clay clogs? With these simple business or economic calculations we can immediately see a certain imaginary of the social being put to work, but also the potential making-of-the-social that might be engineered from this exhibition. From this we can see how a social is being made to dress in particular ways because of certain assumptions made about sociality. Individuals are being coaxed to behave in certain ways, and it is being made to value and desire in particular ways. In short, it is being made to *speak* a material semiotics to which we are also entangled in this report.

At the same time that these socialities are being formed by business practice, we can trace from this implications that follow in the use of land and the relationships that are made between land and people. We know that certain landscapes are made economically productive. John Constable's *Hay Wain* (1621), for example, remains the most popular work of art purchased in gallery and museum gift stores. However, this is not without considerable business

investment in the shaping of landscape desire, or exploitation of prevailing social assumptions about beauty and art and the crafted role of landscape in stimulating and satisfying such desires.

Prevailing human–landscape entanglements are shaped by business in ways that extend far beyond the act of cultivating romantic sensibilities satisfied through the purchase and contemplation of art. In modern business, land is principally seen of course as a resource for extraction and rent-seeking practices, a passive frame or background into which construction is placed. Land is made a “standing-reserve” in Heidegger’s (1977) terms. In making a social speak in particular ways, the social inevitably speaks in and of landscape. A bright business school student might see how our exhibition clogs could serve as a form of place-making advertising and marketing that helps promote the North Wales coast. It becomes a landscape made by the indigenous clog wearing peoples of the Dee estuary. The clogs might help convey local “color” that in the discourse of business and economic boosterism could help make the Dee estuary an authentic and distinctive “destination” (Sheller and Urry 2004). Shoes are indeed prominent in local development literature, albeit normally it is the more familiar Gore-tex type of walking boots that feature rather than clay clogs. Walking appears in

the 2017 “Flintshire” Green Infrastructure plan’, for example, commissioned by Natural Resources Wales and Flintshire County Council, which aims to develop the Wales Coast path for the purposes of recreation, tourism, wildlife and enterprise. The allied “coast park prospectus” prepared by The Environment Partnership (TEP) consultancy group identifies projects that will “develop the experience and promotion of outdoor adventure, heritage and culture” (TEP 2015: 15).

These ambitions were later integrated into the 2020 *Flintshire Destination Management Strategic Plan* (Cyngor Sir y Fflint/Flintshire County Council 2020) where the social appears as part of an elaborate strategy and self-proclaimed “agile methodology” that involves and enacts certain human-landscape entanglements. This strategic plan involves work on five key areas: promoting the brand; product development; people development; profitable performance; and place building. Key actions prioritized for place building includes investment and intervention around what is called “developing physical & thematic linkages between Holywell Town Centre, St Winefride’s Well, Greenfield Valley, Greenfield Docks and the coast” (ibid.: 8). These place developments are tied in with “people development,” in part because the strategic plan will draw upon and thereby help consolidate and advance what is called “the North

East Wales Ambassador programme and role of ambassadors” (ibid.: 6). Becoming an ambassador involves the completion of a series of online learning modules including participation in “learning journeys,” described as “real life” experiential opportunities. Providers of tourism become landscape ambassadors by visiting other tourist businesses to “experience what is on offer” and learning the stories that might help bring to life the sights and sound of North Wales. However, working with these materials whilst walking with our clogs prompts us to see how this strategy seems to trade on a rather limited repertoire of landscape engagement deploying well-worn clichés about spectacle and visual magnificence. Indeed, the ambassador program risks reproducing a kind of self-referential tautology as providers of recreation and tourism seem to be encouraged to learn only from each other.

Step 2

The language of landscape “hubs” and “gateways” (The Enterprise Partnership 2015), people development, wildlife corridors and “physical and thematic linkages” shows the inevitable entanglement of place and people in business practice whilst exploiting a somewhat diminished understanding of experience

to this place-making businessification. However, the attention to this relationship of people and place is otherwise underdeveloped and lacking somewhat in imagination. The concept of experience, for example, occurs throughout the literature but there is little reflection or elaboration about what this might mean, and leaves one with the impression that experience is little more than a circumscribed and reified entity. In part, this reflects the neglect or indifference in dominant business and management practice to the intellectual traditions that have treated the question of experience, whether the great humanist essays of Michel de Montaigne or the transgressive methods of “ecstatic experience” developed by Georges Bataille (1988). The treatment of distinctively “modern” experience by Walter Benjamin (1968) also marks a profound contribution but rarely appears in business and management studies. Indeed, for Benjamin experience becomes impossible because modernity is characterised by the omnipresence of shock, as existential and social life become commodified into an economic exchange relation (Benjamin 1968; Agamben 1993). Having paid our money and equipped with our North Wales tourist brochures and coast park prospectus we might have little more to say other than to proclaim the breath-taking “variety of views” and to note the “tidal range in the Estuary is

dynamic” (TEP 2020: 5) whilst seeking to reproduce our own photograph of the Flint Castle as depicted in the brochure (ibid: 9).

In these ways we appear to be disciplined and enrolled into certain landscape practices that might confine or tranquillize the relation between human and land and hence restrict the socialities that might inhere or be spoken. The earth is assumed passive in these landscaping practices and to abide in repose awaiting human intervention, a mere ground upon which a visitor secures the limited agency of walking pursued for the purposes of the “tourist gaze” (Urry 1990). The social is made to speak only as an economic consumer and resource in the various roles of tourist provider, walker, spectator, and consumer. The methods used to achieve this articulation of the social are based on the application of business models and finance that also find their way into the training programs for the “ambassadors.” Encouraged to think of themselves as custodians of heritage, they exercise “knowledge and skills to successfully inform [...] about the special qualities of the area and celebrate and enhance its unique features in an entertaining and educating way” (Cyngor Sir y Fflint/Flintshire County Council n.d.). There is little attention here to what Tsing (2015) calls “blasted landscapes,” the smokestack chimneys, or the dangerous materialities



Fig. 8.2: “Walking the Social.” Photo by Paul Jones, reproduced with permission.

of mud, the quicksand, or the tides responsible for the drowning of residents. The chemistry and dangerous metals leaching into the sand and water is also absent from the tourist gaze and there is certainly little regard for the possible voice of what Nigel Clarke (2013) has recently called “inhuman nature.”

Step 3

With this experience of cliché and confinement the clay clogs might call out as a possible resource through which we could test and possibly escape these methods of business practice. Indeed, such moves could improve our capacity to listen or help articulate other speaking socials. With these questions in mind we thought it might be interesting to try on a pair of these clogs and to venture out as the first businessman of a landscape laid bare by the blasting of modern extractive industry and to enter a landscape returning to a hand-to-mouth or stone-age living. Encouraged by the apocalyptic tone of much popular imaginary in so-called climate-fiction or cli-fi (Milner & Burgmann 2020) that is now reaching the fringes of business and management studies

(Gosling and Case 2013; Campbell et al. 2019; De Cock et al. 2019), we can find many ways of looking and reaching out to make new socialities that might help build resilience or forms of “deep adaptation” adequate to the coming crisis (see Bendell 2017). How might experts in business studies help contribute to this bringing of new socialities into voice? First, they might consider stepping outside the false security of their air-conditioned offices and online food deliveries to take a first tentative step onto the soil, to experience the screech of wind-blasted terrains formed by wetlands and tidal estuaries that fringe and now encroach upon our metropolitan domesticity. Such a step might help renew that sense of thrownness which Heidegger spoke of, but also of alterity, a de-securing of ontological reassurance that might stimulate further questions: How could I survive this barren, alien environment without the shelter of heating, air conditioning, fridges and supermarkets? What is there to eat or drink in this emptied space?

We have spades, buckets, wooden boards, trowels, rolling pins, and plastic gloves. Parking up at Flint Castle on a blustery September morning, I join Martin and Robin and set out into the marshy bracken water that laps against the shore and carves intricate channels. We enter a world of narrow valleys snaking between undulating mounds of mud exposed by the

retreating estuarial tide. The ground is unreliable and treacherous. Here we are able to begin looking for suitable clay to make our first pair of Dee estuary clay clogs. Martin quickly fills a bucket but as I reach out to grab the handle of a spade offered by Robin, I immediately slip on the surface of the grey viscous mud. My foot slices through the air to ninety degrees leaving a thin heel engraved streak of black across the mudflat. I flail and flap, trying to find my balance as I reach out with my spade in effort to cut my first pig of clay. I am not well-shod for the demands this landscape is making of me but I am struck by the richness of affect and experience. The landscape is made more visceral and dense, complicated and rich with potentialities that are otherwise economized and neutralized in the spreadsheets of business calculations.

Retreating back to the more stable lands to the foreshore of Flint I am instructed in how to shape the drying clay into a shoe-like shape. Using a plasterers trowel Martin engraves a template of my sole into a piece of clay rolled out on the surface of a wooden board. I trim the excess from the sole and then twist and ply cord grass to form a carcass or scaffold around which to shape the clay and affix it to the sole. The shoe begins to take shape, all the time drying and hardening. The attention to detail this exercise demands by both novice and the more experienced

seems to suspend the mind, as it becomes taken over by the clay as it works with the hand to shape and mold elaborate adjustments. Our small group, made up of people, material, and instruments, becomes a point of attraction for others wandering across the shoreline. Someone walks up to us, “Do you mind if I ask what you’re doing?” In these ways we are drawn into extended conversation and the sharing of tales and stories. One dog walker dressed in a green and brown fleece tells us about his time working in the steel industry before redundancy forced him to take up taxi-driving. His name is Denis and he has suffered with cancer. We are told the cancer is in remission now, but he suffers with his back and breathing. I am struck by how quickly he is able to begin sharing these stories, and reflect on the conditions created for story telling by this land art and intervention. The stories become as much a part of the practice as the crafting of the walking shoes or the installation and exhibition.

I look down at the clays and wonder again about the passage of toxins that course through this landscape, the little nicks and cuts on my hands a pale reflection of the gnarled and calloused hands that protrude from the sleeves of Denis’s fleece. These muds help, in part, to absorb and contain dangerous toxins. I begin to see how they might be ecological allies, much like the plants and the “planthropocene”

discovered by Natasha Myers (2016) in her ongoing study of plants. They are allies, despite the obvious fact that we humans are unreliable and parasitic on the ecological collective. How can we make ourselves receptive, I wonder, to these voices or murmurings, or to what Eduardo Kohn (2013) and others study as biosemiotics (Hoffmeyer 1997; Deacon 1997)? If stone can speak (Cohen 2015), what stories could these muds and clays help us speak? The squeeze of the clay, which folds back and recoils on the hand as we try to mould its fibrous matter, is perhaps less a greeting or embrace than a pinch or warning.

In being forced to slow down we have occasion to notice a curious outcrop of what appears to be a rock face or a sea wall. Patterns and color become more vivid as we scramble after picture and perspective, chasing after sense-abilities and possible meaning. Pock-marked and marbled with ash-grey pebble-dashed stone, and streaked with colored veins of burnished orange and cobalt blue, we realize this cliff must be the exposed face of the dismantled Courtaulds chemical works. As our chests heave with the effort to breathe, we worry we might be imbibing its chemical residues. Located less than 100 yards from where we stand, the factory was razed and leveled and the rubble and spoil pushed by tractors to the fringes of the estuary, where it was landscaped

to form a protective sea wall. Wearing the clogs made from the estuarial clay, we will be clothed in the chemicals that once passed through Denis and his work colleagues. We will be literally clothing ourselves in the landscape in which we walk, which might well explain some of the thoughts to which we became party. Has the sea-wall become the shoes upon which this landscape now walks, for example, and we the little stones stuck temporarily in its sole and that cause it (the landscape) irritation?

We come across a patch of wild marsh samphire; like the clogs, the samphire and clay find themselves allies helped by what Hugh Fearnley Whittingstall (1997) describes as its “excellent al dente crunch and distinctive sea-fresh salty flavour” which motivates human foraging. Samphire grown in marsh clays also makes good tea. We might easily have passed over the clumps of samphire if not slowed down by the clay clogs. We begin to wonder about the possibilities of designing a pop-up gallery that might serve samphire tea. What stories might we help articulate with visitors to the tea-ceremony? But first we are forced to consider how to serve this samphire tea. Into what receptacle might we pour our tea? Martin tells us about the properties of clay-fired pottery and how the clay will fire with different qualities and colors depending on where you gather the clay. We wonder if

the particulate matters in the clay carry residues of the materials and waste once used in the vast Courtaulds chemical works in the production of rayon, or “fake silk” as Blanc (2016) has recently called it in his *Fake Silk: The Lethal History of Viscose Rayon*. All manner of unanticipated blotching or streaks of color not only lend distinctiveness and idiosyncrasy to each piece of finished pottery as it is fired in the kiln oven, but also speaks of otherwise hidden or repressed chemical histories in the landscape. What stories might be elicited from participants in the tea ceremony and what new socialities might emerge from this?

Martin explains that pottery thrown from clay collected at different points in the walk might reveal subtle gradations in the accumulation of chemical and material composition of clay or in the distribution and movement of these materials as they course their way through the estuarial clay at differential speeds. Even over a distance of less than a hundred yards, there are likely to be discrete bands of color that betray the existence of otherwise hidden or forgotten materials, including heavy metals, polychlorinated biphenyls (PCBs), hydrocarbons, and other organic chemicals, all known to have been discharged into the Dee over the years. Highly toxic levels of zinc, for example, are likely to be concentrated in this part of the estuary (Natural England & the Countryside

Council for Wales 2010). It makes itself seen in the form of what specialist kiln potters call “pitting, pinholing, blistering and crawling” (Hopper 1984: 79) evident in the surface finish of pottery glaze. This appears to offer a suggestive early warning system of the “intergenerational effects of chemicals” (Murphy 2015), and speaks of bodies and their mutations otherwise unknown, variously denied or repressed. But what of the chemicals and toxicities not yet known, confessed to, or recorded? What of their effects in the food cycle of the estuary, which will loop back and take effect on those eating the prized Dee estuary cockles or those reliant on the agricultural produce grown in the local soils? Robin begins to explore the possibility that this fired clay could provide an alternative form of mapping the estuary, a practice that makes visible or makes speak what Michelle Murphy has called “alterlife in the ongoing aftermaths of chemical exposure” (ibid). Martin tells us about his father working in coal-mining, deep below the surface of where we are now stood. It’s all gone now.

Others join us on our walk and excavations. As we dig into the land we are also digging into people’s memories, creating stories and social ties with the land, helping to give voice to otherwise invisible or hitherto inarticulable desire and affect. We hear about a relative who had the skin on his arm taken

off by the chemicals, a regular occurrence apparently in working conditions where vats of waste would jostle with heavy machinery as workers struggled to navigate in hot and over-crowded factories. A couple talk to us about their circumnavigation of the Welsh borders, via Offe's dyke and the "English" castle of Flint, a site of military conquest and ethnic cleansing, a toxic history of empire and colonization. Their dual storytelling, complete with corrections and asides, nods to long-tendered niggles and gripes, performs a mini burlesque for an audience that, by virtue of it being spontaneous and novel, seemed to provide an opportunity to realize and articulate new lines of relationality. This relationality extends beyond the human, weaving together the clays and muds, the clogs in which we walked, the whispering of the wind and the howling rain, a shared viscosity out of which emerged surprising and unique juxtapositions. If these human voicings find articulation and expression through landscape and its material, however, who or what is speaking through these pots and clogs that emerge from the kiln (see Lopez 1998): the potter, the zinc, pollution, a politics of inequality in chemical exposure and toxic genocide?

Our thinking is becoming fractured and dis-associative as the shoes invite us to attend the immediacy of what Tsing et al. (2020) have recently called "patch-

es” of the Anthropocene. For Tsing and her colleagues ‘the patch’ is a isolatable but nonetheless dynamic element of what we might previously have called landscape or environment – a discernible morphological pattern. In this sense it is a structured element of a broader context, a semi-stabilised encounter between contending human and non-human forces like “a stand of trees growing in a prairie or a breach opened in a forest by an animal trail or a road” (Rutherford 2019: 183). By attending to patches we can explore “the uneven conditions of more-than-human livability in landscapes increasingly dominated by industrial forms” (Tsing, Mathews, and Bubandt 2019:186). The patch can be thought of as locus towards which various materials and forces assemble and where human interventions are co-implicated with feral and somewhat uncontrollable becomings that extend over vast times and spaces. In the transport afforded by these clay clogs we might feel the landscape starting to move and in so doing give access to the specific patchiness here in the salt marshes of the Dee estuary. We begin to inhabit and (re)embody a landscape that seems to dissolve and yield to more elementary and decomposed matters in motion, sometimes with us, sometimes against us, and at times rendered according to threat and possible shelter. The horizon seems to recede as we plunge ever more into the body-

sucking muds and skin lacerating winds. How might we forge our next meal from this landscape? To which creatures have we become food, the forty percent of our bodies that is given over to symbiotic bacterial and microbial life and for which the human individual is merely the excrescent shell or host?

Step 4

In walking with our clay clogs we appear to have become something akin to landscape sensors (Gabrys 2016), attuned to and able to scrape or solicit hidden histories and suppressed stories that help recover and re-create different after-thoughts in the emerging socialities of the Dee estuary. These socialities speak in a language far different to the one made to speak by the formal business models deployed in Flintshire council's "Green Infrastructure Plan" or in the proposals of "The Environment Partnership." With the help of our clay clogs, these coming socialities speak in this essay, but as little more than murmurs or after-thoughts of an alter-life. Indeed, we can barely hear them. Nascent and protean, there is no social that is speaking or that can be made to speak, because we can only hear snatches of these hybrid part-human part landscape voices. The clogs tell stories, but they

might not be the stories that we want to tell or that we are able to tell.

All business must tell stories, but the stories it tells are all too human. Business trains the mind to confine and limit the range of speakers to the human voice ignoring the “voices” of other landscape agents. The social that emerges is both media and outcome of this human utilitarian ambition, the social entangled into a land-scaped for production and extraction that can be scaled up for global economy. Clay-clog socials, if we might put it thus, on the other hand, are more primitive and their methods awkward and clunky, flailing in the mud and sands as they seek livelihoods and deep adaptation to the coming climate wars (Dyer 2010). Perhaps the kind of business we are able to forge out of landscapes in the future will need to establish something equivalent to those reports of the “estates general,” interpreted by Henri Boulainvilliers on behalf of the entourage that had assembled around the Duc de Bourgogne in pre-revolutionary France (Foucault 2003). Now extended to include the claims of non-humans (birds, cockles, sand, clay), a similar survey is needed to establish who owns what and to whom, during times when new allocations are needed to solve coming shortages in food, land and water or indeed when we are asked to make

diplomatic representations and held accountable to “Gaia” (see Latour 2017).

Finally, in walking the Dee estuary with our clay clogs, we might also sense the ways in which the estuary is walking us, extending itself through the soles of our clay bound feet and giving access to a particular materialized way of thinking to which I have tried to give/find some voice in this short essay. Whether it is given or found remains ambiguous. It is part artifact of the methods deployed here, but at the same time it also discovered, or “found.” Who then is talking and walking here? Neither foot nor shoe, it is likely a hybrid, or what might be called in popular Deleuzian discourse a machinic assemblage that gives onto a Bergsonian open-whole. In these ways the shoes promise to help find ways of attending to a “cosmopolitics” (Stengers 2005) that permits other voices to speak and which might help guide us in our efforts to engage with the legacy of chemical waste and toxicants that are now returning from their 20th-century deposit. This return of the otherwise repressed might then demand a future of new socio-chemical collaborations and imaginaries in which speaking the social must be shared with a vast range of human and non-human agencies, some speaking in tongues and others speaking past one another. What hybrid pidgin

form might act as a medium of communication must necessarily await further elaboration.

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Revealing Social Infrastructures of Time

Larissa Pschetz, Michelle Bastian, and Ryan Bowler

Infrastructures, when they are working smoothly, are largely invisible to wider populations of users. Perhaps none more so than the infrastructures that provide time standards such as Coordinated Universal Time (UTC) – what we generally understand as “clock time.” Yet, as anthropologist Kevin Birth notes, when discussing the role of the US Naval Observatory (USNO) in providing standardized time,

The USNO is a place that every smartphone and GPS user depends upon, a place critical to the functioning of financial markets, a place that provides the precision timing information for the coordination of weapons systems, a place essential to the management of big data

and data mining, a place that supplies the astronomical and timing information used in determining religious prayer times for many adherents of many religions.

(Birth p.c.)¹

The technical infrastructures of time are thus ubiquitous. This ubiquity is not, however, the outcome of any “facts of nature” that would make time consistently applicable across all contexts. Instead, it is due to significant work by time metrologists and others to produce an infrastructure that meets the needs of key users interested in precise time.

The organisations who produce temporal infrastructures also reach beyond the members of the International Bureau of Weights and Measures (BIPM), to include corporations such as Google and Facebook who, when unhappy with aspects of conventional time standards, develop their own. Examples include Facebook’s Flick, a new unit of time that is more suitable than the second for editing video across different frame rates (BBC 2018), and Google’s technique for adding “leap seconds” into UTC, called a “leap smear”. This suggests that at certain levels of influence and global reach, it is possible to create new

1 See also Birth (2018).

infrastructures for calculating and understanding time as needs change.

In both the cases of time standardization and creative technological solutions to it, there has often thought to be little need for speaking for the social, since the adjustments to time are so small as to be largely unnoticeable. While the change from the Julian calendar to the Gregorian calendar (a staggered process that included a twelve-day jump in 1753 in a number of countries) was widely recognized, the redefinition of the second in 1963, or the adoption of UTC over Greenwich Mean Time (GMT) in 1972, had little effect outside of specialised communities. Likewise, leap smears and flicks work on the level of microseconds (millionths of seconds) and so can be introduced without public scrutiny.

One place where the social has appeared most explicitly has been in debates in precision time keeping circles over whether leap seconds should be retained. Leap seconds are adjustments made to UTC to account for changes in the speed of the Earth's rotation. While leap seconds are important for activities requiring exact location information such as astronomy, they are difficult to implement reliably in computer systems where they have to be added manually. In 2015, this debate reached the stage of an international decision being taken at the ITU

World Radiocommunication Conference (WRC-15). As those on various sides of the debate prepared their arguments ahead of the meeting, the public came clearly into view. Efforts to understand the social issues of precision time keeping included consultations, such as a UK Public Dialogue on Leap Seconds run by public consultation specialists Sciencewise,² and commissioned social research such as Birth's (2013) study of potential effects on orthodox religious communities. Speaking for the social in these contexts involved investigating pre-articulated concerns from scientific and industry stakeholders around cultural issues such as links to natural cycles, heritage, religion and spirituality, and intergenerational fairness (Silver et al. 2014). In the public dialogue case, experts took members of the public through key issues (as identified by specialised stakeholders) and at the end of the workshops attendees offered their opinion on whether leap seconds should be retained or not. These responses then fed into the official UK response.

Subsequent to the WRC-15 decision, the social as it relates to technical temporal infrastructures appears to have receded in significance, the divide once again

2 See National Measurements Office (2014) and Sciencewise (n.d.), the latter describing themselves as helping “to ensure policy is informed by the views and aspirations of the public.”

arising between technical users who are regularly engaged with adjustments and proposals, and the public who are largely unaffected. As a result more open dialogues are neglected, including ones such as the value of adopting precision temporal infrastructures in everyday life, the mismatch between the needs of precision time users and many aspects of our social lives, how various social values might contrast with the values embedded in the development of such infrastructures, and, indeed, how time could be designed differently to speak to these issues.

In our entry in this catalogue of methods, we thus suggest other ways of unpacking the issues at stake in our forms of timekeeping, ones which shift the understanding of who is the expert on time and how dialogues might be provoked. We describe a design approach that we call Temporal Design and outline three interventions. These interventions were not designed deliberately to speak for the social in the sense that is put forward by this volume, that is, to bring the social to the consideration of technical experts, but rather to speak against widespread assumptions that time is asocial and to engage wider publics in conversations about how their values and needs might be addressed, as technical users have already come to expect. Nevertheless, these interventions will be useful for those interested in speaking for the social

in regard to technical time infrastructures, particularly in provoking consideration of more varied questions, and being open to seeking more complex responses from those being consulted.

This kind of work of speaking for the social – speaking for the social nature of time – is a necessary step in broadening out conceptions of who the stakeholders are in time-keeping infrastructures, since in everyday life the fact that time can be redefined and remade is largely unknown. Instead, common sense notions of time as uniform, accelerated, external to human practices, and often imposed on people, highly influence understandings of time. When problems arise with time, the task is largely to recalibrate ourselves to UTC via various time management techniques and self-disciplines (Sharma 2014). The option of questioning our definitions of time is not on the table. The idea that time is a fixed universal is thus both socially problematic and fundamentally inaccurate. Both the technical systems that produce time, and the experiences of time across wider societal landscapes, are far more complex. Time is not neutral but, as the leap second debate demonstrates, is given meaning and embedded with values according to different contexts, social and material relationships.

Our temporal imaginary, where time is seen as universal rather than infrastructural, is ripe for challenge. However, we need methods that can confront the reification of critical aspects of our lives as non-social universals, enabling them to be reconceived as social. Just as movements around participatory mapping and critical cartography challenged the exclusion of the social, opening up questions around who should make decisions over how space is represented, produced and understood, Temporal Design is an approach that seeks to socialize temporal practices by gathering together wider and more varied groups to explore how time might be represented, produced and understood. We thus seek to attune designers and technical experts to the possibilities of wider social implications for all manner of design decisions that affect time and timing. We also seek to encourage designers to think beyond issues of pace (acceleration), direction (past, future, present), and subjective experience which have so far dominated the discussion. Temporal Design, in contrast, looks at time as emerging out of relations between cultural, social, economic, and political forces (Pschetz and Bastian 2018). This pluralist perspective can help to reveal how some infrastructures of time prevail over others. In this way, the ability to redesign time based on emerging needs opens up beyond corporate giants such as Alphabet, Microsoft,

and Facebook, to be explored within more varied social contexts. We thus hope to encourage wider recognition of the fact that time is designed and can be redesigned, while also broadening understandings of who has a stake in how time is defined.

In order for infrastructures of time to be redesigned, however, first it is necessary to recognize that speaking for the social in these contexts cannot rest on educating members of the public in current techniques, or asking them to comment on predetermined topics, as seen in the Leap Seconds dialogue. Instead, we would insist that any understanding of the social implications of infrastructural decisions related to time needs to take a significant step back and attend to how time is understood, lived and given context beyond established infrastructures and dominant narratives of time. It is crucially important to remember that this rich temporal texture is hard to reveal because the temporal imaginary we discussed above has such a strong hold. For example, when asked about time, people tend to reflect dominant notions of time as asocial, rather than the more nuanced and complex experiences at play in their everyday lives (Birth 2004). As a result, and as described in the following sections, we have investigated methods that would allow us to bypass both assumptions about

time as asocial and the dominant critiques that mediate the narration of time, exploring the affordances of design “probes” for revealing habits, practices and insights that often remain implicit in people’s negotiation of temporal infrastructures.

Probes as a method to explore aspects of Temporal Design

Temporal Design begins as an attempt to reveal differentiating nuances in temporality, often suppressed by dominant narratives of time that are embedded in infrastructures of temporal precision and universalised clock-time. Here our temporal designs were formulated into three probes designed to generate visibility with regards to temporal formulations that are rarely discussed. Still, people navigate interchangeably through varying temporal factors responding to infrastructures designed for, and sometimes despite, this more lived dimension.

Probes have been widely explored as an investigation method in design. Initially defined as cultural probes by Bill Gaver et al. (1999), the method offers an open-ended way to gather insights into the lives of the people for whom one is designing. Rather than attempting to speak for the social by training members of the public to understand technical infrastructures in

certain ways, or trying to elicit feedback on predetermined categories, as we saw above, this approach allows a broader understanding of the social issues involved. Design probes enable those being consulted to respond in ways that matter to them and that allow for the unexpected. The gathered insights are then drawn on by the designer, not as a set of rules or templates for the correct response, but as sources of inspiration that might identify unmet and unrecognised needs. Indeed given that the public largely view time as asocial, we have sought methods for eliciting, and then reflecting on, experiences that participants have largely ignored or dismissed.

In Gaver et al.'s initial experiment, the cultural probes consisted of a package with a series of creative prompts such as cameras, postcards, and maps. These were distributed to participants as a way to provoke "inspirational responses." In the words of the authors:

Understanding the local cultures was necessary [...] but we didn't want the groups to constrain our designs unduly by focusing on needs or desires they already understood. We wanted to lead a discussion with the groups toward unexpected ideas [...] We were after "inspirational data" with the probes, to stimulate our

imaginations rather than define a set of problems.
(Gaver et al. 1999: 22)

Since then, the concept has taken many forms addressing a variety of contexts. These range from the development of pieces to gain insights into novel technological designs to developing more elaborate ways of exploring nuanced notions of subjectivity and intimacy (Wallace et al. 2013). Boehner et al. (2007) reflect on the different ways in which probes have been employed and adapted in design contexts, particularly in Human Computer Interaction (HCI), drawing attention to the epistemological aspects of the method. According to the authors, probes should not be seen as a technique for data gathering but as an “alternative account of knowledge production” that values uncertainty over the production of results easily amenable to producing “well-defined set of requirements, themes, or insights” (Boehner et al. 2007: 1078–81). The aim is to produce responses, not to produce data (ibid.: 1084). We argue that three aspects of the method are particularly useful within Temporal Design for revealing the rich temporal textures of our everyday lives and for stimulating our imagination about what temporal infrastructures might involve:

Aim: probes are meant to generate creative insights into how a particular group interprets their context, in a relatively unstructured way – a way that is also less mediated by judgment, coherence, cultural clichés, and expected narratives and interpretations (from both probe designers and participants).

Format: probes make use of creative formats that are intentionally designed to be ambiguous, open-ended, aiming to provoke reactions (Gaver et al. 1999) and access a creative attitude in the participants.

Interpretation: data generated through this method is meant to be more insightful than representative (Wallace et al. 2013). Rather than accurately expressing the vision of a particular group, probes serve as prompts for a subtle communication between designers and participants.

In contrast to traditional methods of interviews and questionnaires, probes allow design researchers to sidestep more conventional conversations loaded with dominant moral assumptions around technology, such as ideals of efficiency and productivity, and to speak for social issues that extend outside these frames. In contrast to ethnographic methods of observation and analysis of practices, the inter-

preter of this data (the designer) is not looking for an explanation of the phenomena, but for inputs that support a creative process that, in our particular case, goes beyond more common narratives of time. In this way, the method is particularly apt for the three main aspects of a temporal approach to design, which consists of three design aims:

1. identifying dominant narratives and attempting to challenge them so as to reveal more nuanced expressions of time;
2. revealing nuanced expressions of time, drawing attention to alternative temporalities, and;
3. tactically exposing networks of times so as to illustrate, multiplicity, variety, but also social constructs and potential inequalities (Pschetz and Bastian 2018).

In the following sections, we describe three probe interventions that attempt to reveal social aspects of time in more complex ways, in line with the design aims of Temporal Design, namely:

- A. *Tempocards* (2015), which revealed the multiple interpretations of clock time that might be held at any one time (design aim 2).

- B. *Memorial for Misused Time* (2017), which explored associations of concepts, meanings, and lived experiences of “the best use of time” with ideas of past, present, and future, (design aim 2 and 3), and
- C. *Threads of Time* (2019), which looked at negotiations performed between multiple times so as to question notions of individual time (design aim 1).

In line with the creative probe approach, which emphasises the specific, unique and intimate nature of probe design, we would not suggest that these interventions could be straightforwardly adopted or repurposed. Instead they are offered as examples that others might draw on if seeking to develop their own.

Tempocards

The *Tempocards* (fig. 9.1) were made available to the general public at an art gallery in Edinburgh during the busy month of August, when the city receives a high number of tourists. They were aimed at producing stimulus for a design workshop in September 2015 called “Temporal Design: Surfacing Everyday Tactics of Time.” Relating to the three key aspects of the probe method highlighted above:

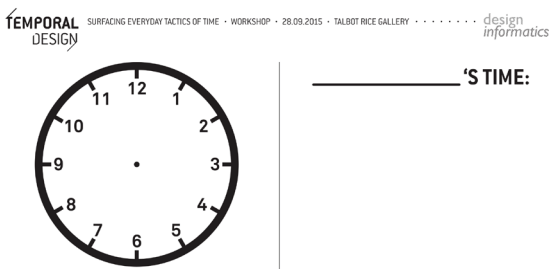
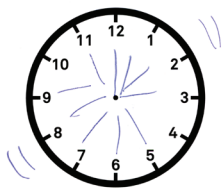


Fig. 9.1: A Tempocard.

Aim: this card exercise aimed to illustrate the multiplicity of responses that connect to one particular point in time, revealing the mesh of activities and characters that are hidden behind large infrastructures of temporality. This aim would be only achieved through the collection of multiple responses.

Format: the Tempocards were printed on one side of a postcard which was divided in two parts: on the left side of the card, we presented an empty clock-face, and on the right, we presented a field that nudged participants to write a word to describe the beholder of a particular time or time more generally. The task was intentionally left open and ambiguous, with the empty clock face serving as a reference to temporality, but a reference that encouraged a range of possibilities for response.

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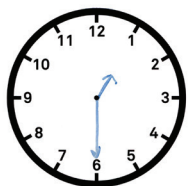
_____ 'S TIME:
Socially
constructed

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HAMMER 'S TIME:
can't touch this...

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Fancy 'S TIME:
Now it is HK Time
8:30 pm. I enjoy
this alone period in
here, But at the
same time, I miss
my family

Fig. 9.2: Sample Tempocard responses.

Interpretation: participants contributed more than 500 responses (sample in fig. 9.2), which ranged from descriptive actions to creative expressions that depicted reflections on temporal aspects of participants' lives. These included references to cultural symbols, regular activities, states of mind, important moments in participants' lives, protests, etc. They took the form of text and multiple drawings that used the clock-face or not.

The completed cards were introduced to participants at the Temporal Design workshop,³ where the material was analyzed in a variety of ways. This included setting out the cards in a large clock face according to the time indicated, reflecting on patterns or insights this generated, and then developing and proposing playful “temporal tactics” in response to the issues surfaced by the stimulus provided by the Tempocards (fig. 9.3). These proposals varied from the illustration of a scenario on a bus, where passengers walked under a tunnel to leave old experiences of time behind, to glasses that would promote temporal lenses related to different activities (fig. 9.4). These proposals were speculative in nature, helping other

3 *Temporal Design: Surfacing Everyday Tactics of Time*, held in the Talbot Rice Gallery, Edinburgh on the 28th of September 2015.



Fig. 9.3: Temporal tactics.



Fig. 9.4: Temporal lenses.



workshop participants to deepen their understandings of the variety of everyday tactics that are, or might be, employed in relation to time.

Memorial for Misused Time

The second probe consisted of an interactive installation carried out during the 2017 LightNight Liverpool arts festival which explored the theme of Time. We called the installation *Memorial for Misused Time*.

Aim: the installation was inspired by the busyness of festival time, when multiple events happened at the same time and visitors invariably miss some of its activities. Seeing something contradictory in efforts to “use time well” at a festival, which is often understood as a break in conventional time, we hoped to celebrate time’s misuse. This initial interest in the present time of the festival was expanded to notions of past and future in order to invite reflection on other scales of time, and additionally to a reflection and questioning of rules of time that could be self-imposed or understood as defined by an external context. The aim again was to illustrate the multiple associations with ideas of past, present, and future held by the people that came together on the same festival night and reflect these back to them in more complex and nuanced ways.

Format: the installation had two key activities. In one activity we prepared three racks with the prompts: “What do you miss... in the past,” “What do you miss... in the present,” and “What will you miss... in the future” and gave participants ribbons for them to write messages and attach to the respective racks (fig. 9.5). The ribbons made reference to multiple cultural traditions of tying ribbons to trees with wishes, prayers and hopes written on them in hopes of seeing them materialize. In the other activity, we prepared rolls of paper and invited participants to write the rules of time that they would like to keep and the rules that they would like to throw away (fig. 9.7). Importantly, the LightNight organizers located our installation within the Hall of Remembrance, part of the Liverpool Town Hall, which memorializes Liverpoolians who died in the First World War, adding further layers of resonance for the participants.

Interpretation: In the evening we collected more than 350 ribbons (108 for past, 135 for present and 121 for future) and more than fifty rules. The majority of ribbons referred to personal events in participants’ lives (fig. 9.6). Other messages included economic and political concerns, and more mundane aspects of everyday life that change as part of a natural process. The rules of time most often indicated desires for more free time and a slower pace of life. Here the responses challenged

our assumption that missing other events at the festival would be a concern among participants. Instead, they used the installation as a tool to reflect on different periods of their lives and express deep emotional states that are connected to life changes. Participants often spent quite some time looking through the contributions of others, and many described the experience as deeply moving.

Threads of Time

The third probe was designed as a more embodied experience to explore temporal connections and temporal empathy across participants. This included playing with the idea of time as a line, and referenced influential philosophical discussions of time, such as J. Ellis McTaggart's (1908) description of event time as beads on a string.

Aim: to discuss how participants move between times and what are the forces that influence temporal decisions and understandings of different rhythms. The aim was to challenge assumptions that individuals are solely responsible for defining their own times and rhythms according to better or worse time management skills and to make this more explicit for workshop participants.

What will you miss...

IN THE FUTURE



Fig. 9.5:
Memorial for
Misused Time.



Feeling Young, free •

CARE FREE; PLAY, THOU

having a mother

Forget the

my children being yo

MEETING MY GRA

EVERYTHING

Being a teenager

Innocence, Stupidity, Childhood

Conversations

confident

CHTS

Fig. 9.6: Memorial for Misused Time (detail).

gh Sammasad hW

ung

ND FATHER

D, THE 'NOT UNDERSTANDING' TIME,

with my nan (Hilde)



...RULES

What do

Format: the exercise was structured into three parts: a) *Times of the day walking exercise:* Thinking of their routines from five o'clock in the morning of the workshop day to the next day, participants were invited to compress this and walk around the space, increasing or decreasing body motion depending on their pace and speed at that specific moment in time; b) *Times of the day brainstorm:* Broken down into "Favourite times," "Times to avoid," "Times when you forget about time," and "Irritating times." Participants wrote situations associated with these four prompts onto post-it notes, then stuck the post-it notes onto circular artifacts, and clustered related concepts. They then placed the circular artefacts on the floor so as to form a larger circle reminiscent of a clock; c) *Walking through times of the day:* Attached by an elasticated string, participants held onto the metaphoric elasticity and tensions of time moving from a focus on their own times of day, to exploring how they had to be negotiated with others (fig. 9.8). Conforming to a metronome, participants moved into each time of day. If the ticking was slow, they perhaps might spend more time in a circle that stated one of their favourite times. If fast, they might move in and out of the time circles that they wanted to avoid.

Interpretation: insights from the exercise where captured through notes and audio recording. Responses

generated offered insights into the negotiations of time that are generated daily. It revealed varying strategies for using temporal rhythm to generate more or less time according to a given situation. For instance, one participant initially declared that they felt in control of speeding up or slowing down time. However, after the exercise, the same participant mentioned being more aware of the “boundaries that you need to negotiate, on a social, familiar or professional path that others also walk” (Participant 1). In relation to waking up in the middle of the night, another participant commented that the “narrative of time can make a person feel segregated” (Participant 2). These insights offer variable and intriguing temporal perspectives that allow new ways of designing and thinking about society and social interactions.

Discussion

Rather than assuming that the public must first be educated about temporal infrastructures in order to contribute meaningfully to debates about their constitution, the probes utilized in these investigations treated the public as already making, remaking, and breaking temporal infrastructures in their everyday lives. Our challenge was not to train attendees in obscure technical debates, but to instead counteract

bulb

Get a quote today

Fig. 9.8: Threads of Time.





the dominance of perceptions that time is asocial. Our work thus focused on designing materials, prompts, and interactions which could help participants in our activities to reveal and reflect on the socially created temporal textures that respond, co-exist, and confront larger infrastructures of time. Through the *Tempocards*, participants expressed how clock time was made to make sense within their lives. In the *Memoorial for Misused Time*, they expressed deep personal associations relating to notions of past, present, and future alongside the reflections of others in ways that spoke strongly to both writers and viewers. In *Threads of Time*, participants discussed how times are negotiated across habits, preferences, and power relationships. The probes created a context that encouraged temporal play and conversation, revealing a richness of expressions that complicate and question concepts of clock-time, past-present-future, and individual power over time. The probes also created a sense of temporal reflection for participants and researchers alike to consider temporalities that stretch beyond dominant narratives of time.

We would argue that speaking for the social in the temporal realm is not about narrowing down conversations about time to address currently dominant infrastructures, but about recognising the multiplicity of temporal aspects that people encounter in their

lives. Temporal Design encourages the acknowledgement of a “differential lived time” (Sharma 2014: 6), and the potential of these rhythms to challenge and maybe even transform larger infrastructures of time. When speaking for the social, we would invite researchers to experiment with temporal methods, such as the probe approach that we showcase here, to build a language to understand incongruences between peoples’ values and values that support these infrastructures. When we lack methods to reveal these alternative notions of time, it becomes harder to develop wider social critiques of temporal infrastructures, particularly beyond dichotomous temporal counter-narratives such as fast versus slow, or short-term versus long-term (see Bastian 2019).

Conclusion

Using probes to explore the unspoken socialities associated with assumed universals enables varying disciplines and social sectors “to start considering the complexity of aspects that sustain the coordination of particular groups” (Pschetz et al. 2016: 1), in this case in the context of temporality. We have seen how within this project, the probes further allowed for temporalities to both be seen as social and to be considered and reconsidered by those often aggregated into

“the social.” Offering an approach for engaging with varying temporalities, Temporal Design provides an example of a practice-based design-focused research approach that encourages thought-provoking ways of designing in a continually interchangeable complex system of time, place, and belonging. Looking beyond our examples here, we would suggest that the use of probes as a design method allows for various parts of society from governmental, civil, communal, and educational, to generate conversations around concepts like temporality and the potential incongruences between people’s values and the values embedded in infrastructures of time. These methods call researchers to think beyond clock time, acceleration theories and time squeeze conundrums to further develop research into more complex interwoven dimensions of time.

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The Museum of Data

Haidy Geismar, Joel Gethin Lewis, and Antonia Walford

Introduction

When it comes to speaking for the social in or of digital systems, it can often feel like social scientists are stuck in a discursive and contradictory loop, in which they reiterate the point that the social and technical are mutually constitutive, but focus their practice and analysis far more on the social than on the technical. Thus, despite the widespread academic acceptance of the concept of the socio-technical in which, as the editors point out in their introduction, the social is always already to be found woven through and produced by technical systems rather than somehow separate from them, in many contemporary digital settings it is still hard to escape the notion that the

technical is in fact beyond the social scientist altogether. Their role is rather to bring the social back into view as part of digital practices or objects that have traditionally been rendered socially neutral. For example, when analysing data-driven or algorithmic systems, social scientists often work to make social aspects of these systems explicit beyond the technical. Just as there are limitations to social systems whereby participation is affected by age, gender, and so on, there are also limitations to participation in technical systems, which often reflect the so-called “social biases” of those who have built them. One example is the recent debate about how such biases inform supposedly neutral algorithmic decision-making (e.g., Sweeney 2013). In cases such as these, when social scientists speak for the social within the socio-technical, it is often an act of revelation: making visible what was there all along, just hidden from view.

However, there are (at least) two problems that arise from this move. The first is that the digital is often used to conflate social participation and social consciousness: to make explicit the social constraints of digital systems does not necessarily effect any change through deeper understanding of those systems themselves. The second is that even if social scientists speak for the social in the socio-technical, this depends on an initial separation, from which a

particular set of relations can subsequently emerge. By framing the social as something that can be, and needs to be, made explicit or revealed, the emergent technical side of many digital systems is then easily characterized as being too complex or too obscure for social scientists to get a grip on, too distributed or too immaterial for qualitative methods to encapsulate – in short, as beyond us (see Burrell 2016). As the social is made transparent, the technical remains opaque.

This revelatory practice therefore requires, alongside this emphasis on visibility, a practice of reflexivity: a critically positioned intervention by which the implicit is made explicit and visible. In this chapter, we draw on museum practices, the organization of knowledge objects through processes of recognition, collection and appropriation, objectification, conservation, ownership, curation, classification, to develop a form of reflexive practice that interrogates the representational and revelatory politics that may be understood to speak for the social in digital objects. In so doing, we critique some of the representational practices that underpin the particular ways in which the social is made visible, arguing instead for a perspective on digital objects inspired by the ways in which objects are entangled explicitly within practices of classification in museums.

Speaking for the social has a long history within contemporary material culture studies, but there are tensions between ways in which objects may be used as narrative devices to represent the social, for instance in the influential idea of “object biographies” (Koptoff 1986; Hoskins 1998; Lamb 2011) and approaches that rather understand objects as agents, or actants, within social relations. Recent critical turns within classification and museum practices translate what can sometimes feel like the analytic cul-de-sac of theoretical writing into a series of engaged practices that require both the development of reflexive practices, and the translation of this reflexivity into practices of collection, classification, containment, and care (e.g., see Bennett et al. 2017). We draw on this scholarship to further explore the opacity of the technical, and how the social is understood analytically to be something that requires revelation. Even if speaking for the social is a crucial analytical position to keep asserting in many contexts of digital or technological design, we ask whether we might also consider other forms of practical engagement with the social as, for example, “caring for the socio-technical” (see Geismar 2022).

The experiment we are developing to investigate these questions is a Museum of Data (MoDa), an

online, open access database and curation platform that allows people to upload “data objects” to its collection. MoDa requires analysts to become curators and to develop their understanding of data objects through a form of reflexive practice – in this case, cataloguing. Museum catalogues make their world, as much as other databases or algorithmic systems, organising social relations, temporalities, and agencies. What, then, does the frame of the museum, or the museum as a technical machine for simultaneously creating and representing the socio-technical, bring into these debates? Why a museum over a database, a website, a blog, or even an essay? The MoDa constructs a social relationship that is figured by demanding the curator-cataloguer to reflect upon the categories that they need in order to classify and understand the form that they are trying to capture. Using the museum as an exploratory device, we use MoDa to investigate the interdependence of digital form and content, and make explicit the interpenetration, and recursivity, of social and technical imaginaries. By unpacking the ways in which digital knowledge architectures both produce and contain digital objects, we are inspired here by indigenous critiques of digital knowledge systems, which have galvanised movements to “decolonize the database” (Verran and Christie 2014). As Elizabeth

Povinelli puts it: “the task of the postcolonial archivist is not merely to collect subaltern histories. It is also to investigate the compositional logics of the archive as such: the material conditions that allow something to be archived and archivable; the compulsions and desires that conjure the appearance, and disappearance of objects, knowledges and socialities within an archive...” (Povinelli 2016: 149). Where many digital systems remain opaque, museum databasing in this context is increasingly rendered transparent, therefore opening up the possibility of participation, intervention, and transformation (see Geismar 2012).

The development of MoDa is a collaborative and ongoing process between two anthropologists and an interaction designer also involving several generations of students working across a range of different academic programmes. In the chapter, we demonstrate what we see as the practical efficacy thus far of such a deliberately reflexive digital platform, in which the “compositional logics” of the platform itself are under constant scrutiny, objectified through the conventions and format of the museum. Such an approach allows us to shape the museum in response to the conceptual and classificatory challenges of the objects it contains. However, this strategy still operates within a limited representational idiom, which relies on a

dynamic of revelation and concealment. In the last section of the chapter, we return to the problem of the opacity of the technical, and gesture towards some alternative dispositions that could be cultivated towards caring for the socio-technical, in which what is privileged is not so much visibility but the labor that goes into creating representational systems, as well as digital forms themselves.

Objectifying data objects

We developed MoDa as a digital platform that invites reflection not only on the nature of digital objects but on how digital systems create knowledge about the digital. This question is posed explicitly through the museum, by asking the visitor/contributor to imagine the digital as a kind of object made visible within the framework of a collections management system. It therefore provokes a deliberate confusion between what is inside and outside, asking us what the digital catalogue is made of whilst at the same time exploring the nature of the data or digital objects which populate the museum's collection. MoDa is an experiment in engaging with technical systems by asking those who participate in it (including us as its designers) to make explicit the social worlds that are being woven through and produced by such

systems. One of the issues MoDa confronts is that the academic study of the socio-technical has tended to focus on projects in the global north, and the digital is presented in relation to a variety of conventions familiar to that locale. Many mainstream discourses of the commons and the public sphere, open access, private property, and also activism, obfuscation, and interference, contain a number of assumptions about the digital as a socio-technical form prefigured by individual users, existing in collectives structured by socio-political arrangements that have emerged through the long history of European sociality, in particular as it has emerged under or in response to capitalism (the corporation, the nation-state, the cooperative, and so on). These are processes in which technical systems have already been implicated as important social actors (see Kelty 2008). Data from anthropology often challenges these universalizing accounts of the social, highlighting how local knowledge systems have become a way to challenge globalized notions of individual ownership, the public and the commons (see Christie and Verran 2013; Leach and Wilson 2014).

MoDa uses the recognizable form of a museum cataloguing system embedded within these histories (see Turner 2016) not only to permit a handheld on

complex digital phenomena, but also to force us to reflect on the constraints, limitations, and affordances of the platforms and systems of organizing knowledge (see Geismar and Mohns 2011). By reconstructing or seeing data as objects in the time and space of the museum, MoDa works by asking people to make explicit how the social and the technical are always imbricated in each other in a variety of different ways, and to explore the impact that representational practices have on our awareness and understanding of this relationship. Contributors have to think about the provenance and social relationships that constitute any digital object, and subsequently about the social forms the object accrues around it. At the same time, they have to think about the museum itself as a data object, and engage in the constraints and possibilities of available methods of collecting, curating, classifying, and archiving: what languages do we use, what epistemologies frame our concepts, keywords, and categories? Each reflection on such questions could potentially change the system itself.

The database as a knowledge machine

In order to construct the MoDa, we worked through a number of different prototypes. Our ambition was to create a recursive system which demanded the data

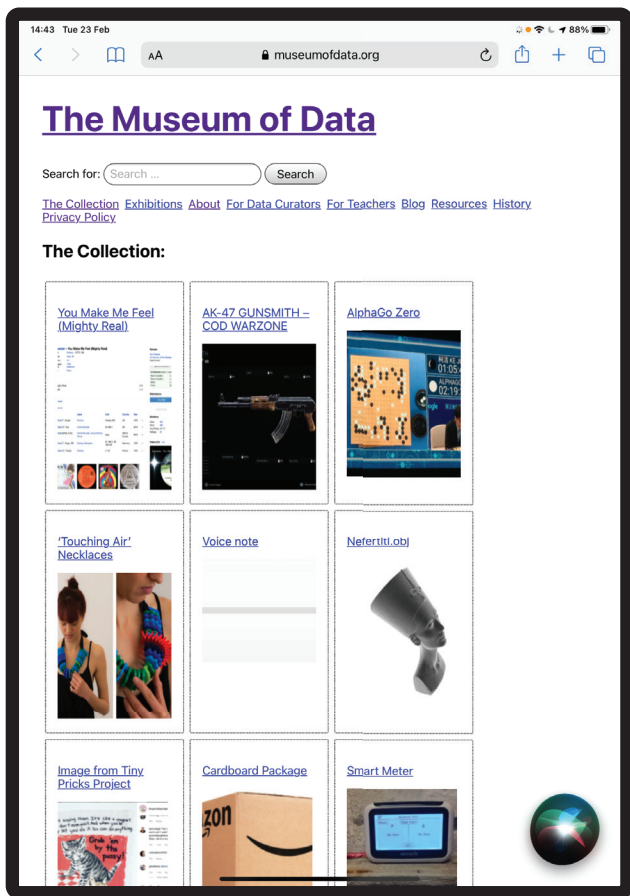


Fig. 10.1: Screenshot of the MoDa's Collection Interface. Clicking on any of the objects will take you to a classification page with a further description and reflections on that object.

inputter/curator to reflect on their own categories and to continually change not just the data contained within the database, but the fields which organize the data. In this way, we imagined that each data object would recalibrate the MoDa, changing the ways in which all the other objects could be conceptualized.

We started with an open source collection management system used by many different cultural institutions called Collective Access, and used the install that had been custom-designed by the New Museum in New York to manage their digital archive. That system proved to be more rigid than we had anticipated, so we moved to a bespoke system built entirely by Joel, the interaction designer on the team, in Django, because of its simpler, and more flexible functionality. We quickly became aware that the more bespoke a platform, the less sustainable it would be in the long term, as no-one other than the Joel had the technical expertise to be able to continually reconfigure the system. As Joel commented:

The problem is that many software projects don't do what they claim to do! Bit rot, or the decay of software

through time or neglect is also a real problem. The solution from a technical standpoint was to stay agile, not to get locked into a particular technical platform and instead concentrate on the outcome for the end user, rather than the most technically expedient outcome.

Our third and current prototype was made using the popular blogging platform Wordpress and the plugin Advanced Custom Fields. The site then was built within a typical blog interface and worked within this platform to simulate the fields common to museum systems of classification, hopefully drawing attention to representational conventions and knowledge hierarchies within these popular digital forms.

Each entry is set within a template that asks the data curator to consider a number of different aspects of the data object. All data cataloguers/curators are also able to edit the master template, changing and adding to the list of qualities and categories that are being used to think about the data object. Some of these categories come directly from the world of museums: there is a space for a public facing (easily digested) caption, a space for comments and notes for the museum which may or may not be made public. Several entries emerge directly from the object worlds created by museum systems: cataloguer/curators are asked to reflect and input information about

the object's materials, size, maker, copyright, date of creation, and language. Other entries emerge from consideration about the issues that data provokes: users are asked about the object's location, and are asked to link this object to others in the museum as well as to a range of conceptual keywords or tags. Users are also able to add other categories, comments, notes, and keywords. Any user can change the instructions for inputting or add new imperatives to the catalogue, although this is not demanded of them by the system. In this way, MoDa also requires participants and users to think about how much they want to shape the system itself, or simply use the suggested structures created by others. Whilst MoDa requires participation, not all forms of participation will equally engage with the challenge of form: some may provide content, others may restructure the nature of the collection itself. The practice of entering data, of being a data curator, therefore continuously reenacts the recursive relationship between the social and the technical, but also draws attention to aspects of this which might be muted or hidden or which might be made explicit depending on the interests and positioning of the curator.

As we developed MoDa, there were a number of lessons we learnt about relationship between databases, museums, and data as a curatorial object, that

helped us in understanding the complex ways in which digital classifications can be seen to speak for the social. First, despite the capacity for endless iteration and the potential for the bespoke afforded by digital systems, it quickly became clear how profoundly normative collections management systems are, driving the user towards standardization on multiple fronts. Because of the limitations of both technical expertise and commitment of participants, this push towards standardization is pragmatic. Few people want to reflect intensely on every category and term that they are using, and even fewer have the knowledge and skill to be able to easily navigate technical systems (even in Wordpress, a widely used platform). Standardization is also necessary to speak across the single record or individual entry to draw together genres, categories, and forms of collective knowledge. This leads to a second conceptual front of standardization. As knowledge systems grow, it is necessary to develop forms of standardization to be able to forge connections between disparate concepts and objects and, as the system grows, to manage these potentially infinite relationships. What, then, does this preset of standardization mean for our ability to construct a system that might make the socio-technical visible and what does it do to our reflexivity? What are the social presets that are coming to structure our understand-

ing of data objects, and where do they actually come from? What social normativities and assumptions are regularized or magnified through this process?

Below are some excerpts from the classification template of three objects uploaded to the MoDa by three different people, in which we show how the act of classifying different data objects according to some simple museological questions – What is it? Who owns it? Where is it? – brings the social relations that constitute them into view in particular ways, and how that then leads to interrogations of, and in two cases modifications of, the presumptions underpinning the classification system itself.

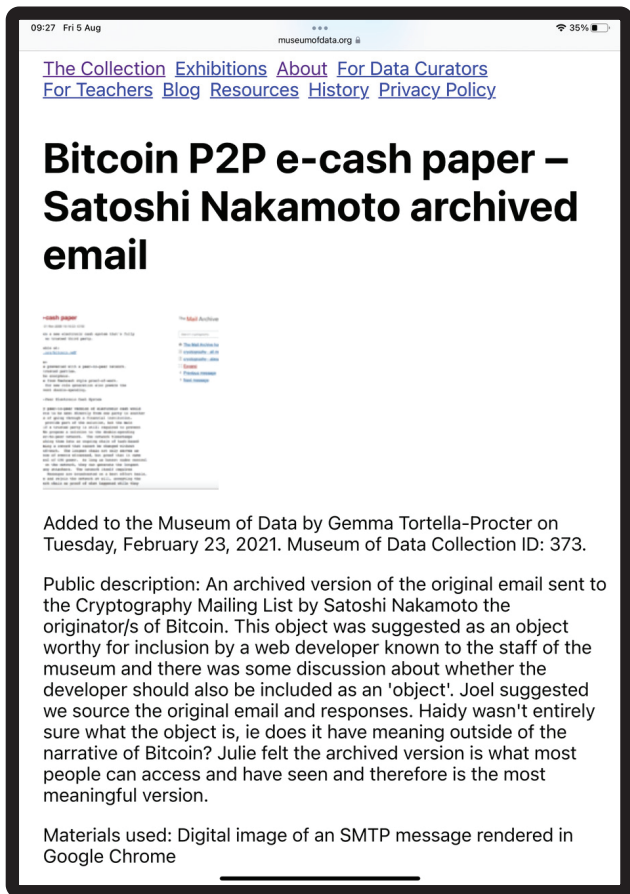
What is it?

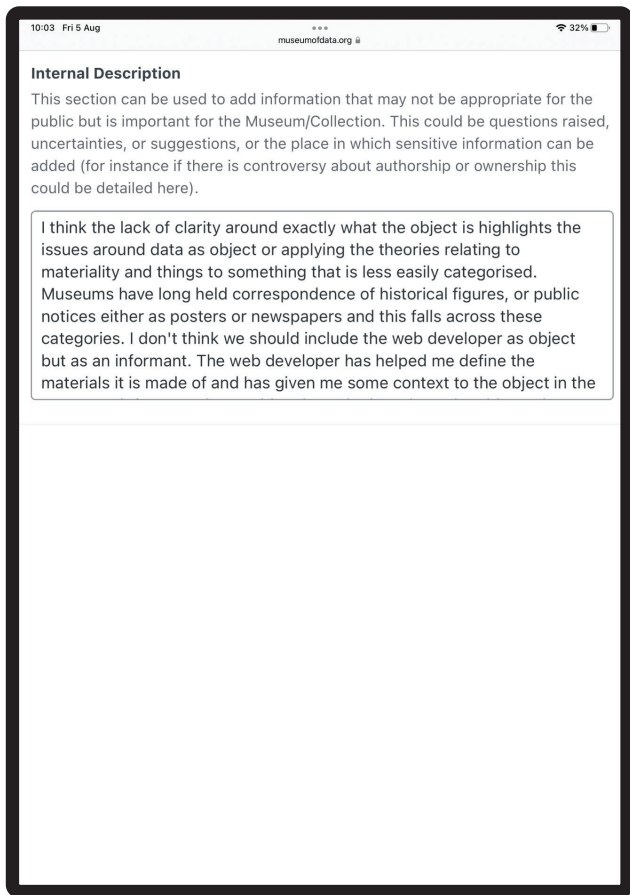
Exhibit 1: P2P e-cash paper - Satoshi Nakamoto archived email

By Gemma Tortella-Procter

Fig. 10.2 (overleaf): Bitcoin P2P e-cash paper – Satoshi Nakamoto archived email (on display at the Museum of Data).

Fig. 10.3 (overleaf): Internal description of data object in the Museum of Data files.





In our first exhibit (curated by UCL Digital Anthropology MSc alumnus Gemma Tortella-Procter), we focus on the idea of materiality, and specifically how a mundane data object such as an email can lead to a debate around digital materiality. The process of classifying this particular data object threw up a number of provocations: what exactly is being archived – is it the idea behind the email? Is it the original email, and is there such a thing as an original email? What is an email made of, is it the same as a letter or a note? Should the person who drew this object to our attention also be in MoDa somehow? Part of the value of this data object for the MoDa lies in the idea that it is the first glimpse of something that has now become a culturally salient financial phenomenon: bitcoin. However, it is exactly the notion of authenticity, and the related sense of individual rights and claims of ownership, that considering this email as a data object challenges. Likewise, the “author” of bitcoin also remains a mystery, and could even be multiple people. This exhibit throws into sharp relief how data objects we deal with everyday digital data, like emails, can call into question basic presumptions about what information is and how it relates to people. It also prompted a discussion around what the most meaningful criteria are for deciding which of the multiple materialities of the object might be the most

worthwhile for MoDa. The artifice of the museum exposes specific challenges that these data objects raise for systems that were designed with singular artifacts owned by single institutions in one location, including MoDa itself.

Who owns it?

Exhibit 2:Nefertiti.obj

Haidy Geismar


Exhibit 2 is another form of data object, curated by Haidy Geismar, that interrogates simple relationships of ownership by bringing materiality into view, although this time the object is far from mundane. Here, a physical object is transformed into a digital one, and in so doing a whole vista of issues around the contested ownership of both objects opens out. It forces us to ask what the relationship is between the original object, the bust, and the digital scan of that object, and to confront the ways in which this contested relationship can imply different regimes of ownership: the Berlin Neue Museum's claims to have rights over the physical bust of Nefertiti are refuted by the Egyptian government, and both claims are flaunted by the artists, Nora al-Badri and Jan Nikolai Nelles, who released the data object open access but also have a claim over it as part of their

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museumofdata.org

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Nefertiti.obj



Added to the Museum of Data by Haidy Geismar on Saturday, August 31, 2019. Museum of Data Collection ID: 362.

Public description: Al-Badri and Nelles scanned the head of Nefertiti clandestinely in the Neues Museum Berlin without permission of the Museum and they hereby announce the release of the 3D data of Nefertitis head under a Creative Commons Licence. The artists 3D-Print exhibited in Cairo is the most precise scan ever made public of the original head of Nefertiti. With regard to the notion of belonging and possession of objects of other cultures, the artists intention is to make cultural objects publicly accessible. The Neues Museum in Berlin until today does not allow any access to the head of Nefertiti nor to the data from their scan. "With the data leak as a part of this counter narrative we want to activate the artefact, to inspire a critical re-assessment of today's conditions and to overcome the colonial notion of possession in Germany" the two artists say. (source: <http://nefertitihack.alloversky.com>). The object uploaded here is the .obj file which was made downloadable from the artist's website or as a torrent file. This data file allows the user to print their own version of the bust of Nefertiti or play with the data.

Materials used: Kinect scanner, hacked data, 3D printed media

Fig. 10.4: Nefertiti.obj: image of scan of the head of Nefertiti.

artistic production. Is the data object, here archived in the MoDa as an independent entity, detached enough from the physical object to permit a new set of property relations altogether? The digital and the physical mirror each other here, both in the contested ownership claims, but also in the way that experts have refuted the authenticity of the data object . The fact that the MoDa is now displaying this as part of its own collection, and suggesting another ownership regime to the list of more conventional ones, that of “hacked content disrupting all rights regimes” points again to the way in which data objects might accrue conflicting property regimes around themselves.

Where is it?

Exhibit 3: Group on Earth Observation System of Systems

Fig. 10.5 (overleaf): The Group on Earth Observation Systems of Systems, GEOSS: a global environmental data portal.

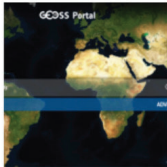
Fig. 10.6 (overleaf): Internal description of data object in the Museum of Data files.

10:07 Fri 5 Aug

museumofdata.org

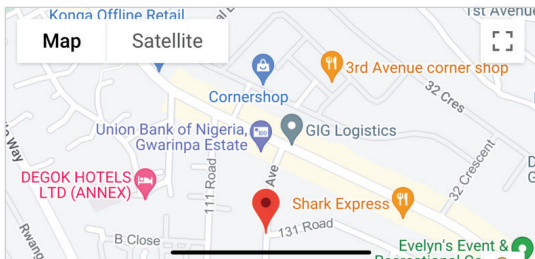
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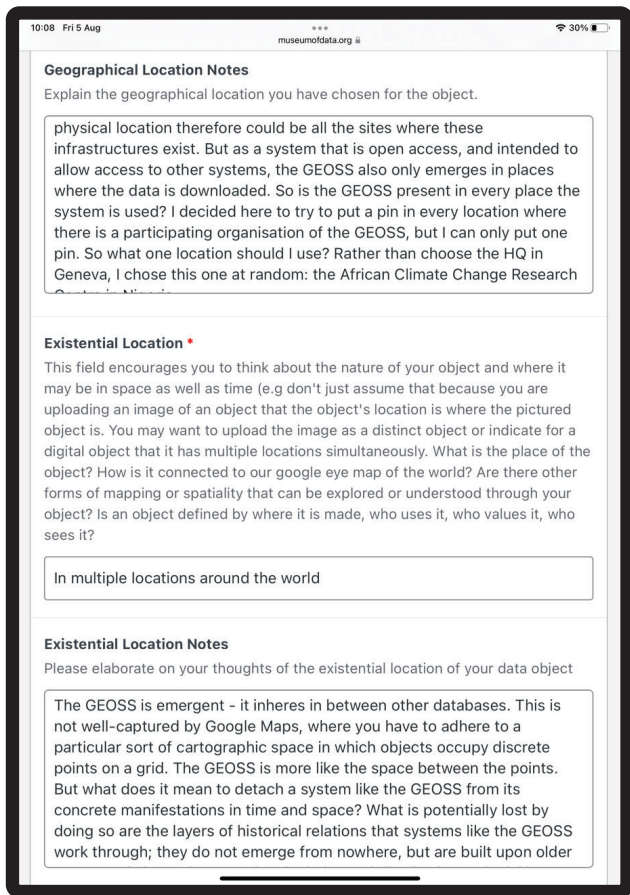
The Group on Earth Observation System of Systems



Added to the Museum of Data by Antonia Walford on Friday, August 5, 2022. Museum of Data Collection ID: 369.

Public description: The Group on Earth Observation System of Systems (GEOSS) is a global system of Earth Observation data retrieval, created by an international network of over one hundred government and commercial organisations and academic institutions (The Group on Earth Observations). The GEOSS connects up existing Earth Observation data infrastructures all over the world into one open access data resource.





Antonia Walford

Exhibit 3, curated by Antonia Walford, speaks to questions of location. In being asked to pinpoint the location of a distributed, or “global,” digital system like the GEOSS, what is made clear is that having to situate it in only one place reveals deeper hierarchies within the system. Understanding location as singular enforces a particular view of the object. The GEOSS HQ is in Geneva, Switzerland, but stating that this is where the GEOSS “is” would not only fail to capture its distributed nature, but also eclipse the other 132 participating organizations, many of which are in the global south. Stating that the GEOSS is in Nigeria brings forth a very different set of political possibilities to stating that it is in Switzerland, although they are both equally correct. Although being forced to choose one geographical location, as per convention in museum catalogues, is what reveals this conundrum, it also prompted us to develop another category in which issues such as these could be expanded on, that is, “existential location.” The GEOSS troubles our sense of cartographic space (Google Map) because it seems to exist in a dimensionality that is not quite of the physical world (a claim made for the digital more broadly, as in “cyberspace”); although the object that has been “collected” in the MoDa is the GEOSS itself,

the image that has been uploaded is a picture of the GEOSS portal, which is exactly that: a doorway to other databases. A data portal exists, apparently, only as a conduit. However, this non-place of the digital here is called into question not simply because all digital entities have a material substrate ((a server, a data centre, hardware, software) but also because the GEOSS is not, in fact, everywhere. That is, the contours of this system are grounded in specific histories, tied to some places and not others. This prompts a reflection on the sort of space that is in question, here suggested to be “territorial space,” a sort of space-making that has particular colonial histories traced through it.

Each of our three exhibits demonstrate the recursive ways in which form and content, or one might say the technical platform and the social object, work upon each other. In Exhibit 1, tacking back and forth between exploring the multiple materialities of the digital object and the necessity to fix its form in order to assign proper credit, we are confronted with the inadequacy of the presumed relations of objects to individuals for understanding either in this case. In Exhibit 2, the transformation of a physical object into a digital one, and the resulting controversy that this act provoked, necessitated we created a new property regime to add to MoDa’s classification system. Likewise, in Exhibit 3, the tension between the necessity

and the impossibility of pinpointing the location of the digital object, alongside the realization of how this re-enacts past colonial erasures, led to the museum having a new location classification created. As these three different examples demonstrate, being asked to reflect on the characteristics of these data objects opens out sets of questions that challenge not only how data and the digital are objectified, but also how the digital systems we use to categorize and engage in these objects of study shape our understandings in particular ways; this, in turn, allows us to work towards re-shaping them. Engaging with the form as well as the content of the platform also forces us to move beyond the social in our understanding of the skills needed in order to undertake this kind of work. As Risam (2019: 52) notes, in her extended discussion of postcolonial digital humanities, there is intense discussion within fields such as digital humanities as to the relation between theory and praxis, often framed around whether or not scholars or analysts are also able to code. The MoDa demonstrates that even coding knowledge is partial, and that the forces of standardization or generification are as important as specialized technical expertise. We also need to recognize technical work as a form of social commentary. The data object that our developer, Joel Gethin

Lewis, uploaded to the museum was a selfie of the Museum of Data Staff.

MoDa futures: New practice beyond representation

Cultivating practices of explicit reflection on the inescapable normativities and constraints of digital systems is, we believe, a crucial element of any approach that seeks to transform those systems. With MoDa, we use the conventions of museum practice as a means to do this. The result is that MoDa speaks for a form of the social that might be understood to inhere in objects; the social relations that constitute data objects is revealed through the explicit practice of curation and presentation. This also holds for the museum itself: what might normally be considered to be restricted to the internal workings of museums – the discussions and debates around the histories, provenance, location, material forms, property rights, and so on, of any object – here becomes the external form of the museum, which we recognize is in a potential state of constant flux.

Although the MoDa in this way turns the museum “inside out” (Riles 2000) thereby complicating the relationship between what is made visible and what is kept invisible, it nevertheless relies on the trope of

revelation in order to do so. And, as Marilyn Strathern reminds us, revelation always implies concealment (2015), even in a situation where everything is apparently on display. In looking for alternatives to representational strategies of revelation, we turn instead to feminist and other contemporary theorizations of care. As Geismar (2022) has explored elsewhere, feminist theories of care emphasize how care-taking practices are often invisible or go unrecognized (Tronto 2015). Care has emerged as a way to look within and between the nodes and connections visualized on the flat plane of the network, to manifest invisible and marginal labor. Care is also positioned as a form of world-making through maintenance, making visible the infrastructures of support that enable networks, or objects, to emerge into the world. There is therefore a tension between top-down forms of care (care as control or a politics of recognition and rights), and theories of care that foreground the invisible, the powerless, and the excluded.

You do not need to make something visible to care for it. In fact, the work of care might be ensuring something stays invisible and unnoticed, as infrastructure scholars have pointed out, (although their critical practice is to reveal this). What care allows us to countenance is a relation with the technical that is not spectacular or revelatory, but that focuses on

maintenance, repair, and use. We are here inspired by a recent movement known as minimal computing, an emerging strategy to undertake computing within recognized constraints, whether those of hardware or software. Minimal computing is expressly not about high performance, but about necessity and the demands of use. As such, it is a political act that acknowledges the contingencies built into digital systems and underpinning code, working to unravel often hidden inequalities and hierarchies that structure not simply access but the very affordances of platforms. Such inequalities are built into not just hardware and software, but into educational attainment needed to use and code, network capacity, power and politics, skills and expertise, bandwidth limitations, and so on. “Minimal computing thus relates to issues of aesthetics, culture, environment, global relationships of power and knowledge production, and other economic, infrastructural and material conditions” (Minimal Computing n.d.). Minimal computing has emerged in particular to address imbalances of expertise and access between global south and global north, to develop platforms and practices that can move more easily across these divides.

Minimal computing thus makes very visible the constraints of digital systems in a way not unlike MoDa aspires to, but at the same time it is practice

that has emerged in order to “care” for the socio-technical, not by high-spec bespoke engineering, but by empowering practices of bricolage, making-do, and enabling what is to hand. The focus on use, maintenance, repair, and accessibility, and the tension between these and practices of visibility (Knight 2017), makes clear is that we need to develop several sets of sensibilities at once; speaking for the social must also be matched by a commitment to caring for the socio-technical, and this might cause frictions and tensions.

Our choice to use Wordpress as a platform is a good example of this commitment: we might argue that making Wordpress visible in a critical vein is an important part of the work of MoDa (that is, with all the presumptions Wordpress as a platform has which shapes how MoDa operates), but at the same time, it is because we are using Wordpress that we will be able to easily maintain and care for MoDa, and as many people as possible will be able to use it. At the same time, this decision coopts us into a platform where technical decisions are pre-formed by a company responding to both the imperatives of another form (blogging) and the norms of another culture (social media), with its own histories and conventions. If speaking for the social of MoDa implies revealing

what was there all along, caring for the socio-technical forces us to think about the relations that MoDa has not yet made: its future capacity to travel between and across different sorts of divides.

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