

Introduction

Infrastructures of Certainty and Doubt

Matthew Carey and Morten Axel Pedersen, *University of Copenhagen*

Abstract

This special section explores the various ways in which states of certainty and doubt are generated and sustained, focusing on what we call the ‘infrastructures’ that undergird, enable or develop alongside them. The articles in this collection build on the growing literature on these topics, notably the very extensive recent work on doubt, uncertainty and opacity, and they extend it further by directing attention not to the consequences of these states or people’s responses to them, but instead to the various semiotic, material and social forms that make possible the assertion or recognition of certainty or doubt. We use the idea of ‘infrastructure’ as a heuristic device to explore these processes.

Keywords: certainty, doubt, infrastructures, ontology, pragmatism, technology, uncertainty

Debates surrounding notions of certainty and conviction and, conversely, of doubt, uncertainty and opacity have proved to be some of the liveliest and most anthropologically productive of recent years. The contention that a kernel of uncertainty lies at the heart of human experience of reality is, for instance, a central lemma of both pragmatist currents within the social sciences and, albeit less explicitly, of so-called existentialist anthropology. This is particularly clear in the highly influential recent work of Luc Boltanski (2011, 2014), in which he develops the distinction between ‘reality’ and ‘world’, where the former corresponds to our normed conceptions of how things are, while the latter is understood in its Wittgensteinian (1923) sense of ‘all that is the case’ (*alles, was der Fall ist*) or in the standard French translation ‘everything that happens’ (*tout ce qui arrive*). Periodically, Boltanski claims, the world irrupts into our relatively stabilized ideas of how things are, generating radical uncertainty about the ‘status of that which is.’ And this uncertainty is both the ground of human experience and the starting point for our understanding of it.

Related ideas can be found in much of the broadly pragmatist literature, where uncertainty or opacity may be seen as a ‘formal property of some contexts’ (Berthomé et al. 2012: 129). This is as true of linguistic pragmatism (e.g. Duranti 2004; Hanks 2006), which looks at the uncertainty implicit in particular forms of communication –



think of Bateson et al's (1956) classic discussion of the double bind – as it is of medical anthropology, such as the work of Susan Whyte, who builds on Dewey's claim that the world (or what Boltanski would call reality) is 'precarious and perilous' (cited in Whyte 1997: 18), to explore the varied therapeutic paths that people follow in response to the uncertainty of illness. The types of uncertainty at play in these vastly different contexts may vary from the communicational to the existential, but common to them all is the idea that our task as humans, and as social scientists, is not to resolve this uncertainty by appealing to certain, transcendent categories, but to acknowledge and deal with it in the particular circumstances in which we find ourselves.

This is an assumption that would also be immediately recognizable to existentialist anthropologists such as Michael Jackson and Albert Piette, with their focus on the human subject's adaptation and action in response to the 'variability, mutability, and indeterminacy of ... lived reality' (2015: 3), or indeed Michael Lambek, who concludes an existentialist piece entitled 'Both/And' by provisionally, and Cartesianly, describing his own as a 'voice that is certain only of uncertainty' (2015: 80). In all of these different approaches, the uncertainty that grounds experience and existence can be located in the gap or the misfit between our conceptions and the world they are supposed to represent, but which instead consistently destabilizes them. This is a gap that can never be overcome, only managed, and which is the source of our restless curiosity about the world, as well as our constant enquiry into the causes that underlie events.

A countervailing stance, meanwhile, characterizes certain currents of the recent ontological turn in anthropology, which can be seen, in some lights, as a radical attempt to assert the centrality of certainty to human existence. This is rarely made explicit, but is nonetheless quite obvious if we take seriously the key claim of Henare et al.'s introduction to *Thinking through Things* (2006) that concepts and things are best thought of as essentially coterminous, such that powder, in Cuban divination, does not represent, but rather *is* power. Here the representational gap between concept and world that is the source of uncertainty in the pragmatist approaches mentioned above is simply collapsed. Where ideas and things are identical, there can only be certainty; if the worlds in which people live are not things that these people represent to themselves, but rather things that incontrovertibly present themselves to them, such that thing and concept are fused, then there can be no representational uncertainty, in the sense of a space between person and world.¹ It is perhaps worth mentioning, in passing, that the radical uncertainty of pragmatism and the certainty of ontology only extend so far as the world being respectively represented or evoked, whereat they invert positions: while pragmatists such as Boltanski take as given that there is indeed a world out there and that it is one (how could it not be when it is everything that is the case?), ontologists have to assume that the world is as unstable, multiple and indeterminate as the concepts that evoke it. For our purposes here, however, the point is not precisely where the certainty and uncertainty lie, but their remarkable intellectual vitality as master-concepts, as well as the central role they assume in these authors' representations of the world... or worlds.

What is true of these existential kinds of certainty and uncertainty – which are supposed to lie at the core of experience – is also broadly so for anthropological explorations of their articulated or socially extensive forms, which have also flourished in recent years. Issues of uncertainty loom large in such influential work as Rumsey and

Robbins' special issue on the opacity of others' minds (2008), which looks at the social implications of Melanesian ideas of other people as fundamentally psychologically inscrutable, as well as in the growing literature devoted to rethinking crisis (Vigh 2008), catastrophe (Button 2013) and risk (Zaloom 2004) not as events or states that destabilize or interrupt the stable flow of 'normal' existence, but as ambiguous, indeterminate and even potentially socially productive contexts for action. Ideas of certainty, meanwhile, are implicit in work on the anthropology of knowledge (e.g. Hastrup and Hervik 1994) and evidence (Engelke 2008), and explicit in James' classic edited volume *In Pursuit of Certainty* (1994), which explores the emergence of newly assertive forms of religious and cultural identity in the 1990s. Questions of doubt have also been thoroughly explored by Pelkmans (2013) and Bubandt (2014), both of whom stress, in their different ways, the generative role it often plays in social life. For Pelkmans, doubt can be seen as a sort of activated or potentized uncertainty (2013: 16), one that plays a necessary part in both belief and the production of scientific knowledge, as it is doubt that enables one to question received wisdom (2013: 8). Bubandt, meanwhile, sees doubt less as a companion to belief than an alternative attitude; rather than asking whether his Indonesian interlocutors believe (or not) in witches, he focuses on the aporetic (i.e. doubt-expressing) quality of witchcraft and how it generates speculation, guesswork and indeed a full-blown philosophy of uncertainty.

Much of this literature is as philosophically ambitious, and, as with Bubandt's Indonesian interlocutors and, as with the pragmatic and ontological approaches mentioned above, the exact relationship between the ideas of certainty, uncertainty and doubt under discussion is slippery, recursive and frequently hard to grasp: Bubandt, for instance, makes a point of citing Pelkmans' own citation of Wittgenstein's slightly abstruse contention that 'the game of doubting itself presupposes certainty' (2014: 123). Once again, however, our purpose here is not to enter into the arcana of this debate, but rather to make the very straightforward point that the vast majority of it is focused squarely on the *consequences, implications and ramifications* of this certainty and doubt. So, if we return to Boltanski, his last two books deal directly with human responses to the uncertainty characteristic of experience. *On Critique* (2011) reconceptualizes institutions as entities to whom is delegated the necessary task of defining 'the status of that which is' (i.e. reality) – a task to which they are uniquely situated because they are 'beings without bodies' and so situated outside of the direct flux of experience. *Mysteries and Conspiracies* (2014), meanwhile, takes as its object the various forms of investigation and enquiry (detective, conspiratorial, paranoid and sociological) that arise in response to an enigma, understood as one of the moments where the world irrupts into reality. And this focus on outcomes and implications is equally present among the ontologists. Henare et al. propose to take the certainty of their fusion of concepts and things as a 'starting-point' for investigation and state that their 'aim is to explore the *consequences* of an apparently counter-intuitive possibility: that things might be treated as *sui generis* meanings' (2006: 3; our italics). What primarily matters for all of these authors is the implications of uncertainty and certainty for human existence, on the one hand, and sociological and anthropological discussion of it on the other. And as a result, there is perhaps a tendency to take them for granted or at least to brush over the ways in which these sorts of epistemological states come to be.

This tendency should not be overstated. For instance, Susan Whyte, in *Questioning Misfortune*, goes to great lengths to stress that the uncertainty that underlies divination ‘is not simply “there”. It is constructed and emphasized’ (1997: 68). Nils Bubandt similarly insists, after Wittgenstein, that doubt is not simply ‘the free form that reason [takes, but is] socially structured’ (2016: 523). In neither case, however, does the author develop this insight in systematic ways. It is alluded to and, in the case of Whyte, the micro-sociology of interactions that sustain uncertainty is briefly evoked, but the complex, patterned and structured forms that underpin or enable certainty and doubt – what we might call their ‘infrastructures’ – are given short shrift. Perhaps the work that comes closest to doing something of this kind is James’ foundational *The Pursuit of Certainty*, many of whose contributions pay considerable attention to the cultural forms that helped give rise to and intertwined with the hardened forms of identity politics characteristic of the 1990s. The present collection builds on this approach and seeks to expand it in two key ways: first, by taking a much broader view of the kinds of formation that are involved in the generation of certainty or doubt, one that does not restrict itself to predominantly cultural *dispositifs*, but also embraces networks, digital architecture and material infrastructures; and second, by placing certainty and doubt on an equal footing.

For it is not, perhaps, such a leap to assume that certainty, certitude and conviction do not spring fully formed into being. Certainty, we can say, is always an effect, and the generation of certainty (whether it be fleeting certitude or durable conviction) is always dependent upon an *infrastructure* of sorts. It is this infrastructure that allows people to generate or sustain different forms of certitude (as James’ volume so ably demonstrates). Just as importantly, however, we contend that uncertainty and doubt are not simply the zero state of human being, the existential ground or radical Cartesian *dubito* upon and out of which the edifice of existence is painstakingly constructed. They too must be generated and sustained. Indeed, our goal in this introduction and in the ensuing articles is precisely to sketch out and start theorizing some of the ways in which different types of infrastructure (social, material, semiotic, affective, etc.) are involved in these processes. First, however, we need to be a little clearer about just what we mean by the term infrastructure.

***Deus absconditus labilisque* – the labile and hidden God of infrastructure**

Over recent years, a rapidly growing number of studies have been published in the burgeoning theoretical and empirical interface between anthropology and science and technology studies (see, e.g., Chu 2014; Fisch 2013; Harvey 2012; Harvey et al. 2016; Harvey and Knox 2015; Howe et al. 2016; Jensen and Morita 2016; Jensen and Winthereik 2013; Larkin 2013; von Schnitzler 2008; for two pioneering studies from Science and Technology Studies (STS) and anthropology respectively, see Star 1999 and Humphrey 2005). It is instructive to reflect upon the ways in which the concept of infrastructure, as developed within this expanding literature, compares to other anthropological concepts with which it shares empirical or analytical family resemblances. In particular, we begin by considering some of the differences between

technology and infrastructure as anthropological concepts: what does the concept of infrastructure allow us to say and do that technology does not (and vice versa)? As we shall see, engaging with this question allows us to better pin down how a focus on infrastructure can provide a fresh ethnographic and theoretical perspective on the anthropology of doubt and certainty.

According to Brian Larkin, author of a much-cited review article on the topic (2013), infrastructures, 'when they operate systematically ... cannot be theorized in terms of the object alone. What distinguishes infrastructures from technologies is that they are objects that create the grounds on which other objects operate, and when they do so they operate as systems' (2013: 329). What Larkin taps into here seems to be the two rather different semantic spaces or 'imaginative horizons' (Crapanzano 2004) delineated by technology and infrastructure as anthropological concepts. For many anthropologists (and this is clearly one of the most appealing things about the concept and the reason it has gained so much traction over recent years), 'infrastructures' are more foundational and overarching than 'mere' technologies, which are often assumed to take the form of concrete, bounded and discrete phenomena (think, say, of Mauss's 'techniques of the body' or Foucault's 'technologies of the self'). Unlike technologies that are directly observable in the sense that they stand out from things in their vicinity (think of a skilled dancer or a very bad one!), infrastructures bury themselves in the margins or beneath one's field of vision, as if they were deliberately designed to escape attention (which is, in fact, often the case, as Zizek pointed out in 1989 in a critique of so-called user-friendly computer interfaces). Two iconic examples frequently used to illustrate infrastructure's near-invisibility are electrical grids and sewers. In the memorable words of Susan Leigh Star, who pioneered the science-ethnographic study of infrastructure:

Study a city and neglect its sewers and power supplies (as many have), and you miss essential aspects of distributional justice and planning power. Study an information system and neglect its standards, wires, and settings, and you miss equally essential aspects of aesthetics, justice, and change. Perhaps if we stopped thinking of computers as information highways and began to think of them more modestly as symbolic sewers, this realm would open up a bit. (Star 1999: 379)

Indeed, a key insight from recent work on infrastructure in STS and anthropology is that, as technological (Lemonnier 1992) or indeed experimental (Rheinberger 1994) systems, they are imbued with tacit social, political and cultural conventions, which are sometimes quite literally built into their framings, standards and configurations. For the same reason, as Harvey, Jensen and Morita put it in a recent attempt to take stock of the literature, 'bring[ing] the infrastructural "ground" up front ... facilitates understanding of how complex chains of material relations reconfigure bodies, societies and also knowledge and discourse in ways often unnoticed' (2016: 3; emphasis removed). Infrastructures, one might say, can in this respect be described as the ultimate 'anti-politics machines' (Ferguson 1994), for they not only have the capacity to hide asymmetrical social and political relations beneath a garb of ostensibly technical solutions, but they also define what can be seen and known, and what cannot. After all, to an even higher degree than traditional Foucauldian discourse analyses

and genealogical methods, infrastructures, as least as they are defined by ‘practical ontologists’ such as Casper Bruun Jensen and Atsuro Morita (2016), operate not just on a sociological surface level, but on a more basic epistemological or even ontological one, acting as sorting mechanisms through which overlapping configurations and distributions of connections are assembled, disassembled and reassembled. Certainly, this seems to be what Larkin is getting at in his claim that ‘infrastructures are matter that enable the movement of other matter. Their peculiar ontology lies in the fact that they are things and also the relation between things. As things they are present to the senses, yet they are also displaced in the focus on the matter they move around’ (2013: 329). This is an apt definition, precisely because it is sufficiently open to allow for all manner of empirical variability and ethnographic contingency to be ‘smuggled in’ as a given anthropological analysis proceeds. This may include phenomena not normally conceived of, let alone analysed as infrastructures at all, as we see for instance in Pedersen’s chapter, which explores ‘ignorance’ as a form of infrastructure in its own right, or Jones McVey’s in this volume, which takes the ‘in-between’ of human–animal relations to be infrastructural in nature.

Small wonder, then, that anthropologists have embraced the question and the concept of infrastructure with so much enthusiasm over the last decade or so. On the face of it – or this at least appears to be the case among influential scholars such as Larkin (as Jensen and Morita also point out [2016: 6–7]) – the concept allows one to probe into the basic ‘underneath of things’ (Ferme 2001) without losing touch with the more ‘hard-nosed’ political, economic and material realities in which this underneath is embedded. In that sense, the recent turn to infrastructure has allowed anthropologists to analyse some of the same social and cultural phenomena, and to make some of the same analytical and contextualizing moves, that the concept of ‘structure’ (in its various incarnations, from structural-functionalism to Marxism, by way of structuralism²) accomplished during anthropology’s mid-twentieth-century heyday, until the concept was relegated to the graveyard of seemingly obsolete theories with the postmodern critique of grand narratives and the turn to practice in the 1980s. However, and crucially, whereas the structures that so interested our modernist predecessors were understood to be abstract by virtue of their supposedly mental, cognitive and linguistic nature, the infrastructures of current anthropological/STS inquiry are imagined to be concrete and material.

In sum, a dominant orientation seems to have crystallized on the current anthropological scene – one arising from a largely tacit assumption that infrastructure denotes something foundational, basic and primordial (‘has an ontology’, in Larkin’s words), which is for the same reason posited as being prior to or ‘coming before’ (being the cause of) other, more superficial phenomena and entities. These are then seen as the result or emergent product of infrastructures, as effects and outcomes it ‘has brought about’. Having said that, it is possible to identify various minority positions within this intellectual landscape that stand in more or less direct opposition to the foundationalist theory, notably the approach advocated by Jensen, Morita and their followers, which, while equally ‘ontological’, hinges on a qualitatively different metaphysical claim – one we might call ‘foundationless[ly] foundational’ (Blaser 2013: 551) or, as they call it themselves, ‘practical ontology’. While this orientation retains the

idea that infrastructures are grounds ‘which give form to culture, society and politics’ (Jensen and Morita 2016: 3), this is not the stable metaphysical ground upon which many other anthropological incarnations of infrastructure implicitly seem to rely. On the contrary, it is an inherently slippery and chronically unstable ground subject to continuous transformation – an ‘open-ended experimental syste[m] that ... hold[s] the potential capacity to do such diverse things as making new forms of sociality, remaking landscapes, defining novel forms of politics, reorienting agency, and reconfiguring subjects and objects’ (2016: 6).

In many ways, this is also how we propose to use the concept. Like the practical ontologists, towards whose project we are sympathetic, we do not posit infrastructure as necessarily a particular kind of thing (‘ontology’) in the world invested with discrete qualities, and nor are we interested in elevating infrastructures to master-tropes, which, like the infrastructures delineated by dialectical materialists, including numerous Marxist anthropologists (see Friedman 1974), are ontologically prior and thus superior to other things. Unlike, however, Jensen, Morita and their followers, we wish to detach the notion of infrastructure still further from its foundationalist placeholder discussed above by defining it, and deploying it, in a strictly heuristic sense where this concept is *itself* amenable to continuous experimentation and transformation (cf. Holbraad and Pedersen 2017). For the same reason, we do not cleave to a sharp distinction between a ‘ground’ that is posited as a ‘precondition’ or ‘cause’ and the various kinds of ‘effects’ or ‘products’ that it gives rise to. Our point is not that infrastructures necessarily exist ‘underneath’ or independently of things that can be found somewhere out there in the world; rather, they are caught up in feedback loops with the social or mental forms they enable, a point also made by Harvey et al. in their introduction to another recent volume on infrastructure (2016).

As regards the theme of the present collection (i.e. certainty, doubt and their interdependency), this amounts to saying that the concept of infrastructure holds out the possibility of exploring the coming into being and continual reproduction of certainty and doubt as things that need to be explained in their own right, rather than (as discussed above) things that are used to explain other things.³ That is to say, infrastructure does not so much constitute our object of analysis as it provides us with a means of probing this object, namely certainty and doubt. In using infrastructure as a heuristic device (cf. Candea 2016), the different articles that compose this collection seek to explore in new ways the nature of doubt and certainty and their mutual imbrication in different ethnographic contexts around the world. It follows that both the types of infrastructure and, of course, the forms of certainty and doubt under discussion in this special issue vary considerably from contribution to contribution. At one end of the spectrum, we have Vine and Carey’s fairly classical use of the three concepts in their discussion of the chemtrail conspiracies that crystallized around the Californian drought. The kinds of certainty and doubt present in conspiratorial thought are presented as relatively straightforward epistemological states – assumptions about the kind of agents responsible for these conspiracies or the possible links between different observable ‘facts’ – and the infrastructures that subtend and enable them are fairly clear-cut examples of the genre: bureaucracy and the internet. Here infrastructures are less an analytical than a descriptive category and the focus is on the ways in which they shape both the form and content of the conspiratorial imagination.

Many of the other contributions, conversely, seek to destabilize these central terms in a variety of different ways to put them to new analytical work. Pinto, for instance, looks at what she calls 'infrastructures of intimacy' in the context of mid-twentieth-century Punjabi marital relations. Marriage, and so dependency, was, she suggests, the default conceptual state for women of the period and, as such, it constituted part of a wider infrastructure of material, ethical and symbolic contexts for social relations. Against this backdrop of dependency, singularity (understood both as abstract notion and unmarried, single state) stands out as a challenging and radically uncertain form of social and ethical dislocation – a state she describes as standing in opposition not to collectivity but to conjugality. Drawing on a psychoanalytical case study of one particular woman, Pinto sketches out the relations between sexuality, singularity, uncertainty and conjugality in this particular social and historical space. Equally ambitious is Sjørsløv's exploration of the ways in which particular spatial distributions coincide with distinct ritual infrastructures to generate different 'roads to certainty' in two Brazilian religious traditions: Candomblé and Neo-Pentecostalism. Sjørsløv draws parallels between the peripheral locations of Candomblé houses and the objectification and so certification of a subjective relationship to the divine in the form of an Orixá spirit, who must be publicly presented (and accepted) during a ceremony. This she contrasts with Neo-Pentecostalism, which generates religious certainty by means of monetary donations. Though salvation itself can never be guaranteed, the public act of giving objectifies a form of certainty in both the act and the banknotes themselves. Where Candomblé objectifies and externalizes subjective inner states, Pentecostalism objectifies hope in the monetary donations that are its lifeblood. Another contribution that both uses the concept of infrastructure in a conventional, descriptive sense while at the same time attempting to extend its usage to other and more unfamiliar phenomena and arenas of ethnographic reality is Pedersen's case study of an urban Mongolian power plant that turned out to never actually materialize. Organized around the story of a marginalized woman working as a caretaker for the peri-urban land allocated for the planned power plant, Pedersen explores the social and material processes that, via a lack of knowledge about an urban development project, feed into dispossessed people's imaginings of the future in Mongolia. In that sense, he argues, ignorance itself assumes the qualities of an infrastructure in its own right, for alongside various scattered material vestiges of the planned power plant that can be found in peri-urban Ulaanbaatar, ignorance constitutes the ground from which certainty and uncertainty come into being.

Two other contributions, meanwhile, offer radically different takes on the idea of certainty. Whereas Vine and Carey and Sjørsløv both focus on certainty as some form of epistemological attitude, Jones McVey and Korsby address it rather as an embodied state. Jones McVey examines the forms of certainty and doubt that characterize horse–rider relations in contemporary British equestrianism. The training techniques associated with modern equestrianism, which have seen a shift away from behaviourism to more individualized practices, place enormous emphasis on the rider's ability to know the animal intimately. This generates complex forms of doubt as riders struggle to read their mounts and struggle socially to justify their decisions and strategies. At the same time, however, these techniques insist on the crucial importance of not over-thinking the relationship to the animal, of displaying confidence, showing no hesitation and

'kicking on' at the crucial moment. This embodied projection of certainty – that the horse will respond when called upon to, say, clear a fence – is something that cannot be arrived at through ratiocination, but must be spontaneously generated on the basis of the pre-existing infrastructure of care and sustained interaction with the mount. Here the infrastructure is the mediating term that allows for the completion of this circular motion. In her article, Korsby also explores the imbrication between infrastructures and other more or less embodied forms of certitude and doubt. Describing how Romanian pimps attempt to extend their local business into neighbouring EU countries via access to highly sought-after phone numbers of brothels abroad, Korsby argues that these phone numbers work as micro-infrastructures in their own right, providing an entry point into the wider infrastructure of transnational pimping. In this way, the phone number serves as an analytical lens that illuminates different dynamics of criminal networks. Another scale of infrastructure can be identified on the level of the pimps' home turfs, where an embodied certainty of how to operate successfully in their neighbourhood is produced in the pimps' bodies in interaction with Romania's post-socialist urban architecture. As such, analysing transnational pimping through various scales of infrastructures, ranging from phone numbers to apartment blocks and EU borders and law, helps to shed new light on the possibilities and the dangers pertaining to these and other transnational criminal networks.

Finally, Luhrmann offers a new and for the present purposes very timely twist on her well-known argument about how Christian believers learn to pray to and have faith in God (Luhrmann 2012). Repositing what cognitively inclined anthropologists call 'theories of mind' as 'infrastructures of mind', she explores how culturally variable ways of imagining and describing religious thoughts, mental images and inner sensations affect the ways in which Christians recognize and experience God's voice. Based on a large comparative ethnographic data set from churches in the US, Ghana and India, Luhrmann argues that systematic differences can be identified in the ways people experience God and that these differences reflect culturally different understandings of mind; experiences and understandings that are in turn closely related to doubt and uncertainty about the nature as well as the presence of God. In that sense, Luhrmann suggests, people's ideas about mind and mental processes can be fruitfully conceived of as an infrastructure; and this is an 'infrastructure of mind' that influences people's very perception of the world. Thus understood, cultural differences in the way people think about thinking – local theories or indeed infrastructures of mind – alter the way people experience and communicate God's voice.

Acknowledgements

The present collection of articles is the result of a workshop entitled 'Infrastructures of Certainty and Doubt' held at the Department of Anthropology, University of Copenhagen, 20–21 January 2016, which also included presentations by Lotte Buch Segal, Matei Candea, Nicholas Evans, Astrid Grue, Heiko Henkel, Paulo Heywood and Ida Sofie Matzen. In addition to being one among several outputs resulting from Matei Candea's Velux Foundation Visiting Professorship at the Department in 2014,

the workshop was also a manifestation of continuous discussions and activities in the two departmental research groups Technology and Political Economy (co-ordinated by Morten Axel Pedersen) and Religion and Subjectivity (co-ordinated by Matthew Carey), as well as the Ph.D. seminar 'Behaviour & Faith: Studying Christians and Scientists Across Each Other', convened by Matei Candea and Morten Axel Pedersen during the autumn of 2014. We thank all the participants in these different seminars and events for their many comments, critiques and questions. We would also like to thank the Department of Anthropology and Velux Foundation for making the workshop financially possible, Flora Botelho for practical assistance and the several anonymous peer reviewers for their insightful readings of the papers. Finally, we thank the editor of *The Cambridge Journal of Anthropology*, Maryon McDonald, for her vigilance and patience.

Matthew Carey is Associate Professor at the University of Copenhagen. His forthcoming monograph is entitled *Mistrust: An Ethnographic Theory* (Hau Books), and he is co-editor of a special issue of *Tracés* on 'Méfiance'.

Morten Axel Pedersen is Professor of Social Anthropology at the University of Copenhagen. He is author of *Not Quite Shamans: Spirit Worlds and Political Lives in Northern Mongolia* (Cornell University Press, 2011) and *The Ontological Turn: An Anthropological Exposition* (with M. Holbraad, Cambridge University Press, 2017), and co-editor of the special journal issues *Inner Asian Perspectivism* (*Inner Asia*, 2007), *Technologies of the Imagination* (*Ethnos*, 2009), *Comparative Relativism* (*Common Knowledge*, 2011) and *Times of Security: Ethnographies of Fear, Protest, and the Future* (Routledge, 2013). He is also co-editor of the book series *Ethnography, Theory, Experiment*, published by Berghahn Books.

Notes

1. Note that, while this may arguably be one of the takeaway points of Henare, Holbraad and Wastell's influential introduction (and certainly reflects how that text has been read by many), it does not convey Holbraad's current position on these matters. In this more recent take, the collapse of things and concepts is understood as a strictly heuristic move internal to the way in which certain forms of (experimental, reflexive) anthropological analyses are carried out. For the same reason, it entails no metaphysical claim about any 'peoples' or 'worlds' external to the ethnographic encounter and anthropological/local matters of concern at hand (Holbraad 2011; see also Holbraad and Pedersen 2017).
2. Of course, as Jensen and Morita perhaps overlook in their recent overview (2016), infrastructure featured prominently in historical materialist theory, including anthropological works with an explicitly Marxist bent (e.g. Friedman 1974).
3. For an analogous argument concerning the concept of 'the imagination' and its use within anthropology and the social and human sciences more generally, see Sneath et al. (2009).

References

- Bateson, G., D. D. Jackson, J. Haley and J. Weakland. 1956. 'Towards a Theory of Schizophrenia', *Behavioral Science*, Vol. 1: 251–264.
- Berthomé, F., J. Bonhomme and G. Delaplace. 2012. 'Preface: Cultivating Uncertainty'. *Hau: Journal of Ethnographic Theory* 2 (2): 129–137.
- Blaser, M. 2013. 'Ontological Conflicts and Stories of Peoples in Spite of Europe: Toward a Conversation on Political Ontology'. *Current Anthropology* 54 (5): 547–568.
- Boltanski, L. 2011. *On Critique: A Sociology of Emancipation*. London: Polity Press.
- Boltanski, L. 2014. *Mysteries and Conspiracies: Detective Stories, Spy Novels and the Making of Modern Societies*. London: Polity Press.
- Bubandt, N. 2014. *The Empty Seashell: Witchcraft and Doubt on an Indonesian Island*. Ithaca, NY: Cornell University Press.
- Bubandt, N. 2016. 'When in doubt...? A reply'. *Hau: Journal of Ethnographic Theory* 6(1): 519–530.
- Button, G. 2013. *Disaster Culture: Knowledge and Uncertainty in the Wake of Human and Environmental Catastrophe*. Walnut Creek, CA: Left Coast Press.
- Candea, M. 2016. 'De deux modalités de comparaison en anthropologie sociale'. *L'Homme* 218(2): 183–218.
- Chu, J. 2014. 'When Infrastructures Attack: The Workings of Disrepair in China'. *American Ethnologist* 41 (2): 351–367.
- Crapanzano, V. 2004. *Imaginative Horizons: An Essay in Literary-Philosophical Anthropology*. Chicago, IL: University of Chicago Press.
- Duranti, A. (ed.). 2004. *A Companion to Linguistic Anthropology*. Malden, MA: Blackwell.
- Engelke, M. 2008. 'The Objects of Evidence'. *Journal of the Royal Anthropological Institute* 14: 1–21.
- Ferme, M. 2001. *The Underneath of Things: Violence, History, and the Everyday in Sierra Leone*. Berkeley, CA: University of California Press.
- Fisch, M. 2013. 'Tokyo's Commuter Train Suicides and the Society of Emergence'. *Cultural Anthropology* 28 (2): 320–343.
- Friedman, J. 1974. 'Marxism, Structuralism and Vulgar Materialism'. *MAN N.S.* 9 (3): 444–469.
- Hanks, W. F. 2006. 'Joint Commitment and Common Ground in a Ritual Event'. In N. Enfield and S. Levinson (eds), *Roots of Human Sociality*. Oxford: Berg, 299–328.
- Harvey, P. 2012. 'The Topological Quality of Infrastructural Relation: An Ethnographic Approach'. *Theory, Culture & Society* 29 (4/5): 76–92.
- Harvey, P., C. B. Jensen and A. Morita (eds). 2016. *Infrastructures and Social Complexity*. London: Routledge.
- Harvey, P. and H. Knox. 2015. *Roads: An Anthropology of Infrastructure and Expertise*. Ithaca, NY: Cornell University Press.
- Hastrup, K. and P. Hervik. 1994. *Social Experience and Anthropological Knowledge*. London: Routledge.
- Henare, A., M. Holbraad and S. Wastell (eds). 2006. 'Introduction: Thinking through Things'. In A. Henare, M. Holbraad and S. Wastell (eds), *Thinking through Things: Theorising Artefacts Ethnographically*. London: Routledge, 1–31.
- Holbraad, M. 2011. 'Can the Thing Speak?' Working paper series #7. Open Anthropology Cooperative Press.
- Holbraad, M. and M. A. Pedersen. 2017. *The Ontological Turn: An Anthropological Exposition*. Cambridge: Cambridge University Press.
- Howe, C., et al. 2016. 'Paradoxical Infrastructures: Ruins, Retrofit, and Risk'. *Science, Technology, & Human Values* 41 (3): 547–565.

- Humphrey, C. 2005. 'Ideology in Infrastructure: Architecture and Soviet Imagination.' *Journal of the Royal Anthropological Institute* 11 (1): 39–58.
- Jackson, M. and A. Piette (eds). 2015. *What Is Existential Anthropology?* New York: Berghahn Books.
- James, W. 1995. *The Pursuit of Certainty: Religious and Cultural Formulations*. London: Routledge.
- Jensen, C. B. and A. Morita. 2016. 'Introduction: Infrastructures as Ontological Experiments.' *Ethnos* 82: 615–626. Available at <http://dx.doi.org/10.1080/00141844.2015.1107607>.
- Jensen, C. B. and B. R. Winthereik. 2013. *Monitoring Movements in Development Aid: Recursive Partnerships and Infrastructures*. Cambridge, MA: MIT Press.
- Lambek, M. 2015. 'Both/And.' In M. Jackson and A. Piette (eds), *What Is Existential Anthropology?* New York: Berghahn Books: 58–83.
- Larkin, B. 2013. 'The Politics and Poetics of Infrastructure.' *Annual Review of Anthropology* 42: 327–343.
- Lemonnier, P. 1992 'Elements for an Anthropology of Technology.' *Anthropological Papers Museum of Anthropology University of Michigan* 88. Ann Arbor, MI: University of Michigan.
- Luhrmann, T. 2012. *When God Talks Back*. New York: Knopf.
- Pelkmans, M. (ed.). 2013. *Ethnographies of Doubt: Faith and Uncertainty in Contemporary Societies*. London: I. B. Tauris.
- Rheinberger, H. 1994. 'Experimental Systems: Historiality, Narration, and Deconstruction.' *Science in Context* 7 (1): 65–81.
- Rumsey, A. and J. Robbins (eds). 2008. 'Anthropology and the Opacity of Other Minds.' Themed section in *Anthropological Quarterly* 81 (2).
- Sneath, D., M. Holbraad and M. A. Pedersen. 2009. 'Technologies of the Imagination: An Introduction.' *Ethnos* 74 (1): 5–30.
- Star, S. L. 1999. 'The Ethnography of Infrastructure.' *American Behavioral Scientist* 43 (3): 377–391.
- Vigh, H. 2008. 'Crisis and Chronicity: Anthropological Perspectives on Continuous Conflict and Decline.' *Ethnos* 72 (1): 5–25.
- von Schnitzler, A. 2008. 'Citizenship Prepaid: Water, Calculability, and Technopolitics in South Africa.' *Journal of Southern African Studies* 34 (4): 899–917.
- Whyte, S. R. 1997. *Questioning Misfortune: The Pragmatics of Uncertainty in Eastern Uganda*. Cambridge: Cambridge University Press.
- Wittgenstein, L. 1923. *Tractatus Logico-Philosophicus*. New York: Harcourt, Brace & Company.
- Zaloom, C. 2004. 'The Productive Life of Risk.' *Cultural Anthropology* 19 (3): 365–391.
- Zizek, S. 1989. *The Sublime Object of Ideology*. London: Verso.