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**Article (Published version)
(Refereed)**

Original citation:

Bear, Laura (2014) *Doubt, conflict, mediation: the anthropology of modern time*. [Journal of the Royal Anthropological Institute](#), 20 (S1). pp. 3-30. ISSN 1359-0987

DOI: [10.1111/1467-9655.12091](https://doi.org/10.1111/1467-9655.12091)

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Funded by the ESRC

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Available in LSE Research Online: September 2014

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Doubt, conflict, mediation: the anthropology of modern time

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In this introduction, I argue that in spite of recent discussions of global and neoliberal time, the anthropology of modern time remains under-explored. Modern time here is understood to be a complex historical product. At its centre is the abstract time-reckoning of capitalism, which acts as a universal measure of value, but which always comes into conflict with concrete experiences of time. Its social disciplines emerge from Christian practice, but the ethics of these routines are marked as secular and universal. Its politics is founded on representations of the natural connections of communities through a homogeneous historical time. Its science and technology tightly link social, human time to external non-human rhythms. It is important for anthropologists to reflect on modern time because our discipline has been profoundly influenced by the discoveries of its depth, secularity, and relativity. The controversies that emerged in relation to Darwin's and Einstein's insights still provide the framework for many of our theories, especially when we draw on phenomenological philosophy. In this introduction, I suggest that the key resources for overcoming this significant absence in anthropology lie in a *rapprochement* between Alfred Gell's epistemology of time and the approaches of Marxist political philosophers. This combination, along with an emphasis on the labour in/of time, gives rise to new questions and reveals new aspects of modern time in the present.

In recent years, anthropologists have reopened the question of capitalist time. In particular, they have entered into an interdisciplinary dialogue with sociologists about neoliberal and global time. Suggestions have been made that the present is characterized by time-space compression, cultures of speed or uncertainty (Comaroff, Comaroff & Weller 2001; Harvey 1989; Hope 2006; Mains 2007; Tomlinson 2007). Futures are described as particularly problematic and as radically uncertain, evacuated, or sites of nostalgia (Guyer 2007; Hell & Schonle 2010; Piot 2010; Rosenberg & Harding 2005; Wallman 1992). All of this work rebalances the sole focus on the past that characterized the *rapprochement* between anthropology and history in the 1980s (Munn 1992). It also goes beyond the spatial metaphors that dominated debates about globalization in the 1990s, unsettling their emphasis on scale, scape, and distance (Law 2004). Yet in this

Journal of the Royal Anthropological Institute (N.S.), 3-30

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Correction Note: This article was first published online on the 15th of April 2014, under a subscription publication licence. The article has since been made OnlineOpen, and the copyright line and licence statement was therefore updated in September 2014.

special issue we argue that these dialogues need to be more ambitious in their scope. Here ethnographies of economic, political, and bureaucratic social time are used as the foundation for a rigorous rethinking of modern time and to develop new anthropological theories.

To understand the challenge that faces us, it is useful to start with an ethnographic example. In 2008, during my fieldwork in Kolkata, the city was filled with public speculation about schemes for economic prosperity. Liberalization (the opening of the economy to foreign direct investment in 1991), especially since 2000, had brought new public-private partnerships and volatile enterprise to West Bengal. The most debated issue at that time was the question of whether a factory that would produce the world's cheapest car, the Nano, would be built by the global TATA company at Singur. Most discussions were sympathetic to the small land-holders who had their property forcibly taken away from them or to the agricultural labourers who had not been retrained for industrial work. Their cause had been taken up by Mamata Banerjee and Trinamul Congress through picketing and demonstrations, but their supporters included people who were critical of this politics. Yet once rumours began to spread that TATA was going to pull out of the project, opinion swung in favour of the factory. Colleges and schools mounted spontaneous public petitions and marches supporting it. The informal sector shipbuilders and dockworkers who were my fieldwork companions bitterly regretted the loss of the prospect of *poriskar kaj*, or clean, respectable high-tech factory work. When TATA finally announced its withdrawal and intention to build the plant in Gujarat, Kolkata was stunned.

The news of this decision came on a day when the citizens of the city were celebrating Durga Puja. In this annual festival the goddess Durga returns to earth to destroy demons and restore productive order. It is at once an explicit enactment of the civic, an expression of patronage relationships, and a celebration of cosmogony (Bhattacharya 2007; McDermott 2011). Political figures as well as neighbourhood groups set up elaborate *pandals* (mixtures of stages, temples, and homes) to the goddess on every street that often reflect contemporary themes. The city becomes manifest to itself as people also take pleasure in watching the crowds as they tour famous *pandals*. The stated aim of the festival is to create *annondo* or joy. This is a sentiment of elation that permeates workplaces and homes for weeks afterwards. The timing of the TATA announcement during Durga Puja prompted widespread speculation that it had been intentionally made on a day when the emotions of the city would be least likely to be affected.

The *pandal* that received the most extensive media coverage and largest footfalls that day was that in Santosh Mitra Square. This depicted in perfect detail the decaying, ruined factories of the city and the proposed plant at Singur tied up with an enormous lock and chain. According to the president of the puja committee, Pradip Ghosh, it was designed to bring the industrialization debate to the masses. His speech about this was broadcast outside the *pandal*. He claimed that in the last few decades 50,000 industries had shut down and that the factories in the city were all locked up just as the plant in Singur was now. People, like myself, who made their way to the *pandal* travelled from the spectacle of a past of decay in ruined factories and a vanished future of 'clean' prosperous work on the outside of the structure (Fig. 1). We then entered the inside, where the annual return of the goddess Durga was being celebrated with drumming and offerings of fire (Fig. 2). Only in front of the goddess did we grow still and gather to experience the *aarti* (fire blessing). Everyone froze the image of the goddess in mobile phone photographs to be shown later to relatives and friends. Here in front of



Figure 1. Factory ruins and Singur plant with Nano car, Durga Puja *pandal*, Santosh Mitra Square, 2008. (Photo: Laura Bear.)



Figure 2. Aarti worship of Durga, inside Santosh Misra Square *pandal*, 2008. (Photo: Laura Bear.)

the goddess there was a peak of *annondo* that overcame the disappointment of the day. What drew the large crowds was the portrayal of cosmogony alongside a past of economic decay and a thwarted future, all in one place. Laid out in space juxtaposed with each other, these times could be simultaneously manifest. At the heart of the *pandal*, the time of cosmogony could overcome with its *annondo* the sense of loss manifest in the images of ruined and lost future factories. In this timespace, crowds of citizens drew on representations of sacred and economic time in order to give shape to the uncontrollable event that had just occurred.

We could add this day and the Santosh Mitra Square *pandal* to our catalogue of cases of neoliberal uncertain times and lost futures. But to do so would be to ignore the diversity of the chronotopes present here and the multiple temporal rhythms that converged in this timespace. How could we draw a diachronic section through this event in which the single truth of the present epoch would be expressed (Althusser

1970; Harris 2004; 2006; Osborne 1995)? Even if we look solely at the representations of time in the *pandal*, we can see that the present and future are certain at its centre, less certain on its outside. Nor can we see this timespace event of the crowds at the *pandal* as a 'response' to neoliberal uncertainty. It is a shaping of the meaning of an event that emplaces it within the civic and the divine, extracting it from other institutional framings (Greenhouse 1996; W. James & Mills 2005). Clearly we have a more challenging task in our analysis of current forms of social time than that proposed in work that emphasizes the new, singular characteristics of neoliberal or global time (Johnson-Hanks 2005).

This volume takes up the challenge by developing an anthropology of modern social time. After the many discussions of postmodernism (Harvey 1989; Jameson 2003) and the argument that we have never been modern (Latour 1993), why do we return here to the term 'modern' time? This is for two reasons. First, we argue that the qualities and characteristics of modern social time require further investigation. Secondly, we show that its representations and techniques endure in the present. What do we mean by modern social time? Here we focus on economic, political, and bureaucratic representations and techniques of time. At first we might appear to be treading on territory already well covered by Marx (1992 [1885]), Weber (2008 [1922]), Beck (1992), and Luhmann (1993). All of these authors trace the management of time within modern institutions. But our approach builds on this work to make a different point. We argue that institutions *mediate* divergent representations, techniques, and rhythms of human and non-human time. As a result, modern time is characterized by unprecedented doubt about, and conflict in, representations of time. Time thickens with ethical problems, impossible dilemmas, and difficult orchestrations. To capture this reality fully, we argue that we must focus on the labour in/of time. The guiding emblem for our approach is the complex civic event of the Durga Puja *pandal* through which the meaning of another event, the withdrawal of TATA, was shaped by the citizens of Kolkata. We take it as characteristic of current timespaces. Multiple representations and social rhythms form a dynamic simultaneity from which further representations and experiences unpredictably emerge through human labour (Massey 2005; Munn 1986; 1992).

Our longer-term perspective on the social time of the present is driven by theoretical as well as empirical concerns. We do not only wish to demonstrate that modern time is diverse and complex. We also suggest that, without acknowledging the fact, anthropologists have used theories of time profoundly shaped by practices of modern social time. As this introduction and the specific studies in this volume will show, we need to confront directly the analytical impasses caused by the foundation of our discipline in debates about, and experiences of, modern time. To overcome these barriers we need to state explicitly an epistemology of time as the basis for our analysis (Hodges, this volume). We also have to develop tools that allow us to examine dominant representations of time and the social rhythms, conflict, mediation, and heterochrony that unpredictably emerge in relation to them (Greenhouse 1996; Shove, Trentmann & Wilk 2009). This introduction will proceed by addressing each of these issues in turn, drawing on insights from papers in the volume. First, it will define the qualities of modern time. Secondly, it will examine the origins of anthropological approaches in debates about modern time. Thirdly, it will construct an explicit epistemology of time. Fourthly, it will develop a theoretical framework that can make the complexity of social time intelligible. Our collective endeavour in this volume ultimately aims to provide resources for anthropologists that can help them to ask open, new questions about

modern time, make their epistemology of time explicit, and develop new theoretical tools. Although the papers in this volume take diverse approaches, our analysis is centrally informed by a critical reworking of the approaches of Alfred Gell and Marxist political philosophers. Here in the introduction, I turn first to the definitional question of the specific qualities of modern time.

Modern time and its qualities

What is this modern time, then, that we are attempting to bring into view? We would identify it through a series of circulating representations, social disciplines, and technologies of time (similar to the global forms described by Ong and Collier [2004]). These are contingent historical products. They generate unpredictable effects and are subject to alteration, especially since they are associated with contradictory social rhythms (May & Thrift 2001). Most dominant in modern time is the abstract time-reckoning of capitalism, which acts as the basis for the universal measure of value in labour, debt, and exchange relationships. This always comes into conflict with concrete experiences and social rhythms of time (Glennie 2009; Innis 2004; Landes 2000; Marx 1992 [1885]; Postone 1993). Also important are the routines of state bureaucracies and productive institutions such as the factory, bank, and corporation. These social disciplines emerge from Christian routines and military regimes, but are represented as secular, humane, and universal practices (Foucault 2012; Weber 2008 [1922]). Politics is founded on representations of the natural connections of communities through a homogeneous deep historical and cultural time that is entangled in metaphors of biological life and kinship (Allen 2008; Bear 2007; Kaplan 2009; Stoler 1995). Science and technology tightly link social, human time to external non-human rhythms; frame time as a radically other secular force; and project a deep history of natural time (Gould 1987; Mackenzie 2001; Pickering 1995; Pickering & Guzik 2008). Importantly, the practices of modern time attempt to order hierarchically, separate, and adjudicate between 'other' social times (Ssorin-Chaikov 2006). An important role for institutions becomes the normative mediation between conflicting representations, technologies, and rhythms in time (see Bear, Mathur, Abram, this volume).

The dense, mixed qualities of this modern social time are traceable even if we just consider its representations. We assume, following the adaptation of Einstein's theory by Bakhtin (1981), that images of time often take the form of chronotopes. Or, in other words, they are representations that materialize timespace in a manner that enables the dimension of time to become visible. They achieve this through thickening the dimension of time by a layering of the effects of images and narrative structures. Importantly, in Bakhtin's analysis these representations are related to forms of agency. All the papers in this volume follow this approach, linking representations of time to their connected concepts of agency. But as explained later in the introduction, we depart from Bakhtin in two ways. First, developing arguments made by Gell, we refine the concept of chronotopes by placing these in a wider spectrum of time-maps. Secondly, we draw on Marxist political philosophy to examine the heterochrony of chronotopes and the unresolved experience of agency that emerges from their contradictory social effects. For now let us pause to consider the complexity of the mixed, layered chronotopes of modern time, as this is one of our key points (see also Strathern 1992).

A good place to start is with the historical time charts that emerged through the nineteenth and twentieth century. These are not of a single, homogeneous, linear temporality, as older analyses of modern time suggested (Kaplan 2009). They are

heterochronic. They knot together many diverse forms of social and non-human time. Here I will draw on Rosenberg and Grafton's important 2009 book and take three examples that illustrate the times of social discipline, politics, and biology. The first example, Auguste Comte's *Calendrier positiviste* from 1849, illustrates the mixed qualities of the social discipline of the citizen-subject (Fig. 3). This calendar organized a cycle of reflection through the year, mimicking prayer books such as the priest's office. This time discipline also inscribed the homogeneous linear time of the nation into daily observances. The events and personages to be remembered each day were organized in the sequence they occurred in historical time. This time-reckoning wove together religious, secular, cyclical, and linear representations of time into a practice of social discipline. The second example, revealing of the complexity of the political time of the nation, is the popular chart produced by Henry Bostwick in 1828 (Fig. 4). This illustrated the progress of national history as an accretion of simultaneously historical, religious, and genealogical time. Its title (see caption) illustrates these complex qualities clearly.

The mixed natural, productive, and historical time of the nation is visible in the maps of political events that existed within the stream of time, following the course of a river-like flow (Fig. 5). Our third and final example reveals the layering of natural, human, and scientific time. Exhibited in the American Museum of Natural History, the cross-section of a huge sequoia tree acted as a 'natural' measure for the human history of politics and science. Marked on its rings were intervals of a hundred years and events such as the invention of the telescope used by Galileo, the founding of Yale College, and Napoleon's accession to power (Fig. 6). The large scale of this object and its time produce a sense of the extended duration of biological, natural time that enfolds our human life-spans. The knotting together of all of these political, economic, human, and natural heterogeneous social times is perhaps most visible in the over-determined reproductive time of kinship, which is at once intimate, productive, national, universal, religious, scientific, natural, and social (Bear 2007; Cannell & McKinnon 2013; Franklin, this volume). Each of these chronotopes can be related to practices of time in economics, politics, and science. They contribute to the generation of the contradictory experience of being a worker, citizen, or secular rationalist. Neither the internal multiplicity of these representations nor the diversity of social practices of modern time has been fully explored. We intend this volume to be the beginning of a much wider conversation on these themes.

The papers in this volume follow this complexity within the present, focusing in particular on the social time of economics, politics, and bureaucracy. Recent work has argued that there have been dramatic changes in these arenas. Capital is now shaped by the social disciplines of shareholder value, financialization, and consumption (Ho 2009; Shove *et al.* 2009; C. Zaloom, pers. comm., 2012). Bureaucratic time has turned to a focus on projections of the future in risk analysis and scenario planning (Adam & Groves 2007; Lakoff 2006; Reith 2004). Politics has become focused on new social movements beyond and above the nation-state. The papers in this volume take these arguments seriously, engaging with them, but they pause to analyse the complex, everyday uses of social time within bureaucracies, political movements, workplaces, and by citizens before attempting to chart new forms. Our approach comes from our awareness of how little we yet know about modern time. This raises the important question, to which the introduction now turns, of why it is that modern time has not been an object of analysis in anthropology.

Modern time and anthropology: doubt and analytical impasses

Time 'exists' for academic discussion, speculation, and comparison, only in the interplay of idioms we provide or invent for it through our languages, ceremonies, cultural codes and technical inventions.

W. James & Mills 2005: 14

But, a day is not an abstract measure; it is a magnitude which corresponds to our concern and to the world in which we are thrown ... it is a time of labours and days.

Ricoeur 1980: 173

As Wendy James and David Mills suggest, we only ever access time through idioms that attempt to enfold and act on it. They also alert us to the fact that academic discussions of time are as subject to this condition as any other human practice. Here I will argue that approaches to time in anthropology have been profoundly shaped by the discoveries of its depth, secularity, and relativity in the late nineteenth and early twentieth century. This period was increasingly characterized by the sense of doubt and tension about time enunciated by Ricoeur in the quote that heads this section. An uncertainty about the relationship between abstract measures of time, human experiences of time, and the relativity of time raised analytical questions. It was these that anthropologists pursued and that they often continue to ask in the present. But such a pursuit closes off investigation of the context that generates research questions. Modern time does not become an object of inquiry; it provides the foundational questions for inquiry.

It would be a project beyond the scope of an introduction to describe fully this entangled history of the anthropological study of time and modern time. Yet I will illustrate this point with one key example that should make us reflect on how to borrow from philosophy in our theoretical analysis of time. The disciplinary controversies that emerged in relation to Darwin's and Einstein's insights still provide the source of many of our questions and theories. Science had provided a new ground from which to doubt the authority of religion and philosophy over matters of time generating wide speculation. This development contributed to heated debates between philosophy and science. From the exploration of social time by the Durkheimian school to more recent interventions, anthropologists have often developed their approaches in relation to these hard-fought encounters.

The encounters were most dramatically manifest in the public debates between Bergson and Einstein. From 1922 to 1929 they met in forums including the Société Française du Philosophie de Paris and the International Commission for Intellectual Co-operation of the League of Nations to contest the status of scientific versus philosophical knowledge (Canales 2005). Widely reported in the press at the time, commented on at length in three appendices to Bergson's *Durée et simultanéité*, and followed subsequently by Bachelard, Deleuze, Heidegger, and Whitehead, these forums contributed to a crisis within philosophy about the grounds for its disciplinary authority. Wading into the controversies, Durkheim and Hubert also debated with Kant and Bergson (Munn 1992). They argued for the novel concept of socially produced categories of time from the position of analysts who had transcended these through their own knowledge of secular, scientific time. The anthropological study of time therefore began with the borrowing of the authority of science in order to investigate key philosophical questions provoked by the new radical split between human and scientific time. Later work such as that of Munn and Das drew on Heidegger's and Ricoeur's

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CALENDRIER POSITIVISTE,
POUR UNE ANNEE QUELCONQUE ;

TABEAU CONCRET DE LA PREPARATION HUMAINE.

	PREMIER MOIS. MOÏSE. LA PREMIERE NOTULE.	DEUXIEME MOIS. HOMERE. LA PREMIERE ANTHEME.	TROISIEME MOIS. ARISTOTE. LA PREMIERE SCIENCE.	QUATRIEME MOIS. ARCHIMEDE. LA PREMIERE ANTHEME.	CINQUIEME MOIS. CESAR. LA CINQUIEME MILITAIRE.	SIXIEME MOIS. SAINT-PAUL. LA CATHEDRALE.	SEPTIEME MOIS. CHARLEMAGNE. LA CATHEDRALE HUMAINE.
Lundi . . .	1 Prométhée.	Heïde.	Amisfinand.	Theophraste.	Miltade.	Saint-Luc Saint-Jacques.	Theodoric-le-Grand.
Mardi . . .	2 Hercule.	Tyrée.	Auximène.	Hérophile.	Leonidas.	Saint-Cyprien.	Odun-le-Grand. Henri-le-Grand.
Mercredi . .	3 Orphée.	Aasaron.	Hiradite.	Erastrate.	Aristide.	Saint-Alban.	Isidore-le-Grand.
Jeudi . . .	4 Prométhée.	Erastate.	Magare.	Erastate.	Erastate.	Saint-Alban.	Isidore-le-Grand.
Vendredi . .	5 Ulysse.	Theodoric.	Théodoric.	Galen.	Xenophon.	Saint-Basile.	Ysaïe-le-Grand.
Samedi . . .	6 Romulus.	Théodoric.	Théodoric.	Théodoric.	Théodoric.	Saint-Basile.	Ysaïe-le-Grand.
DIMANCHE .	7 NINA.	ESCHYLE.	THALES.	HIPOCRATE.	THÉOPHILE.	SAINT-AGUSTIN.	ALFRED.
8 Bellus . . .	8 Bellus.	Scopas.	Solon.	Eurilde.	Pericles.	Constantin.	Charles-Mariel.
9 Socrate . .	9 Socrate.	Zeno.	Xenophon.	Pythagore.	Philippe.	Theodoric.	Le Gal Terebinthe.
10 Platon . .	10 Platon.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
11 Zoroastre .	11 Zoroastre.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
12 Les Druïdes .	12 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
13 Boudha . .	13 Boudha.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
14 Les Druïdes .	14 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
15 Les Druïdes .	15 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
16 Les Druïdes .	16 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
17 Les Druïdes .	17 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
18 Les Druïdes .	18 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
19 Les Druïdes .	19 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
20 Les Druïdes .	20 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
21 Les Druïdes .	21 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
22 Les Druïdes .	22 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
23 Les Druïdes .	23 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
24 Les Druïdes .	24 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
25 Les Druïdes .	25 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
26 Les Druïdes .	26 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
27 Les Druïdes .	27 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
28 Les Druïdes .	28 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
29 Les Druïdes .	29 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
30 Les Druïdes .	30 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.
31 Les Druïdes .	31 Les Druïdes.	Pythagore.	Thales.	Pythagore.	Pythagore.	Saint-Augustin.	Isidore-le-Grand.

Calendrier Positiviste, page 312.



Figure 4. Henry Bostwick, *A historical, chronological and genealogical chart, comprising a map of ancient countries, and exhibiting a scale of time the origins and revolutions of states and the principal persons known in sacred and profane history for 4000 years from the creation to the birth of Jesus Christ and a representation of the degrees of kindred by a new method consistent with the scale of time, Historical Chart and Atlas*, 1828. (Courtesy of Department of Rare Books and Special Collections, Princeton University Library.)

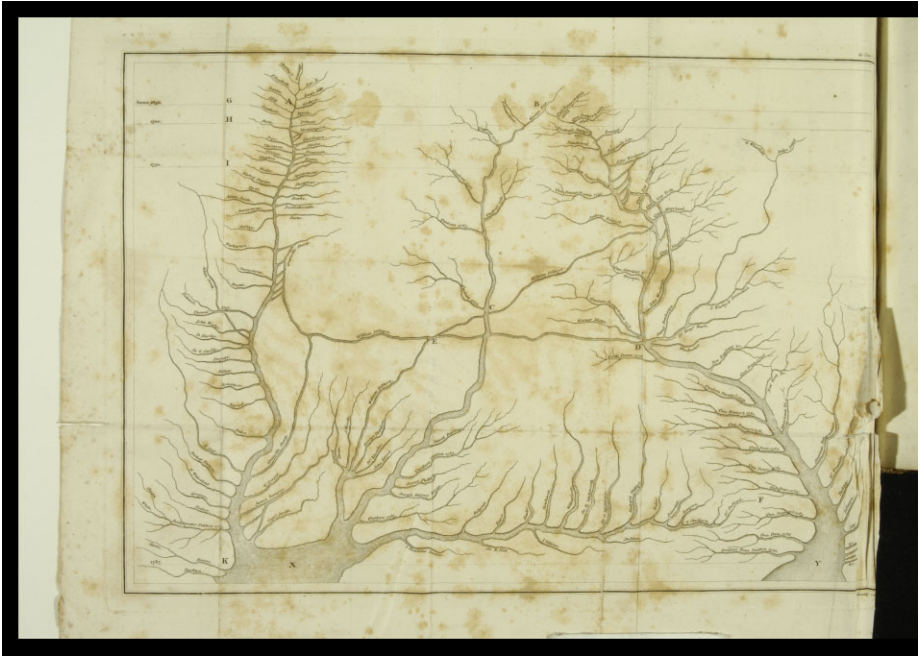


Figure 5. Thomas Clarkson, Stream Chart from *The history of the rise, progress and accomplishment of the abolition of the African slave-trade by the British Parliament* [1808], 1836 New York Edition. (Courtesy of Department of Rare Books and Special Collections, Princeton University Library.)

emphasis on the human consciousness of time and intersubjective narrative. This was developed to reinstate the authority of philosophy rather than science over questions of human time. More recent approaches, by using Deleuze, revive the encounters between Bergson and Einstein over whether philosophers or scientists should have the final say on the true nature of time (Pandian 2012). The point here is that philosophy alone, especially that which emphasizes becoming or emergence, is not a sufficient basis for our investigation of modern social time. This is because its questions are posed in relation to debates that have arisen from experiences of it. Anthropologists can draw on philosophy as a source of epistemologies. Yet if they do so they need to make explicit their origin and be committed to moving beyond the particular foundational assumptions of philosophers into other social constellations of time.

This special issue makes visible the foundational framing of our disciplinary questions by addressing modern time as an object of direct inquiry. Ultimately, our approach allows the papers in this volume to apply new perspectives to a core anthropological question – first posed by Durkheim – of what is time in society and human experience. By bringing modern time into explicit consideration within our discipline, we can remake our questions about time, our theories of time, and our empirical objects. We no longer have to ask questions only about temporality or relative senses of time or about abstract versus experienced time. Instead we can map a complex field of representations, technologies, and social disciplines of time. Once we have done this we can then relate both institutional mediations and phenomenological experiences of time to this field.



Figure 6. Cross-section of a sequoia tree at the American Museum of Natural History, New York City. The tree was cut down in California in 1891 and its rings date it to the mid-sixth century. This photograph was taken in the 1950s. On the tree are placed historical events marking the passage of a century. These include: the invention of the telescope used by Galileo; the founding of Yale College; and Napoleon's ascent to power. (Courtesy of the American Museum of Natural History Library.)

In the section that follows I demonstrate that the first step in mapping this social field is the construction of an epistemology that clearly states our analytical assumptions about time. It is through the construction of such an ideal type against which other social constellations of time can be compared that their diverse forms and effects become visible. Without such an explicit statement, we are at risk of unconsciously borrowing theories of the subject-in-time from philosophy provoked by practices of modern time. Modern time in all its diversity and complexity would be likely to continue to remain invisible.

Resources for an epistemology of time

In time's passage we only encounter the flux of our own spiritual powers, which we reify and project onto the cosmos, which simply is and knows nothing of past, present and future.

Gell 1992: 237

From this discussion it has become clear that the first step in our analyses of social time must be the adoption of an explicit commitment to a specific epistemology of time. Without this it is impossible to identify, by contrast, other social framings of time. We

would also be at risk of mistaking our models of time as non-human time in the world. Hodges in this volume identifies this problem in turns to process in the practice theory that became predominant across the social sciences from the 1980s. In writers as diverse as Sahlins, Giddens, Ortner, and Bourdieu, time as the passage of history and process provides the dynamic container for social life. I began this introduction by describing a more recent epochal turn in which anthropologists seek to trace the signs in the real world of neoliberalism and postmodernism, without reflecting on the models of time that such claims rely on. In addition, Ringel in this volume suggests that some recent uses in anthropology of Deleuzian philosophy privilege the new and emergent without explicitly addressing the theoretical limits of such an approach. We need to engage, therefore, in a more sustained reflection on our models of time before we can deploy them to analyse current forms of modern social time. Otherwise our models of time become the universal truths of time. We would not be able to see the diversity of epistemologies and practices of social time at work in the world, especially not those of modern time. Instead time would be analysed as 'really' only process, history, neoliberal, or becoming and as incapable of being anything else.

The only anthropologist who has given us an example of how to construct an explicit epistemology of time is Alfred Gell, in *The anthropology of time* (1992). Importantly, his approach is developed from modern scientific concepts of time and philosophical responses to them. As the quotation heading this section illustrates, he makes explicit what only remains implicit in anthropology and philosophy. We reflect on questions about time from within a post-Einsteinian understanding of the cosmos. Gell creates an ideal type through which our discipline's tacit model of agency and time becomes visible to ourselves. Once we have acknowledged this, we can analyse by contrast other intellectual models and formations of social time, including those within modernity. We can even adopt, as do some papers in this volume, alternative epistemologies of time different from dominant modern forms (Hodges, Ringel, Bear; also see Harms' [2011] use of Gell). In Gell's ideal type, time exists in three forms: as a non-human timespace phenomenon traced in Einsteinian physics; as a social framing of time; and as a personal experience of time. This separation prevents the confusions that have beset the anthropology of time. Frequently, anthropologists have used hermeneutical philosophies of personal experiences of time to analyse the social life of time (see Ringel, this volume, for a discussion of this). In such approaches, social practices of time are collapsed into internal, personal experiences of time, or qualities of personal or social time are seen as expressions of the real force of time in and of itself.

The construction of an ideal type in which non-human, social, and personal time are separated from each other allows Gell to reflect more broadly on the techniques people use to act on and with time. Through such an approach, we can break out of the specific idioms of philosophy that are used to encompass time within other epistemologies. Gell argues that in order to navigate in time, humans develop representations or time-maps. These time-maps only have a partial relationship to the passage of real time, yet they mediate and shape personal experiences of it. With the aid of this concept, we can turn towards an analysis of the representations of time with which humans act in the world. It also allows us to examine how different personal experiences of time might emerge in relation to the forms these time-maps take. Thereby it permits us to step outside a philosophy into a concrete anthropology of time. Gell makes one final helpful move. He reflects on the different qualities of various kinds of

time-maps. These do not all have the same relationship to the passage of non-human time. Some time-maps mimic the qualities of the human experience of the flux of life as we move through successive pasts, presents, and futures ('A' series time). Others heighten the sense of before and after or periods in time ('B' series time). Still others strain to mimic the qualities of non-human time. Time-maps will vary in the degree to which they mimic the other of non-human time or human time experiences. For example, technologies of time such as navigational devices will be closely tied to non-human forces. Historical records and personal mementos, by contrast, can improvise freely with both the flux of life and experiences of before and after, largely unconstrained by non-human time. Environmental plans, meanwhile, attempt to project and combine human and non-human forms of time, whereas economic models make social time-maps of other social time-maps that bear little relation to human or non-human time.

In two pioneering chapters of his book, Gell demonstrates how to analyse such economic models. He examines Shackle's simulation of the market, which suggests it is composed of lone businessmen locked in the moment of time producing an emergent economy from the anticipatory joy of profits. Gell's point here is that time-maps based on either the time of becoming and flux ('A' series time) or the time of before and after ('B' series time) cannot in themselves guarantee authenticity, liberation, or truth (unlike the recent suggestions of the philosophers Agamben [1993] and Casarino [2008], for example). To create such models is simply to be human and to be acting within the timespace of the world according to representations of it. Most importantly, Gell starts to bring into view a highly diverse arena of representations of time. It is this arena that the papers in this volume explore further. Our terrain is the old Durkheimian one of social time. Yet we can now approach this differently. We can move beyond the old epistemologies of philosophy into an anthropology of social time.

But what do we need to add to Gell's discussion? We need to develop his understanding of time-maps. He only analyses these as short-term, pragmatic tools used by individuals. The discussion of the chronotopes of modern time earlier in this introduction raises questions about such an approach. These collective representations thicken time-maps with affect and deep temporal depth. One of our key research questions must be how time-maps knot together pragmatic concerns about navigating in time to the long-term fate of ethical and political relations (Bear, Franklin, this volume). We must also explore the full range of time-maps and their different social effects. These exist along a continuum from practical forms of technology tied to non-human rhythms to the other extreme, more chronotopic, aesthetic representations of the past, present, and future or of the flux of time. The papers in this volume explore these varieties of form and their affective and ethical life. They also, unlike Gell, focus on individual and collective long-term projects (Bear, Nielsen, Abram, Mathur, Ringel, this volume). Here we are inspired by other anthropologists who have focused on predictive devices (Lakoff 2006; Miyazaki 2003; Riles 2004; Zaloom 2009). Ultimately, Gell's focus on individual rather than collective social navigation in time means that he cannot build a framework that captures the complexity of labour in/of time (S. Feuchtwang, pers. comm., 2012). As we navigate time, we co-ordinate various time-maps at once in relation to diverse social and non-human rhythms. To help us theorize this complex action in relation to collective projects of social time, it is useful to turn to a different tradition of analysis, Marxist political philosophy.

Marxist approaches to modern time: hierarchy, conflict, and heterochrony

My thesis is that time's many forms are cultural propositions about the nature and distribution of agency across social space – cultural propositions cast as normative claims.

Greenhouse 1996: 82

Only Marxism ... takes up ... a time that is always internal-external – hence collective foundational – and at once antagonism.

Negri 2003: 62

Here I turn to Marxist traditions of analysis not because these are free from the influence of the intellectual controversies provoked by modern social time. On the contrary, I do so because they directly engage with the idealism of philosophical debates from an opposed, materialist perspective. In addition, they confront the question of what modern social time is through their analysis of capitalism. Everything about time that is excluded from consideration in anthropology and philosophy is addressed within this tradition of analysis. My use of it here and the engagements of other papers in this volume with the work of Harvey, Arendt, Negri, and Badiou is therefore strategic, but critical (Bear, Hodges, Lazar, Ringel, this volume). The central Marxist insights we draw on arise from its analysis of the effects of abstract time in capitalism. As the quotations from Negri and Greenhouse above suggest, this approach brings the collective, antagonistic, and normative nature of time-maps into view. We are able to ask questions about the hierarchical ordering of time-maps within society. We can explore how they interact with multiple social and non-human rhythms in time. We can trace diversity and clashes among these representations. We can also examine how representations of time within institutions produce divergent social rhythms. Hierarchy, conflict, and heterochrony in representations of time and among their various social effects become visible.

The foundation for our approach is not Marx's well-known discussion of the use of clock time in factories (Ingold 1995; May & Thrift 2001; Parry 1999; Thompson 1967). Instead it is his diachronic analysis of circulation time in *Capital*, Volume 2, on which Postone, Althusser, and Negri have built. Here Marx takes his claim that abstract time acts as the measure of the value of objects and labour and he turns it into a broader argument about the social time of capitalism. In this volume the irreconcilable social rhythms produced by the use of abstract time are laid bare. It is these and the attempts by workers, factory owners, banks, entrepreneurs, financial markets, and governments to mediate them that are discussed. The volume is an extended reflection on how human labour in the world attempts to bring into congruence time-maps, social rhythms, and non-human time.

Marx shows that for the social relationships of capitalism to continue, capital must pass through a circuit from money to productive to commodity capital and back to money again, generating surplus value along the route. But the human labour that achieves this is full of instabilities. In particular, there is a contradiction between the rhythms of production and consumption and those of financial markets. Infrastructures of production are imperilled by the rhythms of credit and money markets. Natural processes of decay of non-human time along with the wear and tear of labour mean that infrastructure needs to be renewed. But such infrastructure requires the withholding of capital from circulation for the long term, which runs counter to the

drive to keep capital in fluid metamorphosis in the 'castle in the air' of 'active, usurious, proliferating capital' in the money markets (Marx 1992 [1885]: 468). In addition, credit inevitably leads to a further contradictory social rhythm of overproduction. Overproduction will always occur because it becomes impossible to sell commodities to workers whose wages are kept down to create relative surplus value. Credit supports overproduction because long-term instabilities such as this one are temporarily fixed through loans to businesses and workers (Harvey 1989). Acts of labour by capitalists, traders, financiers, and workers mediate these contradictions in social rhythms by redistributing value and generating surplus value. The most complex mediation is that of workers (whether their labour is paid industrial, informalized, or unpaid domestic work). They both generate the virtual money market from the surplus value they produce in the circuit of capital and are most subject to its anti-productive rhythms. In addition, their bodily movements and their pacing through the day determine the fate of the circulation of capital. Their tiredness, health, employment, unemployment, consumption, all secure or undermine its future. What is important, therefore, about abstract time in capitalism is that it produces a form of reckoning value. This time-map creates contradictory social rhythms that have to be mediated by acts of concrete labour in the world. It is Postone (1993) who has most fully explored the contradictions produced by the use of abstract time measurement in capitalism. He analyses how abstract time acts both to produce and to conceal the concrete social content of time. Most importantly, Postone argues that abstract time increasingly becomes a teleological necessity of uniform, homogeneous empty time. It becomes an objective temporal norm a, 'now independent of activity ... an absolute measure of motion and of labour' that can itself be further commodified in credit relationships and futures trading, for example (Postone 1993: 278). Concrete time is experienced in contrast to this as a time of qualitative good and bad and as events and periodicities of human life.

So how are these analyses helpful to anthropologists in their investigation of modern social time? Building on Marx and Postone, we are able to refine further our theory of time-maps. Some of these will be quite distinct in kind. They will be dominant representations of time that anchor the measure of value, concepts of productive agency, and social relationships. These will in turn produce conflictual social rhythms and experiences. These important differences between representations of time and their effects are too often glossed with the single term 'temporality'. Or, in Actor Network Theory, all representations and technologies of time are described as having a similar obdurate agency. It is very important, however, that we distinguish various types of time-maps from each other. This can be achieved by attention to their significance to measures of value; how crucial they are to the definition of agency; and the degree of contradiction and/or inequality they contribute to. The papers in this volume identify and hierarchically organize the different time-maps at work in various social settings. They trace dominant forms such as process (Hodges); legal conservation regimes (Mathur); public deficit repayment (Bear); biological deep time (Franklin); and decline and sustainability (Ringel). They also pay attention to the specific social rhythms and relationships associated with them. In addition, the papers focus on the attempts by people to bring incommensurable rhythms and representations into synchronicity. Following Marx's example, we place hierarchy, social effects, and conflict at the centre of our analysis of social time.

Once this complexity is brought into view, we also have to explore how different social rhythms in time are related to each other. Althusser, building on the diachronic

analysis of circulation in *Capital*, Volume 2, provides resources to think about this issue. He develops a complex model of the temporalities of capitalist society, arguing that various economic, political, and social institutions have ‘peculiar rhythms and can only be known on condition that we have defined the concept of the specificity of ... [their] ... historical temporality and its punctuations’ (Althusser 1970: 94). Each of these institutions is part of a wider social field, and he argues that we should track the ‘intertwining of the different times, i.e. the type of “dislocation” and torsion of the different temporalities produced by the different levels of the structure’ (Althusser 1970: 94). We have not fully developed the implications of Althusser’s insight. This is that it is not enough to trace diverse institutional representations and practices of time. We have to track how these produce social rhythms and follow the relationships of these rhythms to each other. Even May and Thrift’s important (2001) discussion of social time, which we draw on in this volume, does not attempt such a relational analysis. Their formulation of the concept of timespaces that contain diverse representations, technologies, disciplines, and rhythms of social time that form dispersed networks is typical of recent approaches in this respect (e.g. Bestor 2001). We have not yet developed any theoretical tools for describing relationships within and between these rhythms. The papers in this volume take an exploratory approach to this issue by following how various institutional temporalities are in tension; the relationship between social rhythms; the convergent and divergent effects of multiple representations; and contingent causalities (Mathur, Lazar, Bear, Abram, Nielsen). Recognizing the heterochrony of modern time, we start to chart the effects of this diversity in various social situations.

This heterochrony also has implications for the subjective experience of time that are not fully drawn out by Marx, Postone, or Althusser. It makes our navigation of time in capitalism particularly tense and full of dilemmas. Negri takes up this theme. He suggests that the contradictory rhythms of circulation create divergent experiences of social time that are a product of the ‘clash of diverse and antagonistic temporalities’ (Negri 2003: 68). Intellectually and pragmatically, we constantly reflect on and attempt to overcome these contradictions in social time. As Negri puts it, ‘The crisis is in circulation, at every point, and does not so much concern the path of needs, of commodities, and information as the emergence of plural, multiversal ... times of subjects’ (2003: 55). This claim becomes clearer if we take as an example recent ethnographies of indebtedness relationships in Chile and South Africa (Han 2011; 2012; D. James 2012). These show that the urban poor attempt to use monetary credit to open up potential futures for social reproduction and family relations. Seeking to overcome the staccato rhythms of precarious work that threaten the long-term continuity of kinship affect and obligation, they are drawn into another temporal rhythm of debt. Living in plural social rhythms, they attempt to control them using credit, making themselves subject to yet another tempo. From this work and that of Negri, it is clear that capitalist time-maps produce an increasingly irreconcilable and unpredictable series of localized, emergent dialectics. In these, time is so thickened with representations and practices that it becomes the core contradiction of life. The central problem that we reflect on and labour with is how to make and manage time.

The key point here is that within capitalism time is the key site for attempts to develop legitimacy and agency. Yet this centrality of time is a symptom of inequalities in social relationships. We cannot overcome the tension in time by invoking alternative non-linear times. As Negri (2003) points out, the *Jetzt-Zeit* of now-time and cyclical,

eternal relations (such as that of Benjamin's Angel of History; 1999 [1955]) will not guarantee new intellectual insights or politics (see Agamben [1993], Badiou [2003], and Casarino [2008], who suggest that it will). These representations of time, Negri suggests, can be absorbed into the routinized social rhythms of both administration and production. Each of these depends on irruptive, charismatic innovations within the routine of command as these also render them 'productive'. We would have to look beyond the question of time towards the deeper one of inequality to resolve the dilemmas of labouring in/of time. The papers in this special issue follow Negri's lead in this respect. They focus on the ways in which practices of modern social time form the basis for agency, legitimacy, and politics (Lazar, Mathur, Bear, Nielsen). Our interest in social time is because it is a central site for social conflict and a symptom of the inequalities within capitalism.

With the help of Marxist political philosophy, in this section it has been possible to develop a theoretical framework through which to analyse various representations of social time, their distinct effects, dominance, and interrelationship. We have also been able to trace their connections to multiple, divergent social and non-human rhythms. Now we can begin to explore, as anthropologists, the hierarchy, conflict, and heterochrony characteristic of modern social time.

Anthropology's contribution: mediation and the labour in/of time

Yet what can anthropology contribute to this dialogue with Marxist philosophy, and more generally with other disciplines, about modern social time? The various answers to this question are illustrated in the papers in this volume. Each piece is an experiment in how to approach this topic with anthropological theories and methodologies. Our subject matter extends the sole focus on capitalism in Marxist political philosophy. In these papers, we analyse the social time of bureaucracy and politics as well. Anthropology also offers the analytical insights forged through a long tradition of analysis of ritual and religious temporalities, including recent discussions of conversion and pilgrimage (Coleman 2005; Engelke 2004; Robbins 2010). These can be drawn upon to explore the entailments of long-term representations of time, the practices they generate, and how representations are sustained (Kravel-Tovi & Bilu 2008; Smid 2010). This work, of course, takes us far beyond the reductionist discussions of time-maps as either ideology or discourse. Our analysis draws on this in an emphasis on ethics and agency rather than only on legitimation and resistance (Lazar, Bear, Nielsen, Franklin).

The most significant contribution anthropology can make is to the understanding of an underdeveloped part of Marxist philosophy and other disciplinary traditions. This is a comprehension of the acts of labour through which conflictual social rhythms, representations, and non-human time are mediated. Most analyses of modern social time (especially in Marxist political philosophy) assume routinization or mediation, without examining how this occurs or the contingent effects such action generates. All the papers in this volume illustrate this labour in and of time. The use of the term 'labour' is not intended here as a metaphor for practice or agency. It is meant literally to demarcate our creative, mediating action in the world. With our labour, we have to reconcile disparate social rhythms, multiple representations of time and non-human time. Although our approach builds on Munn's emphasis on temporalizing practices, her concept is refined by our use of the term 'labour'. We argue that the act of working in and on time involves: an encounter with the material world; the limits of the body; multiple tools; and co-ordinations of diverse rhythms and representations. This

experience of friction, strain, and limits is not conveyed fully enough by Munn's emphasis on human *shaping* of space-time. In contrast to her approach, the term 'labour' draws attention to strenuous mediations. It also suggests that new time-maps might emerge from the pressing back of the non-human material world on human action. Agency would not be a sufficient term either, especially in the manner it is used in Actor Network Theory (ANT). This is because we are interested in the specific qualities of human acts in and with time. To take the ANT route would mean we would have to equalize human and non-human agency. But it is precisely human time-maps that we wish to explore in their relationship with non-human and social rhythms. Consumption or exchange would not be an alternative term either. This is because we wish to retain the sense of labour as a creative act of mediation that is generative of new timespaces. Ultimately, the emphasis on labour allows us to address social time in a materialist rather than idealist frame. Let me now turn to the papers themselves and to how they continue these conversations begun in this introduction.

Economic time: beyond process, becoming, and abstract time

Mediations of economic time are examined in the first three pieces, by Hodges, Ringel, and myself. These essays also centrally address our existing intellectual epistemologies of time, showing how they limit understanding. Hodges opens the volume with a challenge to anthropologists to reflect on and examine their assumptions about time as process. Drawing on Arendt and Deleuze, he argues that process is a dominant chronotope (or time-map) of the social disciplines of capitalism. He traces the unexpected circulation of this modern representation in recent theories of practice in anthropology as well as in market-driven genetic science. His ethnography of the transformation of a French biotechnology project from a research institute aiming to produce self-cloning maize for impoverished farmers into a public-private partnership orientated to profit reveals how process anchored the legitimacy of this transition. It also supported the introduction of new research practices. Old procedures of self-cloning were tightly tied to the unfolding rhythms of cells. New techniques aimed to discipline and control these through genetic engineering so that cells could conform to the market. Here we have an important ethnographic example of dominant time-maps anchoring new social relationships, measures of value and agency. They ran parallel to the social transformations that created new productive scientists and maize that could be profit-making in their teleology. Hodges' paper also examines how farmers in the same region of France activated process to reflect on the 'state of flux' which affects life in their peri-urban village. They use it to represent the existence of newly uncontrollable economic forces in their lives, against which they idealize 'enduring temporalities' of cultural practice. Here the chronotope acts in a different, if problematic, manner. It is the basis for claims against new migrants, denying earlier periods of commercialization and migration. Hodges' central point is that in all these situations, process supports exclusionary reckonings of value and agency that generate inequality. He therefore argues that it should not form the basis for our epistemology of time as it fundamentally excludes the heterogeneity of actually existing social and non-human times. Hodges offers instead an epistemology of immanence, which he suggests is more able to uncover diverse times.

Ringel continues this critical analysis of intellectual epistemologies by questioning the model of time as becoming and as politically productive only when it is a site of new, millennial hopes. From an ethnography of Germany's fastest-shrinking city,

Hoyerswerda, which is subject to the decline produced by privatization and outsourcing, he shows the limits to such approaches. Also developing the themes with which I opened this introduction, he argues that accounts of the evacuation of the near future are over-stated. All of these assumptions about time and neoliberal times run counter to the projects of endurance carried out by the citizens of Hoyerswerda. In these they attempt to render their community permanent. It is the slow, steady work of restoring buildings, gaining support for various civic clubs, and achieving funding from the local city hall that preoccupies them. They improvise new traditions that they attempt to take into the future. Here is a compelling example of the labour with/of time that anthropology can reveal. Civic clubs seek to mediate the social rhythms of the disappearance of the young, the demolition and decay of buildings. Their mediations are material, including the physical renovation of structures. Their civic actions aim to overcome a time-map of an inevitable process of decay that threatens to restrict their agency entirely. Alongside this dominant representation is another of sustainability that is associated with accounting practices that crucially determine whether the local city hall will fund their projects. The clubs have to adopt this time-map in order to survive. Here, where our current theories of becoming, new millennial hope, and neoliberal futures would least anticipate finding it, we have a modern pursuit of permanence and continuity. Ringel suggests that we should not, therefore, dogmatically adopt philosophies as in themselves guarantees of knowledge or forms of liberating politics. This suggestion supports the argument made throughout this introduction that we must make explicit our philosophies of time and reflect on their differences and/or similarities to the concepts of agency and time among our informants. Change in social life is ultimately more likely to come from small practices of endurance that build futures in the material world like those of the citizens of Hoyerswerda. It cannot be guaranteed by prescriptive philosophies of time and politics such as those of Badiou, Agamben, and proponents of an anthropology of becoming.

My paper then turns to the limits of an intellectual epistemology of abstract time as the only important part of capitalist time. The ethnography on which these arguments are based is of the responses to accidents among river pilots on the Hooghly river, on whose labour the global flow of commodities and raw materials depends. By tracing the impact of one accident and the technical solutions that river pilots introduced for it, I reveal the affect and ethics that inform capitalist time. I suggest that if we only focus on the abstract time of capitalism, we cannot understand contemporary circulation time. Instead I argue that in global workplaces time is at once an ethical, affective, and technical problem. The solutions for the contradictions that arise from the use of abstract time as a measure of value are developed from senses of workmanship among managers and workers. These emerge from experiences of acts of labour in which people attempt to reconcile contradictory social rhythms, non-human forces, predictive devices, and representations of time into productive acts. This experience thickens time with layers of meaning and generates an ethics of skill and duty of care between workers. It is from these ethical and affective experiences that technical solutions to contradictions in capitalism develop. This leads to a second critique of approaches to capitalist circulation time in the work of authors such as Harvey and Castree. They analyse 'fixes' in the contradictions of circulation as macro-level processes, such as the advancing of credit. I argue instead that circulation is a contingent result of micro-level ethically informed attempts to 'fix' it according to diverse representations of productivity, agency, and time. Importantly, I also examine the different kinds of effectivity of

time-maps, their hierarchical relationships to each other, and their accompanying social relationships at work in the marine department. These include a core chronotope of public deficit reduction, predictive devices tightly tied to the rhythms of the river, and the representations among river pilots of the Hooghly as linked to lineage and divinity. As Negri suggests, here we have an example of time becoming dense with conflicts and meaning because of contradictions in circulation. It would be misleading if we were to focus only on abstract time, time discipline, and large-scale process in our analysis of this (and other forms of) economic time.

Read together, these three papers fundamentally alter our understandings of economic time, revealing three possible epistemological directions as alternatives to those of process, becoming, and abstract time. They also show that the economic time of the present is not radically distinct from that of the past, but is an intensification of the dominant time-maps of process and creative destruction that have always been part of capitalism.

Political time: social movements, heterochrony, and agency

The two papers by Lazar and Franklin move us into the arena of political time, specifically that of social movements. Here they correct the lack of attention to time in the analysis of collective endeavours to bring about social change. They show that it is impossible to understand how citizens construct political agency without attention to their representations of and labour with time. Lazar's ethnography focuses on two public sector unions in Buenos Aires and residents and street vendors' movements in the city of El Alto, Bolivia. She uncovers two heterogeneous time-maps at work in the representations and actions of these movements. These, she suggests, are akin to the temporalizing practices of Munn through which timespaces are given shape and transformed. But unlike Munn, Lazar uncovers a complexity to the content of time in these practices. In these, activists refer to historical time, which is made up of a narrative of continuous political action from a past of exemplary ancestors and into a future of transformation. They explicitly draw on imagery of kinship lineage, of politics as 'in the blood' of protesters. Such a representation allows activists to emplace their daily struggles in a long-term sense of time. Activists also take part in, but do not narrate to the same extent, attritional time. Attritional time is the mundane social discipline of protest and negotiation with no specific origin in the past or endpoint in the future. This mundane time opens out into dramatic manifestations of the movement to itself in demonstrations that overcome the banality of everyday protest.

Lazar uses her anthropological analysis of the labour in/of time in these movements to challenge profoundly theories of radical political change. She critiques both Marxist-influenced philosophers and some practice theorists for their emphasis on the event as a source of radical discontinuity. For example, she detects in Badiou's discussion of political transformation as conversion a problematic emphasis on radical discontinuity. In Sahlins and Das, she finds a similar reliance on the event that disrupts social repetition. Through an analysis of the revolutionary movements in Bolivia from 2000 to 2005, she shows that new politics and new political times do not emerge in a moment of a clean break from the past. Instead in events participants activate routine practices of attritional and historical time, suddenly bringing together time-maps that are usually kept separate. They identify their routines as close to and within history, not as a dramatic rupture from it. A further shaping of the event occurs through a practice of hailing the time as revolutionary not only during the protests, but also, more

commonly, retrospectively in the accounts of activists, journalists, and scholars. Lazar's point is that there is nothing in the event itself that produces a radical break in political time. In this way, political revolution and change are profoundly unlike the 'conversions' described by Badiou. In Christian conversion, God appears and manifests His presence in hailing the convert, but in politics it is activists who hail themselves as agents of change in human history. Revolution and social movements are therefore founded on a quite different form of agency and time from that of conversion. It is only from the perspective of a secular analyst such as Badiou that they could be seen as equivalent. Our task as anthropologists is to understand agency and time from the perspective of others, not ourselves. Therefore such prescriptive philosophical models are not helpful to us. Lazar's approach, in contrast, reveals the contours of the political time of social movements and provides us with theoretical tools we can apply elsewhere.

Franklin takes us into the layered representations of time in social movements associated with reproductive politics in the United Kingdom. By tracing the debates that have occurred over thirty years, she is in the unusual position of being able to follow the sequential borrowing of time-maps between opposed sides in a political struggle, Christian Right-to-Life groups and campaigners for new reproductive technologies (NRT). She demonstrates that through these debates both sides unintentionally reconfigure the political time and agency of human life. This has increasingly been emplaced within a mixed chronotope of long-term time projected using both scientific and Christian temporal frames. Such representations displace the logics of lineage and descent that were the basis for the conceptualization of human worth, production, and reproduction in the past. Franklin traces how during the 1980s Christian Right-to-Life groups adopted a secularized defence of human life using the material culture and imagery of science. In the political debates around the Human Fertilization and Embryology (HFE) Act in 1990 in Parliament, politicians and scientists adopted their opponents' sacralized biology to argue for the absolute value of scientific research. Franklin then shows that the consequence of this was an absence of public controversy about an amendment to the HFE bill in 2008 to allow the use of cybrid embryos. The exchanges of the debate have profoundly shifted our public sense of the value of human life. Humans now gain their value and their individual rights because they are part of a sacralized deep time of biology and its 'facts'. In this the beginning of life is determined by the biological, scientific event of the 'primitive streak' (which appears at fourteen weeks) and our agency is emplaced in long-term genetic time. Yet this foregrounded scientific, natural time contains the thickening of Christian religious chronotopes of the transcendent value of humankind. As Franklin points out, this layering of times is a response to an elusive absence at the centre of both of these political movements, which is the meaning of 'biological time'. This meaning has long been problematic since the emergence of natural, biological time in the work of Darwin in the nineteenth century. Its apparently simple linearity and presence has to be constantly witnessed to by cultural production of evidence and debate. Franklin shows that forms of biological citizenship can only be understood by attention to this cultural history, including the micro-history of the Right-to-Life and pro-NRT social movements. The modern forms of time that emerged in the nineteenth century, along with their Christian backgrounding, recur in these debates about the value of human life, the nature of human time, and agency.

Lazar and Franklin reveal the current forms of the modern time of the citizen. As I illustrated with nineteenth-century cartographies of time, citizenship has long been

dense with religious, scientific, kinship, and natural times. Most writing on recent social movements ignores this history and the dimension of time in favour of an emphasis on spaces of contestation and exclusion (Chatterjee 2004; Hardt & Negri 2004). The few writings on social movements that examine time understand it as a neutral dimension in which politics unfolds as a process or conjuncture (Castells 1997; Touraine 1981). Read together, these two pieces intervene in these absences, showing the importance of understanding social movements as profoundly shaped by mediations and conflicts between diverse representations, social disciplines, and rhythms of time.

Bureaucratic time: planning, risk, and conflicts in time

Following models of Weberian rationalization and Foucauldian social discipline, we have assumed that bureaucratic time-maps and techniques of time generate predictability and a routinization of social life. Even recent analyses of risk and scenario planning only differ by suggesting that the threats to predictability are more constructed than real. They still continue to argue that these projections produce routines and disciplines. The papers by Abram, Mathur, and Nielsen challenge these lingering assumptions. They explore the sheer variety of representations of time in planning and the conflictual encounters that are generated by bureaucratic routines.

Abram offers a profound critique of suggestions that there has been a retreat of planning and evacuation of the near future in contemporary state practices. She shows that these arguments ignore the fact that in many contexts, such as the planning offices in Norway and Sweden (where she carried out her fieldwork), recent decades have seen a proliferation of planning and greater contacts with the public. She argues that spatial democratic planning has produced a diversification and expansion of debates about the future between officials and citizens. What has occurred is a 'fecund' intensification that continues the modernist project of attempting to discipline the space and time of citizens. Like this older project, the results of these practices are unpredictable and incomplete mediations of various understandings of the past, present, and future. The planning offices themselves are also filled with multiple representations and practices of time, including backcasting and plans with various temporal and spatial scales. The sheer variety of these time-maps and the social rhythms they generate may even bring projects to a halt. This is especially because participatory planning involves contradictory temporal goals and procedures of mediation that refuse to take into account the long-term past of regions and the necessity of taking time to consult with the public. It is the routines and time-maps in these planning offices that generate conflictual, irresolvable outcomes. Abram follows these contradictions in time in the introduction of participative planning by a business consultant to a Norwegian planning office. Here local politicians called in to be 'resources' for the building of a prosperous future stalled the attempts of the consultant because these cut through their already-existing routines of consultation. In this case, bureaucratic rhythms along with the hierarchical nested representations of the future at work in the institution produced a stalemate in the linear, progressive process of planning. In the Swedish case, bureaucratic routine generated a different sort of conflict, in this situation between citizens groups and bureaucrats. Here the building of a new railway was being negotiated through participatory consultation. Abram shows that the dedication to process on the part of bureaucrats generated the exclusion of the opinions of the public that they were supposed to be consulting with. This is because public interests groups' representations of the future were always 'out of time' since they threatened to slow down the teleology of the

participatory process itself. Abram suggests that accounts of neoliberal planning or evacuated futures elide these complexities and contradictions in the time-maps of planning. Like this introduction, she calls for an approach that reveals the varying degrees of effectivity of plans; their different scales in time and space; the procedures that plans are inserted in and generate; as well as the multiple, 'layering and folding of presents and futures that persist from modern into neoliberalizing states'.

Mathur develops the issues raised by Abram further, arguing that there has been little attention to everyday bureaucratic routines in anthropology. This means that we have largely assumed the accuracy of general theories about the significance of risk to contemporary institutions. If we have analysed daily practices, it is to suggest that bureaucracies make citizens wait for their attention and refuse to ameliorate their conditions in gestures of indifferent power. Mathur brings these two themes together in an analysis of the responses of local state officials and citizens to the threat of a man-eating tiger in the Himalayan town of Gopeshwar. She tracks the consequences of the dominant time-map of legal conservation regimes that enforce procedures to prevent the risk of the tiger's extinction. These produce a frustrating stalemate for officials and citizens because they make it impossible to act quickly to protect the inhabitants of the town. The social rhythms and routines produced in the bureaucracy by this representation of the tiger's potential extinction become unmanageable. Bureaucrats have to generate paper trails that show they have no choice but to kill the tiger. Citizens have to seek compensation from officials through long-drawn-out procedures of proof. In the duration in which the state fails to act, citizens and bureaucrats generate nostalgic time-maps of a colonial past in which a state could hunt down animals without restraint, thereby protecting its subjects. This enforced waiting for the state to act does not ultimately produce passivity, as our existing theories would predict. Instead the clash of temporalities that prevents the bureaucracy from acting generates political critique and demonstrations imperilling its legitimacy. Mathur reveals the limits of our existing approaches to everyday bureaucratic time. She suggests that we need to rethink bureaucracies as unfolding at the intersection of conflicting social times that officials attempt to mediate with their labour.

The last paper, by Nielsen, returns to concerns about the epistemology of time, closing the circle of the debates first begun in this introduction. His work is a good end-point because he combines a concern with modern time and agency, insights from Gell and Munn, and an engagement with Deleuzian philosophy. He turns this innovative synthesis towards the analysis of the tactics of generating a future among urban squatters in an illegal settlement, Mulwene, in Maputo. In particular he is interested in how they use strategies that deploy non-linear time-maps to enable the materialization of new possible futures. Nielsen concentrates on the case of Alberto, to whom a community leader has promised a plot of land on which to build a house. Alberto starts to build on this plot, inserting a trench into it, in order, Nielsen argues, to collapse the future into the present. He is ultimately unsuccessful because the plot is disputed land, but his tactics draw the attention of the local authorities to him. Ultimately, this act leads to Alberto's recognition as a legitimate citizen by the district administrator, who allocates him a plot. Nielsen suggests that this strategy is a different way of making time present from the linear time-maps of bureaucratic planning. He argues that Alberto uses a logic of durational time. This durational structure also echoes practices of divining the future in Maputo. In these, people seek to know their fate in order to use this information in the present in order to bring a desired virtual future into being. Divination

therefore does not presume a linear structure for time, but instead suggests that it is only by knowing your future in the present that you can ensure it will come to pass. Likewise, Nielsen suggests that for Alberto and other inhabitants of Mulwene, planning does not involve a promise of a specific future that will be reached as a goal, but is used as a medium to create a different set of virtual possibilities for the present. Reading this piece in relation to those by Abram and Mathur, which demonstrate that linear time is only characteristic of the documentary representations of bureaucracies, leaves us with the interesting question of whether such strategies are similar to or different from the backcasting described by Abram or if they could be found within Mathur's chaotic, negotiated bureaucracy. Now that we have moved away from our initial epistemological assumptions founded in the debates between philosophy and science about time, we can begin to ask open questions for future research such as these. It might be that we could uncover practices of Bergsonian durational time within the routines of modern bureaucratic time. There are no limits now to the questions we can ask.

Let me end this discussion of modern time where I started, at the Durga Puja *pandal* in Santosh Mitra Square. How might we now understand this spatialization of ruins of the past and vanished futures with the goddess Durga at its centre? Why did this representation draw such large crowds on the day that plans for prosperity in West Bengal collapsed? The journey we have taken in this introduction suggests that the answer will lie not in neoliberal or uncertain futures, but in concepts of productive agency and time. Ostor (1980) describes how every element of worship of Durga serves to enable exchanges of productive force between various kinds of life and domains of human action, emphasizing their interdependence and common essences. Durga returns each year to act as a mediator who brings productivity to the world of the city. The citizens of Kolkata that day found in her presence a confirmation of the permanence of this productivity. She was not from a different millennial time like Benjamin's Angel of History; instead she was within the modern time of the civic and promised its continuation. This introduction and the essays in this volume ultimately seek to make visible such heterochronies within modern time and its layered, and sometimes conflictual, forms.

Acknowledgements

This research has been a co-operative project enriched by everyone who has taken part in the 'Conflicts in Time: Rethinking "Contemporary" Globalization' research network and seminar series (funded by the ESRC from 2008 to 2011). The participants (apart from those in this volume) who generated lively, creative conversations in the five workshops and exhibition included: Catherine Alexander, Nicolas Argenti, Sultan Barakat, Sue Barnes, Andrew Barry, Paul Basu, Richard Baxstrom, Véronique Bénéï, Eeva Berglund, Sid Beynon, Xiang Biao, Rose Biela, Lynn Bingham, Maxim Bolt, Georgina Born, Glen Bowman, Beverley Butler, Sharad Chari, Kimberly Chong, Tony Crook, Jamie Cross, Ferdinand de Jong, Matthew Engelke, Harriet Evans, David Featherstone, Melanie Friend, Neil David Galway, Rafi Greenberg, John Hacker, Casey High, Mette High, Eric Hirsch, Michael Hoffmann, Mekhala Krishnamurthy, Harry Lyons, Penny McCall Howard, Sally MacDonald, Andy Moran, Mary Morris, Rosie O'Driscoll, Luo Pan, Frances Pine, John Plummer, Rebecca Prentice, Annie Rae, Dinah Rajak, Josh Reno, Andrew Sanchez, Michael Scott, Sebina Sivac-Bryant, Eyal Sivan, Cornelia Sorabji, Nicolai Ssorin-Chaikov, Hans Steinmuller, Olivia Swift, Sharika Thiranagama, Helen Walasek, Nick Weekes, David Wengrow, and Gisa Weszkalnys.

Support was also given by the departments of anthropology at Cambridge, Edinburgh, the London School of Economics, and University College London; and by the Hastings Arts Forum. This project had its origins in the inspirational ideas shared by Harriet Evans, Stephan Feuchtwang, Olivia Harris, Michael Lambek, and Mike Rowlands in meetings seized from the term-time routine in 2006-7. This volume is dedicated to Stephan Feuchtwang, whose energy, wisdom, and openness led our way throughout. I'm looking forward to the conversation with him in which he reveals the flaws in this introduction (the faults of which are entirely my own) and takes my arguments in new, unexpected directions.

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Doute, conflit, médiation : l'anthropologie du temps moderne

Résumé

Dans son introduction, l'auteure affirme qu'en dépit des récentes discussions sur notre époque globalisée et néolibérale, l'anthropologie du temps moderne reste sous-explorée. Il faut entendre ici le temps moderne comme un produit historique complexe, centré sur la perception abstraite du temps du capitalisme, qui fait fonction de mesure universelle de la valeur mais entre toujours en conflit avec l'expérience concrète du temps. Ses disciplines sociales sont issues de la pratique chrétienne, mais leur éthique s'affiche comme séculière et universelle. Sa politique se fonde sur des représentations des liens naturels entre communautés, dans un temps historique homogène. Sa science et sa technologie associent étroitement le temps social ou humain aux rythmes externes, non humains. Il est important que les anthropologues réfléchissent au temps modernes, parce que notre discipline a été profondément influencée par la découverte de sa profondeur, de sa sécularité et de sa relativité. Les controverses nées des révolutions darwinienne et einsteinienne constituent encore le cadre de beaucoup de nos théories, notamment celles qui ont trait à la philosophie phénoménologique. Dans cette introduction, l'auteure avance que le moyen principal de pallier cette importante lacune en anthropologie résiderait dans un rapprochement entre l'épistémologie du temps d'Alfred Gell et les approches des philosophes politiques marxistes. Cette combinaison, alliée à l'accent mis sur le travail dans le temps/du temps, soulève de nouvelles questions et révèle de nouveaux aspects du temps moderne dans le présent.