

Chapter One

Introduction

In July 2004 officials from the International Finance Corporation (IFC) visited the small village of Dgvari, in the mountains of the Lesser Caucasus, in the region of the spa town of Borjomi in Western Georgia. The village, which was built on a slope that was prone to landslides, was gradually collapsing, and the villagers wanted to be moved elsewhere. The visit from the IFC was not prompted directly by the occurrence of landslides, however, but by the construction of an oil pipeline in the valley in which Dgvari was situated. The villagers feared that pipeline construction would intensify the frequency of landslides, and they looked to the pipeline company, which was led by BP, to address the problem. Geoscientific consultants, paid for by BP, had previously visited the village, taken measurements and produced a report, reaching the conclusion that although the villagers did need to move, the construction of the pipeline would not make the situation worse. A controversy therefore arose between the villagers and BP over whether or not the construction of the pipeline carried significant risks for the village, and whether the company had the responsibility for addressing the problem. It was this dispute that brought the IFC officials to the village of Dgvari.

In recent years geographers and social theorists have increasingly drawn attention to the critical part that materials play in political life. No longer can we think of material artefacts and physical systems such as pipes, houses, water and earth as the passive and stable foundation on which politics takes place; rather, it is argued, the unpredictable and lively behaviour of such

objects and environments should be understood as integral to the conduct of politics. Physical and biological processes and events, ranging from climate change and flooding to genetic modification and biodiversity loss, have come to animate political debate and foster passionate disputes. Yet if geographers have become interested in what has variously been described as the force, agency and liveliness of materials, thus probing the limits of social and political thought, then at the heart of this book lies an intriguing paradox: for just as we are beginning to attend to the activity of materials in political life, the existence of materials has become increasingly bound up with the production of information. Disputes such as those that occurred in Dgvari have come to revolve not around physical processes such as landslides – which have activity in themselves – in isolation, but around material objects and processes that are entangled in ever-growing quantities of information. The problem of the landslides of Dgvari was assessed by BP's consultants and Georgian geoscientists, as well as by the officials from the IFC, and the deteriorating condition of the villagers' houses was observed by numerous environmentalists and journalists over many years, as well as by myself. To understand the puzzling political significance of the landslides of Dgvari, I will suggest in what follows, we need to understand how their existence became bound up with a vast quantity of documents and reports that circulated between the village and the offices of ministries, scientists and environmentalists in Tbilisi, Washington, DC, London and elsewhere.

This book focuses on a series of disputes that arose along the length of the Baku-Tbilisi-Ceyhan (BTC) pipeline that now passes close by the village of Dgvari. In the period from 2003 to 2006 the BTC pipeline was one of the largest single construction projects in the world. Stretching 1760 km from south of Baku, the capital of Azerbaijan, on the Caspian Sea to the port of Ceyhan on the Turkish Mediterranean coast, it had first been conceived in the late 1990s when, in the aftermath of the break up of the Soviet Union and the first Gulf War (1990–91), international oil companies sought to gain access to off-shore oil reserves in the Caspian Sea, including the giant Azeri-Chirag-Guneshli (ACG) field. At the outset, the route of the pipeline through Georgia and Eastern Turkey was explicitly determined by geopolitical considerations, so as to enable oil exports from Azerbaijan to bypass alternative routes through southern Russia and Iran. Indeed, the pipeline was regarded from the late 1990s through the early 2000s as having enormous strategic importance both for the region and, according to some commentators at the time, for the energy security of the West. By 2004, the BTC pipeline employed nearly 22,000 people in Azerbaijan, Georgia and Turkey, with a projected cost of approximately \$3.9 billion and the capacity to carry 1.2 million barrels of oil per day. While the pipeline was built by a consortium led by BP (BTC 2006), it involved a number of other international and national oil companies including the State Oil Company of Azerbaijan (SOCAR), Unocal, Statoil, Turkish Petroleum (TPAO), ENI, TotalFinaElf, Itochu and Delta Hess (see Table 1.1). It was also supported

Table 1.1 Institutions and organisations involved in the development and politics of the BTC pipeline

Participant oil Companies (equity stakes in 2003)	BP International and BP Corporation North America (30.1%); State Oil Company of Azerbaijan SOCAR (25%); Türkiye Petroleri A.O. (TPAO) (6.53%); Statoil ASA (8.71%); TotalFinaElf (5.0%); Union Oil Company of California (Unocal) (8.9%); ITOCHU Corporation (3.4%); INPEX Corporation (2.5%); Delta Hess (2.36%); Agip (5.0%); Conoco Phillips (2.5%).
Contractors and consultants (selection)	Botaş (design, engineering , procurement, inspection); Spie Capag Petrofac (construction); WS Atkins (engineering consultants); Bechtel (engineering and procurement services); Environmental Resources Management (environmental and social impact assessment); Foley Hoag (human rights monitoring); Ernst and Young (sustainability monitoring); Mott Macdonald (lenders' environmental and social consultants); D'Appolonia S.p.A (lenders' independent environmental consultant); Worley Parsons (lenders' engineering consultant).
International financial institutions	International Finance Corporation – World Bank Group (IFC); European Bank for Reconstruction and Development (EBRD).
Commercial lenders (selection)	Royal Bank of Scotland (UK); Citigroup (US); ABN Amro (NL).
Export Credit Agencies	Eximbank (US); OPIC (US); COFACE (France); Hermes (Germany); JBIC NEXI (Japan); Export Credit Guarantee Department (UK).
International NGOs and related organisations	Amnesty International (UK); World Wildlife Fund for Nature; International Alert; Central and East European Bankwatch (CEE); Friends of the Earth (USA); Crude Accountability (USA). The Baku-Ceyhan Campaign: Friends of the Earth International; Kurdish Human Rights Project (KHRP); The Corner House (UK); Platform (UK); Bank Information Center (USA); Campagna per la Riforma della Banca Mondiale (Italy).
Regional NGOs (selection)	Open Society Institute (Azerbaijan and Georgia); Green Alternative (Georgia); Georgian Young Lawyers Association (GYLA); The Committee for Oil Industry Workers Rights Protection (Azerbaijan); Caucasus Environmental NGO Network (CENN); Association for the Protection of Landowners Rights (APLR) (Georgia); Centre for Civic Initiatives (Azerbaijan); Entrepreneurship Development Foundation (Azerbaijan); Institute of Peace and Democracy (Azerbaijan); Coalition of Azerbaijan Non-Governmental Organizations For Improving Transparency in the Extractives Industry.
NGOs involved in BTC Community Investment Programme (CIP) in Georgia	Care International in the Caucasus; Mercy Corps.

by the US and UK governments, the International Finance Corporation (IFC)¹ and the European Bank for Reconstruction and Development (EBRD). Prior to its construction, the BTC pipeline had figured in the plot of the James Bond film, *The World is Not Enough*.

Yet the pipeline was much more than a vast financial and engineering project with security implications that stretched across three countries. For a period it was also viewed by many as a public experiment intended to demonstrate the value of a series of innovations in global governance that had developed progressively through the 1990s and 2000s, notably transparency, corporate social responsibility and 'global corporate citizenship' (Thompson 2005, 2012, Watts 2006, Lawrence 2009). Indeed, one of BP's explicit goals in developing BTC was to establish 'a *new model* for large-scale, extractive-industry investments by major, multinational enterprises in developing and transition countries' (BTC/CDAP 2007: 2, emphasis added, BTC 2003a: 7). It was, in particular, the first major test of the Equator Principles, the financial industry benchmark for 'determining, assessing and managing social and environmental risk' in project financing (Equator Principles 2003, Browne 2010: 172). This was a demonstration or test that would have to be performed in a region, the South Caucasus, in which none of the key parties – international oil corporations, investment banks, international NGOs – had much prior experience. In these circumstances, the parties involved in the development of BTC sought to carve out a space, simultaneously governmental, material and informational, within which this test could be performed and its results published. The BTC project is therefore remarkable not just because of its scale and complexity, or what was thought to be its geopolitical significance, but because an unprecedented quantity of information was made public about both the potential impact of its construction and how this impact would be managed and mitigated.² Indeed, as the project came to fruition in 2003, thousands of pages of documents about the pipeline were made public by BP, heading the consortium behind the project, while further reports were released by the IFC and other international institutions. At the same time, the pipeline attracted the attention of numerous documentary film-makers, artists, environmentalists, journalists, academics and human rights organisations.

The global oil industry has, of course, long been a knowledge production industry focused on the problem of how to locate and extract a complex organic substance that takes multiple forms from a range of distant and dispersed locations (Bowker 1994, Bridge and Wood 2005). Moreover, the oil industry has always been concerned with the problem of how to suppress, channel, contain or govern the potentially disruptive activity of materials and persons. In this light, the recent efforts to promote the virtues of transparency, public accountability and environmental and social responsibility have to be understood in the context of a longer history (Mitchell 2011). The story of BTC is in part a story of how the production and publication of information

appears to offer capital a new, responsible and ethical way of managing the unruliness of persons and things. To understand the construction of the BTC pipeline, I suggest, we need to appreciate how its existence became bound up with the publication of information intended to effect its transparency. And to understand why and how its construction was disputed, we need to attend to the controversies that it animated, which did not just revolve around issues of geopolitics or the pipeline's relation to state interests, but also around quite specific technical matters concerning, for example, the likelihood of landslides, the impact of construction work on agricultural production, and the depth that the pipeline would need to be buried in the ground to protect it from sabotage. Indeed for a period, the BTC pipeline became the focus of an extraordinary range of particular disputes about what was known about its construction, its environmental impact, and even about the material qualities of the pipe itself.

I have already suggested that a case such as this poses a challenge to geography and social theory. The challenge is how to understand the role of materials in political life in a period when the existence of materials is becoming progressively more bound up with both the production and the circulation of information. At a time when social theorists and philosophers have drawn our attention to the agency, liveliness and unruly activity of materials, we need to be aware that the existence of materials is also routinely traced, mapped and regulated, whether this is in order to assess their quality, safety, purity, compatibility or environmental impact. This is not a new phenomenon; but the generation and circulation of information about materials and artefacts, including massive infrastructural assemblages such as oil pipelines, has come to play an increasingly visible part in political and economic life. One core argument of this book is that we need to develop accounts of the political geography of materials whose ongoing existence is associated with the production of information.

A second core argument follows. It responds to the claim that when information is made more transparent and publically available, rational and open forms of public debate should ensue (cf. Hood 2006). In this book I put forward an alternative account of the politics of transparency. I argue that the implementation of transparency, along with the growing salience of other core principles of transnational governance and social and environmental responsibility, foster new forms of dispute. The practice of transparency and corporate responsibility, I contend, does not necessarily lead to a reduction in the intensity of disagreement, although it does generate new concerns, sites and problems about which it matters to disagree. My central questions are geographical. In a period in which the virtues of transparency and environmental and social responsibility have been so insistently stressed, how and why do particular materials, events and sites become controversial? Why should quite specific features of the pipeline, such as its relation to the village of Dgvari, become matters of transnational political concern, while other

candidate problems do not? If we understand the construction of the BTC pipeline as a demonstration of the practice of transparency, then, as we will see, the results of this vast public experiment turn out to be instructive.

The remainder of this introduction is organised into four parts. In the first, I introduce the idea of a public knowledge controversy, of which the case of the BTC pipeline is an example, and survey a number of key features of knowledge controversies in general, and public knowledge controversies in particular.³ There is already a substantial literature on knowledge controversies, but here I introduce the concept of the political situation in order to highlight the way in which the spatiality, temporality and limits of any given controversy are themselves likely to be in question. I suggest that individual controversies, such as the dispute over the future of the village of Dgvari, are rarely isolated events. Rather, the relation between a particular controversy and other controversies and events elsewhere is likely to be uncertain and itself a matter of dispute. Individual knowledge controversies, I propose, need to be understood as elements of multiple political situations of which they form a part.

The second part of the introduction turns to the question of the way in which the properties, qualities and design of materials are bound up with the production of information. Human geographers have increasingly argued that they need to attend to what has variously been understood as the liveliness, agency and powers of materials as well as persons. I contend, however, that although this argument is an important one, it does not address the ways in which the existence and the activity of material artefacts have progressively been subject to monitoring, assessment, regulation and management. This observation has particular significance for the oil industry, which often operates in demanding environments in which the movement and activity of materials, including oil, land and pipes, may be difficult to manage and control. In this section I also highlight the critical importance of the production of social and political knowledge for the international oil industry when it operates in regions, such as the Caucasus, that are highly populated. Following Foucault's brief observation in the conclusion of the *Archaeology of Knowledge* about the need for analysis of the functioning of political knowledge, I suggest with reference to this study that such an analysis should include the social and political knowledge generated by, amongst others, BP, the international financial institutions and their critics.

In the third part of the introduction I return to consider the specificity of the politics of oil in the era of transparency, addressing two key issues. One concerns how the implementation of transparency raises questions about the range of matters in relation to which information is *not* made public. The other concerns how the length of the pipeline came to be constituted as a series of overlapping spaces of knowledge production and intervention – environmental, social, geoscientific, technical and legal – only some of which were rendered transparent. In the final section of the chapter, the argument turns back to consider the specific route of the BTC pipeline

itself, pointing to the critical importance for the politics of the pipeline of the comparatively short section that ran through Georgia. The disputes that arose along the Georgian route became focal tests for the new model of corporate responsibility and transparency that was embodied in the construction of the pipeline.

Making Things Political

In 2005, the sociologist Bruno Latour and the artist Peter Weibel curated an exhibition at the Zentrum für Kunst und Medientechnologie in Karlsruhe, Germany, entitled *Making Things Public*. The exhibition built on the work carried out by historians and sociologists of science from the 1980s onwards on knowledge controversies (Collins 1981, Latour 1987). However, it placed this earlier work in an explicitly political frame. Conceived in the period immediately following the Iraq War of 2003, Latour took the infamous declaration made by US Secretary of State Colin Powell at the UN General Assembly that there were Weapons of Mass Destruction in Iraq as illustrative of the critical importance of both materials and knowledge claims about materials in public political life. The existence and the properties of objects, he contended, could generate passionate public disagreements. 'It's clear that each object – each issue – generates a different pattern of emotions and disruptions, of disagreements and agreements' (Latour 2005a: 15).

In *Making Things Public*, Latour therefore understood politics, in part, as a process in which objects can become the locus of public disagreement. In this view, objects should not be thought of as incidental to politics, but as integral to the disagreements and disputes that lie at the heart of political life. Here, I take Latour's account to be an expansion of the central claim made by theorists of radical democracy that at the heart of democratic politics lies a movement from antagonism to agonism. For Chantal Mouffe, '[t]o acknowledge the dimension of the political as the ever present possibility of antagonism requires coming to terms with the lack of a final ground and the undecidability that pervades every order' (Mouffe 2005a: 804, 2005b). In a democratic polity, Mouffe argues, dissensus should be the norm, not the exception. Nonetheless, the presence of antagonism can be addressed through the promotion of agonistic relations in which 'conflicting parties recognise the legitimacy of their opponents, although acknowledging there is no rational solution to their conflict' (Mouffe 2005b: 805). In these circumstances, decisions often have to be arrived at not by attaining a consensus, but in the face of persisting disagreement (cf. Waldron 1999a: 153–154). Studies of knowledge controversies take this perspective further, demonstrating that we should not expect that the disagreements that exist between experts will necessarily lead to a consensus (Stirling 2008), or that

scientific evidence will provide a firm foundation or 'rational solution' on which political decisions can then be made. In a technological society, decisions are frequently made, and have to be made, in the face of persisting disagreement between experts about what the problems are, and how they should be addressed (Callon et al. 2001, Harremoës et al. 2002, Barry 2002).

But while radical democratic theorists point to the centrality of dissensus in political life, they say little about the existence and the importance of materials and objects, which frequently come to animate public knowledge controversies. Such controversies revolve around disagreements not just about the rights and interests of human actors and the identities of social groups (cf. Mouffe 2005b), but also about the causes of climate change, the safety of genetically modified organisms, the origins of diseases, the risks of floods and the consequences of nuclear accidents (Braun and Disch 2002, Callon et al. 2001, Kropp 2005, Demeritt 2006, Whatmore and Landström 2011). Through the emergence of new public knowledge controversies, the range of entities and problems that are taken to be the object of disputes continually shifts in time and across different settings. Sometimes public dispute may focus on the causes of the spread of a disease, on other occasions, on factors fuelling the decline in the population of a species. In the context of public knowledge controversies, some parties may seek to expand the range of sites in which disagreements can be both articulated and resolved far beyond the institutions of national government and parliamentary democracy to include farms, factories, research laboratories and the materials and bodies that they contain (Wynne 1996, Barry 2001, Hinchliffe 2001, 2007, Jasanoff 2006a, Law and Mol 2008). Rather than assume that public knowledge controversies are necessarily directed towards the institutions of the state, or that they must revolve around issues that are conventionally understood as political, the analyst of such controversies needs to attend to the historically and geographically contingent ways in which diverse events and materials come to be matters of public dispute. As we shall see, the very question of whether such controversies are framed as 'political' or not is commonly itself a vital element in the dynamics of the controversy. In this light, experts as well as non-experts can be viewed as minor political irritants (cf. Deleuze and Guattari 1987, Thorburn 2003), disrupting the certainties of what is conventionally understood to be the terrain of public debate by making visible problems and reanimating controversies that might otherwise be ignored or lie dormant.

A series of distinct areas of dispute come to the fore in public knowledge controversies, as earlier research indicates. These include the possibility of disagreement about evidence, including the quality, nature and relevance of the evidence germane to a controversy; about the procedures, techniques and instruments used to generate evidence that is considered relevant in a controversy; and about the theories that inform the production and

interpretation of evidence (Collins 1981, Pickering 1981). Controversies may also come to centre on the nature of expertise, including the competence, qualifications, trustworthiness and interests of persons who claim to be experts or reliable witnesses (Shapin and Schaffer 1985, Collins and Pinch 1993); the manner in which, and degree to which, the work of experts is itself assessed or made publically accountable (Power 1997, Strathern 2004); the boundaries between what does and does not count as expertise; and the degree to which 'non-experts' may participate in the production of knowledge (Beck 1992, Epstein 1996, Wynne 1996). Previous studies of knowledge controversies have demonstrated that they may be especially difficult to resolve when, for example, no one body of experts can claim to possess a monopoly of expertise on a particular problem, or when the competence of experts is questioned. Moreover, non-experts may challenge the expertise of experts, or they may become involved in collaborative research with experts, thereby reconfiguring the boundaries of what counts as expertise (Callon et al. 2001, Barry, Born and Weszkalnys 2008). These are not new phenomena: the sources of expert authority have been disputed throughout the history of science, and it would be unwise to imagine that the distinction between experts and non-experts is less settled now than it once was (Schaffer 2005). As will become clear, all of these insights remain relevant if we are to understand the dynamics of the disputes that developed around the BTC pipeline.

But in addition, as we will see, the spatiality and the temporality of public knowledge controversies are themselves invariably in play and at issue. Knowledge controversies should not be understood as necessarily local, regional or global in their scope; nor are they exclusively immediate, medium-term or long-term in their significance. Indeed, the question of what should be included as part of any particular controversy, the significance of particular sites, its spatial dispersion and temporal extension, its history and future, its urgency: all these issues may become elements of the controversy. In a knowledge controversy, there may be disagreement about what the controversy is about; indeed disagreement can occur over whether there is a significant controversy, or just a minor technical problem that should be easy to resolve and need not occasion public debate at all. As should be evident from these varied elements, then, controversies have contested identities and multiple vectors of contention. In this sense the scope of a controversy 'is part of its effects, of the problem posed in the future it creates' (Stengers 2000: 67). It does not make sense to draw a hard distinction between local and global controversies for, as will become clear, the most apparently local processes can resonate in distant locations and at other times, and are sometimes intended to achieve exactly this effect. Nor are controversies invariably clearly bounded and distinctive in their scale, for one controversy can contain or portend another, manifesting nested or folded forms.⁴ Controversies generally demand attention for a time, but the parties involved cannot be

sure of, and do not necessarily agree about, either their significance or their resolution. Controversies may become intensely important for some participants, and not for others. What this amounts to is that none of the salient properties of a controversy – its scale and topology, its history and duration, its constituent elements, its privileged sites, its relevance for particular groups or classes, its shifting intensity and visibility, its identity or multiplicity – can be assumed (Strathern 1995). Controversies are neither static locations nor isolated occasions; they are sets of relations in motion, progressively actualised (May and Thrift 2001). They contain multiple sites and events that may lead to ‘vast new chains of events’ (Thrift 2006b: 549), interfering with the dynamic evolution of other controversies (Born 2010).

Thus it does not make sense to consider knowledge controversies as isolated and bounded events. Indeed, I want to propose another term – the political situation – that is intended to supplement the concept of knowledge controversy by pointing to and highlighting the indeterminacy, described in the previous paragraph, of what are the bounds and the significance of any singular controversy. While a particular controversy, such as the dispute surrounding the landslides of Dgvari, might appear to be self-contained, it may actually form only part of an ongoing and dispersed series of negotiations, debates or disputes. For many participants, those matters considered controversial in public, such as landslides in Dgvari, may be taken as more or less distorted signs of long-standing situations that are difficult to articulate but which, at least for those who are aware of their past significance, are recognised as somehow lying behind present events. Politicians, researchers and NGOs can also focus on specific controversial issues while recognising that this focus provides immediate tactical opportunities that make sense only in the context of broader strategies. In this way the specificity of the controversy may not matter that much. What matters more is the existence of a political situation, which may or may not be openly articulated, but in relation to which any particular controversy makes sense to participants and within which it is understood to be embedded. Indeed, one of the forms of expertise considered proper to the politician is the capacity to judge what is appropriate in the unfolding political situation so as to transform and reconfigure it in the midst of events (Crick 1962, Thrift 2006a). A good politician perceives when it makes sense to talk about the economy or crime, or specific economic or criminal events, knowing that the controversies that this is likely to provoke may produce advantages in a longer-term struggle for power. Likewise, as will become apparent in relation to the BTC pipeline, an environmental NGO may focus its attention on a very specific dispute around the pipeline not only or primarily because of the importance of the dispute in itself, but because of the relations that the NGO can seek to establish between a specific dispute and an evolving political situation – such as the irresponsible operations of transnational oil corporations. I refer to this process of establishing relations later as the logic of abduction (Chapter 4).

An analytics of the political situation therefore draws upon actors' own understandings not only of the significance of particular public controversies, but of their interrelations with other dynamics and events. For as I have suggested, actors often have an intuition or a conviction that a specific controversy forms only one element of a constellation of controversies. However, an analysis of the political situation cannot be restricted to actors' understandings of what is not made public in a controversy, or how it has been framed. Part of the value of the idea of the political situation is to point to the existence of dynamics that are not apparent in public but which are nonetheless critical to the evolution of the public knowledge controversy. The notion of the political situation therefore enables the analyst to establish connections between a series of different controversies that might otherwise seem unrelated. A political situation is not an underlying structure that governs the dynamics of a series of individual controversies. Rather, to call events a political situation is to argue for an expansion of the range of elements that should be considered when analysing a controversy, and to seek to analyse the sets of relations that are put in motion by any controversy.⁵ The series of disputes that emerged along the BTC pipeline form part of a number of evolving political situations, as we shall see.⁶ However, it follows from this stance that rather than treat the case of BTC as an example of a general phenomenon, I take the question of whether or not this case is of wider significance to be itself a matter of dispute (Barry 2012).

Up to this point I have focused on the ways in which knowledge claims can become matters of public disagreement. But if in certain circumstances knowledge and information are made public in order to politicise particular issues, it is equally necessary to recognise how in other circumstances knowledge and information can be made public in order to reduce, temper or moderate the level of passionate disagreement (Corbridge et al. 2005: 191). Making things public, in other words, is a strategy that can be employed either to politicise or to depoliticise a situation. A government, for example, may choose to delegate the role of producing economic forecasts to an office that is seen to be independent of the relevant minister partly in order to limit the degree to which such forecasts are contested. At the centre of this book is a discussion of the critical contemporary importance of transparency as a technique of governmentality, one that is often associated with ideas and practices of accountability. In particular, I focus on the way that the operation of transparency configures as 'public' certain objects and problems in the expectation that this will enable the form and intensity of public debate to be contained, by rendering it more rational and informed than it might otherwise have been (Strathern 2000, Best 2005, Held and Koenig-Archibugi 2005, Hood 2006, Jasanoff 2006b, Fisher 2010).

The escalating emphasis on transparency in transnational governance has occurred in synergy with the growth of the internet, which has made it

possible to trace and map the course of public knowledge controversies online (e.g. Rogers 2004, Venturini 2011). Indeed, the internet has become a rich source of examples of public knowledge controversies spanning the entire range of the technosciences. But the increasing public availability of information and reports due to the growing stress on the importance of accountability and transparency also poses a significant challenge for those engaged in the study of knowledge controversies. For the public availability of information also raises questions about the processes by which certain types of information and analysis are made public while others are not, as well as about which actors and institutions play a more or less prominent part in fostering or inflaming public knowledge controversies. In an era in which the principles of transparency, public accountability and freedom of information have become global norms, the study of public knowledge controversies must address how these principles have become critical to the constitution and management of the boundaries between what is rendered public and what is not (cf. Shapin and Schaffer 1985: 342, McGoey 2007). It must interrogate the constitution of a field of public statements which is extraordinarily expansive, but which is equally characterised by certain marked limits and absences (Foucault 1972). The analysis of public knowledge controversies must therefore be concerned not only with the nature of information that is made public, but with what cannot become public information: it must be concerned, in other words, with information's constitutive outside (Butler 1993, Hayden 2010).

Governing Materials

Theorists of radical democracy have focused on the articulation of disputes between human collectives, the identities of which are shifting and relational. But as I have noted, they have had less to say about the importance of materials and technologies in political life and how the properties and behaviour of organic and inorganic materials – whether they are diseases, climate change, animal species, mineral resources or new technologies – themselves participate in such controversies. Central to the chapters that follow is the contention that material objects should not be thought of as the stable ground on which the instabilities generated by disputes between human actors are played out; rather, they should be understood as forming an integral element of evolving controversies. This occurs in part because the question of what the properties and behaviour of given materials are, or what they might become, can be focally what is in dispute. Knowledge of the properties of materials may not contribute to the resolution of a controversy, then, because that knowledge may itself be considered uncertain or controversial, while the competence of expert testimony about those properties may also be in question (Collins 1985). Indeed, controversy over the properties of materials is a critical

feature of recent public knowledge disputes: consider the clashes that arose over the development of GM crops (Levidow 2001), the ongoing disputes over the safety of nuclear power and disposal of nuclear waste (Barthe 2006), and the disagreements that continually arise over the affordances of particular drugs (Fraser 2001).

At the same time, the complexities of natural and technological systems and the consequent difficulties involved in knowing and governing the behaviour of materials can provoke or contribute to the mutation of controversies. The activity and distribution of animals and biological materials may be hard to trace or to contain (Hinchliffe 2007, Hinchliffe and Bingham 2008, Law and Mol 2008); the slow transformation of metals, through creep or fatigue, is difficult to monitor (Barry 2002); the geological movements of the earth and its 'fearsome capacity' are hard to predict (Clark 2011). Yet all of these processes can have dramatic political consequences. One of the primary challenges facing those concerned with the analysis of public knowledge controversies is therefore how to rematerialise our understanding of politics (Braun 2008a, Bennett and Joyce 2010, Braun and Whatmore 2010). But this is not an easy task, on two counts. For one thing, it has to be achieved in a way that takes due notice of natural scientific accounts of the specificity of particular materials, while not assuming that this specificity should be understood only in natural scientific terms. But it must also be done in a manner that attends to the ways in which the properties of materials depend upon their changing relations with other material and immaterial entities. Understood in this way, the complex and shifting interrelations between material actors can have emergent effects, demanding what might be called an inter-object or inter-material analysis (Tarde 1969, Born 2010, Gregson and Crang 2010). Material artefacts never exist in isolation, but are themselves evolving entities that form part of a constellation of dynamic relations with other evolving entities (Pickering 1995, Barry 2005). As Whitehead observes, material entities are 'partially formed by the aspects of other events from their environments' (Whitehead 1985: 133).

It is ironic, however, that just as social theorists and philosophers are increasingly drawing our attention to the agency of materials, the properties and activity of materials have progressively become the objects of increasing levels of information production. The phenomenon is not new. As Simon Schaffer reminds us, the practice of the assay once made a vital contribution to the formation of a connection between evidence and political authority. Assays established a measure of control over the properties and qualities of quotidian substances, from tobacco to cloth and drugs, while at the same time 'extraordinary provisions were made to discipline and assess through strict examination and central policing not merely the trade in these commodities but the qualities of analysts themselves' (Schaffer 2005: 306). Efforts to regulate the unruly properties of materials have therefore long been entwined with attempts to produce disciplined and reliable forms of expertise.

In the present day, as I have said, materials are subject to a growing range of modes of information production, such that their existence is bound up with the production of information. Two broad reasons for this development can be discerned. First, in the context both of the escalating costs of raw materials and energy, and of the demands of consumers and industry, there is an abiding emphasis on assessing the *performance* of materials: 'classification, measuring, modelling, testing and adjusting materials is a constant process' (Harvey and Knox 2010: 137, see also Bowker and Star 1999, Lloyd Thomas 2010). This observation applies to the oil industry like any other. Indeed, as we shall see, a notable controversy emerged precisely around the question of whether an innovative material component of the BTC pipeline had been adequately tested and its performance properly evaluated (Chapter 7). Second, material assemblages are the object of a growing range of *regulatory* requirements governing such issues as environmental waste, biosecurity, safety and energy use (Bulkeley and Watson 2007, Gregson et al. 2013). The production of information about materials is therefore intimately associated with the growth of national and transnational regulatory zones, regimes that govern, measure and monitor the impact of materials on both persons and the physical environment (Barry 2001, 2006, Dunn 2004, Fisher 2008).

In an earlier article I highlighted the ways in which the generation and transformation of an increasing range of material entities is bound up with the production of information (Barry 2005). Consider, for example, the idea of a 'proven oil reserve', which refers to the quantity of oil that is technically feasible and economically profitable to produce from a particular field (Ahlbrandt 2006). A proven oil reserve is not a representation of an existing object – a reservoir of oil simply waiting to be exploited; nor is it an inventory of a given stock of material. Rather, a proven oil reserve is a virtuality: it is a quantity of oil that might be extracted economically, using available technology and given prevailing market prices. It is a virtual entity that condenses a potential relation between a material object and known technical processes and economic conditions. In effect, estimates of proven oil reserves serve as projective devices or protentions: they enable companies, governments, managers, engineers and investors to extend their understanding into the future, by envisaging certain actions, without necessarily ever knowing precisely what exists in the present (Born 2003, 2007). In this case, the production of information (about an 'oil reserve') translates a complex set of materials into a new object of economic calculation. Or consider the problem of how to detect and prevent pipeline corrosion, which, if unchecked, may lead to catastrophic failures. On the one hand, the problem of corrosion has driven the development of a series of devices, such as cathodic protection, and materials, such as epoxy coatings, that have progressively transformed the material components of pipelines themselves. On the other hand, pipelines are now subject to a variety of forms of

monitoring through, for example, ultrasound techniques and measurements of electrical potential or magnetic flux. These measurements do not represent corrosion as a complex electrochemical process, but rather point to the existence of defects that may require repair. In this way measurement and monitoring add to the existence of a pipeline, encasing it in an array of figures, traces and samples that may enable the potentially disruptive effects of corrosion to be contained. Disputes about the environmental impact of a pipeline, such as BTC, do not revolve around an isolated material object. Rather they engage with a material object whose integrity is formed and progressively transformed through multiple layers of information production (cf. Barry 2005, Lloyd Thomas 2010).

In the oil industry the production of scientific information has particular characteristics. For some of the forms of natural scientific and engineering expertise deployed in the oil industry are best understood as field sciences: they analyse problems in particular settings, distant from the laboratory (Schaffer 2003, Livingston 2003, Powell 2007). In the field, the engineer or scientist does not encounter materials in a pure form, but in relation to the specificity of their changing environment: corroding in the soil or sea, impacted by dust, vibration or landslides, monitored by technicians or robots, neglected by managers or workers, or subject to tapping or sabotage (Bowker 1994, Kennedy 1993, Selley 1998). It follows that a technology such as pipeline, tanker or drill that may work reliably in one location may not work so well in another, where prevailing environmental conditions are different, appropriate management systems do not exist, or there is a lack of expertise or equipment to ensure that the performance of instruments is regularly checked (cf. Graham and Thrift 2007). In these circumstances, the engineer or scientist must be alert to the complexity of his or her relations with the dynamic environment of which s/he is a part and to whose existence s/he also contributes. Oil companies have therefore long been concerned with the technical and managerial problems, as well as the financial costs, of containing and monitoring the unruly properties of both materials and persons. But this has to be achieved not in the carefully controlled conditions of the scientific laboratory, but in the open-ended and potentially unstable environment of the field (Chapters 2, 6 and 7).

However the complexities do not end here. For oil companies and financial institutions not only draw on natural scientific expertise; in the context of growing demands for assessments of the impact of the oil industry on the economy, society and human rights, they increasingly draw also on the expertise of social researchers (Clark and Hebb 2005, Watts 2005, Bridge 2008). Yet exactly how it is possible to make the infrastructure of the oil industry into a field site for social research is far from clear (cf. Livingstone 2003: 48). How can fieldwork provide the kinds of reliable knowledge required in order to demonstrate that the oil company is either succeeding in addressing, or failing to address, its growing list of social responsibilities? Through what

processes can experts, non-experts and (indeed) counter-experts generate evidence about such critical matters as social impacts, human rights abuses, corruption or violence? And to what extent does social research on the social and economic impact of the oil industry take into account the impact of information that has already been made public about social and economic impacts (cf. Luhmann 2002: 219, Esposito 2011)? How can the assessment of impact assess the impact of assessment itself?

The importance of social research on the oil industry and its impacts poses a challenge for analysts of knowledge controversies. For it means that participants in knowledge controversies may not only dispute what are typically regarded as 'scientific' matters – such as the nature of evidence, the competence of experts or the reliability of instruments; but they may also question what are generally regarded as 'political' matters, such as the interests of the public, the organisation of public debate, inequalities in power and resources, or the relation between experts and democracy (Callon et al. 2001, Jasanoff 2006a, Fischer 2009, Asdal 2008). During the period of my fieldwork along the BTC pipeline, such disputes had particular intensity. In public controversies of this kind, actors disagree about the identities, opinions and interests of affected publics, as well as the nature of the settings in which debate should occur. They disagree also about the unacknowledged financial interests and political affiliations of other participants in the controversy. From the point of view of the philosophy of science and the sociology of scientific knowledge, it is completely unsurprising that actors have different views about such matters and dispute the views of others. After all, 'the specialist in political science deals with a dimension of human societies that is not the material for an "objective" definition, practiced in "the name of science", because in itself this dimension corresponds to an invention of definitions' (Stengers 2000: 59).

But from the perspective of those concerned with the study of politics, disputes about such issues as what politics is, what the political opinions of others are, and what interests have not been made public ought to matter a great deal. In this book I focus not only on disputes over matters of scientific fact, but on the ways in which actors' own political knowledge, political theories, political practices and political analyses figure in the dynamics of disputes. In this respect the approach taken here has a certain resemblance to the work of those political anthropologists who start out from actors' situated experiences and accounts of politics and the state (Gupta 1995, Humphrey 2002, Navaro-Yashin 2002, Ssorin-Chaikov 2003, Tsing 2005, Lazar 2008, Hibou 2011, Reeves 2011, see also Jeffrey 2013). At the same time, I take a bearing from Foucault's suggestion near the end of the *Archaeology of Knowledge* that it is possible to give an account of how political knowledge is 'inscribed, from the outset, in the field of different practices in which it finds its specificity, its functions and its network of dependencies' (Foucault 1972: 194). His later analysis of governmentality arguably falls short of this ambition, in

as much as it has led to accounts of political rationality and governmental technique that tend to be decoupled from a sense of the contingency and the passion of political life (Navaro-Yashin 2002, Thrift 2006a, Walters 2012). In contrast, in the chapters that ensue, I analyse the operation of techniques of global governmentality such as transparency that have developed 'from the outset' in the midst of controversy.

An Experiment in Transparency and Responsibility

The BTC pipeline, I have suggested, was a public experiment: it was intended to be a demonstration of the value of transparency in the oil industry. In this way it was expected to provide a new model for large-scale extractive industry investment that would, in effect, respond to the growing recognition of the damaging consequences of the industry's operations for the environment, economy, society and human rights (Watts 2005). Indeed, by the late 1990s it was increasingly thought that the promotion of greater transparency was part of the solution to the 'resource curse' that was said to afflict the economies of many oil producing countries. This recognition led to the announcement of a new Extractive Industries Transparency Initiative (EITI) by Tony Blair at the World Summit for Sustainable Development in Johannesburg in 2002 (Chapter 3). But in a period in which transparency has been elevated to a general principle of global governance, a crucial consequence tends to be overlooked: it is, as I pointed out earlier, that the question of what is and what is not made public about the operations of the oil industry has become a matter of dispute (cf. Rancière 1998). Transparency tends to be understood as a normative principle or demand that can be justified or criticised on extremely general grounds. But in fact, as I argue in this book, the very exercise of transparency informs the way that certain processes and events, such as environmental and social impacts, become the objects of public dispute, while others do not.

A common response to the apparent opacity of the oil economy to external scrutiny follows on. Rather than stress the value of transparency as a more or less formalised process, this response involves attempts to reveal some of the oil industry's secrets, thereby uncovering its lack of transparency in practice (cf. Urry 2003: 116–117). This is the approach taken in a series of more or less well-researched books, articles and documentary films that detail, *inter alia*, the deals made by oil companies with governments, the links between oil, corruption and violence, and what are claimed to be the real environmental impacts of oil industry operations. It is a response that both establishes and relies upon connections between investigative journalism, insider knowledge and leaks, academic research and the work of NGOs who are more or less critical of the industry (e.g. Rowell et al. 2005, Leech 2006, Ghazvinian 2007, Peel 2009, Bower 2010, Maas 2009, Muttit 2011, Bergin 2011,

Marriott and Minio-Paluello 2012). Critics engaged in this kind of investigation question not only the claims made by experts working for the oil industry, but their authority and legitimacy as experts. Dissident industry insiders and journalists track the deals made between governments and companies. Environmental and human rights NGOs support their critical arguments through evidence that contradicts the public claims made by companies and their consultants (Chapter 2). Former oil company geologists dismiss industry projections of future oil production (Deffeyes 2001), only for their views to be dismissed by others (Clarke 2007). In short, the expertise of industry specialists is contested by a growing range of counter-experts and 'lay protests' (Beck 1992: 162). In relation to the oil economy, then, the substantial growth in the quantity of information made public, partly in response to the demand for transparency, has been met by an escalation of public disputes about the value and the significance of this information. Questions about what is made public and what is not, and about what is kept secret or confidential and what is not, have themselves become vital political issues (Barry 2006, Neyland 2007). In effect, the operations of transparency create something of a catalytic surface on which new antagonisms can both form and be resolved, fomenting a particular type of counter-politics, one that does not aim to undermine the principle of transparency but, on the contrary, demands greater transparency and the availability of ever more information. In this very real sense, critics of the oil industry have generally sought not to interrogate the principle of transparency, but rather to expand, shift and deepen the realm of its operation.

It follows that if, for many of its proponents, the principle of transparency is expected to have global applicability, in practice the principle is applied only in particular spaces and to specific objects. In other words, the production of information about the activities of the oil industry renders certain objects, materials, problems and spaces visible, while others are not. The Extractive Industries Transparency Initiative, for example, was initially concerned with quite specific pieces of financial information and operates primarily at the level of the nation-state (Chapter 3). In comparison, the BTC project gave the idea of transparency a much more ambitious interpretation, as well as a distinct and novel spatial form. Rather than restrict the operation of the principle of transparency to financial information, it extended it to a host of other matters, including environmental and social impacts. Moreover, as the chapters that follow show, in pursuing transparency, BTC sought to forge multiple spaces of information production along the route of the pipeline – environmental, geological, technical, financial, legal and social – spaces that were not necessarily isomorphic with one another and that sometimes overlapped, effecting a kind of palimpsest (Chapter 5). At the same time, the knowledge claims constituting these spaces were networked through the offices of BTC and its contractors, consultants and NGOs in London, Baku, Tbilisi and elsewhere, as well as banks

and international organisations based in the UK, the United States and other oil consuming countries (Barry 2006, Bridge and Wood 2005, Bridge 2009, Mitchell 2011, Vitalis 2009: 266, Bridge and Le Billon 2012: 62–65). If, as I argued earlier, the existence of materials is increasingly bound up with the production, circulation and publication of information, the construction and operation of the BTC pipeline depended on the production of information not only about the pipe itself, but about the project's impacts.

In this way, by rendering certain aspects of the impact of its operations visible, BTC also attempted to mark out – however provisionally – the limits of its social and environmental responsibilities. Nonetheless, the boundaries between the interior and the exterior of the spaces mapped and made visible through the production of information were not fixed. After all, some of these spaces had only a temporary existence during the period of construction, and could be amended as the project progressed (Chapter 5). Moreover, given the pipeline's existence as a socio-material assemblage, the boundaries of the 'impact' of the pipeline could be transformed unexpectedly due to accident, neglect, sabotage or the occurrence of natural disaster; or previously unrecognised 'impacts' could gradually become apparent (Chapter 6). The unpredictable and ungovernable behaviour of materials and persons could therefore intrude, all too obviously, on the integrity of these spaces. The constitution of such governable spaces (Watts 2004) depended not only on the work of BP and its lawyers and consultants, but on the activities of regulators and lenders who monitored its operations, and those of critics who contested the company's published accounts of its impacts by producing alternative accounts that drew attention to further sources of pollution, damage, violence or injustice (Tables 1.1 and 1.2). In these circumstances, the boundaries manifesting the spatial limits of transparency became ambiguous, shifting and disputed.

The Georgian Route

The BTC pipeline stretches across three countries. It begins in Azerbaijan at the Sangachal terminal south of Baku, taking oil extracted from the giant Azeri-Chirag-Guneshli (ACG) field in the Caspian Sea and transporting it westwards, crossing the Georgian border near the town of Gardabani. Its passes close to the industrial city of Rustavi before turning south of Tbilisi, the Georgian capital, near the military base of Krtsanisi. Its route subsequently traverses the southern half of Georgia, passing through a region in which there is a substantial Armenian minority, before skirting the resort of Bakuriani and the borders of the Borjomi-Kharagauli national park, running along one side of the valley in which the village of Dgvari is located. Finally it crosses the Turkish frontier near the town of Akhaltsike, entering a region in which there is a mixed Turkish and Kurdish population, before looping southwards and westwards past the eastern Turkish city of Erzurum,

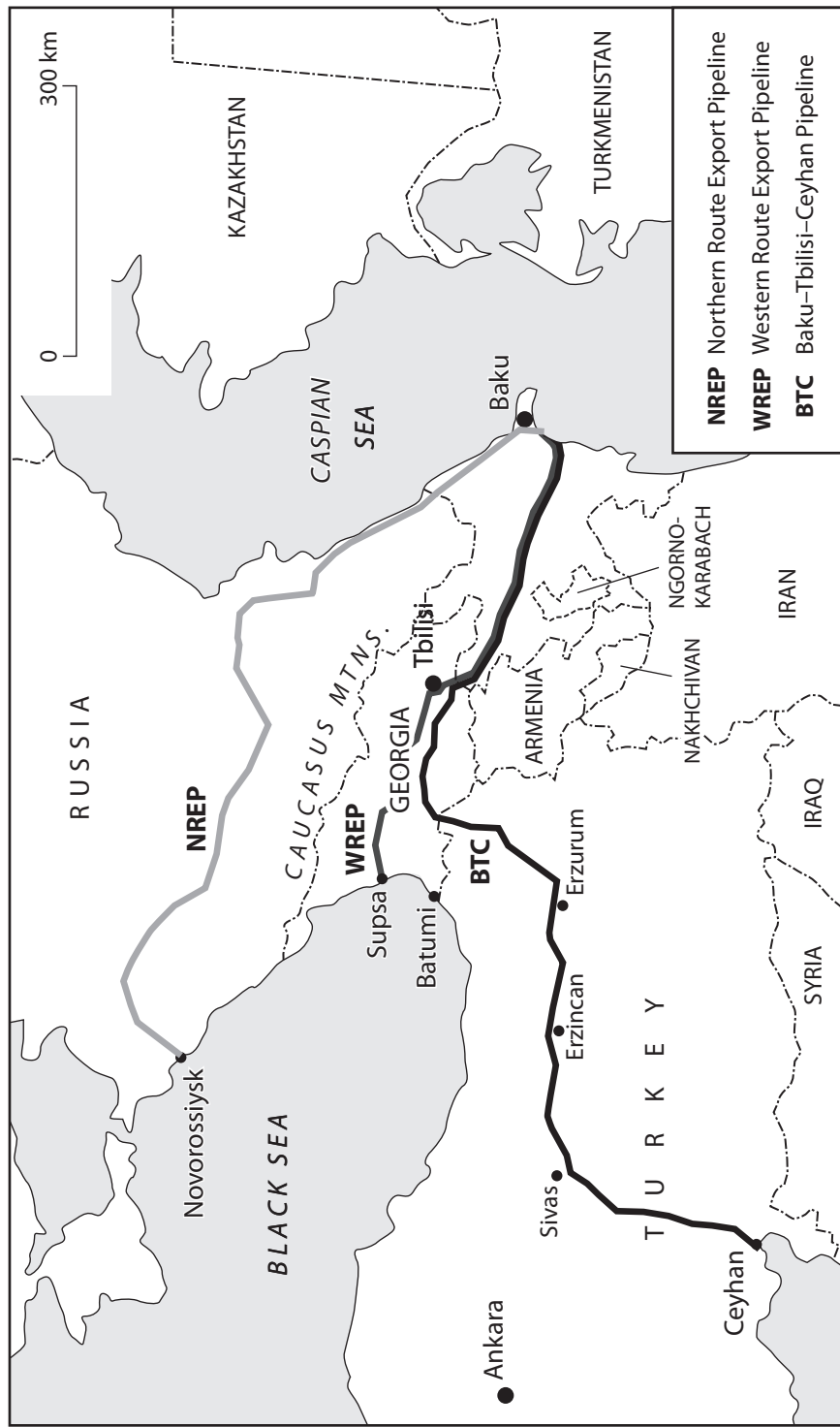


Figure 1.1 Route of the BTC pipeline. Map prepared by Ailsa Allen, School of Geography and the Environment. Reproduced by permission of the University of Oxford

Table 1.2 Timeline of the BTC pipeline project

1991	March. Independence of Georgia from the Soviet Union
1993	October. Heydar Aliiev becomes President of Azerbaijan
1994	September. BP, Statoil and Amoco sign contract with Azerbaijan government to develop ACG oil field in the Caspian Sea
1995	November. Eduard Shevardnadze becomes President of Georgia
1999	April. Baku-Supsa pipeline opens November. Intergovernmental Agreement BTC signed by Azerbaijan, Georgia and Turkey (Chapter 2)
2000	October. BTC Host Government Agreements signed (Chapter 2)
2001	Environmental and Social Consultation begins (Chapter 5)
2002	May. Draft Environmental and Social Impact Assessment (Chapter 5) June. Beginning of 60 day public consultation period in Georgia (Chapter 5) June. International NGOs begin fact-finding missions, until 2005 (Chapter 2) August. BTC pipeline company formed October. Tony Blair announces Extractive Industries Transparency Initiative (EITI) at the World Summit for Sustainable Development in Johannesburg (Chapter 3) December. Georgian government agrees environmental permit (Chapter 2).
2003	March. Demonstration outside of BP offices, Finsbury Circus, London April. BTC construction starts June. Final Environmental and Social Impact Assessment made public (Chapter 5). June–October. IFIs public consultation period (Chapter 5) August–September. IFIs hold Multi-stakeholder forum meetings in Borjomi and Tbilisi as well as in Azerbaijan and Turkey (Chapter 5) September. Geoscientists carry out Dgvari landslide study (Chapter 6) September. Demonstration outside the offices of the EBRD, London (Chapter 5) November. Rose Revolution in Tbilisi (Chapter 2) November. IFC and EBRD agree to finance BTC project (Chapter 2) November. Problems with cracks in SPC 2888 in eastern Georgia (Chapter 7)
2004	Spring–Summer. Blockages in villages across Georgia (Chapter 6) June. Nino Kirtadze films in the villages of Tadzrisi and Sakire (Chapter 8) July. IFC ombudsman investigates complaints in Dgvari, Sagrašeni and other villages (Chapters 6 and 8) July. Georgian government halts construction work in the Borjomi region (Chapter 2) September. BBC4 screen documentary on BTC (Chapter 6) December–January. House of Commons Trade and Industry select committee inquiry (Chapter 7)
2005	May–October. Azerbaijan and Georgian sections of BTC pipeline inaugurated August. BTC engineering consultant visits Sagrašeni, Atskuri and other villages (Chapter 6)
2006	June. First oil delivered by BTC pipeline to tanker in Ceyhan, Turkey
2008	August. Georgian-Russian War Reports of bombing of BTC pipeline near to Akhali Samgori (Chapter 9)
2009	February. Azerbaijan becomes the first EITI compliant country (Chapter 3)

Sources: Host Government Agreement (2000a, 2000b, 2000c), BTC/ESIA (2003), BTC (2006, 2009), EITI (2012)

and finally towards the Turkish Mediterranean coast and the terminal at the port of Ceyhan. In total 433 km of the route passes through Azerbaijan, 248 km through Georgia, and 1070 km through Turkey.

While the length of the Georgian stretch of the pipeline is comparatively short, it nonetheless became the focus for some of the most intense disputes along the route of the pipeline. There are a series of contingent reasons as to why this might have been the case, which I discuss further in Chapter 2. One reflects the particular significance of the pipeline in Georgian politics during the last years of the government of Eduard Shevardnadze. Although the Georgian government was only expected to receive approximately \$50 m in annual transit fees following the completion of pipeline construction (Billmeier et al. 2004: 8), and relatively few Georgians would be employed in the long term by the BTC company, Shevardnadze had stressed the vital importance of the BTC pipeline for the country, the economy of which had been devastated following the collapse of the Soviet Union and the disastrous war that followed. However, the proposal to allow the route of the pipeline to pass through the environmentally sensitive region of Borjomi and Bakuriani was reported to have been initially opposed by the Georgian Environment Minister, Nino Chkhobadze, less than a year before Shevardnadze's own departure from government following the Rose Revolution of November 2003 (Table 1.2). I return to consider the critical significance of the Borjomi region to the politics of the pipeline in more detail in Chapter 2.

Another reason why Georgia became the location for a series of serious disputes stems from both the state of civil society and the relatively open climate for political action. Georgian civil society was strongly supported by Western governments and NGOs in the early 2000s, while Georgian NGOs had good networks of contacts with their Western counterparts (Hamilton 2004). The radical Georgian environmental NGO Green Alternative, for example, which became involved in the disputes surrounding the village of Dgvari, received support from Oxfam and was also a member of the influential Prague-based Central and Eastern European Bankwatch network. Moreover, although the Shevardnadze regime is said to have been characterised by widespread corruption (Kukhianidze 2009, Schueth 2012), there was arguably a substantial degree of freedom in Tbilisi in the period prior to the Rose Revolution (L. Mitchell 2009: 39, Wheatley 2005). In these conditions it was possible for the wisdom of the president's decision to allow the route of the BTC pipeline to pass near Borjomi to be discussed and debated in the Georgian media. By comparison, there had been little Western support for civil society organisations in Baku, while opposition to the Azerbaijan government had a record of being heavily managed or suppressed (Cheterian 2010). While I do not discuss the development of BTC in Azerbaijan in any detail, I return in Chapter 3 to consider the broader efforts to promote transparency in Azerbaijan through the Extractive

Industries Transparency Initiative (EITI). In Turkey international NGOs, including Amnesty International, raised questions about the relation between the construction of the pipeline and the protection and abuse of human rights, while also criticising the terms of the Host Government Agreement between the Turkish government and BTC (Amnesty International 2003, Baku-Ceyhan Campaign 2003a).

In these circumstances, in the chapters that follow I focus primarily on the constitution and contestation of the stretch of the BTC pipeline that ran through Georgia. This is instructive because, as I have said, a series of intense disputes emerged along the Georgian stretch during the period of land acquisition and pipeline construction that lasted from 2002 to 2005, some of which came to the attention of the IFC and the European Bank for Reconstruction Development, as well as a range of international NGOs, researchers and activists. If we take BTC to be a demonstration of the practice of transparency and global corporate citizenship, then the route of the pipeline through Georgia, in particular, provides some of the clearest evidence of the outcome of this public experiment. In addition, as a state that plays a critical role in oil transportation but not in oil production, Georgia makes an intriguing location for a study in the politics of oil. In this respect the focus of this book complements the growing body of social research on the politics of oil producing states or regions (Coronil 1997, Sawyer 2004, Watts 2004, 2006, Soares de Oliveira 2007, Valdivia 2008, Reed 2009, Overland et al. 2010, Behrends et al. 2011, Yakovleva 2011, McNeish and Logan 2012, Rogers 2012). Indeed, while the development of both the ACG field and the BTC pipeline has been vital to the political economy of Azerbaijan since the mid-2000s (Kalyuzhnova 2008, Lussac 2010a&b, Overland et al. 2010, Cornell 2011), the direct economic significance of the BTC pipeline to Georgia is quite limited. To reiterate, although I focus on the politics of the Georgian route, my argument is not that the economy and politics of Georgia in recent years have been dominated by oil. Rather, I give an account of why specific materials, objects and places along the route of the pipeline became objects of both local and transnational dispute.

The Archive

At the heart of the analysis that follows is an archive. It consists of a huge body of documentation made available by BP, along with public reports by the International Finance Corporation and the European Bank for Reconstruction and Development, both of which gave financial support to the BTC project. The archive includes, *inter alia*, the agreements made between the oil company and the three host governments, Azerbaijan, Georgia and Turkey, assessments of environmental impacts, details of compensation rates for losses in agricultural production, the procedures for and

results of consultations with affected communities, maps of projected routes, archaeological surveys, oil spill plans, sites of river crossings, and reports from the various bodies established to monitor the project. The publication of this archive online, running to many thousands of pages, had complex implications that will become evident in later chapters.⁷ But on encountering this archive it is immediately apparent that it has a double function and is aimed at two broad readerships. On the one hand, the archive can be understood as a projective and managerial device, documenting the environmental and social reality of a region, setting down how the company intended to intervene and the commitments that it entered into, as well as assessing its present and past performance. During the period from 2002 to 2006, this aspect of the archive was frequently updated as the construction project progressed. On the other hand, the publication of the archive was intended to meet the demands for transparency, accountability and corporate social responsibility made by international financial institutions, investors and civil society organisations. The dynamic interaction between these two functions of the archive plays a critical part in the narrative that follows.

In itself, the archive contains a remarkable body of documents. It tells us a great deal about how an oil company claims to know the world in which it intervenes, and how it intended to intervene in that world on the basis of the knowledge that it had generated (cf. Burton 2005, Stoler 2009). Indeed elements of the archive were intended to be performative: to bring into being the very reality to which they referred. But in the main period of the project the archive also had, and still has, clear and systemic limits. It does not tell its readers much, for example, about the relations between BP, its partners, and their contractors and consultants. It contains little account of the relations between the international oil companies, on the one hand, and the national governments and national oil companies, on the other. It does not inform readers, except in the most general way, about the politics and political economy of the region. And if transparency is intended to reduce corruption and violence, then the existence of corruption and violence, and their scope, complexity and effects, are addressed only in the margins of documents. In short, the archive embodies the principles of transparency and corporate social responsibility but, in the very same instant, it remains resonantly silent about some of the key problems that the enactment of these same principles are intended to manage and address. In effect, by drawing a sharp division between what is considered to lie inside the realm of good governance and transparency and what lies outside this realm, the constitution of the archive consistently evades what Béatrice Hibou has termed 'the political problem' (Hibou 2011: 282). The archive amounts to an extraordinarily rich and prolix source, while also being marked by 'a limited set of presences' (Foucault 1972: 119, see also Ahiska 2010).⁸

The archive was and remains a projective device, one that narrates the future of a project while at the same time reconstructing and reflecting on its past.

But its documents also contain a set of claims and promises towards which critics of the BTC project directed their fire. The archive was faulted for its factual errors and its absences, as well as for the discrepancies between what the pipeline company promised it would do in the documentation and what it actually did in practice. Indeed, the generation of the archive was mirrored by the formation and circulation of a number of much smaller counter-archives that documented these criticisms, much of which appeared online (cf. Tarde 2001 [1890]). The archive was, then, much more than a description of a project. Its constitution and contents became integral to the disputes that emerged in relation to the pipeline, as well as their resolution. In the chapters that follow I argue that we have to understand the significance of the archive in the midst of events – that is, in relation to ongoing claims, interventions, interpretations and decisions in which it played a part. The generation of the archive was not only an instrument of management and a manifestation of the practice of good governance; it also had the effect both of channelling disagreement towards particular sets of objects and problems, and of acting as a catalyst for a series of intense disputes about matters of fact.

In describing the controversies within which the pipeline figured, I nonetheless argue for the need to trace the limits of what is made public in the archive. In doing so my aim is not to uncover hidden causes behind public statements; nor is it to reveal what has been covered up or displaced through the overproduction of information; nor is it to demonstrate that the archive is in fact a fiction, and that transparency is merely a façade. Instead, I interrogate how practices of making things public and of criticising what has been made public have come to be central to the governance and politics of oil. In this light it is vital to explore the boundaries of what is contained in the archive not in order to expose the scandal of what has been kept secret, but rather because the question of what has and what has not been made public became integral to an array of disputes surrounding the construction of the pipeline. The creation of the archive is a remarkable achievement; yet at the same time, a number of my informants were aware of the limits of what had been published. A careful scrutiny of both the archive and the counter-archives directs us towards the significance of dynamics and events, such as strikes and village blockages, which were only ever addressed in the margins of published documents.

The analysis that follows derives from five sources. One is the archive of documentation about BTC that I have just described, which was generated around the work of BP, their consultants and partners, and which remains accessible on the BP Caspian website. The second is a series of other reports published both by the international financial institutions and by international and local NGOs, many of which assess the reports produced and commissioned by the BTC company, in this way informing the development of the archive and adding to it a further layer of commentary, as well

as eliciting further responses. The third source consists of the frequent press reports attracted by the development of the pipeline, as well as at least three documentary films and several other artistic and photographic projects that took the pipeline as their object. I draw particularly on the work of the Georgian documentary film-maker Nino Kirtadze and the Czech film-makers, Martin Maraček and Martin Skalsky, as well as contemporary British and Georgian news reports. The fourth source informing this book is a body of interviews with over one hundred participants in the events described, including officials working for governments and international organisations, oil company managers, engineers and community liaison officers, and professionals engaged in corporate community investment programmes, along with consultants, journalists, activists and academic scientists and social scientists. Approximately half of these interviews were carried out in Tbilisi and rural Georgia, while others took place in Baku, Ankara, Kars, Sarikamış, Oslo, Prague, London and Washington, DC. Most of the interviews were conducted in 2003–4, in the period of pipeline construction, while others took place in September 2010 when I returned to Georgia during the period of the pipeline's operation. The research benefits enormously from the contribution of a research team that included, at different times, Meltem Ahiska (in Turkey), Farideh Heyat (in Azerbaijan), and Joanna Ewart-James and Alex Scrivener (in the UK and Georgia). In line with the professional ethics of academic social research, I have attempted to anonymise my interviewees and interlocutors throughout this book.

The analysis draws, finally, on a series of field visits that I made in 2004 and 2010, sometimes accompanied by BTC company community liaison officers and sometimes by local NGOs critical of the project, to villages along the pipeline route. Sociologists and anthropologists of scientific knowledge have often sought to witness the production of information at first hand. In a context in which the process of information production was itself highly politicised, this was not possible. Nonetheless, fieldwork made it possible both to trace some of the experiences of consultants, officials, reporters and activists who had already come to the same locations, and to be alert to the ways in which the visits of outsiders had had consequences not just internationally, but also for those more immediately affected by the pipeline's development. In drawing on this material I do not make a sharp division between my own fieldwork practice and the practice of company advisors, consultants and activists. In order to produce information, they too relied on some of the same documents, in conjunction with interviews and brief periods of fieldwork. The similarities in our practices render the differences more distinct (Riles 2006: 89).

The research for this book occurred during a period in which the relations between some international NGOs and the oil company were sour, indeed antagonistic.⁹ Fieldwork was carried out in the midst of controversy. Yet in my practice of participation observation, rather than being embedded in

one organisation or aligned with one position, I moved back and forth across the lines, attempting not to be partisan, tracing the course of disputes from as many directions as possible. In doing so I was guided both by Georgina Born's approach to multi-perspectival ethnography, and by Marilyn Strathern's idea that ethnography is an open-ended, non-linear method of data collection, such that '[r]ather than devising research protocols that will purify the data in advance of analysis, the anthropologist embarks on [an] exercise which yields materials for which analytical protocols are often devised after the fact' (Strathern 2004: 5). On some occasions my lack of explicit affiliation may have aroused suspicion about my own motivations and identifications. This was quite unsurprising in the circumstances. But in practice, it was possible to avoid becoming directly implicated in events as they happened and to maintain a position that could scarcely be described as external to those events, or merely disinterested, but which nonetheless minimised its own immediate effects. In a world in which the publication of information, or the possibility of its publication, could create intense feedback, my maintenance of a public silence was not a threat. At the same time, at least some of those involved in the events that I describe here were able to distance themselves from the public positions of the organisations for whom they worked and to address the complexity of the situation as they experienced it, as well as the limitations of their own understanding and knowledge. I remain extraordinarily grateful to these people for their reflexive insights and for their generosity in sharing them with me. The study that follows was not intended to intervene in a series of unfolding disputes, but to contribute to their rethinking at a moment when critical reflection would be possible. If this study gives voice to a particular view, my aim is that it should be informed by the insights of those who, immersed in events, were aware of their complexity, but were not in a position to articulate this awareness at the time.

Overview of the Chapters

At the heart of this book is a geographical puzzle. How is it possible to understand why particular materials and sites along the route of the pipeline came to be of transnational political significance, while others did not? The answer to this question should involve, as I have argued, an account of the operation of transparency along the pipeline; but it should also entail an analysis of the politics of materials. My explanation of why individual disputes occurred will necessarily, however, be limited. My account is inescapably partial. I highlight the importance of certain dynamics, while only indicating the significance of a multitude of others. Following Foucault's injunction my aim is to multiply causes, while acknowledging that there will, inevitably, be more to be said (cf. Foucault 2002a).

Over the course of the next three chapters I introduce four ways in which particular locations and materials acquired transnational political importance. The first two of these revolve around the relation between the construction of the pipeline and Georgia itself. A first reason why the pipeline came to be of transnational interest derived from the claim, made by many Western commentators, that the pipeline had critical strategic importance as a route for the transportation of oil in the wake of the break-up of the Soviet Union. A second way, in contrast, was powerfully informed by Georgian domestic politics but also had considerable international significance: it concerned the putative impact of the pipeline on the sensitive environment of the Lesser Caucasus. It was in this context that the western section of the Georgian pipeline route, including the village of Dgvari, acquired heightened political salience. Thirdly, specific problems and locations – such as traffic vibration, or the location of beehives and trees along the pipeline route – came to be controversial and to attract considerable transnational interest because of the project's espousal of transparency. Finally, specific materials and locations attracted transnational interest because of how they could be made to demonstrate that the oil corporation was, or was not, acting ethically. In all these ways, and for all these reasons, a very specific set of materials and locations came to figure as possible – or what we might call candidate – elements of transnational political situations.

Chapter 2 does not begin with a discussion of BTC directly, but draws a contrast between three ways in which the relation between Georgia and the politics of oil have been figured. Taking a cue from Bertrand Russell's claim that it was the presence of oil that led to the Soviet invasion of Georgia in 1921, the chapter begins with an interrogation of the manner in which Georgia came to be understood as an 'energy corridor' from the Caspian Sea to the West. This geopolitical analysis of the importance of Georgia is contrasted with a radically different way of framing the politics of oil: one that was focused not on the strategic calculations of national governments, but on the physical geography of Georgia itself. I highlight, in particular, the critical importance of the mountainous region of south-west Georgia to the domestic politics of the pipeline. Finally, I turn to consider how the transnational governance of the BTC project became controversial. Indeed, according to some NGOs the development of the pipeline completely failed to conform to a series of relevant international guidelines and standards.

Chapter 3 probes in greater detail the centrality of both the idea and the practice of transparency to the contemporary politics and governance of oil. The focus of this chapter is not on BTC itself, but on the operation of a more modest experiment in transparency, which developed in around the same period: the Extractive Industries Transparency Initiative (EITI). Drawing on recent studies in the anthropology and history of economic expertise, the chapter interrogates the design of transparency as a technique

for governing the range of matters about which it is possible to disagree. The chapter dwells on the case of Azerbaijan, stressing the importance of witnesses to the operation of transparency and the difficulty of assembling a body of witnesses that are able to judge the value and the accuracy of the information that transparency generates. It highlights the differences between the limited and controlled experiment in transparency associated with EITI and the more radical, extensive and conflictual experiment in transparency, involving the eruption of serial controversies that occurred along the length of the BTC pipeline.

Chapter 4 turns from a consideration of the importance of transparency in the politics of the pipeline to the significance of ethics as it became both embodied in a range of international agreements and principles and expressed through the practice of corporate social and environmental responsibility. The chapter develops three arguments. One concerns the way that the ethical conduct of corporations, including their commitment to principles of social and environmental responsibility, has come to be both demonstrated and assessed. A second argument centres on the importance of particular material artefacts, accidents and events in the ethicalisation and politicisation of oil. Here the analysis highlights the importance of what C.S. Peirce termed 'abduction' to the politics of oil, examining how specific materials and issues can be made both to encapsulate and to transform a political situation. Finally, the chapter considers the manner in which the ethical conduct of oil corporations has become the object of political research. The argument focuses, in particular, on the inventive and influential practice of Platform, a London-based group of artists and researchers who both traced and revealed a series of problems along the pipeline route.

If Chapters 2 to 4 are concerned with the ways in which the route of the BTC pipeline came in general to be politicised, drawing out a series of political vectors and dynamics that figure to different degrees in the evolving political situations around the pipeline, Chapters 5 to 8 attend directly to a series of very specific disputes that emerged around the pipeline's development, construction and operation. Running through the analyses in these chapters are three ongoing concerns, highlighted both in this introduction and in the chapters. The first centres on the idea of BTC not only as a material artefact, but as a socio-material assemblage. A second concern is with the importance of the mobilisation of the public to the practice of transparency. The third concern is to recount how particular material entities, including buildings, lorries, land and pipes, acquired the remarkable political salience that they did.

Given that a vast quantity of information about the BTC pipeline was made public, various manifestations of the 'public' were expected to be ready to be consulted about the project, and to become interested in this information. Chapter 5 interrogates the ways in which the problem of how to assemble relations between diverse publics and the pipeline was both

addressed and contested. In particular, the chapter examines how the construction of the pipeline was bound up with the formation of a narrow corridor of land along the route within which the population were defined as 'pipeline affected communities'. Disputes over the construction of the pipeline developed both around the question of what information should be provided to diverse publics, including 'the affected communities', and whether such communities had been properly consulted.

Prior to the construction of the pipeline, the oil company had commissioned an assessment of the pipeline's environmental and social impact along its entire length. However, during the course of the project, the impact of construction work became the focus of a spate of controversies at a number of points along the route. Chapter 6 probes these controversies, analysing in particular the dynamics of those disputes that turned on whether or not damage to the social or environmental infrastructure did or did not constitute 'impacts', and, consequently, whether the company could or could not be held responsible for them. Dwelling on the cases of two Georgian villages, Dgvari and Sagrasheni, the politics of both of which escalated transnationally, it shows how disagreements over the difference between the space within which 'affected populations' were located and the evolving and uncertain space of potential 'impacts' played a critical part in the emergence of disputes along the pipeline.

If Chapter 6 addresses the importance of material processes that were the potential source of 'impacts', Chapter 7 probes how the materiality of the pipeline itself acquired transnational political significance. It develops further the larger question of the politics of materials, as well as the multiplicity of the pipeline as an 'informed material'. Empirically, the chapter focuses on how the problem of assigning responsibility for the poor performance of a physical component of the pipeline – a coating material called SPC 2888 which covers joints between sections of the pipe – came to be debated extensively in the British House of Commons. Theoretically, it interrogates the relation between the properties of materials and the contingency of politics.

The application of the principle of transparency to the BTC pipeline project, as I have explained, led to the generation of a vast and evolving archive of material, including assessments of environmental and social impacts. Chapter 8 centres on an interrogation of this archive, pursuing how the transparency of the archive itself transformed the objects and processes that it described. Focusing on the economic interventions of the oil company, the chapter contrasts the transnational visibility of compensation, community investment and the 'affected population' with the transnational invisibility of a range of issues including the politics of labour. The contrast highlights how the enactment of transparency intensifies the significance of particular processes, generating feedback, while obscuring others. In Chapter 9, the Conclusions, I return to a number of core themes from the book including the politics of transparency and its limits and the relation between knowledge controversies and political situations.