Chapter 1

Theorizing Oil

A Conceptualization of the Oilscape

> Oil transformed everyday life in the twentieth century. In the twenty-first century, we are finally beginning to realize the degree to which oil has made us moderns who and what we are, shaping our existence close at hand while narrating us into networks of power and commerce far, far away.
>
> —Sheena Wilson, Adam Carlson, and Imre Szeman, "On Petrocultures"

Oil and fuel as one of its prior products, have been the primary resources that allowed countries to participate in a process of industrialization and thus the making of the global economy as it is (see Mitchell 2011). The overwhelming global dependency on oil remains until today: in the 2010s, access to fuel is still a crucial requirement for a functional economy. Despite global attempts for a turn toward sustainable "green" energy, the facts are unlikely to change any time soon. The two primary sources of any kind of fuel are natural gas and crude oil—a naturally occurring unrefined form of petroleum in the form of a combustible liquid that can be refined into gasoline. The availability and ability to safeguard access to these two substances are among the most important economic priorities of both industrialized countries and emerging economies (e.g., Love 2008: 3; Reyna and Behrends 2011: 3–4; Wilson et al. 2017: 3).

Even though anthropological studies on oil are rather limited compared to other social sciences, several significant anthropological approaches need to be considered here (e.g., Bille Larsen 2017; Black 2000; Cepek 2012; Coronil 1997; Fentiman 1996; Gilberthorpe 2007, 2014; High and Field 2020; Kama 2020; Limbert 2008; Perreault 2018; Reyna and Behrends 2011; Rogers 2015b; Weszkalnys 2014). Anthropologists researching oil have explored relationships of humans with this asset mainly under two viewpoints: first, the temporal dimension of oil as a finite resource linked to certain temporal processes of economic booms and declines, denomi-

nated as "temporalities," and second, the way extraction and production of oil materially shapes the environmental surroundings, thus impacting people's lives—referred to as "materialities" (Rogers 2015a: 366). For analyzing the oilscape of Emiliano Zapata, both approaches provide useful insights. The temporal as well as the material particularities of oil and oil extraction play a crucial role for the constitution of the community as it is today and continue to play a role in the everyday lives of the residents and their social actions and interactions. The oil-influenced surroundings and the interaction of the residents with their environment and with the actors of the oil industry, constituted the oilscape, while it constantly undergoes a dynamic process of reshaping. In Emiliano Zapata, uncertainty is a crucial aspect, characterizing the living circumstances beyond the moment in time, but nevertheless closely linked to temporal perception, as well as to the physical manifestation of risk introduced by the oil industry. The analysis in this book aims to link materialities and the temporalities of oil with a social sphere, while showing that these three mutually dependent aspects of the oilscape, produce a particular set of uncertainties that have to be dealt with by the inhabitants of the oilscape.

Oil and Anthropology

When dealing with oil, the anthropological literature stands between two approaches. First, the anthropology of energy, which mainly deals with oil as a source (e.g., Khalidi 2010; Lovins 2010), and second, the anthropology of extraction focusing on the accompanying conditions of oil exploitation due to its impact on local life circumstances (e.g., Breglia 2013; Behrends and Hoinathy 2017; Bille Larsen 2017; Fentiman 1996; Gilberthorpe 2007; Haller 2007; Vásquez 2014; Weszkalnys 2014, 2016). While energy studies rarely deal specifically with oil, there are many that focus on the extraction of oil and natural gas as natural resources and their effects on the environment. These have been and continue to be of great interest for anthropological inquiries (e.g., Appel 2012a, 2012b; Gilberthorpe 2006, 2014; Sawyer 2012; Stammler and Peskov 2008).

Studies in the broader tradition of an anthropology of extraction are at first sight dominated by an almost "traditional" anthropological interest in the mining sector remaining persistent until today within this field (e.g., Jacka 2018; Kirsch 2014; Pijpers and Eriksen 2019; Welker 2014). As Emma Gilberthorpe and Dinah Rajak (2017: 186) point out in their overview of anthropological perspectives regarding natural resources, mining represents an important starting point for topics like social and economic transformation, labor, exploitation, environmental damage or commodifi-

cation. It does so, because of a strong territorial component, shaping the surrounding and therefore living environment of the people, thus offering approaches for ethnographic inquiries. At the same time, mineral extraction is closely associated with colonial structures of exploitation, and the destruction of nature for the sake of enriching the centers of the world economy (Jacka 2018: 62). Thus, in many aspects, it has become a symbol of the negative outcomes of modernity. Despite anthropology's dominant interest in mining, most of these theoretical implications, such as the close relationship between environmental impacts and social dynamics, are also applicable to hydrocarbons as natural resources, especially regarding their extraction. Therefore, many anthropological studies on oil draw on more general approaches to resource extraction that also apply to mining (Gilberthorpe and Rajak 2017: 186).

Current research on oil attempts to encompass the different interconnected elements of hydrocarbons and the way they shape the environment and hence people's lives. Here, some relevant contributions from other disciplines have had an important influence on the anthropological view of the subject. The geographer Michael Watts (2005, 2012) develops the concepts of "oil complex" or "oil assemblages" to fully capture the variety of impacts oil has on people's lives: from its extraction and production, its environmental impacts to its consumption and demand creating powerful collaborations. The economist Myrna Santiago (2006) uses her concept of the "ecology of oil" to place oil extraction at the center of the political, economic, and social dynamics of the Huasteca—an oil-producing region in northern Mexico. She disentangles the complex interplay of social change, nature, labor, and emerging local capitalist markets by starting from the perspective of oil extraction and shows how all of these domains interact, determined by this commodity. The political scientist Timothy Mitchell (2011) links energy production through fossil fuels to the greater whole, such as the development of democracy and the current world order. Moreover, an interdisciplinary research group on "Petrocultures" at the University of Alberta researches the multiple and complex impacts of the oil industry on different levels (Wilson et al. 2017). Anthropologists like Gisa Weszkalnys (2013, 2016), Andrea Behrends, Güther Schlee, and Stephen Reyna (2011), Emma Gilberthorpe (2007, 2014) and Hannah Appel, Arthur Mason, and Michael Watts (Appel et al. 2015a) develop more comprehensive models of oil by looking at how and where different sectors and living environments are entangled with oil and gas. Also, the authors of the Special Issue "Petro-Geographies and Hydrocarbon Realities in Latin America" of the *Journal of Latin American Geography* follow this approach (Fry and Delgado 2018: 10). In the edited volume *Indigenous Life Projects and Extractivism: Ethnographies from South America* many of the contribu-

tions also deal with the topic of oil extraction in Latin America and specifically look at politics of nature and ontological difference in the face of extraction (Vindal Ødegaard and Rivera Andía 2019: 1–2).

Oil has long been portrayed as a mixed economic blessing, as can be seen with the "resource curse" (e.g., Auty 1993; Ross 1999). Scholars researching the "curse" tried to explain why rich mineral and oil sources, whose revenues could be the cornerstone of economic growth and the improvement of living conditions—often summarized under the unclear and critically discussed term "development"—rather lead to the opposite situations including poor economic performance, high levels of corruption, ineffective governance and political violence. The oil curse seemingly strikes countries referred to as "petrostates," which are characterized by capital intensive oil exports, economic dependence on oil rents, and an enclaved production model. For the first time during the 1970s oil boom, those petrostates, often located in the Global South and considered lacking "development," hoped for an improvement of the economic and social situation for all segments of their societies through petrodollars. However, it turned out that in many cases the opposite happened and instead of gaining broad prosperity, the wealth in resources led to an impoverishment of parts of the society, fostered inequalities, the fragmentation of society and often violent conflicts (Reyna and Behrends 2011: 5; Gilberthorpe 2014: 93). In the 1990s, the economic performance of these states declined significantly and authors like Michael Ross (2001) claimed that authoritarianism was more likely to be found in petrostates, in addition to substantial internal and external conflicts (e.g., Klare 2002; Ross 2001; Omeje 2008). This resource curse has been picked up mainly by political scientists, while, as mentioned earlier, it has received less attention in anthropology with its focus on mining (Gilberthorpe and Rajak 2017: 187; Reyna and Behrends 2011: 19–20). More recently, anthropology also became involved in the discourse regarding the oil industry and its global as well as local impacts (e.g., Behrends, Park, and Rottenburg, 2014; Di Muzio 2010; Gilberthorpe and Rajak 2017; High and Field 2020; Rogers 2015b; Weszkalnys 2016), opening up important new perspectives in the debate on the potential for conflict that the industrial usage of oil bears. Recent works also target questions of responsibility for social and environmental impacts and respective mechanisms to mitigate risks by implementing corporate social responsibility (CSR) measurers following a decolonializing approach by involving the local level and implementing an actor-centered approach (see e.g., Dolan and Rajak 2016; García-Chiang 2018; García-Chiang and Rodríguez 2008; Uwem 2019)

Anthropological studies on hydrocarbon extraction or mining have shown that it is important to consider the effects of resource extraction at a

local level in order to understand its immediate social and cultural impact. Furthermore, a critical approach to social and historical specificities from a perspective that focuses on agency can challenge abstract theories such as the resource curse as well as its underlying notions of modernization and development, and may require more appropriate conceptual tools to adequately solve the puzzle (Gilberthorpe and Rajak 2017: 191, 201). This ethnography contributes to the body of literature on anthropology of oil and thereby to the understanding of "oil's magic" (Weszkalnys 2014) by revealing social and cultural implications of oil from a local perspective by presenting a detailed ethnographic study of a community shaped by hydrocarbon extraction in many ways.

The Temporalities

The sky is cloudy today, and it looks like the rain is going to start any minute, which is why we are sitting inside around a table in the community kitchen. Besides me, there are five teenagers from the community school that I asked to talk about their lives in Zapata this afternoon. When I first invited them, they seemed rather puzzled. Usually adults, and especially the elderly, are the focus of attention when journalists or other people from outside the community ask about the troubles with extraction. "I don't know what to tell you," Nayelly, one of the girls I asked to interview, answered first. "I could take you to my grandmother, she has lived here all her life and can tell you more about the accidents and spills of the past." I assured her, that what grandmother had to say was very interesting as well, but that I also would like to talk with her and her friends about their perspective as young people and their expectations about the future.

Now they are sitting here with me, sipping their Coca-Colas and still looking mildly confused about what is expected of them. I asked them what they would like to change in their community if they could. They are now looking rather indifferent. "Well," one of the two girls begins. "I think I would prefer it here if there were more jobs, like there used to be. Me and most of my friends will go and study somewhere—maybe in the city of Veracruz—and study accounting. I would like that." The other agree, nodding silently.

"None of your friends want to work in agriculture?" I ask, anticipating the answer.

"Not really," she responds. There isn't enough land, and the land there is already very polluted and dried out, I don't think we can work here."

"And don't you think that maybe there will be new opportunities in the future?"

She shrugs. "I don't really know. My parents and grandparents tell me that there were good times when there was a lot of industry, but they also say that there were so many accidents, and they complain about the pollution a lot. The noise of the gas flare is also really disturbing, I guess. I don't know what it was like before, but I don't think it will be any better here anytime soon. We have to see where we can study and work and then maybe have a nice house here."

What Nayelly describes is a very common phenomenon in Emiliano Zapata—young people leaving the community to work and send remittances to their families for a bigger house that they will one day return and live in. Many of these houses are bare brick and remain in a constant state of being under construction, as their owners have built lives and founded families elsewhere. The younger generation in Zapata is well aware of that fact, yet plans to continue this practice. Even though everyone accepts the process of out-migration, most people seem and want to keep the option of returning. Just in case.

In the social sciences there is a tendency to view the economy and society in terms of spatial change rather than temporal aspects, and studies concerned with resource extraction generally follow this trend (D'Angelo and Pijpers 2018: 215). Yet, thinking about resource extraction and in this case oil as a "complex set of multiple temporal processes" (2018: 215) enables a level of understanding, which expands beyond the assumption of the singular dimension of space as an analytic entity (e.g., May and Thrift 2001; Munn 1992). Anthropological studies have shown that the imperative of a single homogeneous timeline that capitalist modernity builds on, and history as the one-dimensional internal logic of the nation-state are to be questioned (Bear 2014; Eiss 2008; Pedersen and Nielsen 2013). Therefore, some scholars refer to this trend as "the temporal turn" (Bear 2016; Hassan 2010), which has generated more research on the issue of time and its different dimensions in the field of extraction (e.g., Behrends 2008; Ferry and Limbert 2008; Halvaksz 2008; Peña and Lizardo 2017; Salman and Theije 2017). Regarding extraction sites and practices like drilling for oil, conceptions of time can only be understood in their plurality of cycles, durations, and velocities. These not only have social and cultural implications, but also emerge as products of socially and culturally constructed spaces intertwining and creating overlapping levels of times. These levels have been called "timescapes" by some scholars and therefore include the frictions and conflicts emerging around and within them, and are not limited to the extraction processes but also relate to national politics or even global discourses about resources and nature (e.g., Adam 1998; Bear 2016; Ingold 2011).

Extraction creates settings that are inseparably linked to the temporal requirements of a market-driven economy and produces certain temporal conditions of the present as well as notions of the past and future for the residents of these extraction sites (e.g., Gilberthorpe 2014; Ringel 2016; Smith 2015). Hence, a comprehensive analysis of the temporal process of cause and effect is particularly important concerning extraction. Anthropologists contribute extensive ethnographic material to the analysis of the processual shaping of narratives, and therefore offer important insights into the construction of and the navigation of situations of uncertainty, especially when dealing with natural resources (e.g., Behrends and Schareika 2011; Cooper and Pratten 2015; Pijpers 2018; Schritt 2018). In this context, studies often consider one of the most dominant properties from a social and cultural science viewpoint: the perception of a predetermined process of scarcity followed by abundance tied to a finally approaching finitude (Ferry and Limbert 2008: 3; Rogers 2015a: 367). Oil as a resource has a particularly strong temporal connotation, which is why anthropological studies about oil often refer to the perception of past, present, and future. The perpetual knowledge of the approaching end of oil in local contexts affected by oil extraction leads to an ever-present fear of a soon-to-come change of economic and social conditions, paired with the hopes and dreams associated with anticipated economic prosperity (e.g., Behrends 2008; Cepek 2012; Schritt 2018; Weszkalnys 2014). The almost schizophrenic temporal dimension of a predetermined process of wealth and growth followed by economic decline and always linked to an approaching yet uncertain end accompanies oil like no other resource. The obvious link to global energy production allows oil to develop its own temporal logic and complexity (Kaposy 2017: 390). Even the mere anticipation of the disposability of oil in the near future can have impacts on social, economic, and political dynamics (Behrends 2008; Schritt 2019; Weszkalnys 2014) and the transformation of a country into an oil nation changes society and even national narratives (see Gledhill 2011; Kaposy 2017). During its position as part of the economic foundation of a country or region, the actual decline of oil revenues—as well as only the anticipation of them—also leads to social and cultural outcomes (see Apter 2005; Salas Landa 2016). Therefore, the temporalities of oil become increasingly laden with expectations, anticipations of environmental damage, and anxieties about crisis and curses in the light of current modernization projects (Rogers 2015a: 369). With the changing post-crisis panorama and the development of alternative income generation strategies, or the possible recovery of the industry, the physical attributes of communities, extractions sites, and the surrounding landscape are changing again (see Breglia 2013; Filer 1990; Pijpers 2016).

This process is represented in the well-researched phenomenon of "boomtowns," which has been explored in social science, mostly in the United States in the 1980s, where boomtowns emerged due to rapid industrialization and population growth induced by the discovery of natural resources (e.g., England and Albrecht 1984; Gramling and Brabant 1986; Freudenburg 1981). On the one hand, the resources then become the driver for the local economy, which prospers at first due to higher salaries, and more money spent locally. On the other hand, prices and rents rise with increasing demand, as do the prices of labor. Immigration of workers and other people seizing the economic opportunities created around the extraction, bring greater diversity and different lifestyles with diverging values, some of which may create tensions with former community norms. This spiraling process of local economic and demographic growth is then usually put to an end by a predictable bust, when the resource runs out or loses value on the market. Consequently, employment opportunities decline, followed by rapid emigration and the decline of the local service sector with it, while irreversible environmental impacts of the industrial development have already affected the surroundings. Therefore, the boomtown model was seen rather as a problem that emerged with the resource boom and inevitably ended in an abrupt deterioration (Gramling and Brabant 1986: 179–80). However, some newer studies indicate a "boom-bust-recovery" cycle in which problems induced by very rapid growth are resolved over time (e.g., Brown, Dorins, and Krannich 2005; Smith Rolston 2013; Stedman et al. 2012), creating a sequence of "social stages of boomtown development: enthusiasm-uncertainty-panic-adaptation" (Willow and Wylie 2014: 225). Even if boomtowns as such do not necessarily develop everywhere where oil extraction takes place, the main features of the phenomenon are usually visible in the surroundings of major hydrocarbon extraction sites in many parts of the world (2014: 225–26; Black 2000: 124).

Meanwhile, environmental impacts and pollution, boomtowns, economic growth related to construction, money and goods, as well as decay and deterioration in times of crisis strongly point to the inseparability of the temporal and the material dimension of oil (e.g., Breglia 2013; Limbert 2008; Zalik 2009). Thus, the temporal properties of oil are inextricably linked with the material manifestations of oil and its extraction.

The Materialities

I lean over the bridge railing to get a better look at the muddy ground beneath me. The water in the small riverbed has almost dried up, but a small rivulet makes its way under the bridge where I stand with Don Rosalio.

The rivulet shows shiny black streaks and dark spots can be seen everywhere in the mud. "Look Gürea, do you see the leak back there?" I bend over to see what it looks like behind the barrier further up in the riverbed. There is an old pipeline sticking out of the embankment, but it is difficult to identify the details.

Don Rosalio points to the barrier. "They've sealed it off now, but nobody has cleaned it up yet. We've told the *ingenieros* already, but they're taking their time, as always." Don Rosalio is part of the community water committee. When any of the bodies of water around here are polluted he has to take care of it, as in this case. Until then, the water supply for the community is cut off and the company brings clean water with tankers.

"Is that really oil?" I ask him. Whether this is really the expensive heavy crude oil that leaks drop by drop or some other kind of industrial waste product, I cannot tell.

"I don't know what it is exactly, but one thing's for sure: I don't want to take a bath with it." Don Rosalio remarks ironically. "Come on, let's go."

We walk back to his truck on the side of the road. Such minor leaks are not uncommon here in Emiliano Zapata and most people have seen and experienced them in various forms. For me, this was the first encounter with the substance I came here for some weeks ago, and as unspectacular as the blackish trickle may seem, it was a strange experience to actually be physically close to the substance after so many weeks of talking about oil. Installations for extraction and processing are omnipresent in the appearance of the community and pipelines are impacting the community everywhere, but it almost feels like something special to actually see the substance at stake.

The material presence of oil as a substance itself is unpleasant at first sight—sticky, smelly, and in many ways harmful to human life, flora, and fauna. Coming from the under the ground, the substance requires a variety of processing techniques for which certain technologies, knowledge, and facilities are needed and these techniques represent a significant intervention in the environment with oftentimes harmful consequences. Hence, one important aspect of the materialities of oil are the hazards to an environment and ecosystem. The dangerous and harmful potential of oil, such as the conflicts and frictions emerging between actors around these risks, has been widely acknowledged and extensively studied from an anthropological point of view (e.g., Appel et al. 2015a; Behrends et al. 2011; Fabricant, Gustafson, and Weiss 2017; Vásquez 2014). Importantly, the risk analysis takes into account present oil not only as a commodity and producer of petrodollars and economic growth, but also as deeply entangled in the social fabric of the actors involved—residents, oil workers

or company staff—with particular potential for dispute (Weszkalnys 2016: 127). In her analysis of "oil's material powers," Gisa Weszkalnys frames oil as a form of "distributed materiality that spans this substance's physical and chemical constituents as well as the specialist equipment needed for its extraction, the practices of abstraction and valuation that go into its making, and the people doing the extracting, contesting, and transforming of oil." (2013: 267) This approach allows oil's materiality to be seen as a set of material inscriptions in an environment shaped by oil extraction and processing.

The material itself but also the machinery required for extraction onsite, the chemicals and industrial apparatus used for processing crude oil into petroleum, are the enablers of economic and perceptive transformation. In particular, oil infrastructure in the form of pipelines, streets, and moving vehicles, but also in the form of housing, shapes the environment surrounding extraction sites, which means severe modifications of the landscape through the industry. Therefore, the infrastructure relating to oil is one aspect of oil's materialities, which is to be regarded as part of the structural patterns of oil in general. Considering oil in the context of its infrastructure allows for a broader view of the resource and its idiosyncrasy regarding its wider impact on social and cultural dynamics. Infrastructures as the material representation of oil are highly political matter "that spatialize and temporalize capitalism, and moreover, make it eventful, indeterminate, and never completely knowable" (Appel et al. 2015a: 253). Infrastructure therefore represents an analytical link between the spatially determined local research arena and the socio-political dimensions of oil. It thus a crucial factor in understanding the material dimension of oil and extraction in Emiliano Zapata.

Infrastructure has emerged as a topic of interest for anthropologists in recent years, who started to investigate the issue as a focus of ethnographic study, rather than just as conceptual tool (Appel Anand, and Gupta 2018: 4). Nevertheless, infrastructure in anthropology remains part of the systemic analysis of a larger setting, which can be considered a strength rather than a weakness, as Brian Larkin points out, because it contributes to the construction of a more holistic picture (2013: 328). Infrastructure as a form of material culture is central to the reproduction of states and their goals and is connected to ideologies of progress and social equality (Baptista 2018: 527). Roads are generally considered the main manifestation of infrastructure and as such act as a symbol and carrier of modernity and connectedness. As Dimitris Dalakogulu and Penny Harvey put it in their overview of roads in anthropology: "they could arguably be taken as the paradigmatic material infrastructure of the twenty-first century" (2012: 459). Roads determine the mobility of people, commodified goods

and labor, and therefore act as enablers of "development," in particular regarding extractive economies of developing nations that depend on the circulation of such goods and labor (2012: 459; Harvey and Knox 2012: 523). However, the ways actors use the public infrastructure and often reinterpret it, also reveals the agency of local agents who resist an undesired state narrative, only realizable by careful consideration of social and cultural patterns and networks (see Melly 2013). This also holds true for the emerging body on anthropological scholarship on energy and infrastructure, which mainly focuses on different social groups and their engagements with resources (e.g., Anand 2011; Dalakoglou 2012; Strauss, Rupp, and Love 2013; von Schnitzler 2008). Infrastructure has the power to make energy and energy flows tangible and therefore reveals power structures and social inequalities that otherwise could not be grasped (Firat 2016: 81). Responding to a request for more anthropological inquiry on infrastructure, Nikhil Anand, Akhil Gupta, and Hannah Appel provide a comprehensive compilation of work addressing the topic from an anthropological perspective in their book *The Promise of Infrastructure* (Anand et al. 2018). In the introduction, Appel and her co-authors distinguish between "hard" and "soft" infrastructure, where "hard" means the tangible constructions, pipelines, and roads, but also concrete arrangements like payment systems, while "soft" infrastructure comprises the ontological forms, such as political systems or capitalists' circuits. Hard infrastructure is directly related to sociality and the way people interact and negotiate social and cultural patterns, making it a recurrent topic for anthropologists (Appel et al. 2018: 4–5). The research of oil infrastructure is linked to an attempt to paint a holistic picture, since it encompasses the "hard" in form of rigs and pipelines as well as the "soft" with oil as the "fuel for capitalism" and the "motor of modernity" (Appel et al. 2015a: 258).

In connection to spatiality, oil infrastructure becomes the essence modification force within the arena and oftentimes the starting point for the process of shaping the oil landscape. Oil infrastructure is closely connected to politics and also to the general structure of labor. Because of its nature as a fluid and a transportable asset, oil as the primary energy source changed the supply situation and questions the role of the worker in the twentieth century (see Rogers 2015a: 372). Thereby, the pipeline appears as the incorporation of oil infrastructure and is often a key protagonist of conflicts related to extraction. It also connects different arenas in which these social entanglements in different spaces can be linked and brought together to form a terrain that can be analyzed (see Le Billon 2005; Reyna 2007; Valdivia 2008). Oil therefore has become an "anchor for the grievances of an array of local and global actors" (Weszkalnys 2013: 12), which makes pipelines welcome pegs for anthropological inquiry (e.g.,

Appel 2012a; Barry 2013; Gelber 2015). The material aspects of pipelines, in the sense of their physical embodiment in space, are part of the way politics is made and policies are implemented (Appel et al. 2018: 15; Barry 2013: 27; Leonard 2016: 112). This makes infrastructure and the conjoined physical installations of oil, which also interfere in the most concrete sense with their environments, useful reference points for anthropological analyzes. In their works on pipelines as a part of oil infrastructure, Lori Leonard (2016) and Hannah Appel (2012b) have shown how oil infrastructure has affected people's lives in ways not originally intended by the industry, and then triggered a rearrangement the patterns of local social organization. Oil infrastructure such as roads, pipelines, and buildings have physically shaped the environment of the community Emiliano Zapata and thereby also contributed to the arrangement of the social texture of the community. While residents of the community benefited to some extent from infrastructure expansion, it did not primarily serve the development of the locality, but rather was part of a larger ideal of development on a national scale. It will be shown how the local actors not only adapted to the infrastructure, but appropriated its material manifestations to use them in the ways they preferred, and even partly repurposed material installations to their advantage.

New Ways and Old Issues? Anthropology and Fracking

Despite all of the recognized problems of fossil fuels, global demand is still increasing because of a lack of alternatives for energy generation and the increased hunger for energy in developing countries. Reaching Hubbert's peak does not mean that the reserves are depleted, but rather that a point has been reached where the largest amount of near-surface oil that could be easily extracted with conventional methods has already been removed. Oil and natural gas from regions that have not been entirely exploited like Latin America will thus continue to be an important driving force of the global economy in the future. At the same time, the predictable scarcity is the reason for extended investments in renewable energy on the one hand, and intensifying the search for undiscovered oil sources and new technologies to access those which have been difficult to extract in the past on the other. This point in time is characterized by the fact that the oil and natural gas required for the global economy are more difficult to extract and therefore more expensive (Haarstad 2012: 1; Svampa 2015: 66).

One example for such a new technology is hydraulic fracturing, which is mainly used to extract "shale gas." It has been under development since the mid-twentieth century, but until recently was not commercially

viable. "Shale" is a type of sedimentary rock composed of mud that is a mix of flakes of minerals, especially quartz and calcite. It is characterized by breaks along thin laminae or parallel layering or bedding, and it is the most common sedimentary rock. The term "hydraulic fracturing" refers to the practice of fracturing the subterranean rock deep below the surface to extract oil and/or gas by injecting water mixed with chemicals under high pressure. Hydraulic fracturing, also called fracking, entails vertical drilling several kilometers deep for the injection. Once pierced, a steel pipe called casing is placed, at the bottom of the well. Between this pipe and the wall of the reservoir, there is a space in which a certain type of cement is placed, which prevents the additives from mixing with the soil (Aguilar Madera 2014: 9; de Rijke 2013: 13).

The technique of fracking holds great uncertainty about environmental impacts, which have been widely acknowledged by scholars of many different formations and also popular media within the last decade (e.g., Brasier et al. 2013; Feodoroff, Franco, and Martinez 2013; Smartt Gullion 2015; Hays, McCawley, and Shonkoff 2017; High and Field 2020; Pearson 2013: Willow et al. 2014). Local fracking is discussed by local scholars describing the conflicts and negative impacts induced by this new extraction technique (Aguilar León 2018; Checa-Artasu and Hernández Franyuti 2016; Silva Ontiveros et al. 2018). Allegations of air pollution, groundwater contamination, or even causing earthquakes accompany the launch of fracking projects all over the world. Due to the novelty of this technique long-term studies are not available so far and further research will be necessary (Feodoroff et al. 2013: 2; Willow und Wylie 2014: 223). Indigenous populations especially are often described as vulnerable with respect to possible negative effects of fracking projects, considering their mostly rural location and their reliance on an intact environment in order to survive through farming, fishing, or hunting. Local actors often benefit the least while taking the highest risks and suffering the most from environmental and social impacts (Whiteman and Mamen 2002: 1).

Currently, fracking draws the public's attention and increasingly becomes a topic for anthropologists. It mainly concerns gas extraction for energy production rather than oil and is therefore primarily discussed within the context of energy anthropology (e.g., Cartwright 2013; Espig and de Rijke 2018). Nevertheless, the material consequences are similar to the circumstances induced by oil extraction facilities. It thus presents a topic for scholars looking at practices of extraction under the premise of peak oil and an inevitable finitude, as well as theoretical implications for the global energy supply and cultural dimensions of energy consumption and production. Appel, Mason, and Watts (2015b: 2) characterize fracking as another "boom story" within the history of fossil oil, which already

generated a high resonance in the (comparably short) history of oil and gas extraction. Currently, more studies on this topic are published while the topic becomes one of the latest contemporary challenges within the debate about conflictive fossil fuel extraction. Although the current focus of fracking research is still based on quantitative survey methods rather than qualitative ethnographic fieldwork, some ethnographic studies have been published, mainly in the United States but also in the UK that document conflicts and protests against fracking projects (e.g., Bradshaw and Waite 2017; Cotton 2016; Smartt Gullion 2015; Simonelli 2014; Willow et al. 2014). Therefore, further anthropological studies on the matter are urgently needed (Willow and Wylie 2014: 236).

Currently, the literature on fracking is being broadened with ethnographic case studies in other parts of the world where fracking has been applied recently or will be applied in the near future, like in China or many parts of Latin America (e.g., Delgado 2018; Riffo 2017; Silva Ontiveros et al. 2018; Yu et al. 2018). Thereby, fracking is mainly discussed in relation to the environmental-human relationship and risk perception. Due to a relatively short period of implementation and deficient dissemination of information, scholars face a shortage on long-term studies regarding the environmental impacts and health hazards. Thus, risk perception becomes one of the key features of fracking, which has been widely acknowledged (e.g., Ashmoore et al. 2016; Brasier et al. 2013; Cartwright 2013; Clarke et al. 2015; Schafft, Borlu, and Glenna 2013; Whitmarsh et al. 2015; Williams et al. 2017).[1] Kathryn Brasier and colleagues (2013: 109) developed a model for risk perception along three lines: (1) perceived knowledge of effects, (2) institutional trust on managing risk, and (3) demographic and geographic characteristics of the actors. Anthropologist Elizabeth Cartwright examines eco-risk and fracking while framing risk as a "particularly lived understanding of in this case, the dangers of fracking" (Cartwright 2013: 204). She sees eco-risk at the intersection between fear, the ability to visualize or diagnose, and the legalistic structure for protection (2013: 214). She also draws attention to the health risks of fracking and calls for addressing local knowledge and the political discourse fracking is embedded in, while also attending to technologies of quantification and regulation (2013: 211). Fracking confronts participating actors and therefore also the scholars with a particular set of properties that require consideration as to fracking's connection to environmental risk regarding water distribution (e.g., Finewood and Stroup 2012; Jorritsma 2012) and uncertainties of risk measurements due to the novelty of the technique (e.g., Brasier et al. 2013; Cartwright 2013; Silva Ontiveros et al. 2018). Research on different actors involved in this system of energy production is required for a more comprehensive understanding of this recent topic. Research on the spatiality,

socioeconomic landscapes shaped by fracking and discursive approaches of fracking, uncertainty and risk can add to this undertaking (de Rijke 2013: 14). Within this work, fracking is considered a new challenge within the complex of hydrocarbon extraction in a broader sense by presenting a case where concerns about fracking fit into a complex picture of various forms of oil and gas production in a community setting.

Spaces of Oil and Uncertainty: Conceptualizing the Oilscape

Oil is found in a certain space underground (and sometimes under the sea). Therefore, its extraction and its production take place in certain locations that are not only determined but are also shaped by the industry. The places where oil is found, extracted, and processed are geographically restricted areas of different types—extraction sites, factories, also boomtowns and cities where the asset and its revenues are produced and distributed. In this way, oil, as well as many other natural resources, when coupled with extraction and processing, establishes enclaves. These are spaces where wealth and power linked to the idea of modernity are concentrated, while its frontier-style setting provokes cultural encounters enforcing inequalities—with regard to oil-sector workers and local residents as a classic example (Rogers 2015a: 371). Oil enclaves emerging as hotspots or boomtowns are places with special material conditions, where global neoliberal capitalism encounters local realities and the different actors participating in this process shape them in a way that often differs significantly from the rest of the country (e.g., Ferguson 2005; Sawyer 2004). Oil and its extraction in particular, therefore, are linked to a specific spatial dimension in terms of geographically bounded locations (Rogers 2015a: 371). The ejido Emiliano Zapata represents such a space to a large extent, where oil extraction is interlinked with local particularities and negotiated among local actors. Therefore, I developed a framework for analyzing such spaces by introducing the concept of the "oilscape," in which oil is deeply entangled with both the environment and all spheres of political, social, and cultural life.

Spaces emerging around oil extraction in particular and resource extraction in general are constructed via an interplay of industrial standards, national policies, local material properties and the involved actors (see D'Angelo and Pijpers 2018: 216; Ey and Sherval 2015: 176–77). In combination with the element of time a complex construct emerges, which I will approach via the oilscape as an analytical tool. In order to provide a comprehensible operationalization of the concept, I will first provide a

brief introduction to the concepts of "space" and "scapes" with regard to extraction. Besides the aspects of temporalities and materialities of oil, the social dimension plays an important role in negotiating the appearance, composition, and even spatial boundaries of the oilscape. Therefore, particular attention will be paid to the questions emerging around the social element of space, or social spaces, as this approach provides a more comprehensive notion of space, which exceeds its material dimension as a singular requirement. In Emiliano Zapata, a distinctive concomitant phenomenon of the formation of an oilscape is the creation of a situation marked by constant uncertainty, so I conclude with a discussion on uncertainty as a possible compelling element of the oilscape.

"Spaces," "Scapes," and Their Social Construction regarding Oil Extraction

The spatial dimensions of oil and its extraction are continuously relevant for anthropological analyses, or as Rogers puts it in his overview on oil and anthropology: "The geography and geology of the earth's oil deposits have lent a basic, if constantly morphing spatial shape to the oil industry" (Rogers 2015a: 371). Hence, the geographically bound dimension of extraction, and the industry calls for a close look at the spatial dimensions of oil. In fact, studies on extraction often gather around production sites and regions, which Rogers considers an "artifact of the vertical integration of the oil industry in capitalist contexts" (2015a: 371) through which he sees a reflection of the oil industry's focus on reserves and technology. Despite this legitimate critique, studies that take the spatial dimension of oil extraction into account, have shown how local particularities significantly influence the process of shaping a living environment on, or close to, extraction sites and therefore, provide valuable contributions to the anthropological literature on oil. Instances that show how extraction-shaped spaces turn into or overlap with local living environments that are constructed via an interplay of local conditions and consequences of the extractive industry are, besides the already-mentioned work of Myrna Santiago (2006), for example, the works of Brian Black, Lisa Breglia, or Patricia Vásquez. Black (2000) describes the daunting landscape of Oil Creek Valley, an oil town in Pennsylvania, where the oil boom of the late nineteenth century is reflected in the local social, cultural, and political life. Breglia (2013) demonstrates how the Mexican oil industry, and more specifically the declining oil production in the Cantarell oilfield after 2004, is directly linked to a decline of the local fishery close to the offshore production. Vásquez (2014) examines oil-extraction-related conflicts in the

Amazon region, which despite their political and international dimension, are closely bound to the regional specificities of the Amazon as a geographically limited space and its actors.

Space within studies on resource extraction is often displayed as the product of contestation and negotiation processes between actors and actors' groups. Indigenous people and nation states as adversaries in the struggle for land and territory have, for example, been a topic for a whole variety of studies (e.g., Haller et al. 2007; Merino Acuña 2015; Savino 2016; Svampa 2015, 2019; Vindal Ødegaard and Rivera Andía 2018). Those studies illustrate the importance of the spatial dimension of resource extraction, while emphasizing space and its limitation as the outcome of social negotiation processes. Suitable examples for that are the territorial struggles of indigenous people, who managed to establish their status as "indigenous" in the national legal framework and thus manifest their rights to certain spaces (e.g., Fabricant and Postero 2019; Nolte and Schilling-Vacaflor 2012; Schilling-Vacaflor and Flemmer 2015).

Despite the dominance of a spatial approach in many anthropological studies on extraction, the dimension of space is often difficult to grasp. Questions of "space" and "place" as theoretical constructions have often caused difficulties for anthropologists in the past, since it is challenging for ethnographers to discuss these categories without confining the inhabitants (Low 2009: 21). Therefore, the ethnographic conception of place and space, which reduces the ethnographic endeavor to a location and thus confines people to a certain geographical boundary, has been criticized by different scholars (e.g., Rodman 1992; Low 2009). Setha Low proposes to solve this problem by acknowledging "that place and space are always embodied" (2009: 22). Thereby, she understands embodied space as "the location where human experience and consciousness takes on material and spatial form" (2009: 26). This understanding implies the interconnection of several dimensions within the concept of space, such as the physically located aspect with a discursive and socially constructed materiality. Space must therefore be understood as a social construct of the people who live and interact in it, rather than just a geographically limited area (Low 2009: 22; Rodman 1992: 641).

In social science, space is considered "subject to analysis as a 'product of social action' or a 'product of social structures'" (Löw 2008: 25). At the same time, social space is always linked to a tangible outcome (e.g., Low 2009). The production of space thus includes social, economic, and ideological factors that lead to the physical creation of a material setting. The space is then constantly in a state of transformation through human practices such as memories, feelings, and interactions of the actors. The creation of a social space is thus often a conflict-riddled process over eco-

nomic and ideological resources (Low 2014: 35). Space thus must be understood as "process-oriented" and "person-based and allow for agency" (Low 2009: 22) to facilitate a comprehensive anthropological approach to it. The space of Emiliano Zapata must therefore be contemplated under these premises in order to obtain a comprehensive understanding of the processes involved.

The ejido Emiliano Zapata is a certain geographic location and thus a material space. But at the same time, this space is constantly negotiated by its human actors in the context of geographic boundaries as well as in terms of its physical appearance and shape. For the analysis of this space, it is useful to take the geographic boundaries of the ejido territory as reference points for physical localization, while understanding space as multidimensionally constituted and formed in a processual manner by constant renegotiations and reconfigurations through the social dynamics of its actors (see Bourdieu 1985, 2018; Lefebvre 1991). Hereby, the social element of the construction of space is highlighted in order to avoid a unidimensional understanding of space as a physical locale.

When studying such specific spaces where resource extraction takes place, for example, scholars often resort to "landscapes" as an analytical framework (e.g., Grund 2016; Halvaksz 2008; Liesch 2014). The landscape functions as a form of modified environment, and thus a specific and geographically determined space as well. The perspective of mining environments as landscapes (and thus nature) that are altered by extraction activities offers an approach to the interplay of the sociocultural and the material dimension and can reveal conflictual aspects of extraction (D'Angelo and Pijpers 2018: 216). The relationship between landscape and time within the context of modernity has been researched, for example, by Barbara Adam (1998), Barbara Bender (2002), and Pamela Stewart and Andrew Strathern (2003). Their works show that human interventions, such as industrial settlements or resource extraction, shape the socio-environment as a landscape in a way that alters the perception and usage of nature (see also Hofmeister 1997: 310). Here, the suffix "scape" indicates a wider perspective on space, which facilitates the integration of temporal and sociocultural, and often the conflictual processes of its construction and negotiation (D'Angelo and Pijpers 2018: 216). In the sense of "timescapes," for example, it emphasizes the interplay of the temporal dimension with the spatial dimension within a mining site (Lanzano 2018: 2).

"Scape" was introduced in anthropology by Arjun Appadurai (1990), who used it as a concept to analyze the dimensions of global cultural flows. He thereby, uncoupled the suffix from the term "landscapes" and applied it to a wider range of diverse scapes like "ethnoscapes," "ideoscapes," or "technoscapes." The scape thereby, emphasizes the fluidity

and multiplicity of the shapes of certain terrains, which are under constant modification and function as "deeply perspectival constructs" (Appadurai 1990: 33). Understanding spaces from the perspective of scapes enables a more comprehensive approach incorporating several dimensions, which contribute to the constitution of these spaces. The environmental geographers, Melina Ey and Meg Sherval (2015) take up this approach and develop an analytical tool for researching extraction sites, which they call "minescape." In doing so, they aim to "draw together significant insights concerning the extractive sector, which are increasingly being deployed when representing extractive spaces" (Ey and Sherval 2015: 176). The authors understand "minescapes" as "material-discursive terrains imbued with sociocultural significance" (2015: 177), which thus transcend the site of mining and integrate further aspects of the construction of the mining site's environment (2015: 177; D'Angelo and Pijpers 2018: 215; 217). However, the concept was developed with regard to the circumstances of mineral mining, and even though the extraction of subterranean substances referred to as resources, which comprise various kinds of minerals and hydrocarbons, includes to some extent comparable conditions, each substance holds certain particularities. Oil as a resource is determined by certain material and temporal particularities, as discussed in the previous section, and these aspects should be considered when analyzing oil extraction sites and their surroundings. Thus, I introduce a new category of minescape—the oilscape, which is customized to the space where oil extraction takes place and becomes part of the local living environment, as is the case in Emiliano Zapata.

The oilscape is introduced as a tool for the analysis of spaces, where oil extraction takes place and is based on the concept of the minescape by Ey and Sherval (2015), which "situates resource extraction as a dynamic, contested terrain with complex sociocultural, material and discursive dimensions." (2015: 177). The oilscape draws on this conceptualization by emphasizing on the interplay of a material and a sociocultural dimension of oil extraction, but furthermore adds the temporal particularities of oil as a third main aspect, while the discursive dynamics are rather understood as part of the sociocultural category. An oilscape is thus understood as a space within which oil extraction has become inscribed into the material manifestation of landscape, housing, fields and infrastructure, as well as the social texture and behavior of the community members over time. The construction of the oilscape is a process of constant transformation determined by three main factors, namely the material implications and the temporal particularities of oil, as well as the sociocultural dynamics that arise within this space. All three aspects are mutually affected by each other and collectively influence the processual formation of an oilscape.

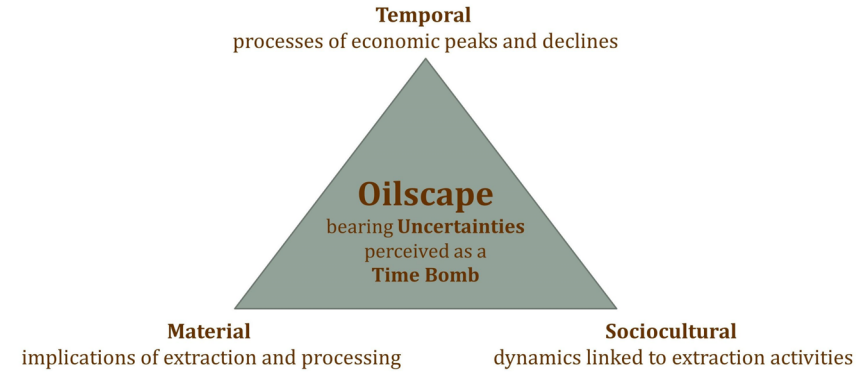

Figure 1.1. Concept "oilscape" © Svenja Schöneich.

As pointed out before, an important part of the particularities of oil is that it carries certain material and temporal risks, some of which are comparable to, but not identical, to those of other types of resources. Hydrocarbons, often representing toxic and explosive substances, are considered dangerous assets, which furthermore underlie specific temporal processes that incorporate the elusive and terminable character of the benefits generated through its extraction. Consequently, the perception of risk and the anticipation of economic and sociocultural changes accompany oil like no other resource (Weszkalnys 2014: 215). The experiences of crisis and the perceptions of risk form the oilscape in particular ways, creating a variety of uncertainties among the actors of the oilscape. In Emiliano Zapata, the perception of this uncertainty has led to the notion of a "time bomb," which reveals uncertainty as a feature of the oilscape.

Uncertainty as a Feature of the Oilscape

The dynamics in which people navigate circumstances created by the extraction of raw materials are decisive for how the social and cultural conditions in those spaces are shaped. Oil extraction generates a variety of uncertainties for local actors, which become embedded in the environment as well as in the living conditions of the individual actors with a permanent character (Pijpers 2018: 29). Uncertainty is usually considered something that results from exposure to a potential risk or danger, but there is a wide spectrum of what is considered a risk. In the anthropological literature, risk and risk perception are generally identifiable but not central themes (Alaszewski 2015: 205). One branch of risk perception

mainly focuses on crises (see, e.g., Vigh 2006), disasters (e.g., Faas 2016; Hoffman and Oliver-Smith 2002; Oliver-Smith 1996), or hazardous natural environments (e.g., Reno 2011; Torry et al. 1979). While uncertainty as such is not necessarily directly related to a disaster, it may also arise from a situation that is perceived as unpredictable in a broader sense. Uncertainty can thus have many causes, be it working conditions or insecure income (Archambault 2015; de L'Estoile 2014), medical conditions such as illness or pregnancy (Beckmann 2015; Reynolds and Etyang Siu 2015), or drastic changes in the social and physical environment, as in the cases of actors who migrate (Di Nunzio 2015).

In his work *Contaminated Communities* ([1988] 2018), Michael Edelstein analyzes how communities within a toxic environment deal with exposure to pollution and risks for health and life. Edelstein defines a contaminated community as "any residential area located within or near the identified boundaries for known exposure to pollution" ([1988] 2018: 9). These can be places exposed to chemicals, toxic waste, or affected by a strong environmental pollution. With regard to the extraction of oil and gas, the accompanying exposure of the immediate environment to polluting substances is generally assumed to be part of the extraction and production processes. This has already been demonstrated in the extensive literature on pollution and conflicts over contamination through resource extraction throughout the world (e.g., Auyero and Swistun 2008; Bavinck and Lorenzo Pellegrini 2014; DeCesare and Auyero 2017; Engels and Dietz 2017; Gilberthorpe and Hilson 2014; Omeje 2008). Apart from contamination with substances toxic to humans, extraction is characterized by its massive interference with the structure and nature of the environment, which provides water and soil as the basis of livelihood for its inhabitants. Furthermore, they shape the landscapes of extraction through their secondary impacts, such as the construction of related infrastructure, as well as the social structure in these environments through the flow of workers and exposure to novel goods and lifestyles (e.g., Black 2000; Breglia 2013; Santiago 2006; Sawyer 2004; Shever 2012).

Especially in areas with extractive activities, the determination of a possible health risk is made procedurally rather than abruptly. The population in the immediate vicinity of extraction projects is usually not aware of the risks to health, the environment, or their vital and social space from one moment to another but has incorporated the knowledge of the dangers existing in their daily lives over the course of time. This risk knowledge is generally composed of diffuse information about actual and detailed risks to health and life and a relativization of perceived risks related to the lack of alternatives and/or a means to reduce risk perception. This could be done, for example, through a system that guarantees benefits and economic se-

curity as a tradeoff (e.g., Breglia 2013; Nash 1979; O'Faircheallaigh 2013). With the collapse of risk mitigation facilities, the damages and hazards triggered by the extraction, the perception of risk may change significantly.

In their article "The Social Production of Toxic Uncertainty," Javier Auyero and Debora Swistun (2008) show how the social production of environmental uncertainty by the residents of contaminated areas is based on the confusion that results from ignorance about the sources of pollution and their effects, which in turn leads to obstacles in organizing responses to them. The authors identify two factors that favor this process. The first is "relational anchoring" (Auyero and Swistun 2008: 374) of risk perceptions. "Relational anchoring" is understood as a crucial process in shaping the collective schemes that residents use to assess hazards, which is manipulated by material and discursive powers. The perceptions of risk are rooted in the interactions and routines that characterize a particular place. The second factor is the "work of confusion" by powerful external actors who generate diffuse information about the origins and effects of extraction and its consequences (2008: 374). A common strategy of actors, such as companies, is to try to neutralize the damage done. Then, the latency period between the start of extraction or industrial production and public recognition of negative environmental impacts can create a period of perceived certainty that ultimately culminates in an uncertain temporality of risk (Kirsch 2014: 138, 145).

In the case of oil extraction, the factors that determine uncertainty and risk perception arise primarily from exposure to toxic substances and from accidents. Furthermore, another level of uncertainty comes into play, which is embedded in a predetermined process of booms and declines, in which economic benefits offer a fast improvement of individual living conditions, followed by decline and disenchantment. The temporal character of this relief creates a boom that must inevitably end and lead to a crisis, either when the oil prices drop or when the source is exhausted (see e.g., Kaposy 2017; Limbert 2008; Weszkalnys 2016). Since it is impossible to predict—certainly not from a local perspective—exactly when the tide will turn, the unpredictability of the market leads to a number of challenges that take the form of uncertainty as a persistent condition in which people are forced to continuously adapt and renegotiate their conditions over and over again (see Appel 2012b; Limbert 2010; Weszkalnys 2014). The book at hand draws on previous findings in uncertainty research, by contextualizing the condition of uncertainty as a consequence of industrial pollution and as a result of the boom and bust inherent in oil as a resource. However, the question that remains is how people respond to the uncertainties of life when they live in the vicinity of an oilscape.

Conclusion: Analyzing the Time Bomb

The community and ejido Emiliano Zapata has been deeply impacted by oil extraction and its accompanying effects for more than six decades. Thus, it is also inseparably linked to the national and global history and consequences of oil and gas extraction, which are reflected in the local environment of material formation and in temporal and social dynamics. To understand these entanglements, I present the concept of the "oilscape" as a useful analytical tool. It considers the circumstances of extensive, long-term oil extraction, which follows the temporal characteristics of oil as a resource and causes economic booms and declines (see Ferry and Limbert 2008: 3; Reyna and Behrends 2011: 5; Rogers 2015a: 367). An oilscape is thus understood as a space where industrial oil extraction has inscribed itself over time in the material manifestations of landscape, housing, fields, and infrastructure, as well as in the social texture and behavior of the local residents. Uncertainty plays an important role as a feature of the oilscape, reflected in each of the three dimensions described.

As discussed above, oil bears certain particular properties, which distinguish it from other resources for extraction. These particularities are best illustrated by looking at the temporal and material characteristics of oil and their interaction with social and cultural dynamics. I therefore elaborate on the temporal as well as on the material particularities of oil and oil extraction. Recent studies of oil extraction are increasingly attempting to unravel the complex internal structures of multinational production projects, and current oil research is trying to grasp the various interrelated elements of hydrocarbons and their impact on the environment and people's lives. However, the places where oil is found and extracted are usually geographically restricted areas. In this way, oil, like many other natural resources linked to extraction and processing, forms enclaves. These are spaces where the wealth and power associated with the idea of modernity are concentrated, while their proximity provokes cultural encounters that reinforce inequalities with oil-sector workers and residents as a classic example. Emiliano Zapata represents such a space, where oil extraction is interlinked with local particularities and negotiated between local actors. In relation to oil extraction, each of these dimensions provokes a set of different uncertainties, accumulating in the oilscape, which community members expressed with the metaphor of "living on a time bomb." The following chapter shows how these uncertainties are inscribed in the oilscape and how Emiliano Zapata's community members deal with them.

Notes

Epigraph: Wilson, Carlson, and Szeman (2017: 3).

1. See Reno (2011) for a comprehensive discussion on risk perception.