Conclusion

The community and ejido Emiliano Zapata is inseparably entangled with the national and global history and consequences of oil and gas extraction. The accompanying circumstances of oil extraction have contributed to the constitution of a space, which is shaped by temporal and material properties of oil, as well as by a specific social environment defined by it. Thus, I have proposed the concept of the oilscape as an analytical tool to comprehensively assess this space and show how its three main dimensions play out in the case of Emiliano Zapata. Thereby, each of these dimensions provokes a set of different uncertainties community members have expressed with the metaphor of "living on a time bomb." Today, the residents of Emiliano Zapata found ways to deal with these uncertainties by using different mechanisms of short-term coping and long-term adaptation and thus developed the capability to continue their lives on the time bomb despite the ever-changing challenges. In this conclusion, I will briefly summarize the key findings of the preceding analysis and discuss them in relation to the literature on oil extraction and uncertainties. Thereby, I will also address the open questions, which arose through the analysis process. In the epilogue, I will provide an outlook on recent changes in Mexico's national oil policy and place the new processes into the wider context of oil extraction uncertainties.

I chose to look at the community and ejido of Emiliano Zapata as a space defined by oil extraction, drawing on the "scapes" approach by Arjun Appadurai (1990) as a concept for analyzing different dimension of flows. It stems from the term "landscapes," which bears the idea of a geographical location, but offers a novel take on spaces by emphasizing the perspectival nature and multiplicity of shapes in certain areas (1990: 33). Oil and its extraction are usually linked to a specific location, which is geographically limited (Rogers 2015a: 371). These spaces, however, encompass more dimensions than the concept of spatiality, but rather are constructed through a process of constant transformation via their material and temporal properties, as well as through a particular social dynamic through

which the actors passively and actively shape the space (see Low 2009: 22; Löw 2008: 25). The "oilscape" is based on the concept of the "minescape" by Melina Ey and Meg Sherval (2015), which was developed as an analytical approach to extraction site research. It considers the particularities of resource extraction and takes the constructive forces of conflicting ideas and processes into account, which are entangled in a complex spin of politics, human action, and physical outcome. It thereby emphasizes the sociocultural significance of the terrain (Ey and Sherval 2015: 177). As the name suggests, the concept of the minescape was developed primarily for mineral extraction sites, and although mineral extraction is in many ways comparable to oil extraction, it falls short when taking into account the specific material and temporal properties of oil. While the concept of minescape focuses on "resource extraction as a dynamic, contested terrain with complex sociocultural, material and discursive dimensions" (2015: 177), I have adapted the concept for an analysis of oil extraction sites by also understanding them as a processual consequence of entangled material sociocultural dimensions associated with extraction. With this, I have emphasized the temporal particularities of oil as the third main aspect. In doing so, the concept considers the circumstances of extensive long-term oil extraction, which follows the temporal characteristics of a resource with economic booms and busts (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 manifestation of landscape, housing, fields, and infrastructure, as well as the social texture and behavior of the local residents.

The oilscape is characterized by a set of uncertainties that are reflected in various aspects of the lives of community members in Emiliano Zapata and are linked to the particularities of each dimension of the oilscape. The associated uncertainties become an integral part of the local living conditions (see Pijpers 2018: 29) expressed in Emiliano Zapata through the metaphor of a "time bomb." This happens through the constant perception of health, life, and environmental risks from industrial pollution and accidents (see, e.g., Auyero and Swistun 2008; Cartwright 2013; Vásquez 2014), but also through the uncertain temporal progression associated with crisis-ridden economic processes (see, e.g., Limbert 2008; Weszkalnys 2016), precarious working conditions and status (see, e.g., Han 2018; Parry 2018). The latter results from the uncertainties inherent in a weak position within a larger framework of national and global power hierarchies (see Calkins 2016; Han 2018; Parry 2018), which are particularly evident when it comes to resource extraction and wealth distribution (see Kirsch 2014; Parry 2018; Pijpers 2018). By exploring how people act and react in such situations, a more comprehensive understanding of their strategies can be

gained. It can also be shown how these uncertainties reflect back on the sociocultural patterns in the long term. In order to analyze how uncertainties in Emiliano Zapata's case arise, how they are interconnected, and how community members respond to them, I systematically approached each dimension: the temporalities as certain temporal processes of economic boom and bust, and the materialities in the way the extraction and production of oil materially shapes the surroundings (see Rogers 2015a: 366).

As discussed above, oil is particularly bound to a specific temporal process of peaks, that generate wealth and economic growth associated with industrial pollution and the expectation of an inevitable end of the economic boom, when the well is exhausted, or the oil price drops. This is followed by an eventual recovery of economic conditions or stabilization of alternatives, that allow the affected population to persist until the next decline. This temporal dimension of a certain ending of the boom, even at peak times, is particularly strongly linked to oil as a resource (e.g., Cepek 2012; Dyer 2002; Kaposy 2017; Limbert 2008). By following the temporality of oil in Emiliano Zapata as one dimension of the oilscape, I first showed how the oil extraction has intertwined with the history of the community over more than six decades. PEMEX appeared in Emiliano Zapata in times of political unrest and thus encountered an uncertain situation before the oil extraction began. Since then, many conditions in the ejido territory have changed for the community.

However, the uncertainty remained and manifested itself in other, new aspects of community life—the extraction caused damage and accidents that endangered the health of people and the environment. The residents of Emiliano Zapata responded by adapting their behavior to more easily access the benefits of the oil boom, such as creating jobs, speaking Spanish instead of Totonac, reorganizing their income strategies and social norms, and claiming compensations for territorial damage. When the boom faded and the crisis began, the uncertainty increased again as established economic opportunities began to dwindle. The community members then increasingly took advantage of an improved education system established during the boom and coped by emigrating and continuing to send remittances back. This strategy is not long-term, but may evolve into one if the need for remittances persists. The implementation of the energy reform has brought new challenges with it, but it also opened up new opportunities through the expected revival of the oil sector. The temporal processes of oil extraction thus shaped the living conditions of the community members of Emiliano Zapata, but by reacting to the uncertainties inherent in these processes, they also became actors of the temporal dimension of the oilscape.

Meanwhile, the material dimension of oil extraction and its industrial traces have become deeply inscribed in Emiliano Zapata's living environ-

ment. The presence and the material impact of the oil industry have left visible, audible, and tangible traces everywhere in the surrounding territory where they are perceived by the community members with all their senses. The impact of the extractive industry has invaded the local environment and can therefore be considered an integral part of the physical appearance of Emiliano Zapata. Numerous industry-related incidents, accidents, and environmental spills have shaped the space in terms of risks and hazards associated with anxiety and concern about potential dangers.

The community members have adjusted their lifestyles, economic strategies, and behaviors to meet the demands of the oil industry and its challenges by using long-term adaptation mechanisms. To do this, they used the infrastructure provided by the oil industry, such as the roads and the bridge over the nearby river, which gave them access to the marketplaces of the cities in the area. The availability of new materials for house building is a result of commercialized agriculture and income opportunities created by casual labor. In addition, the residents of Emiliano Zapata began to partially integrate materials that were exclusively intended for industrial use into private buildings and public spaces in the community. Thus, they have taken advantage of the benefits offered by the oil industry through appropriation and repurposing. By adapting their housing and farming patterns over the long term, and as a short-term reaction by actively changing and repurposing the materialities of oil extraction, they have been taking part in the construction of the oilscape and continue to do so.

The relationship between company and community has determined the social dynamics of the oilscape since the beginning of the extraction in Emiliano Zapata. PEMEX was and still is perceived by many as a mighty "dragon," as an entity who can harm but also bring wealth to the community. Thus, the relationship was and still is highly ambivalent. The community members responded to the uncertainties caused by this ambivalence and the dominance of PEMEX by establishing contacts with PEMEX personnel or by opening businesses targeting PEMEX employees as customers. Land conflicts related to expropriation have also created internal tensions, and the presence of the company has reordered the social patterns when migrants from other communities seeking economic opportunities settled in close proximity to the oil field and established the San Andrés colony. These challenges were addressed by the community members by preparing claims against the company and using legal mechanisms such as the official parcelization of the territory via the government programs PROCEDE and FANAR. When the new company, Oleorey, took over some former PEMEX installations, the community members began

negotiations with the firm, but faced a new set of uncertainties as accountabilities were not always clear.

The energy reform also threatened the use of the fracking technology on the ejido territory. It triggered new uncertainties and fears about environmental and health hazards, but also brought other actors, such as NGO activists, researchers, and media representatives to the oilscape. In some ways, the situation under the conditions of the energy reform reproduced well known patterns of marginalization and hegemony which are discussed in studies of environmental justice in extractive projects (see, e.g., Cotton 2016; Gedicks 2001; Perreault 2018). However, changing social dynamics challenged existing power structures and new actors became manifest in new forms of actions, such as the expression of contestation through protest. The sociocultural processes in the oilscape have constantly changed over time and created different uncertainties, which then have been reflected in the development of certain social patterns.

Due to the energy reform, the oilscape is now at a turning point in the process of oil extraction, with key parameters of social and material dimensions changing. This is most evident in the changing company-community relationships, and in the revival of old installations or ways of operating equipment that were used differently in the past, such as the gas flare. While old uncertainties such as infrastructure decay or the questionable stance of community members against the undisputed dominance of PEMEX are being resolved, new uncertainties are emerging. They become visible in aspects such as the confusing situation of accountability between the companies or the potential environmental hazards posed by fracking application.

The metaphor of a time bomb hits two types of uncertainties in the oilscape of Emiliano Zapata. On one hand, it represents the fear of accidents and the anxiety triggered by the toxic pollution of the living environment (see Auyero and Swistun 2008: 358; Kirsch 2014: 144). On the other hand, it stands for the uncertainty resulting from the particular temporal characteristics of oil, related to the promises of development and economic growth, while at the same time crises and decline are predictable (see Ferry and Limbert 2008: 3; Reyna and Behrends 2011: 5; Rogers 2015a: 367). For the residents of Emiliano Zapata, this led to a situation in which they adjusted their living conditions to the immediate risks in their environment, as well as to the dynamics of economic crises and upswings over time. The community members are therefore constantly challenged to reshape and renegotiate their strategies to mitigate the explosive unpredictability of the future (see Cooper and Pratten 2015: 1). As a result, they take part in shaping the physical surroundings and the socioeconomic patterns that determine the composition and appearance of the oilscape in which

they live. The community members developed a variety of mechanisms for short-time coping and long-term adaptation of socioeconomic patterns and cultural norms (see Oliver-Smith 2013: 277).

By adapting economic practices, housing styles, and certain social norms, the sociocultural patterns in Emiliano Zapata have also changed. Comparable developments have been shown for other cases such as by Cancian for a community in Chiapas in the 1970s (1994), or by Colin Filer for a mining community in Papua New Guinea (1990). I argue that these processes do not necessarily only foster social disintegration (see Filer 1990) and the "decline of community" (see Cancian 1994) but are also mechanisms for dealing with the challenges of uncertainties and even for enabling the "continuation of community" without which they would have to perish. Therefore, I consider them necessary strategies to allow the continuity of Emiliano Zapata as a community, even though it has been massively transformed by every aspect of oil extraction. The same process can be observed in other environments where intensive oil extraction takes place (see, e.g., Cepek 2012; Fentiman 1996; Krøijer 2019) and the formation of an oilscape occurs.

Concluding Remarks on the Theoretical Frame of Oilscape and Time Bomb

The social time-bomb effect on landowning communities associated with mining described by Filer (1990) continues to be a suitable description of what happens in localities with a major extraction project all over the world. Resource extraction triggers social disintegration and major transformations of the living environment. Filer's analysis of this phenomenon is now more than thirty years old, but it nevertheless remains an adequate explanation of what happens in local communities around the world. The metaphor of the time bomb image encompasses the uncertainty and anxiety of living in a space determined by oil extraction. I consider such a space an oilscape, which emerges around an oil production site, where the extraction has inscribed itself over time in the material manifestation, social texture, and behavior of its residents. Its size is determined by the spatial extent of the extraction site. In addition to the material dimension, the temporal and specific social dynamics of the site are also taken into account. It therefore falls short of considering the "broader spatialities of oil including spaces of consumption and security" (Rogers 2015a: 372), which have been called for by Douglas Rogers as an "important diversification of the kinds of locations in which oil's materiality is being theorized" (2015: 372). This spatial focus on the extraction site could make it difficult to transfer the

concept to places where oil is processed and boomtowns exist, because oilscapes could also be considered spaces where oil extraction has inscribed itself in the material manifestation and the social texture over time.

The oilscape is thus a space that has no specific territorial boundaries. Decisions, personnel, and material flows, as well as migratory movements also play a role. The borders of the oilscape are permeable, but the analytical focus provided by the concept of scapes reflects a certain perspective of the actors on an issue—other examples are mines (Ey and Sherval 2016), coal (Portal 2018) or even water (Karpouzoglou anf Vij 2017). The analysis in this book therefore represents a contribution to the literature on the anthropology of oil and resource extraction by presenting a new view of the broader category of "landscapes of extraction" (see e.g., Grund 2016; Halvaksz 2008; Liesch 2014; Wheeler 2014) in the form of timescapes (see e.g., Adam 1998; Lanzano 2018), or minescapes (see Ey and Sherval 2015). The analysis is therefore meant to represent a certain perspective on oil and gas extraction from an actor-centered point of view. When looking at such spaces, it is crucial to understand complex individual cases in detail to show how social and cultural dimensions affect people's lives to varying degrees (Weszkalnys 2013: 267). While the idea of the oilscape is indeed transferable to other contexts, it should be further developed in future research when applying to other cases.

Several scholars have discussed uncertainty as an accompanying factor of extraction (e.g., Appel 2012b; Auyero and Swistun 2008; Pijpers 2018; Weszkalnys 2014; Witte 2018), but only a closer analytical look at the specific conditions of oil and gas extraction allows for a comprehensive understanding of them. This study has shown how uncertainty arises from each of the individual dimensions, making it an intrinsic constant of the oilscape. Although the community members of Emiliano Zapata deal with them in different ways, the uncertainties are elementary in nature and cannot be eliminated. Rather, they reflect the oilscape, especially in sociocultural patterns, and must be considered a fundamental characteristic. I argue that these uncertainties are associated with oil extraction more generally, as other studies have pointed out, even if they do not deal specifically with uncertainties but with environmental hazards or economic risks (see, e.g., Cartwright 2013; DeCesare and Auyero 2017; Dyer 2002; Stedman et al. 2012; Vásquez 2014). Hence, the uncertainty would be an essential feature of the oilscape. However, it is important to keep in mind that the specific situation of oil extraction in Mexico has contributed to a special intensity and type of uncertainty in Emiliano Zapata due to technological, historical, national, and regional circumstances.

The location and history of the community in the complex of the development of the Mexican oil industry entail some particularities that affect,

for example, the strategies used to respond uncertainties. Yet there are many examples from other oil extracting countries where global processes such as the rise of neoliberal and thus extractivist policies have had similar effects on the intensifying local inequalities, and thus foster similar uncertainties (see, e.g., Arsel, Hogenboom, and Pellegrini 2016; Bebbington and Bury 2013; Svampa 2019). Meanwhile, the more recent wave of post-neoextractivism, especially in Latin America (see, e.g., Burchardt and Dietz 2014; Davidov 2013; McNeish 2018), is changing the national policies, but not always the social reality at the extraction sites (see Revette 2017). The oilscape could serve as an analytic tool to further explore and compare such contexts. Furthermore, the concept is not necessarily limited to extractive areas, but could also be modified and applied to spaces where oil and gas are processed. The materialities of a processing site are undoubtedly different from those of an extraction site, but there are striking similarities due to the high degree of industrialization required for oil extraction, for example, compared to certain forms of mining (see Penfield 2019). The temporal dimension of processing sites can also be considered similar, but it is even more closely related to the boom-bust cycle described in classical boomtown literature (see, e.g., England and Albrecht 1984; Gramling and Brabant 1986; Moen 1981). The sociocultural dimension, however, would be particularly interesting to analyze, especially with regard to the constellation of actors and the understanding of labor relations. Topics like the distinction between work and labor, which also plays a role in Emiliano Zapata, and the constitution of local identity could be further explored through the extension of the concept to processing sites.

In the case of Emiliano Zapata, the extraction and processing activities are spatially decoupled and also physically separated from the daily activities of the residents. Nevertheless, due to its geographical location and the power structures in the political space, the community is part of these processes. Emiliano Zapata's community members live in close proximity to the national oil wealth, but hardly benefit from it—a situation often described in environmental justice literature (see Gedicks 2001; Malin et al. 2018; Mohai, Pellow, and Roberts 2009; Perreault 2018). Their community is located right next to the oil deposit, and a dense net of pipelines transporting crude oil and other substances to the processing site crisscrosses the ground beneath the houses and parcels of its members. Because they live only on the periphery but not at the center of the wealth associated with it, they do not benefit from infrastructural development, as is the case in the booming oil cities of the world. Similar cases of communities not sharing the wealth generated by extractive industries are found specifically in the Global South (see Appel 2012a; 2012b; Cepek 2012; Fentiman

1996), but also in the Western countries such as the United States (Perry 2012; Willow and Wylie 2014; Willow et al. 2014) or the UK (Bradshaw and Waite 2017; Cotton 2016; Smartt Gullion 2015; Williams et al. 2017; Whitton et al 2018). In the context of such unjust distribution patterns, the issue of political participation mechanisms was widely discussed among scholars working on environmental justice issues, such as free prior and informed consent (FPIC) and consultation mechanisms. However, the discussion has shown that these mechanisms are only partially able to compensate for existing inequalities and thus entail new uncertainties (Owen and Kemp 2014; Schilling-Vacaflor and Flemmer 2015).

The fact that the residents of Emiliano Zapata were not the main beneficiaries of oil wealth not only contributed to the emergence of economic challenges, but to some extent also reduced dependence on the oil industry. This factor is described by Marta Conde and Philippe Le Billon as "mine dependency" and refers to the relationship of the community in question to the extractive sector (2017: 686). The strongest dependency can be observed in special "mining towns" created specifically to house the miners (see Scott and Bennett 2015). But in other cases as well, communities that are heavily dependent on the extractive industry face difficulties when they are forced to find alternative livelihoods as the industry retreats and sometimes even abandons (see e.g., Andrews-Speed et al. 2005; Bowen 2019; Fisher 2007; Hilson and Yakovleva 2007). In the case of Emiliano Zapata, although the oil crisis presented new challenges to the community members, it did not have the same severe impact as in a typical oil town (see, e.g., Bowen 2019; Limbert 2010). For this reason, Emiliano Zapata's story is not a typical boomtown story. There is no spiraling process of local economic and demographic growth induced by the discovery of a resource, ending with a predictable bust when the resource runs out or loses value on the market, which leads to a severe crisis and possibly even depopulation of the city (Gramling and Brabant 1986: 179–80). In Emiliano Zapata, the agricultural activities continue and enable a diversification of income sources, which allows for more crisis resilience than in typical boomtowns. Although oil in Emiliano Zapata is inextricably linked to notions of the past, present, and future, the position of the community on the verge of oil wealth was also accompanied by a set of special circumstances that fostered a certain resilience in the face of industrial decline. These include, for example, the preservation of agricultural activities and land ownership in the sense of the ejido.

The community members, in their role as rural peasants, were never the intended beneficiaries of the wealth generated by the Mexican oil industry and thus never enjoyed the full benefit of its distribution. On the other hand, they were consequently never as dependent on the industrial

development as typical oil towns and their inhabitants. Therefore, the community members are in some ways better equipped to deal with risks, changes, and uncertainties, as time has repeatedly shown.

The Time Bomb Reloaded?

On 1 December 2018, Mexico's political landscape changed drastically when the new President Manual López Obrador (referred to as AMLO) was sworn in. He has won the presidential election with 53 percent of the vote on 3 July 2018, when he promised a historic "fourth transformation" for Mexico.[1] His victory ended the dominance of the established PRI and PAN parties (the former had been governing Mexico for seventy years, only to be defeated by the latter for the first time in the year 2000), and for many Mexicans, it indeed represented a turning point in history (Breglia 2013: 219; Pedroza 2019: 2). For instance, AMLO promised to pacify the country and reduce inequality by fighting institutionalized drug crime and curbing corruption. He also announced the cancellation of controversial megaprojects such as the Texcoco airport through a vote in a public consultation, which unsettled foreign investors. But the peso has so far remained stable. At the same time, the AMLO administration announced measures to increase revenues from natural resources, including the weakened oil sector, and revealed plans to reappropriate some of the rents captured by mafia-esque structures that had emerged within the internal organization of PEMEX. One of AMLO's first attempts to stop stealing in the hydrocarbon industries was called the "huachicalero problem," which manifests as massive theft of oil from pipelines. This problem, which had become a major issue in the country, led to fuel supply disruptions for large parts of the country in 2019 (see Cunningham 2019; Nájar 2019; Pedroza 2019: 7; Redacción BBC News Mundo 2019). As part of his effort to make energy sovereignty the centerpiece of his administration's agenda, AMLO announced plans to reform and rebuild PEMEX by building a multibillion-dollar refinery in his home state of Tabasco in June 2019. Yet foreign analysts are skeptical about the potential success of this endeavor (Viscidi and Parish Flannery 2019).

Furthermore, AMLO announced that he would abandon fracking in the country, pointing to the environmental consequences such as suspected water shortage. However, the prohibition has not been implemented in national law. Under his government, the Comisión Nacional de Hidrocarburos (CNH)-approved Pemex Exploración y Producción (PEP)'s exploration plan for the Humapa oil field in Tampico-Misantla, a non-conventional source that would be extracted with fracking technology (Ordaz

2019; Schmidt 2019). AMLO then indeed banned the use of fracking for environmental reasons, despite the fact that it had already been assigned to Haliburton, a company that wanted to apply the new technology in Mexico. Environmentalists and activists concerned about fracking remain skeptical. The AMCF warned that CNH and PEMEX would ignore this order because of the earlier approval of the plan (Monroy and García 2019; Solís 2019).

Emiliano Zapata made it into national news again when the newspaper *SinEmbargo* published an article about the negative implications of the energy reform for indigenous people and campesinos. It pointed out that the modification of legislation under the reform included a change in land use rights and a lack of implementation of the right to prior consultation with the affected rural population. Emiliano Zapata thereby appeared as a negative example, already exploited by the oil industry under PEMEX without much hope of improving the situation (Morales 2019).

AMLO's assumption of office was accompanied by a variety of expectations. To date, there is general uncertainty about the final course of AMLO's government or its accomplishments on the issues initially announced. This holds particularly true for the promises to restructure the energy sector, which includes a possible prohibition of environmentally risky technologies like fracking, as well as for the general course of established and future oil extraction projects (Pedroza 2019: 1). Given the pressure the COVID-19 pandemic put on the national economy and the great potential that the CNH sees in national fracking deposits, the question whether fracking should be completely banned started to enter the public discussion again in 2020 (BNamericas 2020). Contrary to the presidents' promises to not apply fracking in new projects, PEMEX announced to invest heavily into projects that require fracking, during 2022 (Alcalá 2021). Again, the community members of Emiliano Zapata are thus provided with a new set of uncertainties regarding the future development of the oilscape they are living in and are therefore once more challenged to renegotiate the mechanisms for dealing with them.

Note

1. AMLO was referring to independence in the 1810s as the first transformation, the reformative period in the late 1850s as the second, and the revolution of the 1910s being the third (Pedroza 2019: 2).