1

Introduction

The Oil-Induced Metamorphosis

> By the way, there is no "away" to throw things to.
> Graham Harvey, An Animist Manifesto. *PAN: Philosophy, Activism, Nature* 9 (2012): 4

Don Enrique, a sturdy man in his late sixties, shrugged his shoulders and took a glance over the cement houses of Shushufindi and the rainforest canopy towering over the outskirts of the oil town: "My life for Texaco … that was the life I lived, the good life. I do no regret having worked [for Texaco]."[1] Meanwhile, a gas flare right behind his house illuminated a deserted muddy square that used to be one of Texaco's wells, hinting at the presence of the giant oil field right below the small town in the middle of the Ecuadorean Amazon. About sixty years ago, when the US oil corporation Texaco Inc. first moved in to search for petroleum in the area, Don Enrique could not have heard of Shushufindi. The town, which first became his workplace and ended up being a place for him to retire after decades of service in the industry, did not yet exist back in the 1960s. In its place, a buzzing community of life made up a tropical ecosystem in a primary rainforest, inhabited by different Indigenous communities.[2]

[1] Don Enrique, interview by author, Shushufindi, May 18, 2018. All interviews used in this book were confidential; the names of the interviewees are withheld by mutual agreement and replaced by synonyms to identify speakers throughout the book. All interviews held in Spanish have been translated by the author.

[2] The colonial, supra-ethnic term "Indigenous" refers to the peoples that inhabited the South American continent before its alleged discovery by Europeans, Guillermo Bonfil Batalla, "El Concepto de Indio en América: Una Categoría de la Situación Colonial," *Boletín Bibliográfico de Antropología Americana* 39, no. 48 (1977): 9. In this book, all

The local Indigenous A'i Kofán's name for the new town indicated the prominence of peccaries (*shushu*) and hummingbirds (*findi*) in the area. Like many others, Don Enrique followed the call to join the giant enterprise to extract all the crude oil that Texaco had managed to discover since the late 1960s and that turned the company into by far the largest petroleum producer in Ecuador from then until the early 1990s.

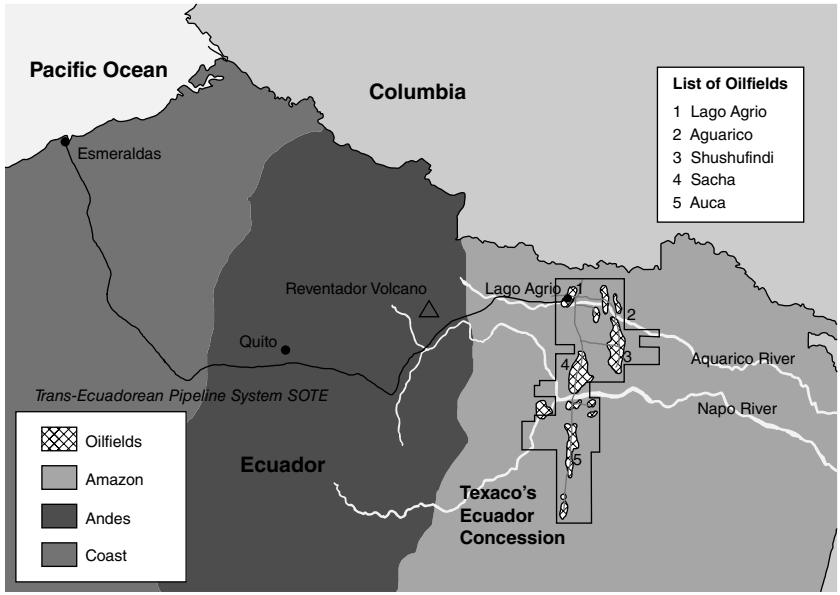
Don Enrique had quite a typical family background for an Ecuadorean oil worker: His parents were poor, landless peasants struggling to make a living in the Loja Province, at the time a drought-stricken and overpopulated region in the southern highlands of the Ecuadorean Andes. Looking for farmable land, his family moved to the Ecuadorean Amazon Region (RAE after its initials in Spanish), where Don Enrique proudly hired on in the bustling oil industry that had spread in the rainforest in the meantime.[3] Contradicting his proud statement from the beginning, Don Enrique never actually worked directly for the transnational Texaco, which was one of the seven biggest oil corporations that dominated global oil production and marketing until the mid-1970s.[4] Instead, Don Enrique worked for an entire list of companies subcontracted by Texaco. Over the years, his tasks covered everything from clearing vegetation from pipelines with a machete to being a chauffeur, warehouse manager, and foreman at oil wells. Don Enrique, like thousands of his colleagues, remained for the most part nameless and faceless figures operating in an anonymous and sealed-off world of oil wells and stations. These Ecuadorean oilmen, however, marked the economic future of their country and contributed to the contamination of the Amazon rainforest, a process that many Indigenous peoples as well as environmental and human rights activists have been observing with apparent horror. Many local inhabitants in the Amazon experienced the history of oil extraction as one of "violence and toxic suffering" as they witnessed how Texaco's operations unfolded into a veritable "environmental barbarity."[5]

mentions of Indigenous people (and Black people) are capitalized as a form of reconciliative solidarity and recognition of colonial history.

[3] The region's official name is *Región Amazónica Ecuatoriana* (RAE) as defined in the Ley Especial 245, August 5, 1980. Oscar Ledesma Zamora, "Del Oriente Ecuatoriano a la Amazonía Ecuatoriana," in *Memorias del Segundo Simposio de Historia Amazónica*, ed. Javier Gomezjurado Zevallos (Quito: Academia Nacional de Historia, 2014), 151.

[4] Maugeri Leonardo, *The Age of Oil: The Mythology, History, and Future of the World's Most Controversial Resource* (Westport: Praeger, 2006), 106–107.

[5] Nicolle P. Etchart, *Violencia y Sufrimiento Tóxico: La Lucha por Justicia Ambiental en Dayuma, Amazonía Ecuatoriana* (Quito: FLACSO, 2012); Esteban Michelena, *Crónica de una Barbarie Impune: Los Últimos Inocentes del Planeta* (Guayaquil: El Telégrafo, 2015).



MAP 1.1 Map of Northern Ecuador with Texaco's concession area between 1973 and 1992; map by Christina Lennartz.

But let's start at the beginning. In the 1960s, international oil corporations sought to diversify their supply beyond the known reserves in the Middle East and North America and were ready to invest in the exploration of new areas. One of them, the US oil giant Texaco, first set foot in the Ecuadorean rainforest in 1964 as the operator of a consortium with Gulf Oil Company that had acquired a large concession to explore and extract hydrocarbons in the RAE. This move followed Texaco's oil discoveries in the adjacent Colombian rainforest in 1963 and the expectation to be equally successful in the neighboring country.[6] After actually striking oil in 1967, Texaco became by far the biggest oil producer in Ecuador and arranged for the construction of a trans-Ecuadorean pipeline to be able to export the crude oil from the Pacific port in Esmeraldas (see Map 1.1). Over the following decades, Ecuador's political and economic history became inextricably entwined with the tumultuous history of global oil.

[6] Zeb Mayhew, "A Review of Foreign Oil Production in 1960," *Journal of Petroleum Technology* 13, no. 4 (1961): 321; Marco Rivadeneira, "Breve Reseña Histórica de la Exploración Petrolera de la Cuenca Oriente," in *La Cuenca Oriente: Geología y Petróleo,* ed. Patrice Baby, Marco Rivadeneira and Roberto Barragán (Lima: Institut Français d'Études Andines, 2015), 210–211.

https://doi.org/10.1017/9781009343053.001 Published online by Cambridge University Press

The first major exports from Ecuador in 1972 came at a serendipitous time for the military government of Rodríguez Lara (1972–1976), which had just taken power. Oil prices exploded on the world market due to growing global demand for petroleum products since the 1960s and the first oil crisis in 1973. The sudden oil wealth first strengthened the military government's plans to modernize the country's economy. With its explicitly nationalist, decolonial, and developmentalist agenda, the government managed to nationalize parts of the oil industry in the Amazon by founding the state oil company *Corporación Estatal Petrolera Ecuatoriana* (CEPE), which during the 1970s took over Gulf's shares and became the majority owner of the consortium still operated by Texaco. Ecuador even joined the Organization of Petroleum Exporting Countries (OPEC) in 1973. The tide turned, soon, however, and the multinational oil companies operating in the country gained the upper hand while Ecuador faced a major economic crisis in the 1980s. The civilian governments since 1979 have struggled with a cycle of inflation and recession combined with a growing foreign debt as oil prices plummeted and domestic oil production staggered. Increasingly, neoliberal governments implemented austerity programs to secure loans from international lenders while trying to attract international oil companies to increase current production and discover ever more oil fields in the Amazon. This neoliberal resource governance focused on deregulation, and privatization lasted up until 2006.[7]

Turning their focus from political struggles and economic profits to what happened in the rainforest itself during these decades, critical observers have been pointing out the vast contamination of the rainforest by Texaco and its deadly consequences all over the region. The inconsiderate dumping of production wastes in unlined pits and the flaring of natural gas caused the large-scale contamination of tropical ecosystems and gravely impacted the lives of Indigenous communities.[8] Even Don Enrique, whose former employers directly contributed to that toxic legacy, conceded the contamination: "People say [Texaco] did contaminate.

[7] Allen Gerlach, *Indians, Oil, and Politics: A Recent History of Ecuador* (Wilmington: Scholarly Resources, 2003), 41–43; George Philip, *Oil and Politics in Latin America* (Cambridge: Cambridge University Press, 1982), 276–278; Maugeri. *The Age of Oil*, 86; Thea N. Riofrancos, *Resource Radicals: From Petro-Nationalism to Post-Extractivism in Ecuador* (Durham: Duke University Press, 2020), 8; cf. David S. Painter, "Oil and the American Century," *The Journal of American History* 99, no. 1 (2012), 37–38.

[8] Judith Kimerling, "Indigenous Peoples and the Oil Frontier in Amazonia: The Case of Ecuador, Chevrontexaco, and *Aguinda v. Texaco*," *International Law and Politics* 38 (2006): 449–454.

It's true that there were crude oil pits, nobody can deny it: 'You can't hide the obvious.'"[9]

As a consequence, in many accounts the complex history of the RAE appears as a rather linear story of social, cultural, and ecological devastation that went hand in hand with (oil) development.[10] This storyline usually pits an expanding "modern" and industrial society against a romanticized, doomed nature – supposedly comprising several Indigenous communities. As a consequence of this simplification, the historiography of the Ecuadorean Amazon often reproduced the dualism between nature and society, a dichotomy that "drips with blood and dirt," both conceptually and literally.[11] What's for sure is that the RAE played a fundamental role in the recent political and economic history of Ecuador. Notwithstanding being a peripheral region, the Amazon contributed substantially to the national income through its enclave economy of oil extraction. Given the centuries-old border conflicts with Peru, the Amazon also gained enormous symbolic importance for the construction of the Ecuadorean national identity.[12] It is in such an area of tension that the following environmental history of oil extraction in the Ecuadorean rainforest is set.

STUDYING THE HISTORY OF THE ECUADOREAN AMAZON

The *Metamorphosis of the Amazon* takes an innovative, interdisciplinary stance in the way it tells the intricate story of large-scale oil exploration and extraction in the Ecuadorean rainforest in the twentieth century. This subsection offers an insight into the historiographical perspective and positionality of the author, the variety of sources, as well as the methods used to assemble and study these sources. Inspired by the environmental humanities, this book engages in an "approach to environmental issues that builds on and, at the same time, transcends traditional humanistic forms of scholarship."[13] The interdisciplinary

[9] Don Enrique, interview by author, Shushufindi, May 18, 2018.

[10] Nelson Gomez, Segundo Moreno, Orlando Lopez, and Antonio Narváez, *Tempestad en la Amazonía Ecuatoriana* (Quito: Centro Internacional de Estudios de las Sociedades y Espacios Andinos, 1992).

[11] Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso Books, 2015), 4.

[12] Teodoro Bustamante et al., *Retos de la Amazonia* (Quito: Abya Yala, 1993), 194.

[13] Sabine Wilke, "Outlook: Environmental Humanities," in *Rethinking Nature: Challenging Disciplinary Boundaries*, ed. Aurélie Choné, Isabelle Hajek, and Philippe Hamman (New York: Routledge, 2017), 243.

approach integrates several historiographical subdisciplines with theories from the social sciences such as sociology, critical geography, and science and technology studies (STS), thereby building on both a traditional analysis of archival sources and an ethnographic approach to oral history. In the formal shape of an environmental history, this book explores the regional oil development in the RAE as being situated in the network of the global oil industry, including aspects of labor history and global history.[14] Drawing from a variety of archival and oral history sources and also scientific literature in fields such as petroleum geology, the narrative brings the regional history into conversation with recent debates in the social sciences on the relationships between capitalism and nature.[15] Engaging profoundly with the perspective of the Ecuadorean and foreign oilmen who experienced and shaped the history of the RAE through oral history offers a unique contribution to exploring the extractive pasts of Latin America.

In order to adequately write the entangled history of oil in the RAE, this book proposes a perspective that looks beyond the human actors involved in the story. Drawing from the basic ontological assumptions of the "new materialisms," the research project was driven by the recognition that "environmental challenges [are] inextricable from social, cultural and human factors."[16] In this story, the Amazon rainforest is not a malleable canvas on which a modern history of conquest and (oil) development unfolded but an environment with an agentive character that constantly reshaped perceptions, oil infrastructures, and technologies. The rainforest ecosystem with its human and nonhuman inhabitants constantly challenged the encroachment of people and infrastructure, turning the metamorphosis into a complex interactive process. Scrutinizing the role of a range of protagonists involved in the metamorphosis of the RAE, from raging rivers to transnational corporations, refines

[14] Gavin Little, "Connecting Environmental Humanities: Developing Interdisciplinary Collaborative Method," *Humanities* 6, no. 4 (2017): 96; Mieke Bal, "Working with Concepts," *European Journal of English Studies* 13, no. 1 (2009): 13; cf. also Alf Hornborg, John Robert McNeill, and Joan Martínez-Alier, eds. *Rethinking Environmental History: World-System History and Global Environmental Change* (Lanham: AltaMira, 2007); Sebastian Conrad, *What Is Global History?* (Princeton: Princeton University Press, 2016); John D. French, "Latin American and International Working Class History on the Brink of the 21st Century: Points of Departure in Comparative Labor Studies," *Development and Society* 29, no. 2 (2000): 143–147.

[15] Stephan Lessenich, *Living Well at Others' Expense: The Hidden Cost of Western Prosperity*, translated by Nick Sonmers (Cambridge: Polity, 2019).

[16] Astrida Neimanis, Cecilia Åsberg, and Johan Hedrén, "Four Problems, Four Directions for Environmental Humanities: Toward Critical Posthumanities for the Anthropocene,"

notions of agency and responsibility within the structures imposed by oil companies and the Ecuadorean governments. In the history of oil, ideas, discourses, and imaginaries unfolded in an intimate exchange with matter, be it worker's bodies, muddy roads, or the petroleum itself. Instead of discussing Texaco as a monolithic actor, this book dissects the system and structures of oil exploration and extraction implanted by Texaco, including other essential players like the hundreds of subcontracted oilfield service companies and the oilmen themselves – all acting on a spectrum between corporate structures, individual decisions, and path dependencies. Reflecting on the power dynamics unfolding in the rainforest as an interactive site also offers the opportunity to see the lively grey (or rather green) area between activists' declensionist narratives and the oil companies' carefree attitude denying contamination and destruction.[17]

In an attempt to add more complexity to this continuum, this book also digs deep into the heterogeneous relationship between individual oilmen and the corporate structure set up by Texaco in the RAE. Texaco, known as the "owner and lord" of the Ecuadorean rainforest among workers, often appears as a monolithic actor in academic and activist narratives. Texaco, as the operator of the consortium, certainly carried the responsibility for the economic success of the endeavor, but also for the environmental calamities caused by exploiting oil in the rainforest. The implementation of such exploitation lay, however, often in the hands of a multitude of oilfield service companies and was enacted daily by thousands of workers – under the complicit eyes of the Ecuadorean state present through the state oil company CEPE, the Ministry of Energy and Mines, and the military. Placing the focus on the extractors and how they related to the environment that withered under their hands, machetes, and drill heads offers "a set of stories that illustrate some of the complexity of the human experience in nature across

Ethics and the Environment 20, no. 1 (2015): 70. For a discussion of the agentive character of the non-animated world, see also Bruno Latour, *Pandora's Hope: Essays on the Reality of Science Studies* (Cambridge: Harvard University Press, 1999) and Bruno Latour, "Agency at the Time of the Anthropocene," *New Literary History* 45, no. 1 (2014): 1–18.

[17] Diana Coole and Samantha Frost, "Introducing the New Materialisms," in *New Materialisms: Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham: Duke University Press, 2010), 6–7; Kenneth Pomeranz, "Introduction: The Environment and World History," in *The Environment and World History*, ed. Edmund III Burke and Kenneth Pomeranz (Berkeley: University of California Press, 2009), 26.

time and geographical space."[18] The ensuing legacy of socio-ecological destruction in the Amazon reveals the real price of oil extraction: An apparently mostly untapped rainforest rapidly morphed into a modern industrial and polluted landscape in a time lapse.[19]

This book focuses on oil exploration and extraction in a particular place – the Ecuadorean Amazon – at a particular time – the twentieth century – that arguably both significantly shaped the way people, oil infrastructures, and the rainforest interacted. While this approach appears self-evident, previous research on oil often followed the self-portrayal of the global oil industry and its major players such as Texaco as a standardized structure that was supposed to work like "an assemblage that can be copied from place to place in modular fashion."[20] This way, however, the particular space-time of oil discoveries in Ecuador and the nascent regional political economy of oil in the Amazon rainforest come into the spotlight. This emphasis on landscapes and places follows an emerging trend in Latin American environmental historiography.[21] This story is mostly located, rooted, and uprooted in the heart of the RAE, but also shaped by the constant transnational travel of people, ideas, and technology between the rainforest, Ecuador's capital Quito, and the headquarters of oil and service companies in places as far as New York, Florida, or France.

The timeframe of the *Metamorphosis of the Amazon* reaches back millennia to show how petroleum reserves ended up under the present-day Ecuadorean rainforest, where oil companies started to look for them since the 1920s. The first unsuccessful oil exploration adventures in the 1920s and 1940s were the harbingers of profound change in an environment that had so far been only gradually transformed by its human and

[18] Myrna I. Santiago, "Extraction Stories: Workers, Nature, and Communities in the Mining and Oil Industries," in *A Living Past: Environmental Histories of Modern Latin America*, ed. John Soluri, Claudia Leal, and José Augusto Pádua (New York: Berghahn, 2018), 221.

[19] Untapped refers in this context to capitalist resource extraction. Archaeological research increasingly unveils how the centuries-long impact of human settlements has profoundly shaped the ecology of the Amazon rainforest. Michael J. Heckenberger et al., "Pre-Columbian Urbanism, Anthropogenic Landscapes, and the Future of the Amazon," *Science* 321, no. 5893 (2008): 1214–1217.

[20] Appel, Mason, and Watts, "Introduction. Oil Talk," 18.

[21] Beyond a few inspiring exceptions, however, only few environmental histories have focused on the fate of the Ecuadorean rainforest so far: Nicolás Cuvi, "Las Semillas del Imperialismo Agrícola Estadounidense en el Ecuador," *Procesos: Revista Ecuatoriana de Historia* 30 (2009): 69–99; Anders Siren, "History of Natural Resource Use and Environmental Impacts in an Interfluvial Upland Forest Area in Western Amazonia," *Fennia-International Journal of Geography* 192, no. 1 (2014): 36–53.

nonhuman inhabitants. The center of the story revolves around the 1970s and 1980s as Texaco's decisive years in unearthing the oil without much regard for the rainforest on top of it, installing on the go large-scale infrastructures, hundreds of waste pits, and an unprecedented social hierarchy of oilmen. This story ends in the early 1990s, when Texaco left Ecuador for good but also left behind a wrecked biosphere in the Amazon: less of a rainforest and more of an industrial and agricultural landscape.

To retrace the metamorphosis of the Ecuadorean Amazon, this book builds upon a wide range of material from written archival sources and oral histories, mostly from Ecuador and the United States. Most of the archives consulted in Ecuador are located in Quito, including five government archives, the archives of the National Assembly and the National Court, two military archives, and the National Jesuit Archive. The documents in these archives provided diverse perspectives on the social, economic, and ecological history of Ecuador. The Carmelite missionary archive in Lago Agrio offered unseen material on local resistance to oil production as the archive had previously been closed for visitors. By far the most valuable archive proved to be that of the activist organization Unión de Afectados y Afectadas por las Operaciones Petroleras de Texaco[22] (UDAPT) because it offered access to thousands of internal documents, reports, and correspondence from Texaco's operations in Ecuador. UDAPT (formerly part of the nongovernmental organization (NGO) Frente de Defensa de la Amazonía) acted as the legal representative of a group of Indigenous people and settlers suing Texaco in the landmark case *Aguinda v. Texaco*. A discovery procedure in the United States forced the oil company to reveal an abundance of internal and often classified documents.[23] The archival documents informing this book comprise Texaco's internal correspondence, reports by Ecuadorean ministries and NGOs, magazines, Ecuadorean national newspapers, maps, and legal documents such as court files and contracts – all focusing on the time between the 1920s and 1990s.

Missing from this selection are the corporate archives of the involved oil companies. Generally, critical research on the oil industry faces strong

[22] Union of People Affected by Chevron-Texaco.

[23] In order to complement these Ecuadorean perspectives with the US perspective – being home to most of the involved oil and oilfield service companies – this study relied on material from The Bancroft Library at the University of California, Berkeley. The stories accessible at the "Oral History of the Texas Oil Industry Collection" at the Dolph Briscoe Center for American History at the University of Austin, Texas, and reports from the Greenpeace International Archive in Amsterdam offered further context for the study.

opposition by the involved companies, even for historical studies. The difficulties in accessing these were unfortunate yet expectable:

> It should be no surprise that in an industry typified by concentrated economic and political power, … secrecy, security, guardedness, corporate ventriloquism, and defensiveness are the hallmarks of the industry's operations.[24]

After months of insistent communication to carry out research for this project, the Ecuadorean state oil company Petroecuador (in line with the current Ministry of Hydrocarbons) denied access to the records of its predecessor CEPE, which operated in a consortium with Texaco, allegedly due to administrative issues. The lack of access to the archives of the national oil company impeded a more profound consideration of the role of CEPE and the Ecuadorean governments in relation to Texaco in this study. Similarly, the Chevron Corporate Archive in Concord, California, which is home to Texaco's archival records, is closed to independent researchers, and no communication was possible with the archival team. The challenge of directly accessing corporate sources actually offered an opportunity by triggering the consideration of a variety of other sources and archives, as outlined above. This way, this book uncovered hitherto unheard voices from within and unusual perspectives on the Ecuadorean oil industry.

Oral history interviews constitute the second backbone of this book in terms of sources and methodology. As the first collection of its kind, the oral histories of Ecuadorean oilmen offer a unique contribution to the social and ecological history of the Ecuadorean Amazon. A collection of sixteen interviews with former and current oilmen who had been working in the oil sector during Texaco's presence until the 1990s make up the main body of oral history sources informing and underpinning this project.[25] The narrative and semi-directed interviews usually took place

[24] Hannah Appel, Arthur Mason, and Michael Watts, "Introduction. Oil Talk," in *Subterranean Estates: Life Worlds of Oil and Gas*, ed. Hannah Appel, Arthur Mason, and Michael Watts (Ithaca and London: Cornell University Press, 2015), 6.

[25] Fourteen interviews with Ecuadorean oil workers were conducted during two research stays in Ecuador in 2018 and 2019; the remaining two interviews stem from fieldwork conducted in Ecuador in 2012. All these interviews were conducted in Spanish. Two interviews with petroleum engineers from France and Denmark were conducted by phone. The interviewees are certainly not representative from an intersectional point of view, as they are all men and between fifty-five and eighty-five years of age. During the period of study, women were not employed for field operations, and it was not possible to identify one of the few female office workers who had been employed in Quito or Lago Agrio. That is why "oilman" and "oil worker" are used interchangeably in this book. The interviewed workers represented diverse cultural and ethnic backgrounds, including *mestizo*, Indigenous (mostly Kichwa), and Afro-Ecuadorean.

at the workers' homes, covering a wide range of topics circling around their experiences at the workplace in the rainforest. As the experiences and perspectives of oilmen have often been omitted in previous studies, this account also aims "to create a history of everyday lives of those who had heretofore been ignored by historians … and to radicalize the practice of history by contesting a 'hegemonic' view of agency and power."[26] While some oil workers have actively fought to gain a voice and visibility in political struggles over oil policies through unionization and strikes, the collected oral histories provide further insights into their experiences of the corporate structure of oil in the RAE and its embedded social hierarchies and forms of discriminations.[27]

At this point, the positionality of the researcher and the general fieldwork situation of conducting interviews about thirty years after the end of Texaco's operations require some further consideration. The dynamic between the young, white, male German researcher and the elderly oil workers, the interaction with other participants such as family members, and the present societal discourse on oil extraction – which currently focuses more on contamination and public health issues – all certainly influenced the storytelling of the oilmen. As an obvious outsider to the oil workers' communities, gaining access to and the trust of oil workers to participate in the present study was a major challenge. A mostly migrant workforce kept (and keeps) the oil sector in the Amazon running, and consequently, many former oilmen returned to their home regions and are currently distributed all over Ecuador.[28] Once contacted, many potential interview partners were very cautious about talking to a researcher in a climate of uncertainty given the political context of pending lawsuits over the environmental impact of oil development, which could potentially

[26] Ronald J. Grele, "Oral History as Evidence," in *Handbook of Oral History*, ed. Mary Chamberlain, et al. (Lanham: Rowman Altamira, 2006), 48.

[27] The two main data sets, the archival sources and the oral histories, were complemented with field visits and further interviews. The field visit sites in the RAE include the most important oil boom towns within Texaco's former concession, namely Lago Agrio, Shushufindi, and Sacha, as well as numerous smaller settler communities, farms, and the two Indigenous communities Dureno of the A'i Kofán nationality and San Pablo of the Siekopai nationality. To contextualize the opinions and perspectives expressed in the interviews with oilmen, nine more interviews were conducted with local activists of UDAPT, Indigenous leaders, and farmers.

[28] The only exception are the oil boom towns in the RAE that host a certain accumulation of retired workers. In addition, many former oilmen have already passed away, especially the ones involved in the earlier operations in the 1960s and 1970s. Many interviews were hampered by work-induced disabilities of the oil workers, such as hearing impairment.

implicate themselves, their colleagues, and former employers. Thanks to previous experience doing ethnographic research with Indigenous communities in the Ecuadorean highlands and the strong support of local environmental and human rights activists, it became possible to contact interview partners, build trust, and arrange encounters to record the workers' oral histories. During the interviews, the author's position as an outsider and his aspiration to achieve "empathetic neutrality" to reduce biases shaped the process of interactive memory-building that constitutes oral history interviews.[29] As a consequence, many of the interview partners became surprisingly open in the course of the conversation, even sharing sensitive information – probably also because of the agreed-upon anonymity.[30]

Building and later analyzing the large data set on the RAE was mostly based on historical and anthropological methods. Following the transcription of all oral sources, careful reading, systematic source analysis, and coding of the oral histories and written records were performed with the help of qualitative data analysis software.[31] The coding followed an iterative process of moving from initial coding to focused coding, developing more comprehensive and conceptual categories common in grounded theory-building.[32] The combination of source analysis and coding served to reconstruct historical events and identify their underlying dynamics. Whenever possible, oral histories and interviews with local activists, Indigenous leaders, and farmers from the RAE served to triangulate the archival sources, and vice versa. Additionally and in line with the "new materialist" ontology, the anthropological methodological framework of "resource environments" informed the analysis of the history of oil

[29] Rachel Ormston, Liz Spencer, Matt Barnard, and Dawn Snape, "The Foundations of Qualitative Research," in *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, ed. Jane Ritchie, Jane Lewis, Carol McNaughton Nicholls and Rachel Ormston (London: Sage, 2014), 22.

[30] The collected oral histories offer a veritable cross section of the workforce in terms of employment relations, geographical locations, and ethnic background – even though it was not possible to assemble a fully representative sample of Ecuadorean oil workers at the time. The interviewees reflect to a certain degree the labor reality in the first decades of oil extraction in the RAE: They were employed by Texaco itself, the state company CEPE, or one of the many subsidiary companies. The same applies to the type of task or profession they exercised; among them are mechanics, welders, engineers, supervisors, accountants, and many more – considering also that the same person often held various positions during his career.

[31] Tropy was used for analyzing the written and visual archival material, while atlas.ti was used to code the interviews.

[32] Cf. Kathy Charmaz and Robert Thornberg, "The Pursuit of Quality in Grounded Theory," *Qualitative Research in Psychology* 18, no. 3 (2021): 308.

exploration in Ecuador (see Chapter 3) – as a way to study the material and discursive entanglements in which a substance like petroleum comes into existence as a resource and consequently reshapes the landscape around its location.[33] The wide range of sources and interview partners combined with a qualitative, inductive methodology helped to rewrite the history of the Ecuadorean Amazon as a profound metamorphosis.

ON THE TRACKS OF THE METAMORPHOSIS

For the most part, the history of the Amazon has been a process of slow, gradual change. Countless species evolved and formed together what we perceive as a rainforest environment. Rivers might have changed their course; humans and nonhumans made their homes for some time and then moved on within the vast green landscape: "What we call nature is, in native Amazonian stories inseparable from history: a permanent state of transformation."[34] Yet, in the twentieth century, the inhabitants of the Ecuadorean rainforest witnessed something remarkable, a process of change so swift and fundamental that left nothing untouched: the oil-induced metamorphosis of the Amazon. This section explores the diverse notions of metamorphosis and one approach to study the process in depth.

Taking a step back, the following question arises: How do we think through the environmental history of a space such as the Amazon rainforest? So far, the idea of a *transformation* has characterized discussions and research about historical change.[35] Transformation has turned into a widespread concept that captures social and technological changes when used as a descriptive concept, yet it often also carries a normative dimension, especially in sustainability discourses. Given its broad application, transformation came to relate to all kinds of historical changes within human societies while sometimes hiding or dismissing the fundamental role local or regional environments might play in such changes.[36]

[33] Tanya Richardson and Gisa Weszkalnys, "Introduction: Resource Materialities," *Anthropological Quarterly* 87, no. 1 (2014): 7.

[34] Lúcia Sá, "Endless Stories: Perspectivism and Narrative Form in Native Amazonian Literature," in *Intimate Frontiers: A Literary Geography of the Amazon*, ed. Martínez-Pinzón, Felipe, and Javier Uriarte (Oxford: Oxford University Press, 2019), 128.

[35] Cf. Jürgen Osterhammel, *The Transformation of the World: A Global History of the Nineteenth Century* (Princeton: Princeton University Press, 2014); Reißig, Rolf. *Gesellschafts-Transformation Im 21. Jahrhundert* (Wiesbaden: Verlag für Sozialwissenschaften, 2009).

[36] Certainly, there are also attempts to integrate a thorough consideration of the environment under the umbrella of transformation research; cf. Ulrich Brand and Markus

Instead, the story unfolding over the following pages develops the idea that the Ecuadorean Amazon underwent a profound *metamorphosis* over the course of the twentieth century. A quick glance at a dictionary reveals the definition of metamorphosis as a "change of physical form, structure, or substance especially by supernatural means" and "a striking alteration in appearance, character, or circumstances."[37] With its biological and mythical undertones, such shape-shifting draws nature as an agent into the story and re-directs attention to the agentive character of nonhumans, too often perceived as inert or insignificant to human historiography.[38] In contrast to transformation, a change thought of as metamorphosis contains an inherent ecological, material notion in addition to social and cultural aspects. This enables an analysis that transcends the long-standing division of nature and society in European social thought, offering a perspective on historical change where both are enmeshed.

This perspective on metamorphosis resonates with the countless ethnographic accounts of the social and cultural lives of many Indigenous nationalities in the Amazon.[39] In several Indigenous cosmovisions and narrative traditions, metamorphoses are understood as a variety of processes of transformation that connect persons, be they human, animal, or spiritual, with each other and also with the environments they inhabit.[40] Metamorphoses into nonhumans such as jaguars or plants appear as a recurrent and intentional practice in shamanic medicine and ritual. Certain hunting practices, for instance by the Amazon Kichwa people, require a spiritual metamorphosis of humans into animals as well. Indigenous accounts describe the metamorphosis as a temporal

Wissen, "Social-Ecological Transformation," in *International Encyclopedia of Geography: People, the Earth, Environment and Technology*, ed. Douglas Richardson et al. (Chichester: John Wiley & Sons, 2017).

[37] www.merriam-webster.com/dictionary/metamorphosis (accessed November 28, 2020).

[38] cf. Jane Bennett, *The Enchantment of Modern Life: Attachments, Crossings, and Ethics* (Princeton: Princeton University Press, 2016).

[39] According to the Ecuadorean National Institute of Statistics and Census (INEC), an Indigenous nationality is a group of millennial people existing prior to and being constitutive of the Ecuadorean state that defines itself as a nationality with its own historical identity, language, and culture, living in a certain territory with its own institutions and traditional forms of social, legal, political organization and execution of authority. Within the national territory of Ecuador, there live fourteen Indigenous nationalities speaking thirteen different languages.

[40] Lúcia Sá, "Endless Stories," 149; Ulrike Prinz, "'No do couro da onça.' Reflexiones sobre la transformación y la metamorfosis en las tierras bajas de Sudamérica," *Boletín de Antropología Universidad de Antioquia, Medellín* 18, no. 35 (2004): 284.

experience born out of the lived union of humans with their environment that allows a change of perspective between human, nonhuman, and spiritual beings. While many anthropologists perceive this kind of metamorphosis as fundamentally different from Western notions, there might be intersections in the context of (colonial) violence: when going to participate in the civil war, several Indigenous nationalities in the Colombian Amazon are said to shape-shift into "animals of the forest," ceasing to be human and losing themselves in a tragic Kafkaesque process.[41] More often, however, Indigenous narratives portray life in the Amazon as a perpetual metamorphosis, highlighting the intricate relationships in which forest ecosystems and human communities are bound together. In this context, the metamorphosis also implies that forests and humans transition between the roles of victim/perpetrator or preserver/destroyer in a relationship of constant destruction and construction. From this relational perspective, metamorphosis dissolves the seemingly discrete boundaries (from a Western perspective) between nature and humanity.[42]

In contrast, Franz Kafka's *The Metamorphosis* – probably the best-known story of a metamorphosis in modern literature – is the story of a man who awakens one day as a giant beetle, a shameful and irreversible experience that ends in the character's death.[43] Long before Kafka, there was a tradition in European literature and social thought that framed different changes in forms and processes as metamorphoses. The Roman poet Ovid explored in his *Metamorphoses* this prominent theme in Greek mythology, understood in that context, for instance, as the temporary shape-shifting of Olympic gods or the irreversible petrification of humans. Inspired by Ovid's verses, the German natural philosopher Goethe authored several treatises on geological and biological metamorphoses. Building on these predecessors, Karl Marx applied the idea of metamorphosis to the social sphere and critically described the

[41] Eduardo Kohn, *How Forests Think: Toward an Anthropology Beyond the Human* (Berkeley: University of California Press, 2013), 123–124; Marco Tobón, "Metamorfosis Trágica en la Amazonia Colombiana: El Cuerpo en los Juegos de la Guerra y la Paz," *Vibrant: Virtual Brazilian Anthropology* 15 (2018): 9.

[42] cf. Consuelo Hernández, "Permanente Devenir e Incesante Metamorfosis: Dos Discursos sobre la Amazonía Colombiana." Paper presented at *Nuevos caminos del hispanismo: actas del XVI Congreso de la Asociación Internacional de Hispanistas*, Paris (2010); Miriam Elise Marubbio, "The Edge of the Abyss: Metamorphosis as Reality in Contemporary Native American Literature" (The University of Arizona, 1993).

[43] Franz Kafka, *The Metamorphosis*, translated by Karen Reppin (Haselbach: Vitalis, 2019 [1915]).

metamorphosis of a commodity into money and vice versa as an essential process in the creation of value – and consequently of an alienated human relationship with labor and nature.[44] In a more recent conceptual exploration of the idea of metamorphosis, sociologist Ulrich Beck made use of the term in his analysis of the profound changes modern societies are facing in their mode of existence globally in the twenty-first century, for instance in relation to gene editing or climate change.[45]

Metamorphosis is not yet an established or full-fledged theoretical concept in the Humanities or the Social Sciences, so this is one proposal to further develop it as an operational heuristic, drawing from predecessors from both sides of the Atlantic Ocean. Here, *metamorphosis* denotes an interactive, multi-scalar process of inherently socio-ecological changes from a descriptive-analytical perspective. Applied to the history of oil extraction in the Ecuadorean Amazon, the notion of metamorphosis avoids normative implications: over the twentieth century, the substance of the rainforest landscape remained, but its shape shifted toward a less diverse, more toxic industrial and agricultural environment. In line with the new materialist underpinning of this study, the idea of metamorphosis undermines a conception of regional history being the result of solely human interventions – a developmentalist project of resource extraction and its side effects. The story unfolding in the next chapters reveals that climatic conditions or rivers shaped the history of the RAE as much as did human engineers or pipelines.

The research process revealed that there was a need to analytically break down the encompassing notion of metamorphosis. While going back and forth between archives, field sites in the Amazon, and coding/source analysis, the idea of witnessing a metamorphosis of the region on several levels arose. It became clear that a change in the way the Amazon was perceived preceded and overlapped with the different material and social changes happening in the wake of oil exploration and extraction.

[44] For different conceptualizations of the notion of metamorphosis in the Humanities and a historical overview of its use in Europe, see Herwig Gottwald and Holger Klein, eds., *Konzepte der Metamorphose in den Geisteswissenschaften* (Heidelberg: Winter, 2005); Ingo Gildenhard, *Transformative Change in Western Thought: A History of Metamorphosis from Homer to Hollywood* (London: Legenda, 2013); Publius Ovidius Naso, *Metamorphosen: Lateinisch-Deutsch*, ed. Niklas Holzberg (Berlin: De Gruyter, 2017); Johann Wolfgang von Goethe, *J. W. von Goethe Herzoglich Sachsen-Weimarischen Geheimenraths Versuch die Metamorphose der Pflanzen zu Erklären* (Gotha: Ettinger, 1790), 3–4; Elmar Treptow, "Zu Marx' Aufhebung der Metamorphosenlehre Goethes," *Zeitschrift für philosophische Forschung* 34, no. 2 (1980): 179–180.

[45] Ulrich Beck, *The Metamorphosis of the World* (Cambridge: Polity, 2016), 20.

There emerged four major analytical dimensions from the data set that are particularly relevant to tracing the history of oil in the RAE:

- a conceptual metamorphosis
- a material metamorphosis
- a toxic metamorphosis
- a social metamorphosis

These different dimensions proved to be particularly relevant to analyze and narrate the particular metamorphosis in the context of twentieth-century Amazonia; from an empirical perspective, however, they have certainly been entwined and closely tied to the ecology, geology, and geography of the Amazon and cannot always be neatly separated.[46] The conceptual dimension relates to the phenomenon that oil exploration fundamentally changed what the rainforest region represented for foreign companies and the national governments: from the 1960s on, they perceived it as a resource environment. The material metamorphosis relates to the new landscape that emerged as infrastructural projects and technology transfers merged the oil industry with nature. Closely related, the toxic metamorphosis reflects on the dynamics and consequences of polluting a rainforest landscape. Instead of a thorough toxicological analysis of the flora and fauna affected by the oil industry's hazardous waste, this dimension offers a discussion of the capitalist logics for turning the RAE into a cheap sink for oil wastes. Finally, the social metamorphosis speaks of how the corporate structures of oil subverted social life in the region; due to the research focus of this study, this dimension relates mostly to the lives of migrant oil workers (be they Indigenous or not) and less to the impacts on local communities.[47] Conceiving of the overall process as a metamorphosis is an innovative way to describe both observable socio-ecological changes and their underlying dynamics in retrospect.

[46] It must be noted that other dimensions of the metamorphosis would also have been useful with a different research design; for instance, a closer historic and ethnographic focus on the various local Indigenous nationalities might have revealed different kinds of "cultural metamorphosis."

[47] Studying the substantial social and cultural upheaval experienced by the local Indigenous nationalities and how they became entangled with the oil industry requires extensive ethnographic work – such as Michael L. Cepek, Life in Oil: Cofán Survival in the Petroleum Fields of Amazonia (Austin: University of Texas Press, 2018); Laura Rival, *Trekking through History: The Huaorani of Amazonian Ecuador* (New York: Columbia University Press, 2002); see also Cristina Cielo and Nancy Carrión Sarzosa, "Transformed Territories of Gendered Care Work in Ecuador's Petroleum Circuit," *Conservation and Society* 16, no. 1 (2018): 8–20.

Visually speaking, at the end of the metamorphosis, the green caterpillar of the rainforest turned out to be more of a brown-reddish moth, marked by oil extraction and agriculture. This implies that even though the Ecuadorean rainforest did not hatch into a butterfly at the end of the twentieth century, it is far from being dead or destroyed. In this sense, the idea of metamorphosis "presupposes *both* change and resilience," while it also hints at the irreversibility of many changes, such as the widespread pollution that might dilute over time, but cannot be reversed or remediated completely.[48] The temporality of the observed changes is fascinating, as the ecological relationships buzzing in the Ecuadorean Amazon that had developed over millennia underwent a swift and radical yet not total metamorphosis during a few decades of oil exploitation. This way, the term "metamorphosis" offers a notion of overlapping processes of destruction and production that expands the conceptual language within the environmental humanities by subverting narratives of declension, offering a nuanced but not necessarily hopeful narrative. This way, there remains space for stories of resistance and adaptation in the context of an increasing destruction of the rainforest by the oil industry. Anthropologist Michael Cepek observed this ambiguity in the notion of metamorphosis also in the way a local Kofán community struggled to come to terms with living in a landscape affected by oil extraction:

> Avoiding the pitfalls of quietism, hyperbole, and surrender, the Cofán are struggling to articulate their position in a way that expresses both the seriousness of their situation and their realistic hope for surviving it.[49]

While acknowledging and pointing out the current human and nonhuman suffering implied in the metamorphosis of the Amazon, this book explores how "pollution represents not only degraded nature, but also a new landscape."[50] This way, the storyline brings into view the many ways in which nature mattered in the history of oil in the Ecuadorean Amazon. In sum, the metaphor of metamorphosis offers a double advantage. It denotes the historical socio-ecological processes that are the subject

[48] Renaud Egreteau and François Robinne, *Metamorphosis: Studies in Social and Political Change in Myanmar* (Singapore: NUS Press, 2015), 4.

[49] Michael L. Cepek, "The Loss of Oil: Constituting Disaster in Amazonian Ecuador," *The Journal of Latin American and Caribbean Anthropology* 17, no. 3 (2012): 410.

[50] Lise Sedrez, "Latin American Environmental History: A Shifting Old/New Field," in *The Environment and World History*, ed. Edmund III Burke and Kenneth Pomeranz (Berkeley: Unversity of California Press, 2009), 268.

of analysis while offering a narrative structure: after millennia of only gradual change, oil development swiftly and fundamentally rearranged human-nature interactions in the tropical rainforest.

In these times that many call the Anthropocene (even though Capitalocene might be a more appropriate designation), there is an urgent need to further understand how extractive economies are enmeshed with nature, as this process is constitutive of many of the current global ecological crises.[51] In Ecuador, the tropical rainforest landscape and the oil industry have reshaped each other under the influence of unequal power relations, government policies, and transnational logics of contamination based on the externalization of costs and risks. It is worth noting that the metamorphosis of the RAE, comprising, for instance, exponential demographic growth and drastic deforestation, did not only coincide with but is also intrinsically linked to the temporal compression of the "Great Acceleration." The history of the RAE mirrors these worldwide "post-1950 changes simultaneously sweeping across the socio-economic and biophysical spheres of the Earth System."[52] From this perspective, the metamorphosis of the RAE is but a small episode of the Anthropocene that will have repercussions for life on earth for millennia to come. With this thought in mind, the next section discusses the wider relevance of thinking and writing about an apparently remote rainforest region and its oil reserves.

RAMIFICATIONS BEYOND THE AMAZON

The Amazon represents a nexus between two of the major focal points in current debates on global sustainability and climate change: rainforests and petroleum. On the one hand, deforestation of tropical forests remains a major source of global CO_2 emissions – not to mention habitat loss and impacts on Indigenous people. Petroleum combustion, on the other hand, represents more than a third of the emissions by the energy supply sector, which is overall "the largest contributor to global greenhouse gas

[51] The so-called Anthropocene designates a new geological epoch marked by the substantial anthropogenic impact on climatic, biological, and geological processes on a planetary scale; cf. Paul Crutzen, "Geology of Mankind." *Nature* 415, no 23 (2002): 23; Robert Emmet and Thomas Lekan, eds. *Whose Anthropocene? Revisiting Dipesh Chakrabarty's "Four Theses"* (München: Rachel Carson Center, 2016); Moore, *Capitalism in the Web of Life*, 170–171.

[52] Will Steffen, et al., "The Trajectory of the Anthropocene: The Great Acceleration," *The Anthropocene Review* 2, no. 1 (2015): 82.

emissions."[53] The RAE is one of the few places where this intersection between rainforests and oil extraction can be observed and turns the region into a site of fierce struggle over conservation vis-à-vis oil extraction. A deeper understanding of the historical processes that turned this jungle into a contested resource environment contributes to ongoing debates on sustainability and environmental justice by exploring the socio-ecological impact of oil before it is even burned. The history of the encroachment of the resource frontier in the RAE also sketches out possible futures of other potentially oil-rich rainforest regions such as the Brazilian Amazon.

In current debates on climate change, the preservation of an inhabitable world for humans is closely tied to the fossil-free future of the global economy. Attention is often times fixed on (stopping) the burning of fossil fuels, while large sections of society, both in producing and consuming countries, overlook the conditions and contexts of the extraction of that same fuel. While there is rightfully a global movement to mitigate and adapt to the socio-ecological impacts of greenhouse gas emissions, there is comparatively little awareness about many tropical ecosystems and their inhabitants in the Global South that provide the raw material for gasoline, heating oil, and an incredible range of petrochemical products. Very few customers at the pump, passengers on a plane, or families using plastic forks during a picnic would draw the line between the amenities of their daily life and an uprooted rainforest drenched in oil and hazardous waste. Yet oil has not only reshaped modern societies and their political systems but in the process also transformed sites of extraction beyond recognition.[54] What is more, the amenities of life in modern societies and access to cheap oil are intimately tied together. Cheap oil comes at a cost, however, and the global oil industry often and systematically places this burden on communities and ecosystems that happen to thrive on top of oil fields but that, "ironically, had no use for oil."[55] Such was the case for the remote rainforests in Eastern Ecuador – a site whose ecosystems and Indigenous communities were sacrificed on the altar of cheap oil while producing comparatively little amounts of petroleum on a global scale. Between the 1970s and 1980s,

[53] Thomas Bruckner, et al., "Energy Systems," in *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. Ottmar Edenhofer, et al. (Cambridge: Cambridge University Press, 2014), 516.

[54] Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2013), 5–7.

[55] Brian C. Black, *Crude Reality: Petroleum in World History* (Lanham: Rowman & Littlefield, 2012), 174.

the CEPE-Texaco consortium, by far the largest producer in Ecuador, contributed less than 0.4 percent to global oil production. Certainly, local and international activists, together with researchers, have been exposing and fighting the short- and long-term effects of resource exploitation in the Amazon for decades now, but the extraction keeps on expanding.

Local Indigenous nationalities like the Waorani continue to defend their ancestral lands, in danger of succumbing to the same metamorphosis brought about by the encroaching oil industry and agricultural frontier. In 2019, the Waorani won a lawsuit against their own government for prohibiting oil extraction in an oil block covering parts of their ancestral territory – and their fight made international headlines: Indigenous leader Nemonte Nenquimo was named one of the hundred most influential people of 2020 by *Time* magazine and won the prestigious Goldman Environmental Prize for her outstanding engagement to protect her community. The protection of the Ecuadorean Amazon and its Indigenous inhabitants has become a topic that occasionally reverberates globally, not least because of the long history of contamination in the rainforest.

The *Metamorphosis of the Amazon* offers an entry point to grasp the profound impact of the global system of oil production in the twentieth century on isolated extraction landscapes (see Figure 1.1). This apparently regional history of the Ecuadorean Amazon speaks to the relationship between humans and the environment – or, in other terms, between economy and ecology – that is inherent to broader capitalist processes and structures of the valorization of nature, resources, and local inhabitants. The Ecuadorean experience deserves further scrutiny not even though but exactly because is not a unique case. For instance, international oil companies such as Royal Dutch Shell have left a comparable record of environmental contamination in the wetlands of the Niger Delta in Nigeria while triggering intense political violence. While there were incidents of local resistance, the Ecuadorean case gained a certain spotlight only when Indigenous groups and activists teamed up in the early 1990s to file what was to become one of the largest and potentially precedent-setting environmental lawsuits on a global scale.[56] Instead of exploring the legal

[56] Cf. Rebecca Golden Timsar, "Oil, Masculinity, and Violence: Egbesu Worship in the Niger Delta of Nigeria," in *Subterranean Estates: Life Worlds of Oil and Gas*, ed. Hannah Appel, Arthur Mason and Michael Watts (Ithaca: Cornell University Press, 2015), 78–79; Eloamaka C. Okonkwo, *Environmental Justice and Oil Pollution Laws* (Abingdon: Routledge, 2020); Gabriela Valdivia, "The 'Amazonian Trial of the Century:' Indigenous Identities, Transnational Networks, and Petroleum in Ecuador," *Alternatives* 32, no. 1 (2007): 41–42.

FIGURE 1.1 Well site in the Ecuadorean rainforest, 1989/1990 © Niels Ole Sørensen, visions.dk.

complexities and implications of Texaco's legacy in the Amazon, this book takes a step back to better understand the root causes that led to such a socio-ecological injustice in the first place.

This approach speaks to a growing field of research in the environmental and energy humanities that is intrigued by both the material and representational dimensions of landscapes shaped by oil. In her account of petroleum production in tropical rainforests in Mexico at the beginning of the twentieth century, Myrna Santiago coined the fitting term "ecology of oil" to pin down the complexity of oil-induced changes. This fundamentally new ecology created by oil development entailed radical changes in terms of who owned, used, and lived in the rainforest. The experience of oil exploration and extraction in Mexico's Huasteca region suggests certain parallels to the metamorphosis of the Ecuadorean Amazon in terms of subverted human-nature relationships, marginalized Indigenous communities, and profound landscape changes.[57] With the notion of "petroleumscape," Carola Hein highlights the way different spatial layers of the global oil industry – for instance, related to

[57] Cf. Myrna I. Santiago, *The Ecology of Oil: Environment, Labor and the Mexican Revolution; 1900–1938* (Cambridge: Cambridge University Press, 2006).

https://doi.org/10.1017/9781009343053.001 Published online by Cambridge University Press

infrastructure or retail within and across countries – are connected. The petroleumscape also creates strong path dependencies: the high financial and political investments into oil exploration and infrastructure reinforce its continued existence over time, which is also the case in Ecuador.[58] This book dives deep into the regional history of the Ecuadorean rainforest, which forms part of the global petroleumscape – yet the concrete ways this tropical landscape is connected to the global oil industry and consumer cultures around the world merit further investigation. Thanks to its regional scope, however, the *Metamorphosis of the Amazon* manages to contribute to the historiography of oil by telling a more encompassing story, as neither purely political, economic, or social histories nor scientific reports on deforestation or species extinction are able to grasp the nature of the metamorphosis of the Amazon.

A METAMORPHOSIS IN FIVE CHAPTERS

The *Metamorphosis of the Amazon* is structured into five chapters that first of all scrutinize the history preceding oil extraction in the RAE and then proceed to study the conceptual, the material, the toxic, and finally the social metamorphosis of the Amazon. The text opens in Chapter 2 by looking back at the millennia of gradual changes when the history of crude oil and the tropical rainforest environment started to intersect. The chapter seeks to understand the interactions between the oil industry and the socio-ecological panorama of the RAE in the times of slow change before the big metamorphosis set off. An exploration of the geographical properties of the Amazon landscapes, as well as their flora and fauna, including human inhabitants, visualizes the lively environment encountered by the first oilmen visiting the area in the period between the 1920s and the 1960s.[59] Two multinational oil companies, the Leonard Exploration Company and Shell, undertook major efforts to discover petroleum reserves in the RAE. Even though their exploration programs failed in the end, their pioneering work of mapping and surveying the rainforest and its subsoil laid the foundation for large-scale petroleum extraction decades later. The chapter ends right before the first successful prospection venture by

[58] Carola Hein, "Space, Time, and Oil: The Global Petroleumscape," in *Oil Spaces. Exploring the Global Petroleumscape*, ed. Carola Hein (New York: Routledge, 2022), 9.

[59] Joseph H. Sinclair and Theron Wasson, "Explorations in Eastern Ecuador," *Geographical Review* 13, no. 2 (1923): 190.

the Texaco-Gulf consortium in the 1960s, which marked a watershed moment in the history of the RAE.

Chapter 3 argues that the metamorphosis of the RAE started with the successful and large-scale exploration activities between the 1960s and 1980s. In a first fundamental step, oil exploration caused a conceptual metamorphosis of the RAE. The chapter investigates how exploration involved a process of making sense of, systematizing, and appropriating nature – both physically and mentally. Oil prospecting played a crucial part in conceptually creating the resource it set out to discover in the first place. Starting from the assumption that oil as a resource does not simply exist out there awaiting its extraction but is the result of a process of social construction, the chapter explores how discourses, policies, technologies, and material infrastructures intersected to transform the Amazon into a "resource environment." Oil exploration changed forever how the RAE was seen: the Amazon turned into a resource environment reduced to the prospect of oil through different processes of abstraction, such as the issuing of concessions. The early confrontations of the oil business with the rainforest also left both temporary and long-term environmental impacts in Texaco's concession area.

Dirt roads heralded the profound material metamorphosis of the RAE caused by large-scale oil extraction between the 1970s and 1990s, a time when the ecology of the forest became enmeshed with the economy of oil. Chapter 4 asks how the development of oil infrastructural projects, technology transfers, and the social relations underpinning them turned the RAE into a new landscape in which "industry and nature are intimately intertwined."[60] The interest of Texaco in developing the region for oil extraction converged with the national governments' aspiration to incorporate the RAE into their national territory through agricultural colonization. To realize these goals, Texaco set up an extensive network of transportation infrastructure in the rainforest. A multitude of subcontracting firms, however, did the actual work of constructing roads, pipelines, and well sites. Far from being a linear success story, the technological conquest of the RAE suffered constant setbacks caused by the geological, geographical, and climatic conditions of the rainforest. The progress of technology and colonization also faced opposition from local communities. One such story of resistance against the access road built in the territory of the A'i Kofán community in Dureno is woven into a broader history of how the RAE morphed into an industrial landscape.

[60] Anna Storm, *Post-Industrial Landscape Scars* (New York: Springer, 2014), 101.

Chapter 5 discusses how the rainforests of Eastern Ecuador turned into a profoundly contaminated landscape between the 1970s and 1990s. Recurrent oil spills, discharges of toxic water into rivers, the burning of crude oil, and the use of simple earthen waste pits contributed to a toxic metamorphosis of the RAE. An analysis of Texaco's internal communication about contamination and waste pits from 1972 to 1980 gives insights into the intentionality of the company's handling of hazardous waste in Ecuador. The chapter argues that the toxic metamorphosis of the RAE was the result of practices of externalization in the disposal of hazardous waste since the 1970s. This concrete case study develops the concept of the *toxic ghost acre* as a specific mechanism of the externalization of costs onto the environment and the health of local populations. The notion of toxic ghost acreage is useful to uncover the transnational and socio-ecological dynamics that turned the RAE into a cheap sink for waste from the oil industry. The chapter ends by shedding light on the perpetuation of the toxic ghost acres in Ecuador through Texaco's insufficient remediation programs in the 1990s.

Chapter 6 scrutinizes how the corporate structures set up by Texaco in the RAE shaped social dynamics and daily life in the oil fields. Texaco's facilities constituted fenced-off and almost independent spatial enclaves in the rainforest that ensured unobstructed resource extraction based on imported labor and a "masculine" work ethic. The hierarchies established within the oil industry often worked along the lines of nationality, race, class, and gender, predetermining the positions and experiences of Ecuadorean and international oilmen. While state institutions showed little presence in the RAE, national policies and military forces protected the oil companies' interests, subdued protests, and thereby contributed to solidifying the new social order in the oil patch. Social metamorphosis in this context refers less to changes in the lives and bodies of individual oilmen, even though these certainly occurred, but to changes in the social composition and structures in the RAE.[61] Considering the perspectives of oil workers offers fundamental insights into the social dimension of the metamorphosis of the Amazon, from their own perspective.

In the early 1990s, when Texaco left its operation in Ecuador behind, the metamorphosis of the Ecuadorean Amazon into a polluted resource

[61] For a discussion of the possible applications of the concept of metamorphosis in sociology, see Justin Stagl, "Soziale Metamorphosen: Die Konversion," in *Konzepte der Metamorphose in den Geisteswissenschaften*, ed. Herwig Gottwald and Holger Klein (Heidelberg: Winter, 2005), 153.

environment was complete. It was at this time that the significant changes suddenly came to light, attracting the interest of national and international NGOs and leading to long legal battles, which are discussed in the concluding chapter. Since then, oil development has certainly kept on expanding geographically, encroaching on ever more Indigenous lands in the southern part of the RAE.[62] And while the story of oil extraction in the RAE and the battles fought around it are far from over, the conclusion reflects on the times of metamorphosis to understand its basic causes, its legal aftermath, and possible alternatives. Looking back, the oil workers themselves realized that a fundamental metamorphosis had taken place. At one point during the interview, Don Enrique reminisced about the times when oil extraction was still a recent phenomenon in the rainforest:

> Not long ago I told a colleague: "I would love to get back to the times when we got here!" I guess it's because of the contamination … back then you went to a farm and you could find enough papayas to glut yourself.[63]

While there is certainly no way back to an uncontaminated past of paradisiacal abundance, looking back at the metamorphosis helps to cope with the present challenges in the Amazon.

[62] For a discussion of oil policies under neoliberal Ecuadorean governments in the 1990s, see Gerlach, *Indians, Oil, and Politics*; for a discussion of the current expansion of oil exploration in the Ecuadorean Amazon, see Janeth Lessmann, et al., "Large Expansion of Oil Industry in the Ecuadorian Amazon: Biodiversity Vulnerability and Conservation Alternatives," *Ecology and Evolution* 6, no. 14 (2016): 4997–5012.

[63] Don Enrique, interview by author, Shushufindi, May 18, 2018.