ENVIRONING EMPIRE
Nature, Infrastructure, and the Making of German Southwest Africa

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Environing Empire

Nature, Infrastructure, and the Making of German Southwest Africa

Martin Kalb
Für Angelika und Joachim,
Dankeschön.
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This book project required me to wear good walking shoes. Historians generally wander to and from the archives, at times walking off to see specific sites and spaces. We all develop routines and habits, defined by various pressures to gather the materials we need before having to return to our desks. For this volume, I found myself indoors in Berlin and Koblenz, London and Windhoek. Plus, I visited smaller institutions and libraries in Frankfurt, Karlsruhe, Basel, Lüderitz, and Swakopmund. I still think about certain materials, conversations, smells, or quirks—spaces leave impressions on researchers. Yet for this book, I also had the privilege and pleasure to make use of weekends to wander off the beaten paths, outside the metaphorical dim light of a dusty archive and into the bright and stunning landscapes of Namibia. At one point I gazed over Lüderitz from atop Diamantberg (diamond mountain) to get a sense of Germany's first colonial holding and gateway point—a natural harbor indeed. A stroll to Shark Island gave me a sense of a space intimately connected to German history. Seeing the railway leading inland, across desert dunes, or wandering the former diamond town of Kolmanskop on a hot afternoon, brought colonial ambitions to life. Trips to Swakopmund, at first look a charming seaside with impressive avenues, reminded me of my own Western gaze. There, I visited the remains of German efforts to create a gateway into central Namibia; there, a field of graves situated beyond the morning fog on the edge of town speaks volumes to the inherent destructiveness of German colonialism. Later, a drive along Skeleton Coast to Cape Cross brought home the wrath of the coastline and the need for a safe harbor. That day my guide sketched the Benguela Current onto the sand as we stood in front of the beached fishing trawler Zeila. A drive into the Namib Desert—that stunning, hostile, yet vibrant landscape—left similar impressions on me. Nature is not just a backdrop.

Funding and the gracious help of many made all of this possible. I originally conceptualized this project while still teaching at Northern Arizona University; since then research grants from Bridgewater College gave me a chance to slowly chip away at the archival record, one visit at a time. A summer stipend from the National Endowment for the Humanities allowed me to expand my scope; it also helped me to speed up the process of completing the book. Then there was the assistance, guidance, and patience of archivists and librarians,
the backbone of any history book. I relied on the kindness of individuals at the Bundesarchiv in Berlin-Lichterfelde and Koblenz, the Kolonialbibliothek in Frankfurt, the National Archives in London, and the Afrikabibliographien in Basel; in Namibia, I strained the patience of archivists and librarians at the National Archive and Library in Windhoek, the Wissenschaftliche Gesellschaft in Windhoek, and the Sam Cohen Library in Swakopmund. An array of museums in Windhoek, Lüderitz, and Swakopmund, apart from tours of all kinds, also shaped this volume. I also want to acknowledge the help of random strangers, individuals I never met but who were kind enough to forward an email to the right person or to share documents I needed. It takes a village, especially in a pandemic. Werner Hillebrecht and Albertina Nekongo in Windhoek, as well as Vickie Montigaud-Green at Bridgewater, deserve special mention—but many more could easily be included. Early feedback came at conferences in Seattle, London, Berlin, Burlington, Basel, and Columbus—thank you to organizers, fellow panelists, and commentators. As I worked more on articles and eventually the manuscript, kind colleagues from my department and beyond provided helpful advice and feedback. Later on several colleagues were kind enough to read parts of the manuscript, or provide feedback in other ways. Thank you specifically to Rob Gordon in Vermont, Dag Henrichsen in Basel, Jonathan Beard in New York, and Romie Nghitevelekw in Windhoek for making the time to read the full manuscript. I appreciate it. I am also grateful to all anonymous reviewers and to the editors at Berghahn—to Christof Mauch for seeing a place for this volume in the series, and to Sula Ahmad and Lizzie Martinez for guiding the editorial process. Finally, the completion of the manuscript was built on the patience of family and friends. My wife Jennifer—and our dog Petey—here in Virginia certainly heard about this project more than they wanted to. I remain grateful to them. To my parents in Germany, to whom I dedicate this volume, I owe much. Thank you for instilling a sense of curiosity in me—it has served me well.

Harrisonburg, VA, March 2022
"Grief and yearning" were the cause of death, wrote Hugo von François in 1896. At the time von François was a colonial soldier serving in the Schutztruppe (literally protective troops) in German Southwest Africa (modern-day Namibia). He continued describing how “due to its lonesomeness, the animal repeatedly escaped to the coast” and eventually killed itself. Hugo’s older brother Curt, who happened to be the colony’s first commissioner, had purchased the camel stallion on the Canary island of Tenerife seven years earlier. Technically, this was not even a camel (*Camelus ferus*); it was a dromedary (*Camelus dromedarius*), a well-adapted animal with only one hump, longer limbs, padded feet for desert travel, and shorter hair meant to deal with warmer climates. Since these mammals can withstand severe dehydration, drink quickly, and deal with heat and dust storms, their import into a colonial possession defined by aridity made sense. Once purchased, workers had dragged the frightened creature onto a steamer to the colony, unloading the animal in the nearby British enclave Walvis Bay. With few natural harbors along a rugged and dangerous coastline, the Germans still relied on their competitor’s landing structures. Logistical problems did not end there. The high sand dunes of the Namib Desert, one of the oldest landscapes in the world, as well as waterless lands virtually shielded the interior of Germany’s first colony from newcomers. Although colonialists soon planned for technological solutions, in the 1880s treks venturing inland still relied on ox wagons. Maybe, so some hoped, camels would change such dependencies. German commissioner Curt von François at least felt confident that this animal transfer might simplify the situation in Germany’s first colony. He thus spent an astonishing 7,000 Marks on the relocation of just one camel. Sadly enough, this first, lonesome animal got homesick, “longing for the land of its heart,” as Hugo von François wrote. It ran away to the coast several times, drowning at one point once the ocean current got ahold of it. Maybe it felt mistreated. As a herd animal it likely also sought company. Camel friends did not arrive until July 1891, when the colonial government imported another ten animals—two stallions and eight mares. When it came to revolutionizing transportation that animal relocation made no difference. For one,
these desert ships had a hard time scaling the steep sand dunes of the Namib Desert. Plus, German handlers had no idea how to work with them. Camels demand expertise and experience. And they need patient handlers. Neither was present in Southwest Africa. Instead, soldiers got irritated and annoyed. The camels, on the other hand, denied cooperation: they simply refused to get up, screamed vigorously, and bit their handlers, or just tried to brush riders off by making use of low-hanging branches. Dreams of quickly scaling the desert, of reaching the opportunities found behind the dunes, lingered for some time. In the end, however, those fantasies quickly vanished like desert mirages.

This study analyzes environmental factors and logistics in the creation of the settler colony German Southwest Africa (1884–1915). The infamous Benguela Current, a treacherous coastline, and the Namib Desert kept the interior off European minds and maps for centuries. On the other side of that borderland, few local groups found ways to sustain life in inhospitable desert landscapes and along dangerous ocean coasts. By the late eighteenth century, however, the commodification of resources, soon followed by the tentacles of aggressive global market capitalism, extended into this space. Demand for whale oil, seal skins, and guano resulted in booms and busts along a newly forming commodity frontier as Europeans and Americans plundered the coastline. African societies initially gained from interactions with outsiders. In the long run, however, all kinds of newcomers, be they missionaries, traders, miners, explorers, or whatever, introduced early imperial structures. The British declared ownership of the most prominent landing spot, Walvis Bay. In 1883, German businessman Adolf Lüderitz then laid claim to the area the Portuguese had called Angra Pequena, the Little Bay. Known by the 1890s as Lüderitzbucht, next to Walvis Bay it remains the only other natural harbor in modern-day Namibia. Officially under the protection of the German Imperial government by August 1884, its two bays provided an initial access point into the Second Reich’s first and soon most important colonial possession: German Southwest Africa. Yet Germany had been a latecomer to the many Scrambles for Africa, picking up left over crumbs of a cake that other colonial powers had sampled but left aside. In this context that meant difficult entry into the colony, problems crossing the Namib Desert, and widespread aridity. All of these logistical problems added to already mounting pressures when it came to the making of permanent settlements understood as German Lebensraum (living space) for a crowded homeland.

Nature and culture are key for understanding the dynamic process at play in this creation of German Southwest Africa. Instead of separating both realms and emphasizing Western-centric technological cultures in the fight against outdated natures, this study employs historian Emmanuel Kreike’s concept of environmental infrastructure. In his view, environmental infrastructure is “neither fully Nature (thence the anthropocentric infrastructure) nor entirely
an artifact of Culture (thence the qualifier environmental).” Instead, such structures constitute “a coproduction of human ingenuity and labor on the one hand and nonhuman actors (animals, insects, microbes, and plants) and forces (physical, chemical) on the other.” Apart from emphasizing processes and outcomes, this framework also highlights muddled messes of human and non-human agencies. The focus on what Kreike calls environmental “infra-estructuring” or “environing” in his view “advances understanding of the process of environmental change, highlighting the pluralistic and differentiated character of the agency, motivations, and mechanics involved.” For German Southwest Africa, environing offers the analytical space to incorporate technological, human, and animal engineering while acknowledging messy hierarchies, complex entanglements, and multiple agencies. For one, human agents mattered in Southwest Africa. African inhabitants had long lived in, and impacted, the region. Later, “the impact of (Western) markets and commodification,” to follow Kreike, was a “form of human agency that dramatically shaped the environment.” Such demands initially drove whaling, sealing, and guano mining (later copper and diamond mining), and in that process shaped colonial encounters with coastline and hinterland. Over time human ingenuity and knowledge fashioned the creation of landing structures, railways, and irrigation systems meant to access and sustain a colony designed for Germans. The construction of the Mole in Swakopmund, a concrete pier reaching into ocean waters as well as railways scaling deserts underscores the role of technology that has long defined understandings of German imperialism in the region. The exploitation of contract, migrant, and forced labor to build and maintain such structures was essential, and Germans employed discriminatory policies, everyday colonial violence, and genocide to use African bodies meant to compensate for the failures of existing structures. Second, non-human agents including natural forces mattered. The Benguela Current and the Namib Desert created a borderland that shaped environmental infrastructure. Plus, flash floods impacted landing structures and railways while aridity constituted more than a backdrop for those trying to settle the land. Non-human agents such as Rinderpest (cattle plague) pathogens disrupted transportation and reshaped power structures; that pandemic also resulted in the resurrection of animal transfers. Or take the naval shipworm, a chewing mollusk whose appetite destabilized wooden structures in Germany’s entrepôts. In that sense, human factors (ingenuity, labor) and non-human factors (physical environment, biological agents) defined the making of the colony.

The framework of environmental infrastructure provides avenues for exposing colonial narratives. Part of a broader Western discourse, contemporaries and scholars long tied discussions to investment, improvement, progress, rationalization, modernization, development, and technology. Distance-diminishing technologies including roads, bridges, railroads, telegraphs, to
borrow James C. Scott’s term, or the process of *Erschliessung* (opening-up) in the German context, has thus seen a good amount of scholarly attention.\(^\text{13}\) Of course, motivations and overall objectives were by no means homogenous. In German Southwest Africa, at least, schizophrenic and ever-changing visions regarding the colony’s future,\(^\text{14}\) maybe even fantasies, collided throughout this timeframe.\(^\text{15}\) Still, contemporary proponents of German colonialism largely agreed on the need for easy access, the solution of the water question, and the creation of sustainable settlements for Germans. Engineers thus oversaw the construction of a new harbor in Swakopmund; they also built railways inland. Hydrologists meanwhile pushed for comprehensive irrigation projects meant to transform arid and hostile landscapes into homesteads based on cattle farming and agriculture. Setbacks and failures, which scholars have seen as feeding vulnerability,\(^\text{16}\) became part of their colonial narratives. That deeply rooted European storyline orbited around the struggle against nature, that conquest and transformation of wastelands into productive spaces.\(^\text{17}\) More so in empire, and as outlined by historian Corey Ross, “The European claim to mastery over nature was a central legitimatory prop of modern imperialism—one that not only resonated with contemporary notions of racial hierarchy and societal evolution, but that also nourished a belief in the right, even duty, of Europeans to govern those who were less capable of controlling the world around them.”\(^\text{18}\) In German Southwest Africa, hydrology engineer Friedrich Ortloff, who was responsible for the construction of a harbor in Swakopmund, saw his efforts as a battle against the onslaught of the ocean. Failures or unintended consequences resulted in brief reevaluations but rarely challenged self-perceptions of technological advancements. Insistence and willpower, maybe even stubbornness, were the name of Germany’s colonial strategy when battling flash floods, diseases or a wood-eating mollusk. Progress, after all, understood as the mastery of nature, always lay just around the corner. Scuffles against nature gave meaning and strengthened overall *Deutschtum* (Germanism), and for German settlers, who saw landscapes transformed in their favor in the long run, such heroic tales help them developed a frontier spirit and Southwestern identity.\(^\text{19}\)

A focus on environmental infrastructure also further contextualizes and complicates discussions of colonial violence, including war and genocide. Meant to underscore the intimate entanglements between development and destruction in the making of the German Southwest Africa, this approach accentuates logistics beyond German agencies. Of course access and water mattered for anyone living in the region. For the German vision of the colony, it was central, as was a dependent labor force meant to sustain German living spaces. The *Rinderpest* pandemic assisted in the German creation of a settler colony. Although it disrupted transport to the interior, this pathogen destroyed the livelihoods of the Herero in Central Namibia, forcing them into dependencies grounded in exploitative and discriminatory labor relations. In
addition, the pandemic pressured stakeholders in Berlin to invest in the construction of a railway. All of that brought more settlers into the region. Those newcomers then took over land and water, reshaping existing environmental infrastructure into restricted setups meant to sustain a white settler colony grounded in everyday violence. A major rebellion became the last resort for Herero and later Nama; a subsequent war and German genocide then became the basis for the creation of white settler living space. The war was a complex affair defined by emergent brutalization. Environmental infrastructure as an instrument of war and resistance shaped these processes. African forced labor compensated for failing structures meant to sustain the war effort; precolonial structures sustained opposition beyond the official end of the war. Labor laws later ensured Africans stood in cold ocean waters to build jetties, laid railway ties across arid landscapes, dug wells for German farmers, and crawled over hot desert sands searching for diamonds. In that sense, and in line with scholarship aiming to see the global without ignoring the local, environmental infrastructure making up settler colonialism entailed the destruction and containment of African societies.

A study focusing on the creation of German Southwest Africa as the Second Reich’s first and only settler colony, the multiple and entangled agencies involved in that process, and the consequences of such efforts thereby has four objectives. For one, paying attention to nature’s agency within German Southwest Africa muddles existing storylines. Geography, environment, or nature more broadly, mattered. The Benguela Current, a lack of natural harbors, and the Namib Desert defined interactions and structures within this space well before the Germans arrived; a lack of water further shaped dynamics throughout the colonial period. Plus, non-human agents influenced human behaviors and the other way around. Whales, seals, and bird droppings pulled Europeans to the coastline in the first place. The disruption and destruction of animal habitats and lives, and subsequent migration or extinction, later molded encounters. The Rinderpest challenged logistics and destroyed African livelihoods while the cravings of the naval shipworm made additional investments a necessity. In that sense, nature mattered—as did human actions. Maybe historian Bernhard Gissibl put it best when writing in a similar context, “Animal action and behavior influenced and determined what humans did (and vice versa). In that relational processual, and compounded sense, animals did have agency.” Imperialism effectively enlarged “the spatial scale of such entanglements and broaden[ed] the cast of actors,” to build on Ross’s work. This study thus remains distinctly human-centered or anthropocentric, yet messy with its unresolvable tensions and inseparable mixtures of agencies.

At the same time, and as the second main point, human views of nature and the stories we tell ourselves can teach us much about contemporary mentalities and identities. In an effort to question and deconstruct settler narratives,
this volume primarily focuses on German tales of conquest. Whereas African narratives and experiences are central to any discussion of environmental infrastructure in the region, the use of that framework is meant to disrupt descriptions of dramatic episodes staged or sold as the conquest of nature. Epic battles between culture and nature, future and past, West and rest, advanced and uncivilized made wonderful tales for Germans; yet those stories must be contextualized, complicated, and contradicted. As outlined by historian Christo Botha when it comes to Namibian environmental history, the appreciation that dynamics during the colonial period were “pervaded by European perceptions of toil and battle to tame a hostile landscape” are central to make sense of these times.24 Again and again the Germans portrayed colonialism as a struggle between man and nature, that played out in different acts or episodes. Such stories defined the long nineteenth century, Europe’s age of conquest and progress.25 Take the German tale of the Deichgraf (Dykemaster), the infamous main protagonist of writer Theodor Storm’s Der Schimmelreiter (The Rider on the White Horse). First published in 1888, the main character took on the forces of nature when hoping to claim and protect the land from the North Sea. Contemporaries framed efforts to construct landing structures along similar lines and wrote extensively about such “fights.” For them, nature acted when they wrestled against ocean waters or battled with desert sands that constantly covered railway tracks amid the Namib Desert. At times, they also fought against non-human actors, such as the pathogens of Rinderpest or a small ocean termite that persisted in eating away at wooden landing structures. For some, even the struggle against a resisting or just existing local population became part of this war. Views of the indigenous populations as Naturvölker, a term that literally translates to nature people as thereby distinct from Kulturvölker, cultured people such as the Germans, at times justified destruction.26 Everyday violence, even the annihilation of African societies, seemed part of a larger natural transformation process grounded in Social Darwinism. Exposing and disrupting such storylines, by giving agency to multiple actors, is thereby essential when hoping to paint a complex and nuanced picture of the German colonial project in Southwest Africa.

Third, a framework aimed at bridging divisions between culture and nature draws attention to the overall German belief in technology, progress, and the rule of experts; it also underscores that colonists questioned if not dismissed local indigenous expertise and labor. In Southwest Africa it had been missionaries such as Gotthilf Büttnner or Johannes Olpp that originally helped frame imperial fantasies; later it became explorers such as Gerhard Rohlfs, botanist Hans Schinz, or individuals like geographer Karl Dove, that pointed to future transformations of the colony rooted in infrastructure. The François brothers both wrote extensively about the colony early on and tried their hand at animal transfers. In that sense, officials called for engineers who were “driven
by an optimistic belief in progress” and trusted “that they could transfer the concepts of maximum efficiency and productivity from the mechanical world to the organic world,” to follow one historian writing about nineteenth-century Prussia. In Southwest Africa, German expert building officer Friedrich Ortloff supervised the construction of a concrete pier in Swakopmund; hydrology engineer Theodor Rehbock and engineer Alexander Kuhn outlined ways to solve the water question. Animal engineering, maybe best personified by expert epidemiologist Robert Koch, followed similar trajectories. At times outspoken farmers such as Albert and Gustav Voigts, Carl Schlettwein, and Ferdinand Gessert clashed with these “outsiders.” In their view, they themselves had worked the land and could thus claim real expertise. All of those “experts,” including a handful of “German women for empire,” as historian Lora Wildenthal has called them, were pitted against supposedly stubborn and backward African societies and inhabitants. In line with historian James Scott’s critique of “imperial and hegemonic planning mentality that excludes the necessary role of local knowledge and know-how,” few Germans cared about existing indigenized African knowledge and expertise regarding landscapes, water, and other resources. Such know-how only existed elsewhere, like when the Germans eventually hired expert camel handlers from Northern Africa. That attitude, of course, is part of a Western-centric global and colonial network, as German newcomers in Southwest Africa “considered themselves uniquely qualified as guardians of an undeveloped arid country and took pride in their scientific innovations and economic achievements,” to follow Botha. Simultaneously, the long-discussed laboratory of modernity was much more fluid and complicated than we tend to believe. German hydrologists, for instance, were part of a multilayered global network, visiting sites in neighboring South Africa, listening to the complaints of local farmers in Southwest Africa, and learning from irrigation schemes in the American West and Australia; they also inadvertently incorporated indigenous knowledge while trying to accommodate for German folk traditions such as dowsing. Multidirectional entanglements and overlaps regarding the transfer of technology was hence defined by multiple centers and peripheries, and repeatedly shaped by everyday life and local environmental circumstances. Meanwhile African labor, repeatedly pushed to the margins in popular discussions that argue that the end justifies the means, fell to the wayside. Kru men from West Africa served as landing experts to sustain the colony; Herero, Nama, and Ovambo labor built landing structures, railways, and dug wells. Their know-how, contributions, and voices mattered greatly in the creation of Southwest Africa, a space never meant for them.

Finally, a discussion of environmental infrastructure provides a framework of analysis when thinking about connections between conquest, transformation, and destruction. Death and development go hand in hand in Southwest
Africa. Newcomers disrupted ecological systems when slaughtering whales, seals, and other animals; they introduced new species when bringing along the naval shipworm. Whereas animals adapted, migrated, or perished, humans within those spaces faced similar fates. Try, fail, and try again was the German mantra in many circumstances, and some hesitation before judging with the benefit of hindsight is beneficial. Nonetheless, in German Southwest Africa, and in colonial settings in general, improvements were never intended for Africans. Instead, transformations included by default the subjugation, exploitation, and at times also the virtual annihilation of Herero, Nama, and other local societies. According to understandings at the time, lands were unoccupied or unutilized, and in need of German infrastructure. Everyday violence against nature and some of its people, even genocide, became an essential ingredient in this transformation of nature. Although the colonial state rarely had total control, and various forms of resistance remained widespread, improvisation of colonial authorities within frontier environments remained devastating for the local population. Difficulties accessing the interior of the colony, for example, required railways crossing desert landscapes. Colonial narratives point to engineering marvels and a successful conquest and transformation of nature; in reality, it was the labor of namely Herero, Nama, Damara, and San that allowed for such, at best, temporary mastery of an arid terrain. Environmental infrastructure, created for white upper-class settlers, was thus deeply intertwined with the back-breaking labor and the destruction of a black proletariat.

Weaving together different scholarly works helps drive the narrative. In line with discourses situated “at the intersection between imperial history, environmental history and history of technology,” Environing Empire pushes New Imperial and Global History beyond considerations of connectivity and mobility. Thanks to scholarly publications concentrating on Germany’s first and arguably most important colony, such an attempt has become feasible. In many ways historians Horst Drechsler and Helmut Bley initiated critical discussions in the 1960s. The latter already described well-known patterns of military conquest and settler colonialism although he noted that there were only “minor differences to be expected from the geography.” Since then, scholars have acknowledged existing challenges grounded in geography and the environment, explored the disconnect between imperial imaginations and realities, and discussed what historian Jürgen Zimmerer once titled “infrastructural inadequacies.” An array of case studies tied to conquest and cultivation, conservation, commodification, afforestation, the Rinderpest pandemic, and war also offer a plethora of vantage points. Recent and forthcoming works meant to re-center labor and laborers in Namibian history provides avenues for moving beyond existing paradigms as well. Inquiries around Siedlungskolonialismus (settler colonialism), Lebensraum (living space), genocide, and settler identities, at times overshadowed by discussions focusing on continuities within...
German history, have generated lots of interest.⁴² Essential when engaging with Namibian history have been studies focusing on indigenous populations that have long shaped and reshaped environmental infrastructure.⁴³ Thanks to the work of many experts it has thus been possible to step outside colonial and national premises by looking for “evidence in the raw materials of other disciplines,” be it archeology and anthropology, geography, biology, or ecology.⁴⁴

The incorporation of previously overlooked materials, along with a fresh take on long utilized sources, sustain this study. With an emphasis on the German period, Environing Empire relies in large part on colonial archival records. As historian Lorena Rizzo recently put it, “we are well advised to keep in mind that German colonial ideas and hopes of total conquest and control of the African population remained a fantasy.” After all, she continues, “The South West African territory was simply too extensive, and the government lacked the resources in funds and personnel to achieve its proclaimed aims. Likewise, colonised subjects—while undoubtedly suffering under a repressive regime—kept finding ways of resisting and evading the grip of the state and its executive institutions, such as the police.”⁴⁵ Subjective perceptions of colonizers, their dreams of the empire, are useful to capture understandings of nature from that perspective. German officials, settlers, and all kinds of experts left behind treasure chests filled with heroic legends, imperial fantasies, and at times unexpected downfalls. Personal files, official reports, and colorful sketches give insight into the colonial gaze while technical magazines give a sense of expert views. Previously snubbed materials of technocrats in particular, as well as materials describing environmental forces and animal agents, are front and center. Diaries, travel accounts, and newspapers supplement that narrative and can help us understand the messiness of underlying agencies and consequences once questioning heroic colonial storylines and reading against the grain.⁴⁶ Landscape photographs, for example, often constructed empty spaces to justify imperial control and indigenous displacement;⁴⁷ the positioning of infrastructure within such snapshots can also serve as evidence, especially because colonists displayed trophy-like showmanship of conquered natures. African agents and agencies, and the voices of Herero, Nama, Damara, San, Ovambo, and other groups are vital to make sense of environmental infrastructure. The use of oral histories, defined as eyewitness accounts of contemporaries, life stories, and traditions, is without a doubt “a methodological must” when it comes to Namibian history.⁴⁸ However, and similar to efforts regarding the transformation of nature elsewhere, the views of those at the receiving end rarely make it into the archives. Fortunately, researchers now have a tapestry of materials available to them.⁴⁹ And so, in these sources, the multilayered and intricate voices of nature exist. Nama share their extensive knowledge tied to flora, fauna, and water networks; settlers with their camp-
fire stories and gossip seeped in colonial thinking tell heroic tales of pioneers fighting nature; and colonial experts point to future improvements of nature when inserting photographs displaying the damage caused by the mollusk into archival records. At other moments, visiting shipwrecks along the Skeleton Coast convey accounts of treacherous ocean currents; the silted-in remains of the Mole in Swakopmund capture the role of wandering sand; dry riverbeds, arid landscapes, and abandoned dams encapsulate the water question. Wearing good walking boots, to see, hear, smell, touch, and feel these factors on-site—the mighty waves of the Atlantic Ocean, the excruciating heat within desert landscapes, the remains of long-gone infrastructure—helped reveal nuances when trying to paint a multilayered picture defined by an array of protagonists. Overall then, and in line with the recent scholarship, “pursuing such an entangled history of technological infrastructure, colonialism, and the environment has immense potentials to overcome current biases and limitations, widening the scope of investigation to formerly neglected areas, topics, and actors, putting ‘classic’ theories and assumptions to the test, and retelling familiar stories with new twists to the tale.”

Environing Empire is organized more or less in a chronological manner from predatory commercialism to genocidal settlement colonialism, including “phases of apathy, brutality and reform.” Each chapter explores human ingenuity, labor, non-human actors, and natural forces, all of which make up environmental infrastructure; sections also unpack colonial tales. Chapter 1 sets the stage by focusing on resource extraction along an environmental borderland. Objectives are twofold: to demonstrate how environmental factors framed the incorporation of the shoreline into capitalistic, administrative, and colonial structures; plus, to show how such forces eventually “entrapped” subsequent German colonial efforts. Structures to access Southwest Africa are the focus of chapter 2. As coastal towns, Angra Pequena and Swakopmund encapsulate German pains when trying to create their own entry points into the colony. The role of Great Britain as a model and adversary, African resistance, the convoluted nature of German colonial policies, and non-human agents such as Rinderpest capture the multiplicity of players at work. Chapter 3 then centers on landing structures and railways as solutions to difficulties in entering the protectorate. The construction of the Mole in Swakopmund and a rail line to Windhoek paint a picture of human ingenuity. Yet other actors such as natural circumstances are vital when trying to understand setbacks and broader consequences. Efforts to solve the water question are centered in chapter 4. A lack of drinking water was a major challenge haunting the colony throughout its existence. Here, colonial experts, and a belief in hydrology and irrigation, drive the narrative. The inclusion of silenced local knowledge, grander visions of the colony, and natural circumstances again speak to muddled agencies. Chapters 5 and 6 discuss environmental infrastructure as an instrument of war
and resistance, beginning with the initial phase of the 1904 Uprising. On top of Herero resistance, the harbor in Swakopmund begun silting in while issues with flash floods further disrupted the use of the railway. Such strains characterized the German military campaign and raised anxieties; they also shaped colonial storylines devoid of African agency. Chapter 6 stays with logistics, war, and genocide. For one, the shipworm disrupted landings in Lüderitzbucht and Swakopmund; moreover, mobile desert dunes piled on train tracks crossing the Namib Desert. Colonial narratives, the role of African labor, and the use of precolonial structures to resist German dominance are at the center. The creation of a model colony are key in chapter 7. Although debates about the future of German Southwest Africa (mining, cattle, agriculture) loomed for some time, imperial visions generally agreed when it came to access (landing structures, railways), water (wells, dams, irrigation), and (African) labor. During this time investments and subsidies in large part thanks to the discovery of diamonds brought more settlers to the colony; available funds also sustained the expansion of animal transfers and the cultivation of plants. A model settler colony for whites formed and with it a German Südwester (Southwest-erner) identity rooted in stories of conquering nature. A conclusion centers such tales; it also explores consequences, legacies, and continuities reaching well beyond Germany’s loss of the colony.

Notes

2. BArch-B, R 1001/8535, Kamele in Deutsch-Südwestafrika.- Beschaffung von Kamelen Feb. 1891-Juli 1899 (Band 1), Kostenüberblick.
3. François, Nama und Damara, 272.


ski and Gregor Thum, 7–20, here 11 (Göttingen, 2013). Helmut Bley and Brigitta Schmidt-Lauber coined the term abhängige Herren (dependent gentleman). See Brigitta Schmidt-Lauber, Die abhängigen Herren: Deutsche Identität in Namibia (Münster, 1993).


19. Kundrus, Moderne Imperialisten, 141.


21. In line with historian Ross, “recognizing the complex entwinement of imperial power and environmental change is not to sacrifice the clarity about the enormous scale of transformations that took place, nor about the core responsibility of European states, corporations, and individuals in bringing them about.” Ross, Ecology and Power in the Age of Empire, 418.


32. Frederick Cooper and Ann Laura Stoler, eds., Tensions of Empire: Colonial Cultures in a Bourgeois World (Berkeley, CA, 1997), 5.

34. Marie Muschalek, *Violence as Usual: Policing and the Colonial State in German South-west Africa* (Ithaca, NY, 2019).


36. The discussion follows critiques recently laid out in Ibid., 359–60.


49. The Michael Scott Oral History Project, several collections of interviews, and the British Blue Book are examples easily accessible to scholars. For an annotated bibliography, see Förster, “The Concept of Oral History,” 65–47.

50. These stories are widely shared within the German-speaking community in Namibia. According to Werner Hillebrecht, “much of it [settler stories] is trash, colonial novels en masse, only useful for surveys along ideological criticism.” Werner Hillebrecht, “H dk SWA, oder im Dschungel der Bibliotheken,” in In Treue fest, Südwest! Eine ideologiekritische Dokumentation von der Erobderung Namibias über die deutsche Fremdherr-

51. On Nama see, for instance, Sigrid Schmidt, Zaubermärchen in Afrika: Erzählungen der Damara und Nama (Cologne, 1994); Sigrid Schmidt, Als die Tiere noch Menschen waren: Urzeit und Trickstergeschichten der Damara und Nama in Namibia (Cologne, 1995).

52. van der Straeten and Hasenöhrl, “Connecting the Empire,” 379.

CHAPTER 1

Currents, Chances, Commodities

The journey across arid stretches of land had been worth it. Back in 1894, Ernst Hermann, who had been working for the Deutsche Kolonialgesellschaft (German Colonial Society), sent Englishman Walter Matthews to find out where all the seals had gone. They had become hard to find around Lüderitzbucht, a harbor in the south of the colony the Germans had claimed ten years earlier. Matthews, “one of the weirdest characters,” according to one newspaper, traveled by ship to Walvis Bay. After landing, he must have heard about a seal colony at Cape Cross, located about 160 kilometers farther to the north along the coast. Since using a boat in coastal waters was too dangerous, Matthews, his two assistants, and several pack mules trekked overland, first to Swakopmund, then onward into a waterless and barren land. Any such journey required careful preparation, with multiple trips just to place water containers along the way to be used later on. When they laid eyes on thousands of seals hanging out on a large rocky cliff, and even more so once they stumbled upon deposits of guano (Hispanicized Quechua word wanu for fertilizer/dung), all such burdens seemed worth it. Matthews did not hesitate: he reached out to C. J. Elers, a wealthy uncle and the managing director of Barret’s Breweries and Bottling Co. Ltd. in London, formed the Damaraland Guano Company, and obtained the required concessions from the German colonial government. Workers from Britain and the Cape, food, timber, even a locomotive, everything had to be brought in by ship. Landings were dangerous. After all, this was the infamous Skeleton Coast, part of Namibia’s almost thousand-mile coastline littered with shipwrecks turned maritime artifacts. In September 1896, the Norwegian bark Erycina sprang a leak and sank while unloading coal; that same year another ship stranded in the bay. In other instances, crew members simply refused to cross the hammering surf. Problems accessing drinking water also defined life at this commodity outpost, especially when supplies from overseas got delayed. At that point an ox wagon had to trek back to the ephemeral Omaruru River hoping to find water. Life was thus a struggle, defined by hard labor in virtual isolation, rampant diseases, limited medical care, boredom, and miserable damp weather.
Environmental infrastructure within the borderland sitting in-between the waters of the Atlantic Ocean and arid landscapes of an ever-encroaching Namib Desert were defined by human ingenuity, labor, non-human actors, and natural forces. Here, African societies like the Topnaar (also known as ǂAonin), one subgroup of the Nama and thus part of the Khoisan, lived in outwardly inhospitable landscapes raising livestock and trading with groups in the interior; here European explorers sailed on the margins fearing wreckage and barren spaces. Both the dangerous ocean waters and arid desert landscapes initially protected Africans from European colonialism; that same frontier also laid the groundwork for an intricate ecosystem sustaining rich marine wildlife that attracted whales, seals, and all kinds of birds. By the eighteenth-century, the commodification of nature attracted Europeans and Americans to the region to plunder whale oil, seal skins, and guano. According to archeologists Jill and John Kinahan, “Isolated contacts with Europeans first occurred in the late seventeenth century, becoming more frequent a century later, and then permanent.” Although the Topnaar were originally able to take advantage of new trade opportunities, the goods they acquired, combined with rising cattle raids in the interior, eventually weakened them. Protagonists such as whalers, sealers, and guano miners, on the other hand, introduced new economic and governmental structures to the region. Non-human actors such as whales had to adapt and migrate. A study of this liminal space offers a sense of location, commodity trade, and early interactions. Moreover, it provides the basis for understanding how early structures ultimately framed and manipulated subsequent German colonization. Finally, this section further sustains historian George Steinmetz’s assertion that “There was not, in fact, a sharply delineated transition from precolonialism to colonialism in Southwest Africa.”

Chapter 1 is organized along four sections, beginning with an introduction of the environmental borderland, or what archaeologist John Kinahan has titled the “last frontier of European imperialism in Africa.” A more in-depth discussion of the Benguela Current and Namib Desert are key when trying to make sense of natural forces that make this a non-equilibrium environment. Historians are correct when noting that “the proverbial bleakness of the coastline . . . largely deterred Europeans from attempting to settle or trade until the second half of the eighteenth century, although the coast had been known to them since the early 1480s.” However, and as emphasized in the following, the commodification of nature, a form of human agency, to follow Kreike, pulled cunning businessmen into the region by the seventeenth century. Three major booms are front and center: whaling, sealing, guano mining. Environmental infrastructure, shaped by geographical, biological, and ecological factors, as well as human ingenuity and labor, ultimately initiated early encounters and defined the incorporation of the coastline into the global marketplace.
On the Margins

The coastline of Namibia is littered with shipwrecks that tell stories of treacherous ocean waters and difficult navigation. North of modern-day Swakopmund, tourists can search for the now fully covered wreck of the *Gertrud Woermann II*. It stranded in 1904. The *Zeila*, a fishing trawler now bouncing back and forth between hazardous waves, as well as the beached wrecks of *Benguela Eagle*, *Montrose*, *Suiderkruis*, *Sir Charles Eliot*, and *Dunedin Star*, all long the fuel of adventures stories, are other maritime artifacts discarded along the so-called Skeleton Coast. According to historian Jennifer Jones, “They serve as icons for a unique historical and environmental context against a backdrop of desolate, desert landscape.” Take the wreck of a Portuguese vessel first discovered at Oranjemund in 2008. The diamond company Namdeb, a joint venture between the Namibian government and DeBeers, found its remains during excavation work. Precious diamonds were once deposited upstream of the Orange River. Over time those were flushed down and into the ocean, spreading along much of the southern coast of Namibia and the Northern Cape of South Africa. Namdeb now mines in a Sperrgebiet (forbidden zone) reaching from the South African border to about seventy kilometers north of Lüderitzbucht. In any case, after some of their workers spotted the seafaring relic, archaeologists identified it as the legendary *Bom Jesus*. Owned by Portuguese King João III, it sank on its way from Lisbon to western India in 1533. According to one expert, a combination of factors including excess cargo and bad weather likely resulted in the wreckage. Sailing along the coast of Southwest Africa in early days, and on some level even today, meant traveling on the margins.

Namibia’s coastline is a dangerous frontier space characterized by an array of natural forces. The country is located within what scholars call a swell wave environment. Those are defined by large waves traveling vast distances across the Atlantic Ocean from the southwest. Gale winds also push toward a rugged coastline. Then, there is the infamous Benguela Current, one of four main eastern boundary upwelling systems in the world. As a strong surface current, it arrives in the region with cold water from the southern Atlantic, wandering up the coast to around the mouth of the Kunene River. Anticyclonic winds drive such movements northward while counter currents below flow southward (Figure 1.1). An unstable process known as upwelling or lifting emerges as “cool waters from the deep offshore are brought to the surface of the coast,” to follow an explanation from the aquarium in Swakopmund. Coastal upwelling systems like the Benguela Current are what scholars call “the ‘power-house’ of phytoplankton production.” A rich marine ecosystem is the result of that, attracting fish, whales, seals, and all kinds of birds. At the same time, the system’s variabilities, overall currents and upwelling, and its pull away from
the coastline in a circular motion turns dreams of calm and predictable coastal waters into the plotline for nightmares. Ever-shifting beaches made the coast no more than a “fantasy line,” to follow one German missionary later on. Sailors stayed away, if at all possible, fearing a more or less uncharted seashore that also lacked natural harbors. As a result, and as one scholar concluded, “The whole of the Namibian coastline was virtually terra incognita during the eighteenth century and had only been visited by passing ships on occasion.”
The Namib Desert equally defines this borderland. Linked to the desiccating effect of water welling from the Benguela Current, that ancient arid backdrop dominates the country’s geography behind hazardous ocean waves. Considered to be among the world’s oldest deserts, the Namib (Nama language term that means “shield” or “enclosure”) extends for more than 2,000 kilometers and eighteen degrees of latitude. As outlined by biologist Mary Seely, “Most of the year the strong southwester blows. This results in maintenance of a cool inversion layer, that is, a layer of cooler air lying below a layer of warmer air. An inversion layer reduces the turbulence necessary for cloud development and thus prevents rain.” Estimates note an average of less than fifteen millimeters of rainfall on the coast to about a hundred millimeters on the eastern desert annually, precipitation that comes with great irregularity and variability. The desert wall following the coastline is around one hundred to two hundred kilometers in width and contains a wide-ranging number of large and mobile dunes. Between Swakopmund and Lüderitzbucht, this Sand Sea creeps right down to the shoreline, creating a spectacular contrast of blue ocean water and yellowish sand. Natural havens are hard to come by, and Walvis Bay’s harbor only exists due to the Khuiseb River and its largely concealed subterranean or underground supply of water.

A lack of precipitation and broader variabilities provide limited potential for life. Deserts are rich spaces, of course, and the same applies to the outwardly lifeless Namib. As southwestern winds reach the ocean from the desert, they cool over the Benguela Current, the air condenses and forms fog. Once blown inland, such low-level clouds become trapped between less dense hot air. A nightmare for navigation, this rare moisture sustains life in the desert: animals bask in fog. According to one account from the 1890s, “By the bucket it drips from the rigging on the ship.” At times, dust storms from the east also blow all kinds of nutrients into the desert. As a result, tourists joining one of the many worthwhile desert tours can observe snakes, spiders, bugs, and a variety of other animals, including the stunning endemic shovel-snouted lizard (Meroles anchietae); they can also see several types of plants such as the equally endemic Welwitschia (Welwitschia mirabilis) and a diverse lichen community. Whereas such flora and fauna outline a surprisingly unique and assorted ecosystem, larger mammals and vegetation need more than drops of water. Mobility is key. Desert elephants once wandered in some areas, and jackals as well as brown hyenas still cross the desert, patrol beaches, and prey on seals. Similar to antelopes, these mammals rarely venture away from a stable supply of drinking water.

Humans have long adapted to and transformed these outwardly inhospitable landscapes. Broadly speaking, and according to two scholars, “Namibia had, for centuries if not millennia, various populations of gatherers and hunters, of pastoral nomads breeding and managing small as well as large stock, of
sedentary groups supporting themselves largely on undomesticated fruits and vegetables, ocean or fish resources, and veldkost [field food] . . . or of peoples combining all or several of these agricultural pursuits.”

Drinking water was essential, of course, and environmental infrastructure that offered such supply could once be found in seemingly unwelcoming spaces. Archaeologist John Kinahan has written extensively about groups living near the Hungorob Ravine and the Khuiseb River Delta, both areas that have become case studies for investigations surrounding settlement, trade, and pastoralism. He writes, “The pattern of pastoral settlement and land use that developed in the Namib Desert is a very close adaptation to the prevailing environmental conditions. Small, isolated homestead sites, comprising a few huts and some stock enclosures, were occupied during the long dry season. These sites were situated within a few kilometers of reliable water supply, usually hand-dug wells in dry river courses.”

Variable supplies forced nomadic pastoralist communities to cultivate the leafless !nara (Acanthosicyos horridus), a melon-like fruit growing in arid landscapes. Apart from organizing their lives around this plant, they also made use of coastal ecosystems, catching fish, for instance. An ancient duality took shape, with some living in the delta while others spent more time along the coastline. According to ethnologist Kuno Budack, the former were herders of small animals and cattle, and were originally more dominant. The “people of the sea,” on the other hand, “represent the maritime element in Topnaar culture.” Archaeological evidence in the form of kitchen middens, maybe best defined as all kinds of scraps and toolmaking debris left behind, has shown that these groups adjusted remarkably well to this borderland between the ocean and desert.

Further inland, behind the buffer of the Namib Desert, life and existence equally concentrated around the availability of water, cattle, and trade. Two groups over the years settled in the area of modern-day Namibia: Khoisan-speakers and Bantu-speakers. The former, known for the clicking sounds that define their language, have inhabited these lands for centuries. They include Nama or Namaqua, nomadic pastoralists living in central and southern Namibia, as well as the San people, hunter-gatherers that at times are known by the derogatory term “Bushmen.” The second group, Bantu-speakers, migrated into the area of Southwest Africa in the mid-sixteenth century. At times described as Bantu-colonization, oral traditions suggest that they came from East Africa, Zambia, and Angola. Herero (or Ovaherero) and Damara (or Bergdamara) were known as pastoralists with a deep connection to their cattle; they migrated to the central plateau and settled in central Namibia. As cattle farmers, they became intimately tied to seasonal patterns. Ovambo (Aawambo) and Himba, the latter of the two groups historically not separate from Herero, were two other Bantu-speaking societies. They established themselves farther north. Interactions with other groups, including Dutch settlers
in South Africa, as well as a variety of migratory patterns, resulted in numerous ethnic identities. Mixed-race Oorlam clans, for one, migrated into southern Namibia where they mingled with various Nama groups. Khoikhoi societies like the Nama had arrived from the south much earlier, with one subgroup having migrated into the area near Walvis Bay. Literally “people of a marginal area,” they became known by the Dutch name Topnaar (the point) later on. All groups defined their surroundings. Water holes turned into spaces for settlements and trade, and over time environmental infrastructure consisting of an intricate and sophisticated trade system with strategically located contact sites took shape. Historian Dag Henrichsen described such structures as a three-way triangle: agricultural and handicraft products from the Ovambo in the North, copper and salt from the area around the Otavi mountains, and the Etosha salt pan from groups like the San, respectively, and cattle mainly from the Herero. “A clear correspondence between environmental features, local identity and specific economic forms of production existed among the various groups,” to follow another scholar. The arrival of Oorlam cattle raiders from the Cape Colony later pushed the frontier further north, which turned Herero hunters and traders into middlemen or intermediaries operating between the Ovambo kingdoms in the north and the Cape. All of that made regions along the Namib Desert and the coastline into a frontier space with a hinterland long connected to the interior and beyond.

The first Europeans to travel along the ocean-side of this border were Portuguese explorers in the late fifteenth century. Prince Henry the Navigator had famously called for and sponsored numerous seafaring expeditions; King John II [João II] later stepped into the footsteps of his great-great-uncle by supporting ventures southward. In June 1482, navigator Diogo Cão, known in the English-speaking world as Diego Cam, turned south. Covering thousands of nautical miles, he reached the mouth of the Congo River. After traveling upstream, and engaging with local groups that got little attention in European narratives, he sailed into the uncharted coastline of modern-day Angola. Cão did not travel beyond the mouth of Kunene River, the border between modern-day Angola and Namibia, until his second journey in 1485. Those aboard must have noticed changes in the landscape by the mile—forests of giant baobab trees slowly fading away as the vegetation became more and more sparse. The mouth of Kunene River was likely the last green spot they saw before coming across Namibia’s barren and desolate coastline: yellowish-grey rocks, looming dunes, all in contrast to rich, blue, cold, and dangerous ocean waters. A wall of mist and fog, or the haze of the desert sun, probably made it difficult to see the full scale of this alien landscape. An area soon known as Cape Cross provided a somewhat secure landing spot. Of course, and as pointed out by Henrichsen, that space had long featured in local African histories. In Otjiherero it was called Otjozondera, the place of birds; Damara people referred
to it in Khoekhoegowab as (Kai)ganabes (the water of dumb [scared] people) or GanaKhuibes (the place of the missing camelthorn tree). African praise poetry also captured interactions with the area while giving a sense of environment and landscapes well before the Portuguese arrived. The latter eventually rowed ashore through a heavy surf. For them, that moment of stepping on land must have felt like walking into a different world: windy, rocky, cold, damp, barren, a place for noisy seals and nesting birds, not for humans. The Portuguese erected one of their famed padrão, a limestone cross nowadays usually surrounded by sun-bathing seals. It was 28 August 1483, the feast day of St. Augustine. Then they left. On his second journey later, and accompanied by German mapmaker Martin Behaim, Cão reached Sandwich Harbor. Cão eventually died at sea, or at least fell into oblivion some other way, by then having added more than 2,000 kilometers of coastline to European maps.

It was thereby up to the much more famous Bartholomeu Dias to become the first European to reach Angra Pequena, the small bay. He did so by 1487, leaving behind a store-ship. According to contemporary Portuguese historian João de Barros, stormy weather held his two caravels in that region for about five days. The fateful decision to turn away from coast and currents into the emptiness of the Atlantic Ocean paid off: the ships caught winds pushing them back only to discover that they had circumvented the Cape of Storms (later known as the Cape of Good Hope) already. In 1488, Dias had thus become the first European to make it across the meeting point of two currents, the Benguela and the Agulhas Current—and likely the first to realize that avoiding the Namibian coastline made navigational sense.

Portuguese travelers making the lucrative expedition along Southwest Africa’s coast to trade with the Mughal Empire in India knew they were sailing on the margins. Navigation was difficult and dangerous. According to the route-book of Portuguese seafarer and cartographer Duarte Pacheco Pereira, sailors in the sixteenth century stayed a good 400 kilometers offshore. For them, the land sitting behind the fog was unwanted real estate: there were no harbors to land safely, and there was no drinking water; there was no thriving coastal populations to trade with or enslave; there were no broad rivers slicing into the heart of the continent to reach the interior; and there was no gold, there were no spices and no precious stones. From the decks of ships this land did not seem lucrative, a wasteland in European eyes, with a murderous coastline that only added weeks of perilous travel.

German missionary Heinrich Veder would be much more direct later on when noting, “If there were not to be found on the shores of South West Africa even water and firewood, slaughter stock and slaves, to say nothing of gold and gems, it was sheer waste of time to pay it any further attention.” A later Portuguese writer summarized the Namib in one line: “All this coast is desert and without people.” After the Portuguese, it would be Dutch and British sailors equally steering their vessels
away from this borderland, or at least treading lightly along these margins. At best they got a glimpse of the coastline, like the Dutch who described the mystical figures standing on the beach as strandloopers (beach walkers). At least for now, it seemed as if treacherous ocean waters and the impenetrable Namib Desert safeguarded and insulated the area from European colonialism.

**Boiling Giants**

Namibia’s coastline must have seemed like the edge of the world to them. Thousands of kilometers away from home hunting one of the world’s largest mammals, whalers found themselves on the margins. The narrative of Thomas Bolden Thompson, commander of the Nautilus, along with descriptions by marine surveyor Home Riggs Popham from the same vessel, paint a picture of their situation. As outlined by archaeologist Jill Kinahan, who has thankfully transcribed and published both accounts, erroneous maps, no luck in finding drinking water, and other problems frustrated both of them. Eventually, they anchored in Walvis Bay. From thereon they traveled inland to get water, apparently unaware of its accessibility farther south in Sandwich Harbor. Thompson found the people around Walvis Bay friendly and unafraid, and accepted their invite to visit their encampment. And so the newcomers from beyond the horizon left the beachfront for the first time, walking into the towering and likely worrisome dunes of the desert. After several kilometers, they reached a settlement of about twenty huts. Popham latter wrote that those they ran into “had plenty of Cattle but would not suffer us to see where they kept them, and I beleive [sic] drove them further inland on our arrival.” For Europeans, the sight of cows in an arid desert landscape, of pastoralists and their own environmental infrastructure, was puzzling.

The same natural factors initially shielding the area had by then pulled whalers into the region. The aforementioned Benguela Current, which made navigation along the coastline so dangerous, was concurrently responsible for a rich marine ecology. Environmental drivers such as surface temperature, upwelling, and the distribution of nutrients are the reason for high levels of phytoplankton biomass. As a result, the Benguela Current is a rich ecosystem. Its strong drift constantly scoops up plankton, which then attracts fish, birds, seals, and whales. In the sixteenth century, Portuguese explorer Duarte Pacheco Pereira was among the first to describe a natural haven as “angra da balea,” a bay full of whales. It would soon be known by its Dutch name Walvis Bay. Southern Right Whales (*Eubalaena australis*) in particular migrated into this area. From May until September, these giants bore calves deep within the safeguard of bays and coves. Fewer were humpback or razorback whales. The Southern Right Whale was much easier to catch anyway: high-fat con-
tent made them float, a massive advantage when trying to collect the prey. Plus, and unlike other species, the majestic animal rarely fought back. When whaling became lucrative, the presence of the world's largest mammals caught the attention of those hoping to make money. That moment came with a spike in demand for whale blubber, a thick layer of body fat. Whalers extracted or rendered this commodity by boiling it, a process known as “trying out.” The result was an oil that burned much brighter than petroleum. Due to its elasticity, whalers would also make use of individual baleen plates, which, in the absence of teeth, act like a strainer for whales to get nutrients. Whaling was a worthwhile business until the invention of the hydrogenation process in the early 1900s.

Originally the Dutch dominated the coastline and whaling industry. Of course, whaling ships are not miniature nation-states. Instead, and as outlined by historian Felix Schürmann, such vessels housed sailors from various locations and backgrounds. Daily life on these boats had its very own dynamics and feel. Ships were at sea for months if not years, traveling into areas few had ever visited or would ever want to visit. The makeup of crews was thus less a representative mirror of a region and more a collection of lower-class workers, former convicts, and maybe adventurers out to make some money. With a more permanent presence at the Cape of Good Hope after its official occupation in 1652, the Dutch had begun exploring the coastline in lieu of later crossing the Orange River from the Cape Colony. The first two exploratory missions of the Vereenigde Oostindische Compagnie (Dutch East India Company) traveled north by the late seventeenth century. Yet little went according to plan. Commander Gerrit Ridder Muijs of the Grundel had instructions to explore “the coast north of the Cape” and the hinterland; that ship reached Sandwich Harbor on 1 May 1670. As they rowed ashore, an unidentified group that might have been Topnaar quickly fled. Mujis and his men followed them only to be surrounded by an armed faction. The only musket the Dutch had with them did not work—and so they fled back to their ship. In 1677, Commander Wolna of the ship Boode ventured into the same region. The crew came across people living in huts framed out of whale bones, probably Topnaar again. Although the Dutch had brought some interpreters from the Cape along with them, communication remained difficult. Plus, and from a European perspective, those living in the region had no commodities such as cattle, ivory, or copper. It took until 1726 before another Dutch vessel, the Acredam, anchored in what they called Walvisbaai. Although on a two-year whaling mission, its first stint flopped as well: they simply could not gather a sufficient amount of whale baleen. The vast distance from home, combined with navigational difficulties and the death of both captain and first mate, made matters worse. Subsequent expeditions by the ships Sonnesteijn and Vrijheijt had more luck catching and slaughtering whales but scurvy struck crews. Whaling was not going well for the Dutch.
Whalers eventually returned in the 1780s. Actually, and as outlined by Schürmann, by then whaling took off. At that time, the British had begun exploring the area for a different reason: they were looking for a potential penal colony. In 1785 their naval survey ship Nautilus returned to England with bad news and an early description of the area: “So inhospitable and so barren a Country is not to be equaled except in the Desarts [sic] of Arabia, at least from the appearance of the Shore.” As summarized by one scholar, travelers envisioned “wandering tribesmen, eating lice off each other for nourishment” in an area with no potable water, hardly what they had envisioned for a convict colony. Whaling of the Southern Right Whale, on the other hand, resumed in the following years. More and more ships now anchored in Walvis Bay or in nearby Sandwich Harbor, from Great Britain, the United States, Portugal, France, and the Netherlands. It got crowded. In 1789 alone, eleven ships from Nantucket stayed around Walvis Bay. One of them went beyond a thousand barrels of whale oil, a first for a US vessel. It soon became even busier. Historians estimate that about twenty to thirty ships dwelt in Walvis Bay per year by the mid-1790s, the first climax for the whaling industry in the region.

The work of whalers was exhausting and dangerous. There had to be a whale to catch for Europeans first. Many times workers had to wait, bored out of their minds. Longer delays quickly became worrisome given that salaries were proportional to what the ship caught. Plus, there was not really anything to do. As historian Greg Dening put it, “whalers with nothing to do are restless and dangerous.” Once there was a sighting, most participated in what is known as bay-whaling: ships anchored along the shoreline or in a bay as small surf boats were lowered into the water (Figure 1.2). Soon a mad chase unfolded as boats tried to reach the prey, at times fending off rival hunters. Sometimes animals fought back, easily hurting anyone and endangering the men, most of whom could not swim. Once close enough, whalers used harpoons or other devices to shoot the mammal. That required skill and a good amount of luck. After the kill, workers then dragged the dead giant ashore or aboard a vessel. Right away specialists began extracting baleen; they also removed and boiled blubber. All kinds of sharp tools and hot liquids could also easily hurt workers, especially if that process took place on unsteady boats. Such backbreaking labor, far away from home, with no comfort given the surrounding cold ocean waters and hot desert sands would make life miserable for anyone.

An array of accounts gives a sense of navigation within this liminal space sitting between sea and land, ocean and desert. The Dutch commander of the vessel Meermijn, Sebastiaan Valentijn, wrote about Walvis Bay in 1793, “The headland of the bay . . . is nothing but a sand-bar covered almost entirely by the sea at high tide, which makes landing there very dangerous, for the weather is nearly always misty and a rapid current flows towards the North.” Accidents happened well into the nineteenth century. In April 1859, the ship Flora, arriv-
ing from Cape Town, tried to anchor in the bay. It got caught in the breakers, drifted onto a sandbank, and broke apart. Seven people drowned in the ice-cold ocean waters. At least Walvis Bay had a safe harbor. “It is well sheltered from all winds & you lay in it as in a mill pond,” wrote one sailor in 1786. British explorer James Edward Alexander agreed when writing in April 1837 that Walvis Bay “is a very safe bay, the holding ground is good, nothing can hurt a vessel anchored behind Pelican Point.” Yet there were few resources available on the coastline, and especially the lack of drinking water was a major problem. One voice complained as late as 1830 that “[a]fter considerable labour in digging, we could procure nothing but salt water.” Some unearthed the precious liquid at Sandwich Harbor further south. They apparently kept it a secret from the competition. Firewood was a luxury as well, with the exception of driftwood. Traveling inland might have been a way to solve that problem—but who wanted to venture into an unknown desert landscape with no vegetation in sight? As one sailor noted in 1803, “Nothing is to be seen of the serounding [sic] Country but sand hills.”

The Topnaar, who had long navigated their livelihoods within this frontier-space, on the other hand, saw additional opportunities once Europeans arrived. They already had advantages given long-existing environmental infra-

Figure 1.2. “Whale fishery, attacking a right whale,” Currier and Ives, New York, ca. 1860, Library of Congress/public domain.
structure. For one, they knew desert and ocean, with some regularly venturing into the waves to catch fish. Most importantly, they understood where to find water. They even found ways to raise cattle. Livestock was generally kept away from settlements, at places like Khaeros, a small waterhole about twenty-four kilometers inland along the Khuiseb River. Anyone telling Europeans gazing at desert landscapes from the ocean that pastures nearby produced up to six tons of fodder per hectare would have been declared insane. For them, tracks of livestock sometimes visible on the beach must have seemed like a desert mirage. Once European newcomers became aware of the presence of livestock, however, they tried to get their hands on such resources. Yet the Topnaar ensured visitors stayed on the beach and behind the dunes, away from their cattle, waiting for days while they were getting their precious animals. In some instances they also thwarted efforts by Europeans to find out more, eventually placing lookouts at the first line of dunes to warn of approaching ships. That they also hid their women speaks volumes about their fears of ravaging Europeans, the latter themselves only traveling in groups and generally armed. Environmental factors had forced them to hold their animals near water and grass anyway—although “even the apparent secretiveness about the location of cattle herds—which had been deeply frustrating for European traders—was an intrinsic part of a pastoral economy in which stock-raiding was an endemic threat to livelihood,” as John Kinahan summarizes. Exchanges of goods then took place on the beach, that “double-edged space, in-between,” to borrow Dening’s framework. Here, newcomers such as Thompson offered tobacco, alcohol, knives, and beads for cattle and maybe elephant tusks. Overall, and to once more follow Kinahan, “that herd-owners needed almost no adjustment to their established patterns of settlement to dominate trade at Walvis Bay, and that they were able to exploit the trader’s ignorance of the terrain in order to maintain control over the supply of livestock to passing vessels. In this sense the evidence from the Namib Desert coast favours the view that—initially at least—traders were drawn into the indigenous economy and were for all practical purposes subject to the values, customs and preferences of pastoral society.”

The whaling boom eventually faded. International conflicts, namely the Napoleonic Wars and its connections to the War of 1812, shifted British whaling efforts toward the Indian Ocean. There, they searched namely for sperm whales along the East African coastline. Whereas this allowed the US whaling industry to dominate the hunting grounds off the coast of Southwest Africa for some time, the boom only lasted until the invention of gaslighting around 1840. Besides, these giant mammals had agency as well. As far as historical records indicate, and unless killed beforehand, they avoided the coastline and migrated elsewhere. By then whalers had made money with a vengeance. The Topnaar, on the other hand, had begun falling behind. This did not happen overnight. Amid early interactions, those without cattle—a group historian
Randolph Vigne has called “beach dwellers” or “people of the sea”—actually gained much from exchanges. Consuming yet unable to kill whales at sea, they now found the remains of dead animals on the beach. “The whole shore is strewn with a great many carcasses of all possible shapes and sizes,” noted a Dutch captain in 1793. Whalers had left behind such remains, virtually trash-ing the coastline around Walvis Bay. As another contemporary outlined, “The bay people catch and eat . . . the carcasses of whales, killed by the crews of whaling ships, afford them savoury repasts in the months of May, June, July, and August, or during the time the whalers are about the bay.” A third account adds, “They subsist chiefly on the carcasses of the whales that are killed by the ships and are turned adrift after the blubber is taken off. They seem to like it best when it has been lying some days on the beach, and is getting tender and smells pretty strong, then they relish it as sweet as I would a beefsteak after a long voyage.” Over time, however, and according to John Kinahan, those owning cattle were not trading as equals with those coming from across the sea: “the trade goods acquired by the [Topnaar] did not have the same value in labour and livestock production in the merchant economy, and as the volume of trade goods increased, their value would have begun to decline.”

That kind of trade, together with the growth in cattle raids from the interior, would weaken them by the early nineteenth century.

**Clubbing the Wing-Footed**

“These island is formed of volcanic materials, and its shores are resorted to by multitudes of fur-seals; we took about a thousand of their skins in a few days.” These are the words of an American sealer and captain Benjamin Morrell. Writing about his experiences in October and November 1828, he had cruised along the coastline from Cape Town to Walvis Bay. At an island of about one mile all around known as Ichaboe, he first ran into the Cape fur seal (*Arctocephalus pusillus*). Hunted for their skins, these Pinnipedia, or wing-footed, mammals had been in high demand. Morrell had thus been excited by “[h]aving taken as many fur-seal skins as was practicable” before weighing anchor. At Bird Island nearby, despite a shaky landing, he obtained “the skins of 1,400 fur-seal at one time.” Morrell returned to the area later on taking a few seals from Bird Island and Mercury Island. In one day alone he seized a stunning four thousand skins. “It really appears astonishing to me,” wrote Morrell, “that some men of capital do not see the golden opportunity at a single glance, and seize on it with avidity.”

Unlike commercial whaling in the region, seal hunting had begun much earlier. Local populations had long made use of these loud, stinky, and ear-less creatures equally attracted by fish-rich waters. Some research around seal...
hunting points to the use of their fat in numerous areas along the Southwestern Cape;\textsuperscript{103} local groups such as the Topnaar certainly hunted seals along Namibia’s coastline.\textsuperscript{104} In 1486, the Portuguese then spotted hundreds of thousands of Cape fur seals at Cape Cross.\textsuperscript{105} Two years later João Infante, in command of Dias’s second ship surrounding the Cape of Good Hope, began hunting fur seals and penguins near Robben Bay.\textsuperscript{106} Efforts to pursue these sleek animals expanded with the arrival of the Dutch. As outlined by one scholar, “Dutch settlers took 45,000 seals from the islands of the Cape of Good Hope in 1610, and by the eighteenth century the seal population had plummeted.”\textsuperscript{107} New hunting grounds were thus needed elsewhere, and Namibia’s coastline offered such opportunities, especially once the demand for seal skins as a tough and waterproof material for shoe leather, their fat, and their pelts skyrocketed.\textsuperscript{108}

On 3 January 1793, the ship \textit{Meermin} came from Tafelbay looking for landing spots to drop off individual seal hunters.\textsuperscript{109} Later the \textit{Star} pointed out a useful anchorage spot at Thompson Island that “is very much frequented by the Southseamen who go there for the benefit of sealing which animals is in great abundance there; there have been as many as forty thousand killed in one season on the island.” That entry also underscored the isolation and lack of resources when adding that “[t]here is neither wood, water or any kind of refreshment to be got there.”\textsuperscript{110}

Hunting seals was no easy job. Unpredictable upwelling and shifting currents, strong gales, dense fog, hidden cliffs, whatever makes an area difficult to navigate this coastline had it. Hydrographic descriptions include countless examples of tragic accidents. In one instance, a young sailor by the name of William Ogden sank “to rise no more.”\textsuperscript{111} This calamity took place off Mercury Island while the crew was sealing nearby. That area later known as Ogden Island supposedly offered refuge from currents; but the \textit{Swallow} was unable to find it later on: “It is my opinion that if ‘Ogdens Harbor’ ever existed, the constant action of the heavy seas which always appear to be breaking on the shores have washed the reefs away mentioned by [Captain Benjamin] Morrell.”\textsuperscript{112} According to a log entry by the \textit{Meermin} from 1793, navigating the coastline overall was tricky. Entries speak of sudden surfs, storms lasting for eight to fourteen days, and thick fog making any navigation risky.\textsuperscript{113} It was the promise of riches that continually pulled seafarers to the region. Once on site, getting one’s hands on seal skins was a gruesome and laborious process as well. Hunters could easily approach screaming seal cubs and club them with a wooden bat. In the best-case scenario, seals either died right away or at least became unconscious—to be killed with a knife. Adult animals, on the other hand, fought back. Those creatures could certainly hurt anyone coming for them and their offspring. Shooting these oncoming giants became widespread—their fur was less valuable anyway. Benjamin Morrell described the rush of such a hunt on Mercury Island in 1828 when writing, “every nerve

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and muscle was exerted, and we had reached the opposite side of the rookery [sic], killing several seal in our way, when we found that the other party, under command of Mr. Burton had been stopped in ‘mid-course’ about the centre of the rookery, by the immense number of seal that began to pour down the steep rocks and precipices, like an irresistible torrent, bearing down their assailants, and taking several of the men nearly into the ocean along with them. On seeing the danger, however, we ‘flew to the rescue,’ and soon relieved them by turning the tide of war in another direction. Several hundred fur-seal were left lifeless on the shore and rocks.\textsuperscript{114}

Morrell lost one of his most valuable men that day. An article in a German colonial newspaper painted a gruesome picture later on. It first set the scene as sealers arrived in small boats trying to avoid detection. Some positioned themselves near the water while others agitated seals to rush toward them—only to club them to death or beat them unconscious. Nets later helped hunters to limit injury from onrushing and desperate animals. Soon seals were skinned “with their bodies still twitching,” to still follow that description.\textsuperscript{115} The treasures were then hauled aboard by sweaty men soaked in blood, now ready to take off the fat before eventually spreading out the skins aboard, sitting in salt. The pelts, maybe some blubber, was all that hunters were after. The processing had to take place quickly in the early days since wind and weather, as well as daylight, mattered. The German paper saw sealing as “ruthless” and “brutal,” characterizing participants as “murderers.”\textsuperscript{116} Such rhetoric had more to do with criticizing British hunters than worrying about animal cruelty. Either way, anyone envisioning sealing in this region can imagine the demand and prices paid for the acquired commodities on the world market.

Over time the sealing craze drew more outsiders to the area. Few specialized in seal hunting originally—although over time some individuals and even whole vessels took up the profession.\textsuperscript{117} Sealing required no capital investments yet allowed self-sufficient hunters and adventures to try their luck. In most cases, however, sealing and whaling went hand in hand. In Angra Pequena, for example, British and American seafarers plundered both in the 1830s.\textsuperscript{118} The Meermin references that some English seal hunters shipped about 21,000 furs to Europe.\textsuperscript{119} Early descriptions of Angra Pequena painted a desolate picture. Captain Thomas Boulden from the Nautilus had commented, “it is much to be lamented that so fine a harbour as [Angra] Pequena should be formed by such a barren, unfruitful soil, apparently doomed to everlasting sterility.”\textsuperscript{120} In 1825, remarks coming from the British vessel Barracouta added, “It affords neither wood, water or other refreshment; the surrounding country is barren and uninhabited.”\textsuperscript{121} But seal hunting like whaling was good business—even though it became more and more difficult over time. Seals made their own decisions, and avoided or left certain spaces altogether. By 1835 one hunter commented that “[t]he Seals having been harassed so much, the prospect was slim for the
next season.”122 He and his men were still able to secure about 1,000 skins. Once the Japanese flooded the market with Siberian seal skins following the Russo-Japanese War, business slowed down even more. Regardless, sealing helped put additional locations on the map; a growing presence of hunters also resulted in more encounters with the local population, more knowledge about the area, and the increasing establishment of some small settlements. In this sense, early environmental infrastructure took shape. Difficulties regarding access essentially became the reason why the German colonial government later saw sealing as unprofitable.123 By then the battered animals had long migrated away from colonial entrepôts such as Walvis Bay and Angra Pequena, away from commercial interests and certain destruction.

**Shoveling White Gold**

One line triggered off the craze for white gold. The aforementioned seal hunter Benjamin Morrell wrote it down in 1828. Morrell, who commanded numerous ships along the coast of Southwest Africa in the late 1820s, had been sailing around Angra Pequena. He mentioned “the great numbers” of whales near Ichaboe Island, who “are in the habit of playing about the reefs of the island.”124 Yet neither that nor his previously quoted reference to seals caught the attention of avid readers back in England. What they scrutinized was a sentence he had seemingly written down in passing about yet another commodity: guano, a substance consisting primarily of ammonia and nitrates that had become a highly sought-after fertilizer. By the 1840s, British companies had begun importing it from the Chilean coast. Now, a sentence, penned down by Morell on the other side of the world, got their attention. It read, “The surface of this island is covered with birds’ manure to the depth of twenty-five feet [about 7.5 meters].”125 The prospect of a mountain of guano, basically a mountain of money, must have enticed retired master mariner Andrew Livingstone right away. A shrewd businessman from Liverpool long following the guano trade, he quickly encouraged enterprising merchants James Rae and Norman McLeod to provide the financial backing for a mission.126 Ships eventually left Liverpool with sealed orders to ensure secrecy until the last moment.127 The quest for guano in Southwest Africa was on.

The ecosystem off the Namibian coastline, combined with a demand for guano, provided perfect conditions for this boom. Although a nightmare to navigate, upwelling lifts plankton into waters near the surface. This process not only attracted whales but also fish then hunted by seals and birds. Scientists estimate that the Benguela sustains countless birds with some estimating up to eighty-two species (seven of them endemic)—the three most abundant when it comes to colonizing seashore and offshore islands are the Cape gannet (*Morus*...
capensis), the African penguin (*Spheniscus demersus*), and the Cape cormorant (*Phalacrocorax capensis*). For them, avoiding landbound predators such as jackals and hyenas is essential. Ichaboe Island was such a good spot (Figure 1.3). Located a little over a mile off the desert mainland north of Angra Pequena, bird after bird had built a nest, thousands of them over the years. The relentless desert sun dried out their excrement, literally baking it. Evaporation of nitrate was thus kept to a minimum. The private journal of Washington Fosdick, who traveled on a US vessel into the region later, noted, “It appeared as though it [guano] had never been made for the use or benefit of either man or brute, but had sprung into existence through some of nature’s wild freaks, the vomiting of some subterranean fire.” Another American voice painted a similar picture in 1845 when writing, “This Island is a wonderfull [sic] production of nature, surrounded as it is with reefs & a heavy surf continually rolling on it . . . the deposit . . . appears to have been formed by layers or strata of Animals, such as the Penguin, Gannet & Seal which by some means had been deprived of life, Generation after Generation the live depositing their excrement on the Dead for thousands of Years & the whole becoming decomposed has formed Guano. The skins or skeletons of the different Animals are perfectly fresh only are squeezed flat by the weight over them.” Customers back in Europe certainly demanded more of this substance ever since its widespread use as

**Figure 1.3.** Island of Ichaboe, drawn on wood by J. B. Zwecker and engraved by G. Pearson, in Charles John Andersson’s *The Okavango River* (1861), 399, HathiTrust/public domain.
fertilizer, a dynamic scholars have described as “the first green revolution.”

Although primarily focusing on the Chilean coastline, historian Edward D. Melillo showcases how the trade of this nitrogen fertilizer brought “significant shifts in environments and labor conditions throughout the world.” According to historian Hendrik Snyders, “The transformation of guano into a commodity and of the resource frontier into an economic and political frontier is directly attributable to advances in the science of plant nutrition.” In this sense, human agencies based on the commodification of nature, combined with natural forces and animal agents, introduced new structures and turned Southwest Africa into a “guano frontier.”

Although prospects were high, the first clandestine mission almost failed. Vessels got blown off course, ran out of drinking water, or simply could not find what Morrell had been writing about. Schooner Galloyidia was fortunate enough to find the island but could not land due to heavy surf. It sailed to St. Helena. Two other ships never returned home. Only a coincidence saved the day for the brig Ann of Bristol: during a layover in Cape Town Commander Francis Farr got into contact with some American whaler familiar with Ichaboe Island. With much better directions in hand, the vessel returned to the region and found what they were looking for. Throughout March and April 1843, miners went to work, scraping up guano and hauling the dried substance aboard. Strong winds and currents, as well as cliffs, rocks, and sandbanks made that a difficult task. At one point a strong southern gale drove the ship off its anchorage altogether. Farr decided to set sail for England, at roughly three-fourths capacity. Once the Ann arrived with its smelly riches the secret about mountains of high-quality guano was out, and the “guano rage” turned wild.

In the following years, a boom brought hundreds of ships to the area, most from Great Britain. Both Farr and James Rae outmaneuvered Livingstone by attaching their names to the first official claims to the source—something Snyders has titled a classic case of “anarchic frontier behavior.” A commentator writing in the Nautical Magazine was thus right when noting that the Liverpool party paved the way into “an epoch in the annals of British agriculture and commerce.” Over time, however, efforts to establish a monopoly failed. By late 1843, vessels were not only sponsored by merchant houses from Liverpool but also from London and Glasgow. Plus, the US schooner Emeline and a few French vessels showed up as well. In several instances, ships would load inferior guano from locations nearby; once they discovered Ichaboe Island they replaced their cargo right away. Over time the number of vessels on site skyrocketed, increasing from an estimated forty-six vessels in May to a hundred in July, three hundred in September to a stunning 460 in December of 1844. Around six thousand people were on site at one time! Since much of the area was exposed to devastating gale winds and currents, safe spots were hard to come by. As a result, even just slightly protected spots to the
northeast became highly sought after. Accounts of dangerous maneuvering give a sense of the madness. As one American sailor noted at the time, “with the immense number of British shipping crowding round it to the number of 300 Sail . . . I consider it to be a very dangerous anchorage amongst such a number of ships & I am not sorry I am going to leave it without loading.”

Not all had such an awareness, and there were countless wrecks. Interactions with nearby groups, likely Topnaar, developed as well. Accounts mention encounters with a small group of people that seemingly inhabited an area near a brackish spring in a bay opposite the island. “Here, then, we set our feet upon ‘poor cursed Africa,’” read one source from 1846, “being saluted as we landed by a party of natives, consisting of seven men and two women, with a hearty shake of the hand, accompanied by the familiar words ‘How do?’ ‘how do?’; which were, however, speedily followed up with ‘Jacket’, ‘Trouser’.”

Whereas such dialogue speaks to existing trade relations with English-speakers, engaging with sailors could open new opportunities for these inhabitants; yet it was also dangerous. Some at least kept their women and children out of sight. Historian Arthur C. Watson described one encounter when noting, “In May 1844, a group of captains and some of their men, for want of better activity, went to the mainland and, rushing upon a temporary settlement of Hottentots [derogatory term for Khoikhoi people], killed their dogs, plundered their huts of bows and arrows and of the ostrich shells in which water was kept, and fired the settlement.” It took some time before the exchange of provisions, clothing, and tobacco for ostrich feathers, skins, cattle, and labor between local groups and guano miners became more widespread.

Drinking water was vital, of course. Delivery ships from Cape Town tried to transport it in wooden casks, a difficult endeavor. Containers holding the precious substance were often leaky and arduous to bring ashore without risking contamination. By then new environmental infrastructure defined by shipping routes and landing spots had long begun integrating the region into the global marketplace.

For workers on site, the task of mining guano was backbreaking labor. During the boom sailors and contracted non-seamen mined guano in an “ad-hoc labour regime.” Early on, guano mining required scraping and shoveling the dried mass into some sort of container. Those bulky crates then had to be carried through cold surfs to the shoreline, before loading them onto ships. As summarized by Snyders, workers “had the aid of basic tools such as crowbars, spades and wheel-barrows. They also bagged and loaded it on board ship [sic]. Working offshore with inadequate or even absent mooring facilities and equally hazardous loading equipment meant that labour crews were engaged in an extremely dangerous work.” After some time, workers tried to use planks purchased in Cape Town to build small jetties to then directly connect deposits on the island to boats. Wheelbarrows came in handy to move and load much larger volumes in a shorter amount of time. Simple
structures, partially visible in a sketch from later on (Figure 1.4), eventually became rather sophisticated—and some could even be elevated depending on the reach of the water. According to two scholars, such assemblies “consisted of crossed legs of spars lashed with rope and wedged into the most suitable niches in the jagged ocean floor. The spars formed shears that were linked by cross spars and plants to form walkways” that extended up to ninety meters into the ocean. Few such operations could withstand strong surf and white-caps, however, and guano mining ultimately remained a slow, frustrating, and dangerous assignment. Injuries were widespread, and even simple ailments could become fatal. In one instance, a captain hurt his finger, tried to amputate it unsuccessfully, and died within three days. It was thus not surprising that a visitor traveling along the Southwest African coastline in the nineteenth century stumbled upon numerous grave sites. Lieutenant Ruxton from the British Navy gives some details when describing a rather grim encounter on Ichaboe Island in 1848: “On landing, which owing to the surf is always difficult, I found the whole surface of the island covered with skins and carcasses of seals and penguins, in every stage of decay. At the south-west point, are the graves of thirty or forty seamen and labourers killed whilst working in the pits, by the fall of guano. The skins and bodies of the seals and penguins had been originally the surface covering of the valuable deposit underneath; and had to be removed in order to reach the guano, to which they served, not only...
as a protective covering from the damp spray of the sea, but also, in course of
developing themselves, formed new layers of this extraordinary sub-
stance.” Just the stench must have been awful.

Irritations among workers grew over time. The environment was in no way
inviting—“bleak, barren, and unpromising beyond description” with the “des-
olation of the scene being completed by the angry surf which with ceaseless
and depressing rhythms rolls in upon the shore,” to follow one description.
Motivation to even be there came from the sight of the product, “The rich
treasure however, lay before them, and energy and emulation soon attempted
to overcome the natural difficulties.” Most ships had seamen and workers
aboard, the latter generally unemployed men in need of a job or out for an
adventure. Pay was poor, medical services and housing almost non-existent
with most sleeping under old sails or wooden shacks on the island itself.
Nosebleeds, a sign of scurvy, were widespread among workers and speak to
a lack of adequate nutrition. “Drunkenness and debauchery,” to follow two
scholars, made the work site all the more volatile and dangerous, especially
since disputes were often “settled by the law of the fist.” Snyders has vividly
illustrated how workers organized and rebelled against exploitation, deferred
wages, rationing, and unfair contract enforcement. “They actively resisted
their exploitation and marginalisation based on their own developing world-
view and growing understanding of their rights, particularly their rights as
British citizens.” Efforts to install an arbiter brought only temporary relief,
and even the repeated arrival of the British Royal Navy helped little. In Sep-
tember 1844, Commander Sir John Marshall from the Isis tried his best to
control several hundred ships and thousands of workers, asking his readers
to imagine a scene of crowded and misbehaving men fighting over guano in a
hostile coastal frontier environment.

Riots and mutinies, as well as everyday quarrels on site, had long-term con-
sequences. The active promotion of guano trade as a way to fill US vessels by
the US Consul in Cape Town, Isaac Chase, had brought more and more US
ships to the area—the schooner Emeline, of Mystic, was the first to arrive.
According to one sailor, “The shipping here are all English, our flag being the
only American one.” The British certainly dominated the trade, with mer-
chants trying to protect their monopoly in whatever way possible. One way to
do that was to exert control over emerging platforms and landing structures.
Once landing structures were in place, agents tried to prevent other ships from
using them, or at least charged them exorbitant rates for doing so. Early
claims to the island also materialized. The captain of the bark Douglas, Benja-
min Wade, took it in the name of the Queen of England, a move meant more to
intimidate and disempower competition than illustrating control. The British
Government at least did not officially endorse such a move until 1861—even
if Wade called for legal backup. Wade also acted as a proper harbor and
customs authority, a role not everyone appreciated. In March and April 1844,
some sailors revolted and established a “rogue guano republic,” to borrow Snyder’s phrase. It took the arrival of the British Royal Navy and its warship Thunderbolt in May 1844 to at least temporarily reestablish order. By 1861, a sign read, “Notice. This land of Ichaboe is this day taken possession of for and in the name of Her Britannic Majesty Queen Victoria and is hereby declared a dependency of . . . Signed . . . Captain H. M. S. Furious, June 21, 1861.” A twenty-one-gun salute could be heard as Captain Oliver J. Jones of Furious hoisted the Union Jack that day. A policing authority had arrived.

Although the guano boom eventually faded, it had drastically changed the coastline. By early to mid-1845 most deposits had been depleted. Lieutenant Ruxton noted in 1848 that Ichaboe Island had been “cut down nearly to the waters’ edge, and all the guano [had been] removed.” He added that “[t]here was still a depths of many feet, in many places, of an inferior guano but too much impregnated with moisture and sand to be worth removal, though at the same time very valuable as a manure.” From one little island, 284,752 tons of guano were removed, which resulted in an estimated value of 1,993,264 pounds, or seven pounds per ton. The island was bare, and birds did not return to replenish deposits. It was simply too crowded and dangerous for them. Instead, they had begun migrating to other spots along the coastline. Soon leftover guano combined with some sealskins could not fill ships anymore. In 1861, Cape Governor Sir George Grey then annexed the guano islands, thus all but ending private exploitation. An array of islands off the coast of Southwest Africa, including Ichaboe, Plum Pudding, Pomona, Possession, Halifax, and Mercury Island, now lay in the hands of the Cape Colony. By then the changes to the region had been far-reaching. Mining had disrupted migration patterns and pushed the bird population elsewhere. Newcomers from across the ocean had also interacted with Topnaar and others. Of course, and to follow Synder, “natural features, its sense of isolation and its lack of life-sustaining resources such as food and freshwater” limited human settlement and offered no real entry point. At the same time, the “unbridled exploitation made inevitable the introduction of some form of control,” to build on another scholarly account. As summarized by Jill Kinahan, “The fabulous profits which had attracted the rush of private adventurers and all the major merchant houses of Britain, gave the Namib coast much publicity”—and many now began exploring the coastline for other commercial opportunities.

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Scholars have long described how Namibia’s coastline became integrated into merchant capitalism and the global market economy, and focusing on environmental infrastructure (human ingenuity, labor, animal agents, natural forces) helps our understanding of that process. Following the end of three commodity booms, traders linked through structures stayed connected—now
interested in ivory, copper, and cattle. In 1835, for instance, a report noted that a US brig had come to Angra Pequena solely to trade, expecting to purchase 2,000–3,000 cattle from Nama; in the 1840s regular trade would have also developed in Walvis Bay. By then routes reaching inland had become more stable. There, in the hinterland shielded from the coast, border crossings of semi-Europeanized groups long defined daily lives, and their “influence . . . on the culture history of South-West Africa can hardly be overestimated,” to follow historian Alvin Kienetz. Europeans coming from the ocean could now tap into those networks and structures. Soon individuals such as Aaron de Pass initiated a regular route between Cape Town and Walvis Bay, bringing all kinds of manufactured goods and returning with cattle and sheep; his ships would load guano and sealskins near Angra Pequena. His son later established a base at Sandwich Harbor, where an abundance of salted and cured fish, shark liver oil, sealskins, and guano made for lucrative business. Global networks took shape, with guano from the coastline and fish from Sandwich Harbor used as fertilizer for sugar cane plantations and food for workers on the island of Mauritius off the coast of faraway East Africa. In that process, some African groups became dependent on poorly paid and dangerous wage labor. As outlined by John Kinahan, “The decline of nomadic pastoralism began in the eighteenth century and involved a rapid depletion of the herds, combined with a disruption of pastoral alliances and renewed dependence on hunting and gathering for subsistence.” In his view, “the removal of livestock from circulation by translating them into beads” became a problem, especially for nomadic herders working within arid environmental conditions that required “highly mobile herding patterns.” An ecological revolution tied to trade for commodities like ivory and ostrich feathers, as well as the increasing arrival of hunting expeditions, “undermined the earlier, more sustainable use of resources,” to follow historian Christo Botha. In that sense, existing economies and social systems had to adapt to ever-shifting trade patterns and the fluctuating demands in faraway places, and it is in this process that local groups got the shorter end of the stick. The arrival of traders also impacted ecosystems. Whales soon avoided the area, it seems, as did seals and birds. As outlined by Snyders, on Ichaboe Island, “This led to the departure of a large number of birds and the killing of an equally high number of fur seals, which fundamentally disrupted natural life there.” The scraping of surfaces, noise pollution, and constant movement of workers frightened seabirds, disrupted their nesting and breeding habits, and forced them to migrate elsewhere. The removal of guano, which served “as a stimulant for the growth of phytoplankton,” also upset the ecosystem. In this sense, nature shaped human interactions in this frontier landscape and the other way around.

Newcomers brought along lasting governmental structures. Once there was a demand for oils, baleen, seal skins, pelt, and guano then those plun-
dering these resources descended onto the area in a mad rush. Commercial enterprises, traveling along increasingly well-established trade routes, soon directly competed for resources. In that process, traders as well as their financial backers began claiming certain areas to hunt and mine. Ivory hunts in the northwestern region of Namibia, for instance, further entangled that area with global commodity markets while devastating the elephant population by the 1890s. Disputes had initially played out in that frontier space along the coast, which called for efforts to regulate otherwise potentially precarious commercial enterprises. The British most notably saw themselves as a police force, especially regarding guano mining. As the region got sucked into the world’s commodity trade system, elements of colonial control showed up as well, primarily around Walvis Bay, Sandwich Harbor, and Angra Pequena. One morning in March of 1878 that development came to a logical conclusion: a group of armed men from the Industry landed at Walvis Bay. Commander Richard Cossantine Dyer hoisted the Union Jack, thus proclaiming the annexation of this natural harbor. A statement was read to the few white inhabitants and “some of the neighboring Hottentot and Damara tribes,” to follow Dyer’s report. He also claimed the Africans “appeared well-pleased with the Imperial Government’s action.” By then Walvis Bay had long become the prized possession and key for controlling commodities and access. Existing environmental infrastructure, namely around Walvis Bay, had thus stacked the deck against later colonial powers aiming to find a footing in the region, and in a way the die had already been cast well before German businessman Adolf Lüderitz ever arrived in Southwest Africa.

Notes
3. Peter Bridgeford, Cape Cross: Past and Present (Walvis Bay, 2002), 20. About thirty African inhabitants from the Brandberg and its surrounding areas also worked on site.
6. Brenda Bravenboer and Walter Rusch, The First 100 Years of State Railway in Namibia (Windhoek, 1999), 11.


31. Silverman, Between the Atlantic and the Namib, 14.
34. Budack, “A Harvesting People on the South Atlantic Coast,” 2. See also Kinahan, Pastoral Nomads of the Central Namib Desert, 125 and 134; Kämpf and Chapman, Upwelling Systems of the World, 255.
36. Jill Kinahan, Cattle for Beads: The Archaeology of Historical Contact and Trade on the Namib Coast (Uppsala, 2000), 94.
44. Crowley, *Conquerors*, 20–21.
52. Popham’s Narrative as quoted in “The Impenetrable Shield,” 58. See also Kinahan, *Pastoral Nomads of the Central Namib Desert*, 118.
55. Ibid., 84.
60. *Schürmann, Der graue Unterstrom*, 96. See also Budack, “The Aonin or Topnaar of the Lower Khuiseb Valley and the Sea,” 5.
62. Schürmann, Der graue Unterstrom, 78–79.
63. Popham’s Narrative as quoted in “The Impenetrable Shield,” 54.
66. Schürmann, Der graue Unterstrom, 83. See also Edward A. Stackpole, Whales & Destiny: The Rivalry between America, France, and Britain for Control of the Southern Whale Fishery 1785–1825 (Amherst, MA, 1972), 315–17.
67. Schürmann, Der graue Unterstrom, 63.
70. Schürmann, Der graue Unterstrom, 85.
72. Ibid., 51.
74. Schürmann, Der graue Unterstrom, 94.
75. Thompson, Narrative of a Voyage Performed in His Majesty’s Sloop Nautilus (1786), as quoted in “The Impenetrable Shield,” 44. See also Schürmann, Der graue Unterstrom, 94.
77. HMS Grecian, 1851, in Kinahan, By Command of Their Lordships, 110.
79. Kinahan, By Command of Their Lordships, 110.
80. Edmund Gardner (1803) as quoted in “The Impenetrable Shield,” 50. See also Schürmann, Der graue Unterstrom, 92; Kinahan, Pastoral Nomads of the Central Namib Desert, 99.
81. In one instance, local fishermen (likely “beach dwellers”) and sailors from the Meermin clashed when they earlier attempted to seize the fishing nets of the Dutch. Ran-


86. Ibid., 101; Moritz, *Die ältesten Reiseberichte über Namibia, 1482–1852, Teil I*, 87.

87. Schürmann, *Der graue Unterstrom*, 74.


89. According to Budack, due to “inadequate tackle and hunting methods,” Topnaar were never able to kill whales. See Budack, “The Aonin or Topnaar of the Lower Khuiseb Valley and the Sea,” 25.

90. Francois Duminy, Kapitän niederländische Fregatte *Meermin*, Feb 1793, in Walvis Bay, as quoted in Schürmann, *Der graue Unterstrom*, 120.


94. See also Vigne, “The Hard Road to Colonization,” n.p.; Kinahan, *Cattle for Beads*.


96. Ibid.

97. Ibid.

98. Ibid.


103. Ibid.

109. “Tagebuch über die Fahrt des Schiffes ‘Meermin’ von Sebastiaan Valentijn van Reenen,” 78. See also Bering Strait Tribunal of Arbitration, *Fur Seal Arbitration*, 403. The records kept by the vessel *Sylvia* referenced one man who had been sealing nearly every year for twenty-three years. See *Kinahan, By Command of Their Lordships*, 148.

110. *Kinahan, By Command of Their Lordships*, 35. Hydrographic information collected by British ships (1797–1895) also include such references.


114. *Morrell, A Narrative of Four Voyages*, 305.


116. Ibid. See also *Deutsche Kolonialzeitung*, "Deutsch Südwestafrika," 11 December 1897.

117. The sloop *Princess of Wales*, which wrecked on Crozet Island in 1821, was a cutter meant for sealing. See Charles Medyett Goodridge, *Narrative of Voyages to the South Seas, and the Shipwreck of the Princess of Wales Cutter*, 2nd ed. (Exeter, 1852).

118. Schürmann, *Der graue Unterstrom*, 87.


120. Thomas Boulden Thompson, *Narrative of a Voyage Performed in His Majesty’s Sloop Nautilus* (1786), as quoted in “The Impenetrable Shield,” 39.

121. *Kinahan, By Command of Their Lordships*, 61.


124. *Morrell, A Narrative of Four Voyages*, 293.

125. Ibid., 294.


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137. Kinahan and Kinahan, “A Thousand Fine Vessels Are Ploughing the Main…,” 43. See also Kinahan, *By Command of Their Lordships*, 63.


141. Kinahan, *By Command of Their Lordships*, 64.


144. Kinahan, *By Command of Their Lordships*, 64.

145. *Forrester* (Brig) of Mystic Seaport, USA, 1845, as quoted in “A Thousand Fine Vessels Are Ploughing the Main…,” 45.


156. Kinahan and Kinahan, “A Thousand Fine Vessels Are Ploughing the Main…,” 45. See also Nautical Magazine (1845), 623; Kinahan, By Command of Their Lordships, 64–65.


163. Snyders, “‘Stinky and Smelly,’” 156. See also Kinahan, By Command of Their Lordships, 65.


166. Snyders, “‘Stinky and Smelly,’” 154. See also Snyders, “‘Stinky and Smelly,’” 159–164.


169. Emeline (Schooner) of Mystic Seaport, USA, 1844, as quoted in “A Thousand Fine Vessels Are Ploughing the Main…,” 45.

170. Ibid.

171. Snyders, “‘Stinky and Smelly,’” 46–50. See also Kinahan and Kinahan, “A Thousand Fine Vessels Are Ploughing the Main…,” 45.

172. Snyders, “‘Stinky and Smelly,’” 52.


175. Kinahan, By Command of Their Lordships, 99.


192. Snyders, “‘Stinky and Smelly,’” 11–12.


194. C. 2144 at 6, Further Correspondence Respecting the Affairs of South Africa, Dyer to Foreign Secretary of the Admiralty, March 28, 1878, as quoted in Lynn Berat, *Walvis Bay: Decolonization and International Law*, 37. See also PRO Adm 53/11246 Tuesday 12 March 1878, as referenced in *By Command of their Lordships* (New Haven, CT, 1990), 116. According to the *Western Morning News*, local Herero and Oorlam were sent away after having become “most zealous and loyal British subjects.” See also Budack, “The Aonin or Topnaar of the Lower Khuiseb Valley and the Sea,” 11.
CHAPTER 2

Accessing Arid Lands

“Quite like a grave.”¹ These were the words of German Missionary Johannes Olpp when describing his experiences in the hinterlands of Angra Pequena. After boarding the steamer Maria Johanna, and following a long journey, he reached the small coastal settlement in 1865. Like many after him, he could not hide his disappointment. What he saw was not really a settlement; it was at best a clutter of run-down shacks located at the end of the world. Although guano traders working in the region at times frequented the outpost, it had taken until 1860 for the first European, English trader David Radford, to permanently settle there.² African societies in the region generally moved on. Olpp himself faced numerous logistical difficulties: first, and following a long journey, he had to get ashore. Angra Pequena was a natural harbor that provided some safety. Still, shallow waters and hidden cliffs forced him to rely on a surfboat. Once ashore he faced a lack of shelter. Camping on the beach turned out to be a terrible idea. As he put it, a major storm left me “dumbfounded.”³ Olpp had been aware of the desert landscapes that would await him. Yet seeing it all firsthand still stunned him: “There it lay in front of me, in the desert. In vain does one’s eyes search for a blade of grass. One can barely envision anything less dismal than this waved steppe land, in which even a three to four-day journey does not unearth even the littlest of vegetation. This land I am supposed to become fond of?”⁴ A sketch Olpp added to his volume paints a picture of a remote and godforsaken outpost, a frontier environment imprisoned between ever-encroaching dunes on one side, and the ice-cold treacherous waters of the Atlantic Ocean on the other.

Questions around access defined German colonial affairs in Southwest Africa. When German businessman Adolf Lüderitz claimed Angra Pequena in 1883, he wanted guano, furs, ivory, and cattle; more importantly, he hoped for the discovery of copper, gold, and certainly diamonds. Reaching such potential treasures, however, was a whole other story. As illustrated in chapter 1, those who had come before him had already looted many commodities. Plus, and as Lüderitz had written to the German Foreign Office in 1882, “Of the best bays the British have already taken possession, and so I have to be content with
some fitting landing spot. With Walvis Bay snatched up he was at least able to claim the other entry point, Angra Pequena, later known as Lüderitzbucht. German Missionary Johannes Olpp called it “Without a doubt . . . the best among those few along the coastline.” Once German Chancellor Otto von Bismarck decided to grant governmental protection, Angra Pequena developed into what colonists ended up calling “the only entry portal for Germandom into Southwest Africa.” Over time, and within the context of nationalism and industrialization long defining European affairs, administrators and all kinds of experts arrived from beyond the horizon. For some early dreamers, this seemed like a good start. However, dangerous ocean currents remained difficult to navigate, the arid Namib Desert with its high desert dunes was hard to cross, and a lack of drinking water in and around Angra Pequena greatly limited possibilities for settlements. Central Namibia, an area situated on the central plateau and characterized by somewhat more water and more fertile lands, offered better opportunities for transformations into a settlement colony. Without claims to Walvis Bay, however, German colonists had to look for their own entry point, a logistical endeavor that defined the early years of colonial rule. In that sense, infrastructure defined rule, as did geopolitical circumstances and local resistance.

These early quests for entry points, understood as environmental infrastructure, are front and center in chapter 2. Again, aware of the fluidity between precolonial and colonial logistics, the first section begins with the creation of a German protectorate in Southwest Africa. Apart from introducing Adolf Lüderitz and broader political decisions, this part centers natural forces and existing African environmental infrastructure; it also explores the growth of missionary structures. The second section then explores changes in traffic flows following the creation of the German protectorate. After Lüderitz’s arrival in Angra Pequena efforts to find safe landing places and ways to cross the desert became essential for the future of the colony. Whereas newcomers could rely on existing animal engineering and the Bay Road, reaching beyond the Namib Desert remained a challenge. The third section then focuses on efforts to establish a beachhead in Angra Pequena. The search for an additional harbor and the subsequent reorientation toward central Namibia, discussions about the acquisition of Walvis Bay, and the foundation of Swakopmund speak volumes about the importance of a reliable gateway.

Our Place in the Desert

A telegram dated 24 April 1884, a Thursday, marked the inauguration of German colonialism. Colonial fantasies and stints in empire had, of course, long defined German history. But that day an endorsement of activities in South-
west Africa marked the official beginning of the Second Reich’s colonial efforts. That had all to do with the fact that the German Imperial government granted businessman and adventurer Adolf Lüderitz its protection. Based in Bremen, Northern Germany, and following the death of his father, Lüderitz had been mostly interested in the acquisition and trade of guano and tobacco. By 1881 he already owned a trading post in the port of Lagos in British West Africa. In April 1883, his twenty-two-year-old agent Heinrich Vogelsang then cruised into the bay of Angra Pequena on the brig *Tilly*. Rhenish missionary and supporter of German colonialism Johannes Bam accompanied Vogelsang as the latter negotiated a treaty with Captain Joseph Fredericks. A group of Oorlam-Nama, later known as Bethany people, had settled in the region. They had migrated between the coastline and the Fish River around 1780. Some, the !Nami-lnũs, had stayed temporarily near the bay. According to one settler *storie*, local groups wondered why Germans would build a house where there is no water. “They will die quickly.” In any case, Lüderitz “bought” the land by agreement on 1 May 1883. He knew about the rich guano deposits on the coast and had a report pointing to copper deposits; he also wanted gold and was confident that he could find diamonds. The German flag was thus raised on 12 May 1883. About a year later, in April 1884, the endorsement of the German government would provide the needed protection. Two ships, the *Leipzig* and *Elizabeth*, arrived in the harbor, and soon surfboats pushed toward the shoreline. The family magazine *Daheim* later described the scene in detail, including the proclamation declaring the takeover of the area and the twenty-one-gun salute that echoed over a seemingly empty bay (Figure 2.1).

Several weeks after the initial German proclamation, Captain Fredericks agreed to a second sale. For the price of 600 pounds, probably paid in goods, and 260 rifles, that treaty included territory stretching from the Orange River, the border to the neighboring Cape Colony in the south, all the way north to the 26th parallel, and inland for twenty geographical miles. There had been no explanation that a geographical mile is about 4.5 times the size of an English mile. According to two scholars, “Even by the low standards of European colonialism, . . . [this agreement] was exploitative and one-sided. It is even suggested that Vogelsang may have plied Joseph Fredericks with liquor during the negotiations.” Merchant and agent Theophilus Hahn, the son of Rhenish missionary Johannes Samuel Hahn, had acquired a doctorate on the Nama language. He now advised Vogelsang on how to best gain such concessions. In October 1884, Fredericks signed a treaty of “friendship and protection” with Gustav Nachtigal, at the time the German Consul-General for the west coast of Africa. Fredericks was the first African leader in the region to sign such a treaty, soon followed by Chief Haibib of the Topnaar Nama and Hermann von Wyk of the Rehoboth Basters. Nachtigal, prior to his death at sea in 1885, appointed Vogelsang temporary German consul, later replaced by jurist Heinrich
Environing Empire

Ernst Goering, the father of the Nazi Hermann Goering. As the first imperial commissioner of Southwest Africa, Goering concluded additional “protective treaties” with leaders at Warmbad, Keetmanshoop, Berseba, Hoachanas, Rehoboth, Omaruru, and Okahandja. One protection treaty signed by Herero leader Kamaharero in 1885 included a valley known by its Dutch name Windhoek (windy corner). Located at a strategic juncture between north and south, German commander of the colonial troops, Curt von François, saw the whole area as “deserted,” empty of people. Of course different groups had long lived there. At the time Oorlam captain Jonker Afrikaner, known among the Herero as Kakuuko Kamukuroje, settled “at the fountains of Otjomuise ([Klein-]Windhoek)” in 1840. In that sense, these were not empty spaces, noterra nullius, although colonial discourses at times saw them as exactly that or at least did not think the inhabitants mattered much. At the same time, Africans had their own motives for working with the Germans. Herero Maharero, son of Tjamuaaha, had originally expected help from the British against Nama groups; by 1885 he eventually accepted German “protection.” His son Samuel later aimed to extend his power with the help of the Germans by becoming the next Herero paramount chief. To succeed in this ploy he welcomed German assistance on some level, and that came at a price: land, labor, cattle. For the Herero, trade also mattered, especially during ecological crises such as drought. At those times they more directly depended on the export of

Figure 2.1. “Hoisting of the German flag in Angra Pequena, 7 August 1884,” Reinhard Zöllner, Der schwarze Erdteil und seine Erforscher (1887), 386, HathiTrust/public domain.
indentured labor for goods and firearms. Others resisted. Nama chief Hendrik Witbooi, for example, forced Germans to rethink and reorganize their attempts to wedge their way into Southwest Africa after refusing to surrender to German control. Of course, German claims to large territories, more than 2.5 million square kilometers by the end of 1884, meant little on the ground even if officially endorsed by the Berlin Conference in February 1885.

Individuals such as Englishman William Coates Palgrave had long framed the potential for transforming the region into a productive settler space. Heading the Palgrave Commission instituted by the Cape Colony government to hear from local leaders in Southwest Africa, he had traveled to central Namibia first in 1876. Whereas the reluctance to sign protection treaties with Maharero were in large part tied to differences in the vision of the empire between the Cape Colony and the British government, his Photo Album offers insights into outside fantasies about the region. Made up of snapshots taken by an experienced photographer, the album sketches out potential transformations. Take one photo showing a barren, partially rocky, and arid desert landscape. A closer look reveals a small figure with his rifle gazing toward the horizon of this unknown and seemingly endless hostile land at the edge of civilization; a similar image showcases the rocky, sandy, and barren panorama much closer yet with a similar underlying message. In contrast, we also see roads crossing those landscapes. According to historian Jeremy Silvester, that dichotomy points to larger opportunities for development. The same applies to water. Silvester claims that “Palgrave’s argument that the land has the potential for agricultural development required an emphasis on the water sources that could be tapped in an arid land.” A stunning nineteen of the eighty-five photographs show rivers or some watering hole, an emphasis neglecting realities on the ground and inviting Western colonial fantasies tied to future development.

Missionaries within the region had shaped environmental infrastructure in an effort to make such transformation a reality. The London Missionary Society, which employed missionaries from England, Scotland, the Netherlands, and Germany, originally moved into the area north of the Orange River in 1805–1806. According to one contemporary voice, the Society carried God’s word “in a waterless world where they were expected to become self-supporting little havens of piety.” By the 1840s, the German-based Rheinische Missionsgesellschaft (Rhenish Mission Society, RMG) took over, quickly becoming the largest organization in Southwest Africa. Soon missionaries such as the aforementioned Johannes Olpp became the first German “experts” regarding place, people, and potential transformations. Take Carl Hugo Hahn, who worked for the RMG in central Namibia between 1842 and 1873. As visible in his writings, he saw himself as a pioneer at the frontier not just regarding religious work but also when it came to logistics and the cultivation of landscapes. According to fellow missionary Carl Gotthilf Büttner, not magic but persistence and hard
work were required for transforming the land and turning an arid wasteland into spaces with hundreds of thousands of date trees.\textsuperscript{30} “Therefore this desert, which one has to cross before reaching the rich interior, offers people a variety of rich and desirable products, plus that the mountain ranges, whose naked rocks lay exposed westward towards the coast, still have some treasures in ores and rocks in their interior to retrieve.”\textsuperscript{31} Once Lüderitz arrived later on, Büttner stated that missionaries, just like Robinson Crusoe, had for fifty years colonized what they saw as the \textit{Urzustand} (primitive or original state).\textsuperscript{32} Büttner, like other missionaries, had a complex view of Africans, and he actually supported intermarriage.\textsuperscript{33} Plus, and as some of the scholarship indicates, missionaries were also not too enthusiastic about the German colonial project.\textsuperscript{34} Yet colonial narratives more broadly soon spoke of a local African population as nomadic, without religion, and disconnected from trade. One report noted, “The Hottentots are . . . nomads, but they are not even competent herdsmen. . . . Their instability [\textit{Unbeständigkeit}] . . . [is due especially to the fact] the Namaquas don’t know how to make anything orderly out of their country.”\textsuperscript{35} In a sense, such rhetoric was not surprising. For one, missionaries had to learn, and that took time. And, misrepresentation of sophisticated pre-colonial structures in a way justified missionary and colonial presence. Missionaries also began pushing local populations to become sedentary farmers. Johannes Samuel Hahn, for instance, wrote after nine months, “The economic endeavor has not worked in our favor” given cold weather and African laziness.\textsuperscript{36} Many local populations had little interest in such systems. Those reactions then frustrated missionaries, confirmed their existing biases, and only motivated them to expand their efforts. And although sources remain largely silent about what Germans learned from the local population in that process, it is clear that missionaries “appropriated ‘heathen’ cultures through their studies of cultural artifacts” such as language, rituals, religious beliefs, myths, oral history, and natural environment,\textsuperscript{37} learning much about locality and environment along the way.

Discussions around the potential for transforming nature are most visible in descriptions of environmental infrastructure such as missionary stations. By the end of 1883, the RMG had a total of sixteen mission stations in Namibia, eight each in Namaqualand and Hereroland.\textsuperscript{38} In their view, and in line with colonial officials later on, missionaries had created little hubs in the middle of hostile, harsh, uncivilized, and ungodly environments, doing pioneering work at the frontier.\textsuperscript{39} These “islands of the civilized,” to follow such narratives, those lonely outposts days if not weeks away from fellow countrymen, were made-up of European-style houses and shined like beacons of light within inhospitable sceneries. Missionary Olpp’s journey inland tells such a story: “I told myself that older brethren and profit-searching traders existed in the interior, once shaking my head when looking at the monotony of the
sand desert." A couple of sketches illustrate his trek, with one capturing the remoteness as he traveled along barren rocks. A second one then displays the mission station of Bethanien as an island in this sea of emptiness: a church and a home, like an oasis, surrounded by trees and bushes, beautifully embedded into its surrounding landscape (Figure 2.2). “Most pleasing to me was the nice little church with its two little towers and within that a devotional parish [that had been] summoned.” Countless other accounts highlight the lush green of trees and bushes calling travelers from afar. Carefully tended vegetable gardens, providing sustenance for mind, body, and soul, formed repeating themes and pillars in such colonial frontier narratives. An article in a geography bulletin pointed to the labor put into the creation of such a garden after describing the difficulties in crossing the Namib Desert: “It must be pointed out that figs, pomegranates, grapes, apples, pears, peaches and more thrive in the missionary garden here; even corn, grain, vegetables and more are grown there. The lack of water in the area makes large scale cultivation of the mentioned crops impossible though the soil would be perfect for it.” A British explorer noted that missionary Heinrich Schmelen “labored upwards of thirty years in the wilderness.” Expeditions commented on these hubs as well. Take Francis Galton, a half-cousin of Charles Darwin, who described the missionary station Scheppmansdorf as “pretily situated on a kind of island in the middle of the Kuisip [Khuiseb] River bed near a clump of fine trees, somewhat resembling elms.” Two houses and “the white-washed chapel” marked the center of this
“The lot of a missionary in Africa is a hard one,” commented explorer James Chapman, defined by trial, self-denial, and deprivation. Over time, descriptions and sentiments of missionaries as creators of civilized spaces within hostile environments became a stable reference in most European travel accounts, often hiding existing environmental infrastructure while serving as markers that pointed toward a promising future.

The inception of German colonialism in 1884 marked somewhat of a turning point. Bismarck seemingly had little interest regarding German involvement in Southwest Africa. For him, and to follow historian Christoph Nonn, this episode had all to do with domestic politics. The chancellor hoped to box in a more liberal and Anglophile Friedrich, the successor of Wilhelm whom the iron chancellor feared. A geopolitical moment defined by the Three Emperor’s Agreement, Russian and British rivalries in Asia, and conflicts between France and Britain regarding Africa gave Bismarck the opportunity to act. The chancellor’s move excited the masses, increased frictions with the British thereby limiting Friedrich’s policy options, and gave Bismarck the chance to burnish his own image of an honest broker at the Berlin Conference. In this sense, the chancellor achieved his objectives. His disinterest and lack of support to colonial investments and endeavors thereafter has to be understood in this context. Of course what might have been a shrewd and successful domestic ploy in line with Bismarck’s overall Realpolitik would have real consequences in Southwest Africa. After all, Lüderitz, along with many in the German public saw the government’s protection of German interests just as the beginning.

Reaching Southwest Africa

Landing in Angra Pequena could be a nightmare. The harbor consists of two natural bays: Robert Harbor and the bay of Angra Pequena, later known as Lüderitz Harbor. Both can provide safe refuge from unpredictable ocean waters. Yet reaching them was not child’s play. In 1884, Adolf Lüderitz, accompanied by Swiss botanist Hans Schinz, a mining inspector, and a couple of others had begun taking stock of the region. On the hunt for diamonds, they hoped for easy access along inlets such as the Orange River in the south. One such inventory trip fell short: a captain simply refused to steer the ship into the rough waters and land at the river’s mouth. In a letter to his mother, Schinz spoke about the dangers to life and limb once landing in Angra Pequena: hurricane-like winds had “ripped our sail while the angry ocean waters hid the underwater cliffs.” German reports soon collected all kinds of knowledge about natural forces shaping the region. “The approach of the coastline is made more difficult due to the foggy air along exactly that,” noted a maritime bulletin in 1884. “The impact of cold southern winds with the exceedingly warmed land
form very intensely moist precipitation which concentrates along the coastline into fogbanks and lingers above the water, making estimates of the distance away from the beach impossible, meanwhile the mountain ridges and peaks are visible, soon the latter are hidden, only freeing reefs and surf along a rather uniform shore [to the viewer's gaze], based on which again any orientation turns out to be rather difficult, most of the time impossible. A lack of sea markers and identifiers of any kind makes all that even more apparent.\textsuperscript{49} Whereas that publication added that Angra Pequena provides "suitable anchorage for larger ships,"\textsuperscript{50} approaching the harbor remained tricky. On 1 February 1885, Lüderitz's brig \textit{Tilly} ran into reefs nearby. Fully loaded with drilling devices, agricultural equipment, and other resources, it sank quickly right behind Penguin Island.\textsuperscript{51} This loss was a devastating blow, leaving expert hydrologist Ludwig Conradt stranded.\textsuperscript{52}

Those safely entering the colony described Germany's only beachhead and supposed gateway to colonial glory with mixed feelings. At least Ernst Walter Wegner, an employee of Lüderitz who spent about six years in the area, was not impressed. In a letter home dated June 1883 he wrote, "The land in which we currently live is a complete desert. As far as the eye can see it only spots rocks and sand, and we have to get any drop of water from Cape Town. It only rains here about once a year and of actual vegetation there can be no say anywhere. Just a few dry bushes and cacti make a scrawny living. It really does look like as if a curse of the Lord is laying on this land."\textsuperscript{53} Drinking water was simply not available in Angra Pequena. As Olpp had pointed out, "One is looking for a water source along the beach in vain and yet water is the main need for settlers. It has to be brought in from Cape Town."\textsuperscript{54} He had added elsewhere, "With a continuing lack of rain these [river beds] run dry completely and the amount of constant [flows of water] in the land is so little that no 1,000 European settlers, all of whom need [water for] their own and for their cattle, could exist. Deep interior ponds, that never run dry, are missing completely."\textsuperscript{55} Riverbeds nearby only held a brackish and salty liquid. Without water holes or springs on the west side of the Namib Desert newcomers had to bring it in all the way from far away Cape Town, a logistical nightmare and expensive undertaking. Explorer archeologist and chemist Waldemar Belck, who arrived in the region in 1884, still remained confident in German ingenuity when noting that "Mr. Lüderitz is already digging wells energetically, and even if accessing water that way should not work, installing larger cisterns and reservoirs should solve the misery completely or at least in part."\textsuperscript{56}

Whereas access to drinking water might have been solvable, having to cross the Namib Desert seemed a terrifying prospect with less apparent answers. Belck wrote in 1884, "In the surroundings of the bay absolutely nothing is growing."\textsuperscript{57} Mine manager Hermann Pohle noted in his early descriptions that "the eye is searching in vain for a green spot, even just a bush or a tree. A
dismal wasteland, just tempered by a moving yet always beautiful ocean. Schinz painted a similar picture when writing, “So we were now at the edge of the wilderness . . . —if calling sand and rocks allows for such a description.” That expedition had brought water from Cape Town for a whopping 30 Marks per barrel only to then get stranded in Angra Pequena: crossing the Namib Desert in January, the hottest time of the year, was impossible. At that time, ox wagons, which had been imported from the Cape Colony, widely defined transport inland. Those animals seemed the only ones capable of making the arduous journey. Whereas horses and maybe donkeys were at times also available, those were much more prone to diseases and certainly more expensive. German newcomers were often skeptical. Max Buchner, for instance, was uncertain about such means of transport but quickly convinced otherwise once he saw the abilities of these animals. As a geologist and mining expert exclaimed when talking about oxen, “which other animals would be capable of dealing with such a harsh land!” Finding healthy oxen and a four-wheel cart was difficult, however. Treks generally relied on sixteen to twenty oxen to pull one wagon, with at least a couple as potential replacements coming along as well. With little knowledge about these animals, local traders at times took advantage of German newcomers by selling them less healthy animals. The wagon itself was made out of massive wood and required axles strengthened with iron. Described as “traveling apartments,” the carts carried virtually everything: kitchenware, food, clothing, weapons, bedding, along with much else, and, of course, water. For contemporaries these vehicles felt more like locomotives or chariots than carriages. Although able to handle a lot, problems with axles and wheels still slowed down treks: sinking into desert sands or crossing rocky surfaces did much to wear out even the sturdiest of materials. Such animal structures, in themselves sophisticated environmental infrastructure, did certainly not please German ambitions. The timing of a journey mattered as well. During the summer months heat and a lack of water made travel increasingly difficult. Countless accounts describe “screaming oxen” desperately trying to reach the water, or dying of thirst in the desert. “Animals have no place in your heaven,” noted one ox in Uwe Timm’s novel Morenga. The expertise of local guides, familiar with landscapes, water holes, wagons, and animals, was essential. Not that newcomers acknowledged it much. To the contrary, many German descriptions questioned local manners, their treatment of the animals, and even overall abilities of drivers and herders. There are many early firsthand accounts that capture the dangers of such treks, with one German magazine later quoting Gustav Nachtigal, “I’d rather travel through the desert where I can at least find oases than travel through this land [Southwest Africa] again.” Most point to the need to move quickly once allowing the oxen their last drink of water at the coastline—otherwise the trek might not reach the next watering hole in time. An account from 1887 points...
to the steep path into the dunes from here forward; it also underscores how easily inexperienced travelers could get lost in the ever-changing Namibian desert landscapes.70 “Masses of flying sand have created the chaos of water and mainland,” wrote a geologist and mining expert in this context, a trek into a “horrific landscape” and “the world of death.”71 Once travelers had crossed the Namib then they reached an arid landscape, still far away from the central plateau and more fertile lands. It was thus not surprising that some reports about the area that reached Germany were kept secret for some time.72

Early concerns about access to and transportation from the coastal outpost of Lüderitzbucht were somewhat defused with hopes of what lay inland. Wegner, for example, pointed to a promised land beyond the dunes, ostensibly shielded from the gaze of European empires: “Roughly 80 (Engl.) miles away from the coast, however, it is very different. The land is fertile and fresh water widely available and those tribes living there, own thousands of cattle and horses.”73 Famed German explorer and one of the founders of the Colonial Society, Gerhard Rohlfs, agreed with the assessment when stating that “anything that grows in temperate and subtropical zones could be grown further inland.”74 For some proponents, Angra Pequena seemed to provide the doorway to colonial glory. Many opportunities were virtually awaiting any persistent colonist just beyond the sand.75 Soon speculations about hidden treasures ran wild. Yet according to one description published in the magazine Globus, “The complete absence of atmospheric precipitation and the lack of drinking water only available at some spots limits any effort at colonization. The survey of mineralogical correlations provided entirely no yield worth mentioning to make the transport to Germany worthwhile because only precious metals such as gold, silver, platinum—and those are available also only in very little amounts—would give a monetary profit.”76 Then, in 1887, came the news: gold had been discovered! But such rumors turned out to be a fraud, likely pressed by a colonial proponent who had loaded a musket and fired small pieces of gold into a rock.77 Countless stories speak of similar tales as seemingly unwitting fools got sucked into the purchase of worthless lands and rocks over a beer.78

For Lüderitz himself dreams of riches beyond the dunes turned into a nightmare. Put simply, he overly invested in exploring the area. Then, the loss of the brig Tilly set him back even more; delays in the discovery of raw materials did not help either. Although efforts tied to copper mining had gone on for some time,79 the Germans had little role in that. Speculations about additional deposits or the discovery of silver, gold, and diamonds, did not materialize either. Lüderitz’s financial troubles grew. By 1885 he faced bankruptcy. Bismarck’s efforts to assist somewhat resulted in the creation of a consortium, the Deutsche Kolonialgesellschaft für Südwestafrika (German Southwest Africa Company), an organization supported by leading German businessmen that would profit greatly from colonialism in future years. Bismarck’s maneuver

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had much to do with his belief in private entities as the driving force behind the development, exploitation, and even administration of the protectorate. In April 1885, the German Southwest Africa Company acquired Lüderitz's assets. A year later, Lüderitz drowned somewhere on the Orange River. That he was trying to determine if that inlet could serve as a shipping route speaks volumes about the role of logistics and access for early colonialists.

Meanwhile the types of investments needed to deal with natural forces and improvements to animal transport were apparent, at least to those that would listen: European and maybe specifically German expertise, technology, hard work. Steeped in white supremacy and a broader belief in progress, numerous accounts speak about German abilities to turn outwardly arid and barren wastelands into blooming Kulturlandschaften (man-made cultivated and cultured productive landscapes). Belck noted that “[t]he soil is not infertile, [and] the reasoning for this drought is rather the lack of rain.” Wells, cisterns, and reservoirs would easily solve the issue. In a different section, Belck wrote that “with ease, a significant amount [of trees] can be planted.” That would help provide shade and firewood; it would also protect water sources and boost the groundwater. Others agreed and pointed to the need for drilling as the solution to what soon became known as the Wasserfrage (water question). Rohlfs approved, stating, “And if until now there has been no drinking water then that has to do with the fact that no one has seriously looked for it.” Dry riverbeds must surely yield water, if only one dug deeply enough, he believed. “Where there is a sun in Africa, water and soil, even if ‘desert sand,’ anything grows.” Germans could easily construct wells as they had done in French Algeria. That would certainly “uncover the loveliest and cleanest spring water.” The Deutsche Kolonialzeitung newspaper tried its best to defuse concerns about a lack of water by simply noting that colonists could easily employ condensers to “make” their own. As the mouthpiece for colonial interests, that paper most loudly pushed for investments. In 1887, it referred to Heinrich Petersen as “one of the first German pioneers along the right riverbank of the Orange River”; it also directly questioned the “sad image” presented by some voices about that region. In Petersen’s experiences, so the story went, setting up irrigation systems for cattle farming and agriculture offered endless possibilities. These were “healthy lands” with lots of opportunities, another voice added. In 1890 the same paper stated that “There is no lying about the fact that nature has put up enormous barriers between Angra Pequena and the hinterland”—a lack of water, a sixty or so kilometer desert strip, and elevated table-mountain ranges. Yet the same article also pointed to steam condensation machines to get drinking water, the digging of wells along the route to the interior, and even the blasting away of whatever barriers. “With a goodwill and prudent cooperation, all these hurdles are easy to overcome,” especially for Europeans, and more so for Germans. As early as 1884 the Deutsche Kolonialzeitung newspa-
per also blazed ahead when featuring an article by a California-based expert writing about “the value of artificial irrigation of West Africa.” Some had long seen what seemed possible when visiting Farmer Hälbich: clean and organized vegetable beds, a sophisticated irrigation system, cultivated garden spaces full of onions, cucumbers, potatoes, lettuce, peas, beans and more, all reminders of places close to his heart back home. Optimism defined discussions to such an extent that those just describing landscapes as arid were at times defamed as spreading British propaganda and conspiracies meant to keep German colonists at bay. The way forward thus became clear: “Everything must be awakened and created,” noted Rohlfs, a task that would not be easy but rewards would be plenty.

But major investments were hard to come by. There had certainly been public support for colonial endeavors back home in Germany—even if views evolved as more information trickled in. One contemporary summarized the mood when writing, “Like a spring breeze full of excitement it blew through the nation. Dreams of golden mountains; the stream of emigration would be steered into that direction now; jabbering about a German India.” That source added how “[d]isillusionment set in right away” once more information became available, mentioning public warnings “that instead of an Indian paradise Angra Pequena is almost a completely barren sand desert, in which it never rains and as a result drinking water has to be brought in with [their] own small ship Meta from Cape Town, resulting in costs per ton of around 30 marks.” Some wondered if Germany had just acquired a “colonial Streusandbüchse (sandbox).” At least the satirical weekly magazine Kladderdatsch noted shortly after Lüderitz’s original acquisition that interested settlers should bring everything with them, including flora and fauna. The Deutsche Kolonialzeitung newspaper responded to such critics that the true benefits of this German acquisition would be its “raw materials.” Maybe the British had just overlooked an opportunity? Missionary Büttner at least wrote that “The ‘sandbox’ of Angra Pequena had been missed or [the British] were . . . under the impression, that no one would dare to grab it because the English colonies were ‘nearby.’” A binary took shape, to follow historian Birthe Kundrus: on the one side stood proponents of colonialism such as Adolf Lüderitz and Heinrich Goering. For them, Southwest Africa, defined by a mountain climate and virtually free of tropical diseases, might become a wonderful spot for agriculture in some regions, but certainly cattle farming. The area had a suitable climate for Europeans for settlements and the space to deal with a growing German population. They pointed to missionaries and their gardens, as well as Herero, Boers, and neighboring South Africa, to sustain their claims. On the other side stood skeptics such as Gustav Nachtigal, Hans Schinz, meteorologist Karl Dove, among others. They dismissed such possibilities. For them, the arid and desert landscapes spoke to broader problems. Some voices even
advocated for abandoning Germany’s claims to the protectorate altogether. To them, the sands of the Namib Desert seemed not worth the effort. Belck just hoped to cut through colonial fantasies about the creation of an agricultural colony around Lüderitzbucht. Experienced men know better, he stated.98 Perceptions of landscapes, and imperial fantasies more broadly, would continue to play a major role in the colony’s future.

In the late nineteenth century such muddled mindsets and understandings of the colony also shaped views in Germany. Diplomatic relations and international politics of course played an important role for decision-makers. How should Germany position itself in the world? Some saw the early years still as an “experimental phase.”99 Neither Bismarck nor his successor Leo von Caprivi had much interest in direct government investments. Instead, both favored the British model, defined by private corporations such as the German Colonial Society. The influence of the Chief of the General Staff Alfred von Waldersee on Emperor Wilhelm II, and discussions around trades involving Zanzibar, Heligoland, and possibly other possessions, did not help either.100 As a result, it was left to private companies to invest. According to historian Dirk van Laak it is not quite clear if those did not want to or could not develop what the German government had hoped for.101 And so German colonialism was off to a rough start. With a protectorate forming between the Cape Colony, British Bechuanaland, and Portuguese Angola, access remained arduous and crossing the Namib Desert difficult, all but making Southwest Africa a colony on paper only.

Germany’s Own Entrance

A high-ranking British administrator in Cape Town knew the value of Walvis Bay. One of the only two natural harbors along a rugged coastline, German colonialism had turned this British possession into an enclave surrounded by German Southwest Africa. Yet to officials in Cape Town ceding the harbor did not make much sense. The said official wrote in 1891, “My belief is that the time is coming when Germany will recognise that the interior [of Southwest Africa] without the port [of Walvis Bay] is of no value. That the two should belong to one Power is manifest; and that the Cape Colony will never surrender Walwich Bay [sic] is absolutely certain.”102 At the time the local Magistrate in Walvis Bay, John James Cleverly, agreed. With a front row seat to German efforts in the region, he was well aware “of the value of Walfisch Bay [sic] to the [Cape] Colony”; he also became increasingly assertive that there was “no intention whatever of relinquishing possession of Walfisch Bay [sic].”103 German efforts to acquire Walvis Bay ultimately failed,104 which meant that for the time being new arrivals hoping to reach central Namibia were at the mercy of the British.
German colonialists were fully aware when it came to the importance of accessing the high plateau. Namibia is generally categorized along three main geographical regions: the Namib Desert, the Kalahari Desert, and the Great Escarpment (Figure 2.3).\textsuperscript{105} With fertile parts namely located in Central and Northern Namibia, aridity is widespread along the coastline and in the south and east. Unreliable and seasonal precipitation rates tend to rise moving north and east. Although maximums of 550–660 millimeters in the wettest areas are possible, most of the country receives much less.\textsuperscript{106} More fertile areas generally exist in central Namibia. Angra Pequena (renamed Lüderitzbucht), although a good harbor, thus had little value when trying to reach such prized lands. A lack of water in Germany’s only entry point further narrowed settlement possibilities. As a result, few ships stopped for long. Why would they? Without water and opportunities for trade given difficulties crossing desert landscapes, it made little economic sense to anchor on site. According to one estimate, in the 1890s at best thirty to forty oxen wagons of missionaries, traders, farmers, and locals arrived each year to trade goods in Lüderitzbucht. More of them picked the British competitor farther south, the harbor of Port Nolloth. That landing space also had a more stable water supply along the route inland.\textsuperscript{107}
Meanwhile, the British enclave of Walvis Bay developed into the main entry point into central Southwest Africa. The lagoon harbor is protected by a peninsula and Pelican Point. The Khuiseb River also forms a delta just south of town. Plus, there was drinking water at nearby Sandfontein. Natural forces—primarily “bothersome West and Southwest winds so prominent on all other locations, including Angra Pequena”—also made logistics easier. Even Hugo von François eventually had to admit that. As a result, and well before German arrival, Walvis Bay had already begun shifting into a trade hub.

Environmental infrastructure linking Walvis Bay to the interior sustained commerce. African societies previously connected to the Cape Colony by inland trade across the Southern border had established a transportation system linking to its natural bay. Oorlam Jonker Afrikaner, who resided in the area of Windhoek, decided to construct a road from his domicile on the central plateau, the area best suited for cattle farming and agriculture, to Walvis Bay. This was by no means the only route. Yet it increasingly became an important connection to the coast, especially once Oorlam migration had introduced the ox wagon as a means of transport to the region. According to scholar Henning Melber, the so-called Baiweg (Bay Way or Bay Road) “was one of the more prominent examples of ‘modernisation’ brought about by a modification of the local economy through interethnic and external trade relations.” Reaching that point in 1844 had not been easy. According to historian Brigitte Lau, “construction of roads was time-consuming and labour-intensive,” yet necessary to facilitate trade. Roads such as this one became essential. To follow Melber again, the export of cattle and the import of commodities such as guns and ammunition dominated trade; such trade also underscores the importance of cattle for groups such as the Herero when it came to maintaining “a dominant position in the local economy.” Copper mining defined this main route as well. San had long mined copper in Tsumeb in the north, which later resulted in the short-lived creation of the Republic of Upingtonia by Boer groups known as Thirstland Trekkers. Other locations had easier access to the Baiweg. Melber mentions one mine under operation in 1840 and run by South Africans on concession by Jonker Afrikaner that was “allowed use of this innovative infrastructure to transport ore to the coast. In return for this service the South African concessionaires, including those miners who had assisted in the construction of the road by lending appropriate tools, had to pay taxes to Jonker Afrikaner.” That Afrikaner had long initiated the cultivation of plants such as figs further underscores pre-colonial efforts and disrupts colonial narratives of introducing “advanced agriculture.” The Baiweg constituted a sophisticated environmental infrastructure, about seven and a half to nine meters wide, extraordinary, to follow missionary Carl Hugo Hahn, who described it in his diary. “I must admit that even in the Colony (Cape) I have never seen such a marvelous piece of road construction.” Other newcom-
ers spoke of a “masterpiece” when describing other routes, adding “that one cannot justly agree any more that the Namaquas . . . are [supposed to be] stupid and lazy.” German newcomers, who later belittled precolonial efforts, were thus delighted to use such arteries, especially once the death of Jonker Afrikaner and his Herero ally Tjamuaha in the early 1860s began disrupting established hegemonies.

Meanwhile the German quest for an alternative landing spot had brought mixed results. There simply were not many natural harbors to work with. Colonial officials searched relentlessly, surveying the coastline up and down, repeatedly. In 1890, the German ship Habicht succinctly outlined the limits of locations such as Lüderitzbucht: it was not a closed harbor, travel inland was difficult given desert and dunes, and there was no water. The report also emphasized the lack of options when trying to access central Namibia, with the exception of Walvis Bay, of course: “Nowhere does the landscape become any better. Everywhere does the gaze meet sand dunes, occasionally broken up by loose piles of sand rocks; there is also no harbor to protect or land ships until Walvis Bay,” none for 350 nautical miles, complained one newspaper. Locations such as Cape Frio, Ogden Rocks, and even the previously considered Cape Cross, the report continued, were of little use. One expedition pointed to the benefits of Tiger Bay. Silting-in, a process tied to the movement of sand along the coastline thanks to ocean currents, would only be a minor issue. Previous maps of the area might have been grounded in the mistakes by a British lieutenant from 1852, that expedition hoped. For some time Sandwich Harbor south of Walvis Bay seemed promising as well. The landing spot located astride the Tropic of Capricorn had played a vital role in early interactions and trade. Plus, the Germans had utilized it when unloading cargo. In 1889 a description noted that the harbor itself was good and “a tightening of the entrance into the harbor was not to be expected”—though the water level had been falling constantly. That year a meat-canning company, put in business by the German and English Southwest Africa Company, had already stopped working: exhausted animals arrived on site and desert sands repeatedly found their way into the building, interfering with the canning process. A year later the Deutsches Kolonialblatt newspaper saw problems when noting, “While the harbor was still considered good and safe in the year 1884,” even by 1888, by 1889 it had silted and shrunk dramatically. Expeditions surveyed shifts in the following years and some even proposed the assistance of a small dredger. Whereas the remoteness of the area made such propositions unlikely, further silting-in soon limited the harbor’s use anyway. By 1896, Hugo von François summarized the situation when noting, “The harbor completely silted in, the entry barely usable for barges; we already ran aground with a steam pinnace [a light boat]. Due to that, but also because the connection to the interior is evidently the most difficult—the belt of dunes is getting wider southward—its
use as a location is actually impossible forever.” Alternative landing spots were hard to come by.

The British were content to watch as the Germans struggled with logistics. Media outlets from the Cape Colony, with at times immediate commercial and colonial interests in the region, saw little reason to help the Germans. According to the *Cape Times*, “The reason for a colonial force at Walfish [sic] Bay was not to take care of Germany, but was there to protect colonial interests.” There had been some voices in the press speculating about the possibility of making a deal and swapping territories with Germany. An article in *The Times*, at least, acknowledged that “Walvis Bay is absolutely useless to us now that the German possessions in South-West Africa surround it.” At the same time, it continued, as “the only good harbour” it is “indispensable to the proper development of the German colony, and as such might be to us the means of effecting a profitable arrangement with Germany.” Discussions of a trade for German possessions in Togo followed—“of no use to Germany, but a great source of annoyance to our Gold Coast colony.” The colonial records underscore that British officials awaited the abandonment of the colony. They were not wrong. In February 1892, a telegram from Berlin pointed to Caprivi’s continuing “indifference” concerning German colonial possession. Caprivi’s predecessor Bismarck had declared himself weary of colonies; Leo von Caprivi had originally agreed. Those in favor of German colonialism would not gain the upper hand until maybe mid-1892. Plus, the British understood that some within the German administration had “been disappointed in the great expectations that had been formed as to the wealth of South-West Africa.” Their prediction in 1891 was thereby that “Damaraland will probably be evacuated in 1892.” Although rumors and speculations dominated the press for some time, Magistrate Cleverly became increasingly vocal about the importance of Walvis Bay. In his view, there was little to gain from giving it up, an argument that soon defined overall policy.

For the Germans the situation on the ground had only gotten worse. Warfare and shifting alliances had resulted in the death of Afrikaner. Over time, Herero and Nama, the latter under the leadership of Hendrik Witbooi, then increasingly gained influence. Still unwilling to relinquish his power to German rule, Witbooi in particular openly challenged German dominance in the region. His efforts primarily focused on the main artery, that vital Bay Way between Windhoek and Walvis Bay. Witbooi began attacking German convoys and effectively threatened Windhoek’s supplies. In early 1893, he even struck out against an early experimental farm run by the German South West Africa Company at Kubub. Both Walter Matthews, who later ran the guano operation at Cape Cross, and representative of the German colonial society Ernst Hermann, barely got away alive. The British tried to stay out of the conflict, clinging to neutrality and prohibiting any arms trade through Walvis Bay.
at least one instance, local magistrate Cleverly seized German military equipment and cargo. This interference angered the German colonial troops under the command of Curt von François. The German media equally cried foul and added pressure on decision-makers when writing that “the great power Germany is dependent on the permission and the international courtesy of England if it wants to bring weapons and supplies into its protectorate!” Neutrality ended as British meddling ceased overall, a decision that all but wrecked the resistance of Witbooi. For him, supplies were hard to come by, and efforts to play colonial powers off each other now began to falter. Now supplies were hard to come. German commander Curt von François used the moment and attacked Witbooi’s headquarters in Hornkranz or Hoornkrans in April 1893, slaughtering and massacring men, women, and children. Witbooi retreated into the Naukluft Mountains, but had little option other than to submit to German rule. For the Germans, the short standoff around Walvis Bay stressed the value of owning their own entry point into central Namibia.

On 1 March 1893, Chancellor Leo von Caprivi announced to parliament a shift in policy. Apparently reeling from Witbooi’s resistance, and pointing to the “Dreistigkeiten boldness” of the Herero against Germans in Central Namibia, Caprivi saw the need for additional German troops—not to make war, but “to become masters of the country and consolidate our sovereignty without bloodshed.” “We possess South-West Africa once and for all,” he continued, “it is German territory and must be preserved as such.” Representatives in parliament seemed to agree, with many yelling Bravo! Caprivi, who seemed aware of the challenges that lay ahead, emphasized the lack of harbors and access. At the same time, and because it was British, he demeaned Walvis Bay as that “scraggy harbor with its half a dozen dirty huts and 36 inhabitants, or however many there might be.” He then talked about alternative landing spots along the coastline to solve issues concerning access. By then initial efforts north of the Swakop River seemed promising—and encouraged Caprivi to lay out his vision for the future: “We cherish the hope that the settlement companies are able to bring more and more whites into the land. We believe, even if things move forward very slowly in Southwest Africa, that they will move ahead farther.” Although decision-makers in Berlin would remain “of two minds” for some time, to borrow historian Horst Drechsler’s phrase, Caprivi’s decision led to more organized efforts regarding the development of a German access point.

At the mouth of the Swakop River, German colonists seemingly had found what they were looking for: a location for a harbor that allowed access into central Namibia. Outwardly this was a good spot to gain control of trade inland. For one, it was located between Hereroland and Walvis Bay, and adjacent to the existing Bay Road. Early descriptions gazing inland come from the British. In 1848, Lieutenant Ruxton noted that the Swakop River "must once ha[ve]
flowed with great force.” He did notice some vegetation. Regardless, the British seemed to have little interest in general. Now, almost four decades later, the British observed German endeavors in the same stretch. In 1884, the Africa Pilot, a bulletin published by the hydrographic office that was housed under the authority of the Royal Navy, described the location “Swakop or Swachaub River” when noting, “This river discharges into the sea almost regularly every year for one or two months in the summer; for the remaining ten months its course is dry (with the exception of a place just below Nxonidas where there is running water all the year around), and its mouth is blocked by a sand bar.” It added that a “German flagstaff and notice board beacon stand near the northern bank of the Swakop, and English beacons near the southern bank; the boundary line is midway between, in the bed of the river.” By then most German reports and surveys had already hinted at the potential value of this location. The ship Habicht had few problems when landing a surfboat in April 1886. It did seem like a sound option: there was access to good drinking water and a slight gap through the Namib Desert along the Swakop Riverbed allowed travel inland—unlike in Lüderitzbucht. Plus, and at least according to one report, “Breakers were not considered too strong [and] it will be possible, to land cargo with surf boats.” Colonial authorities were also confident that thanks to the eventual construction of landing structures it would become a “rather easy task to create a good harbor.” At the same time, the location had some issues. Take the experience of the gunboat Wolf. In late 1884, its crew had the mission to raise flags on numerous spots along the coastline. The usual thick fog and treacherous waters made that a difficult endeavor. Travelers at the time found themselves smothered in a white blanket of low-lying fog, limiting sight, hiding dangerous currents and surf, even the coastline. North of the British enclave Walvis Bay near the mouth of the Swakop River the operation got into even more trouble. As outlined in a German newspaper later on, “The breakers off [the coast of] Swakopmund were impassable. The few German colonial inhabitants [living in Walvis Bay] had to return in their little boats back to Walvis Bay, and the ship Wolf had to wait for a weakening of the breakers.” Only in the evening had it been possible to raise the imperial flag, then without the desired presence of the German inhabitants.

Without landing structures in place it was African labor that moved newly arriving cargo. Comparable to porters in other colonies, such human carriers compensated for difficulties unloading. Soon steamers on their way to the colony picked up Kru men in Monrovia to do such work. These West African men could be Vai, Gola, Dei, Kpelle, Kru, Glebo, Bapo, Nyambo, or Sabo in ethnicity; they generally originated from eastern Liberia and the Ivory Coast. German officials saw them as experienced and skilled professionals when it came to navigating dangerous waters; African oral histories speak of men “who chew off white people.” More recently scholars have described
them as intermediaries, “a social construct that has emerged out of various social and economic processes that occurred during a period of European colonial activity in West Africa.”

In any case, these men soon steered and shuttled surfboats, filled with cargo and passengers, back and forth between steamers and the beach. This meant crossing strong currents and breakers, a dangerous task even for experienced workers. They were certainly experts in the handling of landing boats. According to Curt von François, “When on 26 January 1893 the cruiser *Falke* brought eleven Kru negroes to Swakopmund my sense of the western landing spot as more favourable was confirmed.”

A report much later referred to them as “rather versed and prudent boats men,” adding that they were “the only diligent and persistent workers of the west coast.”

The official foundation of Swakopmund took place on 12 September 1892. Kru men participated in the first noteworthy landing on 23 August 1893 when the vessel *Marie Woermann* brought in 120 soldiers, forty settlers, and all kinds of materials—including cattle. Unfortunately, to follow Hugo von François, the climate in the region was too harsh for them, even when supplied with Manchester corduroy wear and military coats. Instead of staying on site permanently—as colonial authorities had originally envisioned—steamships from namely the Woermann-Line would pick them up on their way south and later drop them off once they returned. Historian William Blakemore Lyon estimates that 500–600 such migrant contract laborers kept the landing process going prior to 1904; an additional 1,000 would be employed during the war. In his view, “for approximately the first 10 years of Swakopmund’s existence, almost all supplies and people entering or leaving the settlement via the Atlantic Ocean needed to be transported from the beach to ships, anchored offshore, via surfboats manned by skilled workers”—and those laborers came from West Africa.

Although experienced and skilled workers were now on site, landing efforts remained precarious. The surf and waves were perilous and unpredictable, fog made it difficult to see much on most mornings, and large vessels could not come close to the shoreline. On 4 June 1895, a boat capsized. German landing official Ludwig Koch had granted its request to help unload the steamer *Carl Woermann*. These were experienced men, he thought. According to an article in the newspaper *Deutsche Kolonialzeitung*, the boat had no issues in its first run out to sea. All went well on the way back, too. On their second tour, however, when the boat was only partially loaded with cargo, a wave caught it from behind. “Barrels swam away, as did officer Schlüter along with two seamen. They swam back to the boat . . . trying to bring the boat ashore.” Their efforts were in vain and neither of them could grab the straps before another wave capsized the boat. All but one died in the ice-cold ocean waters. Colonialist Kurd Schwabe, who observed the situation unfold that day, noted in this context, “It was a sad day, all the more so because we had been completely pow-
erless from ashore when it came to helping the swimmers.” A report from December 1894 by a certain captain Meinertz from the Woermann-Line that had stated that “the surf would not provide any difficulties” did apparently not match what many experienced in those early years. Much still had to be done to turn Swakopmund into a safe and reliable entry point.

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The incubation period of German colonialism was a muddled affair. Triggered by domestic quarrels, desires for imperial glory, and the commodification of nature, natural forces, animal transport, existing structures, and imported labor defined the access question. The treacherous ocean waters and the Namib Desert, plus a lack of water, made getting on good footing difficult. Hopes of what lay behind the desert rarely materialized and high officials in Berlin were at times not certain about the value and future of the protectorate. Investments from private companies in line with the British model provided few ways forward. Plus, central Namibia and the area around Windhoek lay in many ways beyond the reach of Lüderitzbucht. In 1894, ten years after the official German claim to the region, the colonial government stationed four military men in Lüderitzbucht. Meant to control the flow of goods into the harbor, they had little to do. Few things changed in the coming years, especially once the center of German interests moved toward the development of central Namibia. According to the Deutsche Kolonialzeitung newspaper, even if Lüderitzbucht was a good landing spot, travel costs were simply too high. By then German newcomers found themselves dependent on the British enclave of Walvis Bay, challenged by Witbooi’s resistance, and pushed to consider alternative landing spots. A multiplicity of agents—imperial policies, local resistance, natural circumstances—had pointed them toward a reorientation northward. Lüderitzbucht, on the other hand, became a backwater. As one contemporary summarized much later, “Despite its good natural predisposition this harbor space [Lüderitzbucht] has only been visited and utilized sporadically in the subsequent times. Outwardly, the interior gave a dismal sight, so entry or even settlement seemed not inviting.”

German colonial storylines tied early efforts to missed opportunities, anti-British sentiments that spoke at times to admiration, and the conquest of nature. Colonialists such as Lüderitz certainly hoped to get on equal footing with the British empire. Along with others, he saw lots of untapped opportunities in Southwest Africa. Raw materials could be mined, and maybe nature could be conquered, shaped, and molded through hard work and the use of technology. If anyone, according to this mindset, the Germans would have the ingenuity and work ethic needed to build landing structures, cross arid landscapes with railways, and develop water sources. Hugo von François certainly
called for craftsmen and technology when noting that “The connection in the interior and the connection of the interior with the ocean are the most prominent weaknesses of the colony. Plus, there is the meager connection with the motherland, which almost solely connects via Walvis Bay—Cape Town and which requires the transfer of German money to English interests and forces the withdrawal of English goods into German spheres.”\textsuperscript{175} The foundation of Swakopmund in 1892, and the construction of a harbor, was supposed to solve that issue. That could surely give Germany its very own entry port and put the colony on a path toward future development.

Notes


4. Ibid., 10.


12. Hans Grimm, \textit{Afrikafahrt West} (Frankfurt am Main, 1913), 94.


19. For discussions focusing on German narratives and spatiality, see John K. Noyes, _Colonial Space: Spatiality in the Discourse of German South West Africa 1884–1915_ (London, 1991); Elizabeth Roberts Baer, _The Genocidal Gaze: From German Southwest Africa to the Third Reich_ (Detroit, 2017).


21. Ibid., 64.


23. Olusoga and Erichsen, _The Kaiser’s Holocaust_, 41.


26. Ibid., 146.

27. Ibid., 145.


32. Ibid., 38, 3, and 18. See also Carl Gotthilf Büttner, “Angra Pequena,” _Über Land und Meer: Allgemeine Illustrierte Zeitung_ 52, no. 45 (1884). On different ways of seeing land-
scapes, see Anette Hoffmann, “Since the Germans Came It Rains Less: Landscape and Identity of Herero Communities in Namibia” (PhD diss., University of Amsterdam, 2005), 20. See also Noyes, Colonial Space.

33. Lora Wildenthal, German Women for Empire 1884–1945 (Durham, NC, 2001), 87.


41. Ibid., 13.


48. Angra Pequena, 28 October 1884, as referenced in Hans Schinz, Bruchstücke: Forschungsreisen in Deutsch-Südwestafrika (Basel, 2012), 15. See also Hans Schinz, Deutsch-Südwest-Afrika: Forschungsreisen durch die deutschen Schutzgebiete Gross-


50. Ibid. Captain Aschenborn of the ship Nautilus submitted a report as well. Annalen der Hydrographie und maritimen Meteorologie XII, no. 5, "Reisebericht S. M. Kbt. ‘Nautilus,’" 1884.


54. Olpp, Angra Pequena und Gross-Nama-Land, 8. See also Hahn, 1885, 263 and Hahn, 1887, 841, as referenced in Martin B. Schneider "Bewässerungslandwirtschaft in Namibia und ihre Grundlagen in der Kolonialzeit" (PhD diss., Johann Wolfgang Goethe-University Frankfurt am Main, 1990), 114.


57. Deutsche Kolonialzeitung, “Was haben wir von Lüderitzbucht zu erwarten?” no. 5, 1885.


59. Angra Pequena, 28 October 1884, as referenced in Schinz, Bruchstücke, 16.


63. Bernhard Schwarz, Im deutschen Goldlande: Reisebilder aus dem südwestafrikanischen Schutzgebiet (Berlin, 1889), 58.

64. Ibid., 56.

65. Kurd Schwabe, Mit Schwert und Pflug in Deutsch-Südwestafrika (Berlin, 1899), 9.

66. Schwarz, Im deutschen Goldlande, 49. See also Olpp, Hinterland Angra Pequena, 114; Peter Möller, Resa i Afrika, genom Angola, Ovampo och Damaraland (Stockholm, 1899), as referenced in Klaus Dierks, Namibian Roads in History: From the 13th Century till Today (Frankfurt am Main, 1992), 43–46.
70. Ludwig Worthmann, *Die Deutschen Kolonien in Westafrika* (Schweidnitz, 1887), 26–27.
72. Gustav Nachtigal’s disillusioned report from early December 1884 was not passed on. Gründer, *Geschichte der Deutschen Kolonien*, 56.
78. Ernst Rudolf Scherz, *Südwester Geschichten am Lagerfeuer* (Basel, 2005), 8. In another instance the illegal disposal of used oil made some believe they found this precious resource. Scherz, *Südwester Geschichten am Lagerfeuer*, 9.
87. *Deutsches Kolonialblatt*, “Das Namaqualand, dessen Bewohner und wirthschaftliche Verhältnisse,” 1 August 1890.
88. Deutsche Kolonialzeitung, “Der Wert künstlicher Bewässerung,” no. 12, 1884 (Hemler).
89. Schwarz, Im deutschen Goldlande, 108 and 113.
91. Rohlfs, Angra Pequena, 10.
97. Kundrus, Modern Imperialisten, 45. For different proposals put to the Auswärtige Amt (Kolonial Abteilung) Foreign Office in 1894–95 see BArch-B, R 1001/6492, Berichte von Dr. Hindorf, Dr. Dow [sic] und Dr. Sander über den landwirtschaftlichen Wert und die Möglichkeiten zur Besiedlung Südwestafrikas (Dez. 1894—Febr. 1895).
102. The National Archives of the UK (TNA), CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walfisch Bay, no. 12, Sir Gordon Sprigg, 22 Jan. 1891.
105. Goudie and Viles, Landscape and Landforms of Namibia, 3.
107. Lüderitzbucht Zeitung, “Fünfzig Jahre Lüderitzbucht,” April 8, 1933, as referenced in Lüderitzbucht damals und gestern.
108. Schwabe, Mit Schwert und Pflug, 4.
109. François, Nama und Damara, 5.
110. Schürmann, Der graue Unterstrom, 125. See also Richard Moorsom, Walvis Bay: Namibia’s Port (London, 1984).
111. Lau, Namibia in Jonker Afrikaner’s Time, 61–62.


118. Ibid., 25.


134. TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walfisch Bay, no 30, “Telegram German South-West Africa,” 5 February 1891. See also TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walfisch Bay, no. 14, Colonial Office R. H. Meade, 7 January 1891.

135. Wallace, *History of Namibia*, 125–26. Scholarship generally points to a slightly later point, often chancellor Bernhard von Bülow’s 1897 speech in parliament where he spoke about “a German place in the sun.”

137. TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walvis Bay, no. 93 and no. 94, translations, Reichsanzeiger, Times, Daily Telegraph, April 1891.

138. TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walvisch Bay, no. 139, John J. Cleverly, 6 January 1892.

139. Drechsler, “Let Us Die Fighting,” 72. See also Blackler, “From Boondoggle to Settlement Colony.”

140. Deutsches Kolonialblatt, “Deutsch-Südwestafrika,” 1 January 1894. See also Rudolf Bittrolff, Der Krieg in Deutsch-Südwestafrika (Karlsruhe, 1895), 26; Drechsler, “Let Us Die Fighting,” 73.

141. Krynauw, Das Kreuzkap, 35–36.

142. TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walvisch Bay, no. 253, Marquess of Ripon, 23 August 1893.

143. TNA, CO 879/34/4, African (South), no. 407, Further Correspondence Relating to Anglo-German Claims in the Neighbourhood of the Settlement Walvisch Bay, Enclosure no. 236, 8 June 1893 (John J. Cleverly, “Artillery for German Troops”) and 14 June 1893 (John J. Cleverly, State of Affairs Walvis Bay). See also François, Nama und Damara, 15.


150. Ibid., 1360.


156. Deutsches Kolonialblatt, “Die Hafen des südwestafrikanischen Schutzgebietes,” 1 June 1890.


161. Ibid., 404.


164. NAN, HBS, St. Unit 1, File 1/2, Bericht 31 March 1901.

165. Lyon, “Namibian Labor Empire”; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 10.


167. Lyon, “From Labour Elites to Garveyites,” 42.

168. Ibid., 41. According to Lyon, “West African migrant labourers who came to the colony in the 1890s were essential to the development and maintenance of the German colonial infrastructure before the First World War.” Lyon, “From Labour Elites to Garveyites,” 54.
170. Schwabe, Mit Schwert und Pflug, 263.
171. BArch-B, R 8023/1078, Landungsverhältnisse an der Swakop-Mündung, Brief, 14 December 1894.
175. Francois, Nama und Damara, 307.
On a slightly windy February day in 1903, perfect “emperor weather,” the Mole concrete pier in Swakopmund finally opened. Getting to that moment had taken time and effort. But now, the pier was packed with dignitaries, workers, and curious onlookers. A postcard captured festivities that day—after all, the construction had taken three and a half years. Now, crowds came to see the 365-meter-long structure stretching into the unpredictable coastal waters. As Governor Theodor Leutwein recalled later, “It had been a hard fight, that now played out between human skill and energy and the power of nature. Again, and again the waves pushed the heavy concrete blocks that had been sunk in the ocean away, and again and again were they replaced until finally, they proved to be stronger and the Mole could open up for traffic on 12 February 1903.”2 Nature had been conquered, it seemed, or at least harnessed. To celebrate, countless visitors flocked to the small coastal town. German consul to South Africa, and future governor of the colony, Friedrich von Lindequist, later commented on the lush green vegetation defining Swakopmund that day.3 It had rained. The responsible hydraulic engineering surveyor Hermann Friedrich Ortloff, his deputy, and countless unnamed African workers—segregated based on status and race—crowded the new harbor to watch various ceremonies.4 The mood on the pier was elated, celebratory, certainly optimistic. Officials were confident that this structure would bring an upturn for the colony. No more fees and restrictions at nearby Walvis Bay. Instead, and from here forward, German ships could deboard “comfortable and without problems.”5 That the rough sea again took its toll and destroyed parts of the Mole in the coming months was no problem—after all, the harbor in Cape Town did not have it much better.6 According to the Swakopmund-based newspaper Deutsch-Südwestafrikanische Zeitung, little in that sense could dampen German confidence now that the colonial power had its very own harbor and entry port, conquered in the communal “fight against the sea.”7 And so, after a final “beer evening” and a last hail to Swakopmund, a satisfied engineer Ortloff left the colony with a job done.8

Harbors and ways to reach central Namibia are at the center of chapter 3. Environmental factors had made transportation to and into the colony difficult. Although German newcomers relied on the labor and expertise of West
African Kru men, bigger investments into infrastructure to ease the landing process had become essential. Ox wagons simply could not keep up with demand, especially once the Rinderpest epizootic disrupted transport. Animal transfer with the introduction of camels from Tenerife had failed while local resistance further threatened colonization. The situation became increasingly precarious. A concrete pier and a small-gauge railway, means traditionally described as “tools of empire” and “penetration,” were supposed to solve such logistical nightmares. Understood more recently as “imperial infrastructure,” these structures would surely bring a transformation from African wasteland to productive settler space. Maybe, some hoped, such investments might even help divert German settlers otherwise lost to the United States. The roles and rule of experts, including imperial self-perceptions and the dismissal of local expertise, mattered. Such human ingenuity and labor have been widely discussed by scholars. But African labor, natural forces, animal dependencies, and diseases also shaped structures, especially in times of racialized biopolitics tied to Rinderpest. After all, and as partially sketched out by historian Philipp Lehmann for Southwest Africa, “In this most arid of German colonies, infrastructural development ran up against unprecedented environmental difficulties, and the tried and tested strategies and experiences from other European and colonial battlegrounds proved to be inadequate.” The concept of environmental infrastructure allows for the incorporation of these factors, be those human (e.g., ingenuity, labor), non-human (e.g., pathogens), or natural forces (e.g., currents, wind)—and by doing that help complicate, disrupt, and rethink existing understandings and storylines.

Chapter 3 follows German colonial settlement patterns from the Atlantic Ocean across desert landscapes. The first section focuses on the creation and improvement of harbors. Apart from Lüderitzbucht, it became namely the town of Swakopmund where human ingenuity, labor, and natural forces shaped structures. The next section then highlights efforts to reach inland. Forces defining desert landscapes, as well as a non-human agent introducing the Rinderpest pandemic, threatened colonial ambitions. Stories around animal engineering and the fight against this pathogen capture German desires to overcome such challenges. The construction of the railway then holds together the final section. Seen as a silver bullet meant to control, rule, and transform the land, railway imperialism fueled colonial narratives of conquest and defined stories around an emerging white settler space.

**Technological Marbles**

“The sun casts a dazzling light through the haze of thin clouds over the sea and beach.” These are the words of the editor of the Deutsch-Südwestafrikanische Zeitung newspaper Georg Wasserfall. It was the year 1901, and he described
the landing process in Swakopmund. “The sea scintillates with color: streaks and spots of light-green alternate with light-blue as the thin clouds in the air part to allow patches of the blue sky to show through.” After further painting a picture of the beautiful scenery, his gaze wandered to “a stately steamer” offshore. “Between it and the shore a large number of rowboats traverse in uninterrupted traffic to unload their cargo. A small steam launch brings the boats near the beach, the oars dipping into the ridge of the last wave, rushing a boat with the speed of an arrow onto land and in the next instant placing it securely upon the sand bank.”15 Some of these surfboats had been specifically developed by the company Lührs for landing on the West African coastline.16 Teams of skilled Kru men, employed to compensate for a missing natural harbor and landing structures, loaded, rowed, and unloaded newly arriving cargo. Accidents were not rare. In June 1899, for example, a landing boat shuttling between steamer Lothar Bohlen and Swakopmund tipped over in the rough of the Atlantic Ocean. According to one paper, “a boat with fifteen men capsized about thirty meters away from the surf.”17 The sea was not particularly harsh that day—newly arriving passengers had just stood up in the boat too early. It shifted, turned sideways, and tipped. Search efforts began right away, retrieving twelve. At that point talk about the construction of a harbor had already been widespread. A popular tune sung regularly in a ballroom in Klein-Windhoek at least dreamed of a long, wide, and solid pier, and easy landings without Kru men and accidents.18

Further south, in Germany’s only natural entry point, Lüderitzbucht, infrastructure projects had defined efforts to ease landing for some time. Originally, the South African Territories Syndicate Ltd had held a monopoly on any such work. Although promising to build a railway,19 a lack of landing structures or potential for trade made such ventures pointless.20 Eventually the German Colonial Society stepped in. In 1895, the Deutsche Kolonialzeitung newspaper, the mouthpiece of that society, had confidently outlined that “with little effort, Lüderitzbucht could be turned into a rather good harbor.”21 Two years later the Colonial Society began with the construction of a small wooden jetty. Virtually all materials had to be brought in. The completed jetty was 140 meters long; by 1898, it was extended by about another eighty. The Colonial Society also brought in a steam crane and established a small coal depot allowing visiting ships to refuel.22 In July 1900, German workers then began blasting away the rocks at the entrance of the bay.23 By the turn of the century, reaching and landing in Lüderitzbucht became somewhat easier.24

Yet there had been little reason to stop there. Why call at Lüderitzbucht when there is no way to replenish water supplies? Even for the Woermann-Line, a German shipping company overseen by entrepreneur, politician, and avid colonialist Adolph Woermann, there was little economic reasoning for adding Lüderitzbucht to its service. Plus, without adequate water provisions, few could make the journey through the desert. The German Colonial Society

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Environing Empire stepped in again, installing a so-called sun condensation unit. It was meant to produce drinking water out of the ocean using evaporation. Whereas this sounds fancy, early units were no more than a wooden box filled with seawater and covered with a glass lid. It looked more like a hotbed used for gardening. In the winter, so between May and August, it could produce about five gallons of drinking water a day; in the summer about thirty-five gallons. One observer who traveled to Lüderitzbucht in 1890 noted that “Back home, we give beggars a piece of bread, here the Hottentot wants just a drink of water!” By August 1897, the Colonial Society then installed a much more sophisticated steam condensation setup: seawater evaporated to be collected on a glass roof (Figure 3.1). While newspapers such as the Deutsches Kolonialblatt newspaper bragged about such improvements, drinking water remained costly and hard to come by.

Farther north in Swakopmund, Germany’s main entry point and presumed competitor to nearby Walvis Bay, investments eventually began to pour in. Officially founded in 1892, ships had increasingly utilized the area to unload their cargo on the beachfront. At this point, that meant anchoring several kilometers off the coastline. Over time, more and more German newcomers arrived through this gateway. Governor Theodor Leutwein, for instance, came

Figure 3.1. NAN 06653, “Pulling a half-drowned condensator out of Angra Pequena, ca. 1896,” courtesy of the National Archives Windhoek.
ashore on 1 January 1894. Soon colonial enthusiasts began fantasizing about quickly overtaking and “gradually paralyzing Walvis Bay.” Yet such rhetoric was no more than wishful thinking—by 1891 there were only 310 Germans living in all of Southwest Africa. At least settlers in Swakopmund had access to drinking water. Residents had hand-dug water holes in the nearby riverbed of the Swakop River, using sardine cans as ladles to get the water out. Travel inland was also much easier. According to one memorandum submitted to the German parliament, oxen treks would be thankful for the new harbor in Swakopmund. At the same time, currents, winds, fog, and shallow waters continually complicated the landing process. In 1896, a report published in a German maritime magazine pointed to the strong surf. Hugo von François was confident that development would be simple. In his view, German ingenuity and expertise could easily build an excellent harbor. Silting-in, he voiced, would not be an issue. Observations and descriptions of the coastline had long circulated, among them, a report by Commander J. Heldt of steamer Jeanette Woermann who had experience landing there. According to a summary published in a newspaper in 1895, the ship stopped in Walvis Bay first. There, “unfavorable harbor conditions” defined the landing and boarding process. Of course, this was not the case at the mouth of the Swakop two days later, when “not even one bag got wet.” Whereas Heldt’s report was tainted by the author’s aversion toward Germany’s nearby colonial competitor, he favored a low-cost metal jetty. Most officials, however, believed in the potential of a concrete pier—and ultimately decided to go with that option.

Efforts of what would eventually come to be known as the Mole began with a detailed assessment of the location. No other than well-known Naval Harbor Architect Heinrich Mönch, an expert on naval structures with experiences in Wilhelmshaven and Kiel, briefly visited Swakopmund in 1895; he put forward an estimate in 1897 and developed the overall plans. Hydraulics Engineering Surveyor Friedrich Wilhelm Ortloff led the subsequent construction. Born in 1860 in Stettin, Ortloff had attended the Andreas Real-Gymnasium in Berlin-Friedrichshain before ending up at the Technical Institute Berlin, later rising to government master builder. In November 1898 he arrived in Swakopmund, accompanied by around fifty workers from Germany. Adding to Mönch’s reports, Ortloff soon put forward a coherent proposal. A feasibility study of the proposal by the Königlich-Preussischen Ministeriums der öffentlichen Arbeiten (Royal-Prussian Ministry for Public Works) brought no complaints—although those experts acknowledged that they were not able to assess the structural integrity of the project since they did not know much about the local circumstances and natural forces, especially regarding the movement of sand along the coastline. Ortloff, who had spent two years observing the “harsh and inaccessible” nature, however, was not worried. He concluded that “a stronger movement of sand [along the coast]
Environing Empire
could not have occurred."\(^{45}\) This assessment was surprising given that he also wrote about the potential for a silting-in of Walvis Bay. Whereas his scientific observations might have been skewed by his contempt for Germany’s neighboring opponent, his records include details about climate and weather, waves, ocean currents, shifts in sea levels and coastlines, and water depth. According to one scholar, his measurements only recorded deposits near the mouth of the Swakop River, however, and not much further north.\(^{46}\) Whereas this oversight would have major consequences later on, in May 1899 Ortloff went ahead and submitted his proposal for the construction of a Mole to the Foreign Office. After a couple of minor adaptations, construction finally began.\(^{47}\)

Descriptions of the actual building process give a sense of circumstances; they also shed light onto German mentalities and mindsets. The work in Swakopmund certainly captured the imagination of the general public. Specialist magazines such as the *Zeitung des Vereins Deutscher-Eisenbahnverwaltung* had outlined a lack of structures in the empire early on.\(^{48}\) Now, regular technical magazines and regular papers told tales about overcoming nature. Local newspapers were framing the project as “the fight” against the elements along a foreign and frightening coast.\(^{49}\) Yet it would be Ortloff himself who painted the most vivid picture of all. He certainly believed in the abilities of German engineering as well as the inevitable conquest and defeat of nature—even if it might be more challenging compared to more familiar settings in Northern Germany. Mostly published in technical magazines several years later, Ortloff repeatedly framed the actual construction process as a heroic colonial struggle against the undisciplined waters, climate, and peoples of Southwest Africa. In the case of Swakopmund, heroic storylines generally set in with the foundation stone ceremony on 2 September 1899.\(^{50}\) At that point work had already begun, including the erection of mostly prefabricated housing for workers. Early efforts had also included the construction of a narrow-gauge railway to transport rocks from a nearby quarry and the assembly of a water pipeline run by a windmill later used to guarantee the town’s water supply.\(^{51}\) Ortloff had chosen a spot with some solid rocks to build on. He favored the use of a mixture of concrete, sand, and granite for the foundation. The project employed hundreds of workers. Statistics shift over the course of construction. On average, 78 whites and 197 black workers were employed on site. At a highpoint, there were 142 white workers and 520 African laborers at work.\(^{52}\) According to Ortloff, out of 78 German workers, some quit right away; others got used to conditions only after some time. He added that Herero and Ovambo laborers worked hard and behaved well. Still, and in line with discriminatory mindsets, Ortloff added that they needed strong guidance and had to be “treated appropriately.” “These people had to be treated like children: one must be friendly but just.”\(^{53}\) Out of reach for the German colonial state in the north, and with a long history of traveling south for work, migrant Ovambo workers were likely contract laborers. Maybe that is why they worked more diligently than the Herero, to
follow the newspaper *Deutsche Kolonialzeitung*. During Governor Theodor Leutwein's rule German colonists already began breaking up allegiances of certain Herero chiefs “in order to provide labour for government projects. Ortloff thus likely also relied on some forced or at least unwilling laborers. In any case, African workers lived segregated from white settlements in *werfts* (homesteads) and *pontoks* (huts); they also faced harsh punishments. One official report signed by Ortloff himself gives some idea of what that might have entailed: it speaks of twenty-five blows for a worker by the name of Cleopas for “laziness” on the job. Ovambo and Herero certainly completed the more arduous tasks. According to Ortloff, the comparatively few whites mainly “operated machinery, maintained railroad tracks, sharpened chisels, and such.”

The wet and cold climate along the coast shaped construction and narratives. For one, the weather on the coast was not a climate the Herero and Ovambo would have been used to. Both lived in areas away from the coastline. Evidence about their specific experiences on site is sparse. One report from the harbor office complained that the indigenous population “were supposedly not very useful and that they furthermore did not take the climate along the coast well.” Initially the weather had been good, and construction had moved along with few issues or delays. Then circumstances changed dramatically. As Ortloff noted later on, “Yet suddenly, at the beginning of June [1900] a heavy sea emerged, and it resulted in the massive destruction [of sections of the pier] so that the continuation of work had to wait until the end of the year.” Strong waves swept away a German worker. He drowned at sea. Plus, temporary wooden structures got crushed. At one point, Ortloff, returning from Germany after a vacation, could not even land due to the weather. Instances of reprieve as weather cleared up were only temporary. According to one newspaper writing in 1902, “In the last eight days we had after good times once again a malicious sea, which also made it hard for construction work on the Mole. No less than six blocks on the south side of the site fell over or were moved, four of them in one night. If one does not observe the energies oneself then one can hardly envision the force of impacting waves. It is a sight of gruesome beauty to see from the tip of the structure the stretched surge arrives and then breaks along the upturned blocks, the white foam splashes high up and with wild roaring and foaming washing high up over the rocks of the embankment.” Delays soon piled up, and the work dragged on. Descriptions of one afternoon in Swakopmund give a sense of what that meant when a ship arrived: Kru men struggling when trying to land people and cargo, fighting currents, surf, wind, fog. Papers wrote that “The Mole boat had come too close to an incorrect [landing] spot on the beach due to fog and at the attempt of the rowers to get back at sea it became waterlogged. Luckily all five or six passengers got away with a cold bath.” “If only the ocean stays calm for a little longer,” one impatient voice exclaimed by June. It was to no avail, and the weather displayed “a rarely seen great wildness,” to quote from another newspaper article.
Eventually, and in large part due to the unacknowledged efforts of Herero and Ovambo laborers, the project was completed. For German experts and colonists, it had always just been a matter of time until their ingenuity would defeat nature. Plus, and to follow one newspaper, if even the English acknowledged the “considerable progress” thanks to Ortloff’s expertise, then all would be well. Ortloff himself had spoken enthusiastically about the future of the Mole at a talk in Berlin. In his view, it would open in September 1902. Meanwhile landings continued to rely on surfboats steered by Kru men. Margarethe von Eckenbrecher, a settler disembarking with her husband in 1902, described her arrival around that time: “The anticipation and excitement were so big, that one barely had the time for fear. Like an arrow, we shot through the surf, and with a whopping jerk, the front of our boat drove on the sand while the back rose high. From ashore some kaffir [derogatory term for a black African] came towards us and before having a clue about their intentions one of them had already put me on the back and carried me trotting towards the dry [ground].” From her point of view the completion of the Mole was long overdue when it finally opened in early 1903. The price tag for construction of the Mole and surrounding structures of about 2.5 million Marks was stunning. Yet the investment certainly seemed worth it. Ortloff ended his narrative by reflecting on “the unique construction site some thousand kilometers away from the Heimat homeland,” defined by a lack of machinery, a lack of disciplined workers and harsh environmental conditions—including “the not rarely miserable climatic circumstances and the resulting diseases and pandemics.” For him, the opening ceremony in February 1903 marked not only a personal victory. This was a victory for German engineering, ingenuity, and persistence in the face of unknown challenges. That it had been largely Herero, Ovambo, and Kru male workers who had withstood the Atlantic Ocean, who had faced strong winds, cold weather, and diseases did not make it into colonial narratives. In April 1903, one newspaper noted that this structure now organized the landing process “in a decent way.” Others agreed, stating that the unloading went rather smoothly now. Setbacks like the destruction of a small lighthouse located at the Mole’s endpoint were brushed aside. Instead, and according to contemporary discussions, German ingenuity and hard work had solved the access-problem once and for all.

Animal Engineering

The pathogen came from far away. Eventually known by the German term for cattle plague, biologically the Rinderpest virus (RPV) is a single-stranded, negative sense RNA virus. That means it has ribonucleic acid as its genetic ma-
terial. Widely believed to be “the most lethal virus disease of cattle, domestic buffaloes and various wild artiodactyla,” scientists now know that transmission generally comes from close contact with an infected animal. That could happen via the inhalation of nasal or oral droplets, or fecal discharge. The disease then develops in three phases. After what scientists call “a silent incubation period” of about eight to ten days, fever and violent diarrhea follow. Infected animals become restless and depressed, lose their appetite, and experience constipation and congestion of the visible mucous membranes. As the virus multiplies, nasal discharges and the onset of diarrhea with other symptoms plague animals. In the final phase, which lasts about a week, animals arch their backs and strain, and their excrement increasingly include blood. Fatalities can be imminent at any point during this third stage and animals mostly die of dehydration. Whereas those surviving the plague recover quickly and benefit from life-long immunity, according to recent studies mortality rate approaching 90–100 percent have been documented. The devastating pandemic likely emerged in the steppes of eastern Europe and western Asia before moving into Eastern Africa by the 1880s. In 1896, there was a reported case in the Zambezi region, sparking fears for Southwest Africa’s transport system and broader livelihoods of pastoralists.

Little had changed in regard to transport since German arrival in Angra Pequena. Pferdesterbe (African horse sickness), an insect borne disease endemic to the region, had made the use of horses unsuitable. Travelers thus had to rely on ox wagons to cross a “desolate, sad ground” and “[b]arren mountains, rivers without water, trees without leaves, birds without voices,” to follow one contemporary. In 1898, one colonial proponent described howling winds, the crinkly sound of constantly moving sand, and the dense fog—the latter only increasing the possibility of getting lost. “The almost unrelenting blowing wind from southeast, often turning into a storm, pushes sand from one spot to the other; here it blows it away from one dune, there it accumulates it onto a dune. Often hundreds of such wandering colossuses are right next to each other, and through those one has to meander a path.” He also gave readers a sense of the journey: “Once in a while it also happens that one can do no other than cut right over one of those crooks, and then man and animal have to use all their power to overcome that obstacle. The big whip, a five-meter-long bamboo stick with six-meter-long whiplashes, then blows the poor oxen without mercy, and with screams from the herding personnel it moves forward piece by piece.” If all went well—and that meant the ox wagon had not been overloaded, did not get stuck too often, there was enough water, and the wagon train did not get lost—then crossing the Namib Desert from Lüderitzbucht could be done within about sixteen hours. Many times that meant sending oxen back to drink; it was also not unusual to hear about
some travelers losing twelve, fourteen, even sixteen animals out of a group of twenty. Bleached corpses of animals eventually littered desert routes, bearing witness to the precarity of traveling inland (see book cover photo).

The situation had not been much better further north. Although drinking water was easier to come by in Swakopmund, travelers still faced similar challenges. An episode from 1893 illustrates the dangers. At the time, a group of soldiers had landed in Walvis Bay, about forty kilometers to the south. On their way to Swakopmund they almost ran out of water. That some had decided to drink salty seawater only made matters worse. Kru men from Swakopmund reached that particular group just in time. Hiding the liquid by burying it in along the way eventually became standard practice for many journeys beyond town-limits. The route to Windhoek along the Baiweg, that main artery established by Jonker Afrikaner earlier, also crossed arid landscapes. Plus, ox treks on that route had to scale a good amount of elevation to reach Windhoek on the Khomas Highland plateau at about 1,500–1,800 meters above sea level. Once traffic increased, so did overgrazing along the way. That again limited travel. Attacks by Witbooi's men and other groups could disrupt journeys as well. Take the experiences of colonialist Kurd Schwabe. Disembarking in Walvis Bay and part of the march to Swakopmund that almost ran out of water, he described the growing reliance on supply carts for feed as pastures got worse and worse along an often unprotected Baiweg. For him, and many others, the interior was thus a place where traders die of thirst or are robbed by the indigenous population.

News of the Rinderpest (cattle plague) horrified colonists and Africans. Anxieties in German Southwest Africa ran high once the pandemic arrived in nearby South Africa and neighboring British Bechuanaland. German travelers relied on ox wagons and could not afford to see disruptions; some farmers in the interior also had cattle. Herero, who lived in “a period of intense reconstruction” and (re-)pastoralization, were a modern pastoral society. They owned large herds of cattle as well as small stock of sheep and goats; they also held claims to land (wells and pastures), guns, and horses. A cattle pandemic would certainly threaten their economic survival. A letter from Windhoek published in a paper captured overall sentiments and concerns in the colony regarding the “the specter of Rinderpest” closing in; it also already noted that Herero herds will be hit most directly, a potentially beneficial prospect for white farmers competing for resources. In June 1897, an article in the newspaper Deutsche Kolonialzeitung outlined what was at stake regarding logistics. "Without a regular connection of interior stations to the harbors the sizeable colonial troops will not only be hindered in their flexibility but also face starvation; all of the wonderful gains regarding trade would be destroyed and in times to come no person would invest neither money nor life into such a risky colony." The article emphasized that "[i]n fact, all is at play for German Southwest Africa."
Officials soon sought to protect the colony the best they could. By June 1896, the German colonial government in Windhoek had already banned the import of all potentially infected animals and suspicious animal products, namely horns and hides, at least for the area loosely under German control. Moreover, Deputy Governor Friedrich von Lindequist established a *Rinderpest-Absperrlinie*. Best translated as a “cattle plague cordon” meant to halt the spread of the pandemic, this boundary stretched (east to west) from Otjituo to Tsawisis and was established between November 1896 and February 1897. The colonial government placed sixteen military outposts along a stretch of 500 kilometers. In most cases, such outposts were strategically located near watering holes to better control the movement of people and animals, a move that would permanently alter the topography in favor of German control. In the end, however, efforts to protect the German protectorate failed and the pandemic arrived in early 1897. According to Governor Theodor Leutwein, “It entered north of Gobabis by coming over the eastern border and first hit the cattle herds of chief Tjetjo. Before news of that could reach the government the pandemic had already been borne to the Windhoek district by traders.”

Of course, *Rinderpest* did not magically move by itself; it was also not a wave but began as a trickle. As outlined by historian Gary Marquardt, the epizootic used environmental factors as well as troubled relationships among different communities, combined with other dynamics, to spread through the region. Widespread drought helped because animals were close together at watering points. In German Southwest Africa, news about a suspicious disease among cattle herds eventually reached Windhoek on 6 April 1897. That day colonial troops inaugurated a monument for their fellow soldiers who had lost their lives in the fight against a recently defeated Hendrik Witbooi. Veterinarian Karl Ludwig (Louis) Sander, who had come to the colony in 1893 to investigate Horse Sickness and other diseases, later concluded that preventive measures had failed largely because massive rains had turned areas generally unsuitable for such a pandemic into contagious spaces. In his view, a lack of experts, insufficient infrastructure, and secrecy among those first suspecting an issue did not help. Sander, like other voices at the time, blamed specific instances of non-cooperation from Herero for the outbreak of the disease although they had been “insistently made aware” of its devastating nature. Such references illustrate how discussions of the pandemic slotted into underlying racist stereotypes regarding the supposed ignorance, laziness, or stubbornness of African cattle farmers.

Experiments meant to alleviate pressures on oxen by introducing camels took place immediately. As mentioned already, Commissioner Curt von François had initially tried his hand at such an animal transfer in 1891. German impatience, partially grounded in a lack of expertise, combined with problems scaling high desert dunes, had resulted in failure. Not that some efforts had
not been promising. In 1892, and according to Lieutenant François, camels outdid oxen and demonstrated their “helpfulness.” Expenditures, however, to follow one letter found in the colonial archives, were at this point no match for those of existing transport animals. These camels that had arrived in the colony stayed. Most of them became seemingly feral and overall “useless,” to follow one discussion. Maybe ironically, they grew in population. In 1897, the Siedlungsgesellschaft settlement society then again tried to introduce camels as pack animals. Hoping to tame and make use of existing camels for work, the society specifically pointed to the need for additional transport animals given the Rinderpest.

German and African ingenuity also got to work. African societies had experiences with cattle diseases. One infected Friesland bull imported to neighboring South Africa in 1854 introduced the contagious bovine pleuropneumonia (CBPP) to the region. The outbreak stayed localized yet returned in 1860, the year the Herero later named Otjipunga (the year of the lung). Efforts to control future issues took shape thereafter. Jonker Afrikaner for one oversaw the establishment of a quarantine station near Otjihorongo (halfway between Windhoek and Gross Barmen). Once Rinderpest appeared on the horizon African societies relied on all kinds of methods to combat it. Local medicines such as an aloe plant (Otjindombo), as well as the insertion of an infected piece of meat into an incision made in the cow’s neck, seemed to help somewhat. For German officials, containment initially became the name of the game. Plus, they depended on the father of modern bacteriology, Robert Koch, who had developed a vaccination method. Koch had been invited to South Africa by the Cape Government to study the cattle plague. By late March 1897, he informed officials that he had a workable solution. Historian Giorgio Miescher describes how Koch “cautioned against using a vaccine obtained from blood serum, believing this method is too uncertain and in need of further research, he believed a vaccine created from the bile fluid of animals infected with rinderpest would protect healthy cattle,” and noting that “the existing methods of quarantine, disinfection, and ad hoc inoculation were used in the hope of slowing the pandemic’s spread and mitigating its effects.” Yet enforcing quarantine was difficult. Although the German colonial government employed a veterinarian Wilhelm Rickmann by 1894, veterinary infrastructure suffered from a lack of manpower. Plus, few initial signs of sickness and market forces limited abilities to enforce any meaningful confinements. And so preventive measures, cordons, and experimental vaccines went nowhere. Governor Leutwein, who noted in a report on 17 May that cordonning off of Hereroland could be helpful in decreasing their cattle to a “reasonable amount,” called upon the help of Koch’s assistant, Paul Kohlstock. The latter had worked with Koch in Kimberley. After several delays the expert finally arrived in Windhoek from Cape Town in late May 1897. By then the situation on the ground had
become increasingly desperate. For one, prices for travel inland had increased dramatically. That resulted in higher cost for goods that the colony depended on. Farmers were thus eagerly awaiting the results of all kinds of trials. Concerns about limited success lingered early on, and at least according to Sander, all of this took way too long. Discussions about mandatory inoculation soon followed as the colonial government tried to get a handle on the situation. Over time, improvements tied to blood-inoculation, boosters, and the use of gall fluid brought some relief (Figure 3.2); the government also set up a research laboratory for animal diseases at Gammams near Windhoek and over time would expand the veterinary infrastructure in the colony. Contemporary German writers, in line with broader colonial narratives, thus soon spoke about the victory of science over nature.

Yet Rinderpest had not struck equally. As Miescher observed: “Contemporary authors considered the vaccine campaign a success primarily because the vaccine saved many or even most of the livestock belonging to European settlers. However, the picture was far bleaker among African cattle owners, especially those in central Namibia, where losses were significantly greater.” At this point previous conflicts between German colonists and namely the Herero in central Namibia, as well as divisions among the latter, had already resulted in loss of territory. German newcomers had bought land and cattle; Governor Leutwein’s policy of divide and conquer as well as local rebellions also provided ample avenues for confiscating land, waterholes, and animals. Although

Figure 3.2. Harvesting blood for serum, Cape Colony, ca. 1902. Agricultural Journal of the Cape of Good Hope 23 (1903), after 72, HathiTrust/public domain.
the Herero still owned lots of livestock, historian Jan-Bart Gewald noted that the resulting “inadvertent overcrowding” in some areas had dire implications for them. Miescher unpacked the underlying power structures responsible for broader discrepancies regarding the impact of the virus more. He noted that “European settlers and the African elites allied to the colonial system were more likely to comply with the unfamiliar inoculation process”—and more of their animals survived. As a result, and to follow veterinarian Sander, some Herero were left with some forty animals out of thousands. According to colonial official and future settlement commissioner Paul Rohrbach, “It is hard to say how large the herds of the Herero were at the time . . . What is certain is that the majority perished. But quite a few livestock survived.” German sources at times reference Herero’s refusal to participate in vaccination campaigns. As outlined by Gewald, this had several reasons. For one, inoculation was still unreliable. Second, those officials overseeing the intentional infection of cattle cared little about Herero concerns tied to certain animals. Overzealous vaccinators, for instance, “confiscated cattle for the production of vaccine regardless of the size of the stock owner’s herd, and then used the vaccine on the herds of totally different stock owners.” Dramatic drops in price, of course, also did not help people deeply tied to cattle for their livelihood. Evidence also suggests a “cattle apartheid,” with the Germans prioritizing their own animals and infrastructure. Finally, and at least according to one oral history, Germans employed vaccination as a means to expand their control. “Our guns were confiscated under the pretext of being immunised,” two Herero noted later on. The Germans certainly hoped to expand their influence and access to land, and there are documented instances of them using force. Tensions had grown for some time. Take an incident near Omaruru when a German vaccination team tried to forcefully vaccinate Herero animals. “Among the herds belonging to the whites,” on the other hand, and to follow Rohrbach, “some 50–90 percent were saved, depending on when they were inoculated.” Sander points to survival rates of 30–50 percent in the early days in the district of Windhoek and along the Baiweg. It was still a devastating sight. According to settler Helene von Falkenhausen, carcasses littered the landscape, which at times poisoned water supplies.

The outbreak of the pandemic marked a turning point in Namibian history. The disproportionate impact on Herero cattle reshaped power structures. The experiences shared by Kajata, a Herero voice recorded by Sander, put it succinctly when stating, “Until now I was a Großmann (big man) and had lots of people in my service, now I am among the poorest and must look for services I can provide for others!” One observer reported that many Herero were left with merely 5 percent of their herd. That was a disaster. They lost economic power in the area and were forced to rely much more on German jobs. That only German settlers saw government compensation made
things worse.\textsuperscript{140} The Herero’s loss was the German empire’s gain. As Sander pointed out, the pandemic made the Herero population less dangerous and gave Germans “a big advantage.”\textsuperscript{141} For him this meant that Germans might be able to access cheap labor and finally force the local population to settle down. German settler Carl Schlettwein, who had come to the country in 1896, agreed. He later stated that “[d]espite the enormous losses, the rinderpest also had some benefit for the economic status of the colony, one might say. The white cattle farmer was suddenly confronted with entirely new circumstances. He was suddenly at the forefront in importance.”\textsuperscript{142} A high demand made the surviving cattle worth much more, another massive advantage. A German newspaper wrote in this context, “If hunger forces large numbers of natives to seek employment and pay, one can fix their wages . . . in an appropriate form. Only under such changed conditions is it possible to undertake the settling of the country with any fair chance of success. Those who know the country are therefore of the opinion that the consequences of the \textit{rinderpest} can be very beneficial for the development of the Protectorate.”\textsuperscript{143} Yet the pandemic also resulted in the breakdown of transport. According to one scholar, in 1896 the pandemic brought travel inland to the brink of total collapse.\textsuperscript{144} Without alternatives the demand for the construction of a railway became noticeable.\textsuperscript{145} As outlined in the \textit{Windhoeker Anzeiger} newspaper in 1899, “The danger brought by the outbreak of the \textit{Rinderpest} pandemic in South Africa in the year 1897 brought the colonial administration to the decision to start with the construction of a railway from Swakopmund into the interior.”\textsuperscript{146} Governor Leutwein made the same point later when writing, “The most important consequence that emerged out of the Rinderpest was the long hoped for and profoundly necessary construction of a train from the coast to Windhoek.”\textsuperscript{147} The fact that the Herero were now much more dependent on the colonial state and looking for labor was a bonus when thinking about such a major construction project.\textsuperscript{148}

\textbf{Reaching Inland}

“Here I stand, I can do no other.”\textsuperscript{149} This statement is commonly associated with Protestant Reformer Martin Luther and his defense at the Diet of Worms in 1521. Yet within Namibian history it refers to a stranded, rusty road locomotive. Partially restored and declared a national monument in 1975, these days tourists can see the steam tractor in the Martin Luther Museum a couple of kilometers outside of Swakopmund. Its \textit{storie}, told widely within the German-speaking community to this day,\textsuperscript{150} began with the efforts of German lieutenant and imperial entrepreneur Edmund Troost. Troost was eager to address Southwest Africa’s logistical nightmare: there was no railway line inland
and so-called cape or ox wagons crossing the desert from the coast were slow and often unreliable.151 If the young colony ever wanted to challenge neighboring Walvis Bay with its own German entry point at Swakopmund, he believed, reliable access to the interior was a must.152 Troost, who had already instituted a regular shipping line between Cape Town, Lüderitzbucht, Walvis Bay, and later Swakopmund,153 envisioned that a road locomotive would bridge the time until the inevitable construction of a railway.154 Hence, in early 1896, a steam tractor was hauled aboard a shipment leaving Hamburg to Swakopmund, arriving in the colony in late February.155 Unloading the massive engine was difficult, especially since the ship had not picked up experienced Kru men in Monrovia. Whereas this ironically forced Troost to drop at Walvis Bay,156 his problems did not end there. Witbooi’s raids, the limited availability of labor, the high costs for water, and the absence of expert mechanics continually delayed travel.157 In the end, his “steam oxen,” as Troost affectionately called this metallic beast, sat around for about four and a half months.158 That standstill, by the way, explains its nickname *Martin Luther*. Eventually the locomotive went on its journey, dragging itself through desert sands, stuck virtually every fifty meters or so. According to Troost, “It was neither the fault of the high weight nor the lack of machine power [but] rather the fact that wheels, which had only six attachable crossway shovels, found no sufficient points of traction

Figure 3.3. NAN 09045, “‘Martin Luther’ steam tractor (Troostsche Lastwagen), in the desert, already partially destroyed by rust,” undated, courtesy of the National Archives Windhoek.
in the sand.” The roughly forty-kilometer journey took an astonishing three months (Figure 3.3). And although the tractor was able to complete a couple of additional trips, it would take the construction of a railway to finally reach inland.

Railways matter greatly for colonialism, and that was certainly the case for German Southwest Africa. In Germany, contemporaries assigned railways an almost mythical power when it came to development. More so in Southwest Africa than any other German colony, to follow one writer in 1897, railways are a vital question, a question of life and death. Such rhetoric claimed that this technology was needed to cross the barren desert landscapes blocking off the interior. After all, to reference another voice from the time, without a railway, the harbor would remain more or less disjointed from the interior, a worthless beachhead leading nowhere. At the time, contemporaries generally looked to the United States and its railway system. There, they felt, the conquest of the west, the conquest of nature, had been successful. For some the eventual construction of railroad was meant to actually change the overall economic trajectory of the colony. For Governor Leutwein, it brought strategic advantages. After all, he wanted to control both land and people. He already wrote to the German Chancellor in 1892 that “not the unlimited increase of the colonial troops but the construction of railway lines” should be used to strengthen the German power base in the colonies.

Until the turn of the century, several factors had limited initial efforts to make such an investment. First, Germany’s indirect and at times schizophrenic imperialism resulted in little funding. Requests to finance large-scale infrastructure projects were generally shut down by parliament. Moreover, in some instances syndicates technically held monopolies regarding the construction of railways. In September 1892, the German government had given the South West Africa Company (SWAC) control over around 75,000 square kilometers in the northern part of Hereroland. Conditions applied, including that the company would begin constructing a connection between Sandwich Harbor and the mouth of the Kunene River. By then the annual report of 1892–93 already pointed to missed opportunities; little happened thereafter, apart from calls in the press. Some proposed the use of donkeys or oxen to pull wagons on cost-saving wooden tracks. Lieutenant Franz von Bülow, who published a book about his three years in Southwest Africa in 1896, emphasized the great promise of a railway reaching inland from Swakopmund. “Once in some years a train is crossing this desert and with that moving the transport of goods much deeper inland into the grassy areas then humanity will barely be able to imagine the challenges that the entry into Damaraland once brought.” On 4 August 1896, Governor Leutwein then approached the German chancellor to express his concerns when it came to transportation issues. In Leutwein’s opinion, a lack of water, limited grazing, and the Rinderpest pandemic
made a railway the only solution.\textsuperscript{171} The Director of the Colonial Department of Foreign Affairs, Baron Freiherr Oswald von Richthofen, an avid proponent of such infrastructure and the role of the government on site, spoke on behalf of the project in parliament in February 1897.\textsuperscript{172} Backing materialized not least due the \textit{Rinderpest} pandemic and a lack of alternatives. Hence, by 1897 the construction of the around 380-kilometer-long \textit{Baiwegbahn} (Bay Way Line), later known as the \textit{Staatsbahn} (state train), could begin.\textsuperscript{173} 

Although increasingly aware of natural factors, the Germans seemed surprised by the difficulties that emerged during the building process. Maybe they could still not fully grasp the terrain they needed to scale; maybe they believed their ingenuity and technology would solve it all. Those commenting on the construction had projected a simple undertaking. According to Missionary Büttner, “If someone would want to plan a railway from this coast into the interior then this land would provide little difficulties for the construction of a train.”\textsuperscript{174} Lieutenant Schwabe agreed when writing in one newspaper, “Technical difficulties are non-existent, rather level spaces with hard surface and no sand drifts due to shifting sands and wandering dunes as would be present in any starting point further south.”\textsuperscript{175} However, this rather optimistic and confident assessment overlooked several challenges. For one, everything had to be brought in. There was no \textit{Mole} yet, which meant taking apart a couple of locomotives to then land them with surfboats was the only way to get them to Swakopmund.\textsuperscript{176} Delays piled on. One frustrated commander supposedly dumped his load in the ocean awaiting it to be washed ashore.\textsuperscript{177} Plus, accidents continued to happen. In early September 1899, a Kru man drowned “at very difficult surf” when trying to navigate and land rails loaded in a surfboat.\textsuperscript{178} To save landing costs, and given the terrain, the train ran on a narrow-gauge of sixty centimeters instead of the more widespread larger Cape gauge.\textsuperscript{179} It also took time to mark a route. Once that was completed the construction process was organized in four steps: first, the preliminary groundwork division cleared rocks and debris along the demarcated route; second, the embankment building division took care of constructing the railbed; third, the construction division set up supply buildings; finally, there was the well drilling crew that had to establish a stable water supply along the tracks.\textsuperscript{180} A first group of workers arrived in Swakopmund on 11 September 1897 and went to work quickly. That unit consisted of a demarcation division led by engineering official and Lieutenant Kecker. As one report focusing on irrigation noted at the time, “It is a major problem . . . also for railways given bridges and openings that observations tied to existing rainfall are rather scarce.”\textsuperscript{181} This was difficult work, in mountainous terrain cut by rivulets and runlets, crossing arid landscapes and scaling steep inclines and an elevation of more than 1,600 meters up to Windhoek.\textsuperscript{182} Flash floods at times disrupted progress as well, like along the Khan riverbed in early 1898.\textsuperscript{183} Pressed by a lingering pandemic and limited
funding, the construction crew simply picked the shortest route. In a way, it just followed the German colonial topography that already existed. In one instance, decision-makers insisted that the route snarled along the northern bank of the Swakop River to more easily dispel possible British requests to connect Walvis Bay.

African labor built much of these structures. The German suppression of rebellions by groups such as the Swartbooi provided land and “a cheap pool of labor,” to follow one historian. Plus, the Rinderpest made the Herero more dependent. Although German military personnel of between 125 and 150 men and some workers from the Cape Colony made up part of the work force, the majority were Herero and Ovambo at up to 1,000 individuals. Take the construction of a bridge crossing the Okahandja River in October 1901. That site saw the employment of only seven whites—compared to 108 blacks. African contract labor came from different groups. Herero leader Kavizeri, for example, received a provision of five Marks per laborer and contract while the workers themselves received payments of ten Marks per month and free provisions; Herero and Damara leader Manassee and Cornelius, respectively, later also contracted workers for the construction of the railway. Conditions on work sites and in nearby werfts were difficult, especially since many contract laborers were not accustomed to the harsh coastal climate. A typhus epidemic struck early on; at one point a gastrointestinal illness resulted in the death of six white and eighteen black workers. Plus, German discrimination and violence against African workers defined work places. Take a black laborer from South Africa by the name of John Murway. He got twenty blows with the sjambok whip in September 1898; that was then followed by two weeks in chains. He had presumably tried to agitate others in light of the harsh working conditions and called a white foreman a “bloody German.” His citizenship, which on paper might have provided more protection, seemed to make little difference on site. Hard work away from home in hostile desert environments made work difficult for whites as well. However, and as even the newspaper Windhoeker Anzeiger admitted at one point, “The state of health of whites . . . was generally good;” blacks, on the other hand, dealt “with several occurrences of illnesses and deaths.” Africans were the ones completing the most difficult tasks: digging into desert sands, moving rocks, hauling wooden railway ties and steel tracks, and putting them in place. Not surprisingly then, several black workers abandoned the worksite, resulting in a lack of labor and more expansive German efforts to recruit help from the Cape Colony.

Construction, framed as a battle against nature within German colonial narratives, moved along with good speed. Due to the incline, workers only covered about 500 meters per day for the first ten kilometers. Construction finally reached Nonidas after two months, on 20 November 1897. With little knowledge regarding the course of the Khan River, and how to best cross it,
officials decided to save money and take the easy way out, maybe updating later, and ordered tracks to be laid in the riverbed. After scaling elevation and arriving on the high plateau, construction moved forward much quicker. Then, between Christmas 1897 and late January 1898, twenty-four African men died of a stomach fever. That tragedy decreased the willingness of some local leaders to provide labor or at least left workers reluctant to sign up. Officials soon brought in additional hands from South Africa, and by April 1898 the section reaching the station later known as Rössing was completed. As one laborer noted at the time when thinking about this newly emerging topography, “the white people have gone completely mad, and are building a house [the Rössing train station] in the middle of nowhere.” The route from thereon forward had to cross deep gorges, mountainous landscapes, and barren deserts (Figure 3.4). Problems with labor, water, supplies, and mechanical issues also repeatedly delayed progress. The water supply was a particular concern. Workers needed enough drinking water as did animals working at construction sites. Without water nearby delays seemed to become the norm. Impurities in the water also threatened boilers of locomotives, machinery that already had to grapple with sand and high temperatures. Initially, and before drilling crews could alleviate some of the complications, it remained up to mules to supply worksites by hauling large iron-rimmed barrels of water. Then there were problems with too much water. In Southwest Africa, the highly seasonal nature of most rivers posed serious threats as torrential rains could result in flash floods. In an instant, seemingly dry riverbeds turned into dangerous streams. One such “downpour” took place in the night from 1 March to 2 March 1899. Soon rivers at times not accounted for flushed into recently constructed railway embankments, bridges, and other structures. According to one newspaper, “This also showed that the avoidance of constructing bridges due to austerity measures, which, if those were to withstand the onslaught of such an amount of water, would have cost much, would have resulted in no negative outcomes for the disruption of traffic.” A similar situation emerged in January 1902, when rain again flushed away large sections. Another newspaper pointed out that “[s]uch amounts of rain as they came down from the sky in the last weeks require at times costly precautions that had not been anticipated and budgeted for among the Eisenbahnkommando railway commando.” Delays and disruptions added up, sucking up funds few had planned for.

In their quest for alternative means of transport authorities yet again considered using camels. Little had come about efforts put forward by the Siedlungsgesellschaft in 1897. Now, two years later, the German government got involved. Apart from purchasing twenty-three camels in Egypt, it also found four native Egyptian handlers meant to accompany them. The acquired animals soon awaited further travel in Alexandria. The plan was to ship them to Lisbon.
or Gibraltar, and then have a steamer from the German Woermann-Line take them to Walvis Bay or Swakopmund. Yet logistics turned out to be a nightmare. For a couple of months discussions circled around how to best transport the animals once aboard. Could they just linger on deck? Do they need boxes? Two animals then seemingly ran away. By late April the remaining twenty-one camels awaiting shipment in Egypt got sick. They now required two weeks of quarantine. Rearrangements regarding the transportation to Southwest Africa had to be made as costs piled up. Eventually, it became simpler to take the twenty camels (another one had run away in the meantime) and Arab handlers to Hamburg first. Carl Hagenbeck, a dealer of all things related to wild animals and founder of Hamburg’s zoo, took in the battered creatures. In a letter to Berlin he wrote that he is doubtful they will ever gain full recovery. So whereas he called on “the gentlemen in Berlin” to stop by and take a look for themselves after some apparently doubted his assessment, the animals stayed in Hamburg for some time. They finally arrived in Southwest Africa in fall 1899. By then the whole ordeal had cost more than 36,000 Marks and would have little impact on construction.

Thankfully, and in the meantime, the completion of the railway line had moved along. It still took four years and nine months. The price tag was more
than 15 million Marks—almost three million over budget.\textsuperscript{212} By mid-June 1902, however, the route opened. It was time to celebrate. On the morning of 17 June at 6:15 A.M., a train had left Swakopmund.\textsuperscript{213} Two days later, at 1:30 P.M. the first passenger train, decorated with flags, arrived in Windhoek. “It was a grand train consisting of four-passenger cars first- and second-class, and one third-class car for the indigenous population plus two luggage cars,”\textsuperscript{214} wrote the newspaper Deutsch-Südwestafrikanische Zeitung. The train that day was not full—just twenty-nine passengers came from the coast. Regardless, those awaiting them in Windhoek welcomed them with a hurrah and a formal ceremony. Pride was on display that day, pride of having conquered nature by scaling difficult terrain.\textsuperscript{215} Officials had much to applaud. Not only was the opening actually ahead of schedule, but it also coincided with the beginning of the Landwirtschaftliche Ausstellung (agricultural exhibition) in Windhoek.\textsuperscript{216} According to Governor Leutwein, and given the Rinderpest, the train had even saved the colony from “a lingering hunger crisis.”\textsuperscript{217}

Private developments meant to exploit resources also seemed to take off. An expedition had explored the potential for European copper mining in the Otavi region for SWAC in the 1890s. There, San had extracted the precious metal for centuries.\textsuperscript{218} Different proposals for a railway, including one connecting to Portuguese Angola, emerged right away. Yet it took until early 1903 for the Otavi Minen- und Eisenbahn-Gesellschaft (OMEG) (Otavi Mining and Railway Company), an offshoot of SWAC, to begin construction. Nationalistic rhetoric and costs drove the decision to reach Otavi and later Tsumeb from Swakopmund.\textsuperscript{219} Similar to the Staatsbahn, the enterprise— overseen by the Berlin-based Company Arthur Koppel A.G.—was framed as a battle against nature. First, there was the fight against ocean waters. In one instance, a steamer fully loaded with 1,860 tons of material sank off the coast of Liberia.\textsuperscript{220} There was also not enough water—or at least existing waterholes had to be cleaned and restored.\textsuperscript{221} The Germans had again underestimated existing terrains; yet in line with colonial storylines they also once more defeated them. Work only lasted for three months before the war disrupted overall efforts due to a lack of Herero labor.\textsuperscript{222} Nonetheless, by 1903 the project itself looked promising, and ambitious plans already looked toward a bright future.\textsuperscript{223}

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Access defined Germany’s early efforts in Southwest Africa. Treacherous ocean waters and a rough and unpredictable coastline made natural harbors keys for entering, controlling, and ultimately developing the colony. Lüderitzbucht, originally claimed in 1884, offered a safe landing spot. However, a lack of drinking water and high desert dunes limited transport inland. Walvis Bay further north, the other natural harbor and the only access point to the central plateau, had been claimed by the British. Once quests for alternative landing
spots failed, and since depending on the British in Walvis Bay seemed to become a liability, the Germans pushed for their own gateway—and founded Swakopmund. Yet landing north of the Swakop River turned out to be laborious and dangerous. Without landing structures, the Germans depended on African experts. For contemporaries it was thus up to German ingenuity to solve the access question—and thanks to the construction of the Mole, easy landing in the colony could now be guaranteed. Transport inland along the Baiweg remained difficult, however, even before the pandemic hit the colony. The Rinderpest, a pandemic dependent on the environment and human actions, then fully disrupted travel; yet it also resulted in the construction of a railway to Windhoek. By 1903 environmental infrastructure, defined by human and non-human agents, as well as natural forces, had thus further reshaped existing topographies away from the Baiweg.

Colonists framed these experiences around German ingenuity and persistence. Friedrich Ortloff narrated the struggle against treacherous ocean currents, inhospitable climates, and the inabilities of African workers along those lines. In his view, it had been German determination and expert knowledge that ultimately led to victory in a difficult fight. Similarly, scientific expertise was able to succeed in the struggle against the Rinderpest pandemic. There had been losses, of course, but in the end, the disease had been overpowered. The construction of mainly the Staatsbahn from Swakopmund to Windhoek also showcased the value of willpower, a good work ethic, and superior technology. German ingenuity had battled difficult terrains, aridity, and all kinds of other challenges. Efforts to bring in camels, or Troost’s stint with a road locomotive, became signs of Germany’s optimism and pioneering spirit, later humorous anecdotes, yet always in line with overall stories of development and progress. Modernity could not be stopped. These were, after all, engineers and hydrologists, military officials and professional craftsmen, so all experts able to take on any obstacle or frontier. Now, in 1903, German settlers could easily land using the Mole in Swakopmund; now they could make their way to the central plateau using the comfort of a railway. Soon hard-working and self-sufficient frontier pioneers and colonists could begin to further transform barren wastelands into cultivated and profitable Kulturlandschaften (cultural landscapes). The future of Southwest Africa seemed bright and the country open for business. As such storylines began shaping a colonial-settler identity other factors defining environmental infrastructure fell by the wayside. After all, and to follow one historian, it was thanks to the pandemic that Herero had replaced perished trek oxen to carry train tracks and ties for the construction of the railway inland. In that sense, colonial narratives, at times still looming large within the scholarship, had little interest in natural forces; in other instances, they still underestimate the importance of the non-human agent Rinderpest for African history. And, they certainly spilled little ink acknowledging the contributions of Africans.
Notes


2. Theodor Leutwein, Elf Jahre Gouverneur in Deutsch-Südwestafrika (Berlin, 1908), 140.

3. BArch-K, N 1669, Friedrich von Lindequist (Generalkonsul des Deutsche Reiches für Britisch-Südafrika in Kapstadt).


22. Külz, Deutsch-SüdAfrika im 25. Jahre Deutscher Schutzherrschaft, 47. See also Lüderitzbucht Zeitung, “Fünfzig Jahre Lüderitzbucht,” April 8, 1933, as included in Lüderitzbucht damals und gestern.
26. François, Nama und Damara, 14.
27. Rudolf Ludloff, Nach Deutsch-Namaland (Südwestafrika): Reisebriefe von Dr. R. F. Ludloff (Coburg, 1891), 27.
30. Külz, Deutsch-SüdAfrika im 25. Jahre Deutscher Schutzherrschaft, 50. Külz estimated a yearly expense of 400–600 Marks per household for water and observed that it would certainly not be used for gardening.
31. François, Nama und Damara, 308. See also Hintrager, Südwestafrika in der deutschen Zeit, 32.
33. Deutsch-Südwestafrikanische Zeitung, “Eine neue Ueberraschung,” 13 February 1907. See also Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 17.


36. François, Nama und Damara, 308 and 15.


40. BArch-B, R 1002/1276, Friedrich Wilhelm Ortloff.


42. NAN, HBS, St. Unit 1, File 1/4, Technisches Gutachten 12 September 1899. Some files include plans from 1899 to 1901 and sizes range from 1:50 to 1:2,500—though sadly many of them are damaged. See NAN, HBS, St. Unit 8, File 4/3. See also Hermann Schwabe, Zeitung des Vereins Deutscher Eisenbahn-Verwaltung, “Die Verkehrsvorhältnisse des Deutsch-Südwestafrikanischen Schutzgebietes,” 37ter Jahrgang, no. 25 (27 March 1897).

43. NAN, HBS, St. Unit 1, File 1/4, Technisches Gutachten 12 September 1899.

(Aufzeichnungen, betreffend die Entstehung und Versandung des Hafens von Swakopmund und die zur Bekämpfung der Versandung getroffenen Maßnahmen).


46. Stengel, “Der Bau der Mole in Swakopmund,” 58. It is not clear from Stengel’s discussion why Ortloff would not have noticed the movement of sand well beyond the mouth of the Swakop River.

47. Ibid., 60.


51. Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 17–18.


54. Deutsche Kolonialzeitung, “Rundschau,” 23 October 1902. The numbers for Nama workers are unclear.

55. Bley, South-West Africa under German Rule, 23–24. Bley points to a prisoner-of-war camp in Windhoek prior to 1904 (85).

56. NAN, HBS, St. Unit 15, File 6/5, Kaiserliches Hafenbauamt, 25 November 1902.

57. Ortloff, Landungsverhältnisse an der Küste Deutsch-Südwestafrikas, 35.

58. NAN, HBS, St. Unit 1, File 1/2 (Allgemeiner generelle Verhandlungen und Verfügungen den Hafenbau betreff. 1898–1902), Report, 9 November 1900.


60. Windhoeker Anzeiger, “Die Mole,” 20 June 1900, as referenced in “Namibian Labor Empire.”


67. Windhoeker Anzeiger, “Was ein Engländer von Swakopmund sagt,” 23 May 1901. As one article pointed out at the turn of the century, other colonial powers also did not reach colonial glory overnight. See Globus, “Deutsch-Südwestafrika im Jahre 1900,” 17 January 1901 (Kannengießer).


69. Margarethe von Eckenbrecher, Was Afrika mir gab und nahm (Berlin, 1907), 42.

70. Hafenbautechnische Gesellschaft, ed., Die Deutsche Kolonialhafens, 58.


78. Morens et al., “Global Rinderpest Eradication,” 503.


83. Wedekind, Impfe und herrsche, 51–54. Wedekind outlines how Oorlam-groups found ways to protect their horses (54); he also captures German efforts to deal with this sickness (67–85).

84. August Boshart, Zehn Jahre Afrikanischen Lebens (Leipzig, 1898), 166–67, as quoted in Kundrus, Moderne Imperialisten, 146.


86. Seidel, Deutschlands erste Kolonie, 32. Numerous Südwester stories tell of similar experiences from within the Namib Desert. Scherz, Südwester Geschichten am Lagerfeuer erzählt von Ernst Rudolf Scherz, 16; Hennig, Sturm und Sonnenschein in Deutsch Südwest, 123–24.
89. Ibid., 354.
92. *Deutsche Kolonialzeitung*, “Rinderpest und Eisenbahn in Deutsch-Südwest Afrika,” 19 June 1897. The author already proposed the quick construction of a railway to remedy the situation.
101. Ibid., 4–5.
102. Ibid., 5. One voice called for limiting “Wanderlust the desire to wander off by the indigenous population” once and for all, a statement that previews colonial ambitions of not letting a crisis go to waste. Lübbert, *Gesundheitsverhältnisse in Deutsch-Südwestafrika im Jahre 1901/02*, 404, accessible at the Kolonialbibliothek Frankfurt am Main.
103. BArch-B, R 1001/8535, Kamele in Deutsch-Südwestafrika.—Beschaffung von Kame- len Feb. 1891–Juli 1899, Band 1), letter, Hauptmann Francois to Auswärtiges Amt (Ko lonialabteilung), 12 July 1892.
104. BArch-B, R 1001/8535, Kamele in Deutsch-Südwestafrika.—Beschaffung von Kame len Feb. 1891–Juli 1899, Band 1), letter, Deutsche Siedlungsgesellschaft für Deutsch Sü dwestafrika an das Auswärtige Amt (Kolonialabteilung), 5 June 1897.
108. *The Lancet*, “The Travels of Professor Koch,” September 24, 1898; Robert Koch, *Dr. Koch’s Reports on Experiments Conducted at Kimberley for Discovery of a Cure for Rinderpest* (Cape Town, 1897); Robert Koch, *Reise-Bericht über Rinderpest, Bubonpest in Indien und Afrika, Tsetse- oder Surrakrankheit, Texasfieber, tropische Malaria, Schwarz-
wasserfieber (Berlin, 1898). See also Gewald, *Herero Heroes*, 114–15. On efforts to coordinate in a trans-imperial space, see Wedekind, *Impfe und herrsche*.


110. Ibid., 28–29.


112. Leutwein an Kol. Abt., 17.05.1897, BArch-B, R 1001/6063, Bl. 29/30, as referenced in Wedekind, *Impfe und herrsche*, 131.


118. BArch-B, R 8023/1001, Rinderpest.


133. Rohrbach, Deutsche Kolonialwirtschaft, 275, as quoted in Namibia’s Red Line, 27. See also Rickmann, Tierzucht und Tierkrankheiten, 158.

134. Sander, Die Rinderpest, 11.


136. According to Bley, “the epidemic resulted in the immediate impoverishment of the Herero, to a point at which the very lives of many tribal groups were threatened.” Bley, South-West Africa under German Rule, 125. According to Miescher, “the rinderpest pandemic marked a turning point in the power relationships of the colony.” Miescher, Namibia’s Red Line, 19. Wedekind, who highlights the connection between vaccination and power, writes about the “devastating” impact and “shaken foundations.” Wedekind, Impfe und herrsche, 141. See also Charles van Onselen, “Reactions to Rinderpest in Southern Africa 1898–1897,” The Journal of African History 13, no. 3 (1972): 473–88.

137. Sander, Rinderpest, 11.


139. Ibid. According to Gewald, “Rinderpest broke the economic basis of Herero society.” Gewald, Herero Heroes, 133.

140. Wedekind, Impfe und herrsche, 316.

141. Sander, Die Rinderpest, 30. See also Sander, Die Rinderpest, 38 and 44.


145. Georg Fleck, Stand des Eisenbahnbaus in Afrika 1900 (Berlin, 1901).


147. Leutwein, Elf Jahre Gouverneur in Deutsch-Südwestafrika, 132.

148. Bley, South-West Africa under German Rule, 125.


150. Hennig, Sturm und Sonnenschein in Deutsch-Südwest, 13.


153. *Deutsche Kolonialzeitung*, “Von der südwestafrikanischen Eisenbahn,” 4 December 1897 (Schwabe). According to Schwabe, it was also due to Troost that Swakopmund became a main entry point compared to Walvis Bay. Schwabe, *Mit Schwert und Pflug*, 282.


167. Jahresbericht 1892–93, 350, as reference in Kaulich, *Die Geschichte der ehemaligen Kolonie Deutsch-Südwestafrika*, 440. Technically, the first railway had been constructed by the Damaraland Guano Company around 1895–96 to ease the transportation of guano at Cape Cross.


171. Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 15. According to Bley, governor Theodor Leutwein personally won the support of parliament in favor of constructing a railway. Bley, South–West Africa under German Rule, 130.
173. Deutsches Kolonialblatt, “Deutsch-Südwestafrika. Südafrikanische Baiwegbahn,” 1 December 1897. See also Quiring, Die Eisenbahnen Deutsch-Südwestafrikas und ihre Bedeutung für die wirtschaftliche Entwicklung der Kolonie, 10. Technically, this decision went against the monopoly granted to SWAC. See Pool, Eisenbahnen in Deutsch-Südwestafrika 20–24; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 8.
175. Deutsche Kolonialzeitung, "Einiges über die Küste des südwestafrikanischen Schutzgebietes und den Verkehr an derselben," 8 December 1894 (Schwabe).
176. Deutsche Kolonialzeitung, “Von der südwestafrikanischen Eisenbahn,” 4 December 1897 (Schwabe). See also Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 17.
177. Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 31. See also Pool, Eisenbahnen in Deutsch-Südwestafrika, 46.
180. Pool, Eisenbahnen in Deutsch-Südwestafrika, 28–38 and 46; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 26.
185. Pool, Eisenbahnen in Deutsch-Südwestafrika, 30; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 22.


188. Pool, Eisenbahnen in Deutsch-Südwestafrika, 59.

189. Ibid., 39–40.


191. Pool, Eisenbahnen in Deutsch-Südwestafrika, 42.

192. RKA, Nr. 5077 (Auszug aus den Strafverzeichnissen der Bezirksamter des deutsch-südwestafrikanischen Schutzgebietes), Blatt 112, nr. 27, as quoted in Fritz Ferdinand Müller, Kolonien unter Peitsche: Eine Dokumentation (Berlin, 1962), 95. Although tainted with ideological language, this volume includes excerpts from the German colonial records documenting daily violence throughout the colonies.


194. For instance, of Manasse’s thirty laborers twenty-eight left . Pool, Eisenbahnen in Deutsch-Südwestafrika, 42–43.

195. Deutsche Kolonialzeitung, “Von der südwestafrikanischen Eisenbahn,” 4 December 1897 (Schwabe); Deutsches Kolonialblatt, “Eröffnung der Bahn-Theilstrecke Swakopmund-Nonidas,” 1 January 1898. See also Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 26.


197. Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 27.

198. Ibid.


200. Pool, Eisenbahnen in Deutsch-Südwestafrika, 72; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 37.

201. NAN, EVE 150, C.6.A. Wasserversorgung 1902–1908; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 32–33.


204. Deutsch-Südwestafrikanische Zeitung, “Aus dem Schutzgebiet: Regen,” 8 January 1902. This specifically referred to the necessary large-scale rocking of railway ties meant to protect tracks from getting flushed way. See also Deutsch-Südwestafrikanische Zeitung.


207. BArch-B, R 1001/8535, Kamele in Deutsch-Südwestafrika.—Beschaffung von Kamelen Feb. 1891—July 1899 (Band 1), telegram, 25 April 1899.

208. Ibid., letter Hagenbeck, 21 July 1899.

209. Ibid., letter Hagenbeck, 26 July 1899.


211. BArch-B, R 1001/8535, Kamele in Deutsch-Südwestafrika.—Beschaffung von Kamelen Feb. 1891—July 1899 (Band 1), letter Kaisl. Deutsches Gouvernement für Südwestafrika an das Auswärtige Amt (Kolonialabteilung), 22 March 1900 (Anhang: Zusammenstellung).

212. Pool, Eisenbahnen in Deutsch-Südwestafrika, 63; Quiring, Die Eisenbahnen Deutsch-Südwestafrikas, 9–10.

213. Pool, Eisenbahnen in Deutsch-Südwestafrika, 60–61; Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 45. See also Jahresbericht 1902–03, 119, as referenced in Kaulich, Die Geschichte der ehemaligen Kolonie Deutsch-Südwestafrika, 443. The last rails had been bolted down June 17.


215. Deutsches Kolonialblatt, “Eröffnung der Bahn-Theilstrecke Swakopmund-Nonidas,” 1 January 1898. For a broader sense of German pride, see also Hans Meyer, Die Eisenbahnen im tropischen Afrika: Eine kolonialwirtschaftliche Studie (Leipzig, 1902), 73. Such storylines are still apparent in more recent scholarship. See Bravenboer and Rusch, The First 100 Years of State Railways in Namibia, 48.


217. Leutwein, Elf Jahre Gouverneur in Deutsch-Südwestafrika, 134. See also Quiring, Die Eisenbahnen Deutsch-Südwestafrikas und ihre Bedeutung für die wirtschaftliche Entwicklung der Kolonie, 8; Hintrager, Südwestafrika in der deutschen Zeit, 38. Schöllenbach noted that it prevented “stagnation.” Schöllenbach, Die Besiedelung Deutsch-Südwestafrikas bis zum Weltkriege, 44.
222. Quiring, *Die Eisenbahnen Deutsch-Südwestafrikas*, 14. See also Bravenboer and Rusch, *The First 100 Years of State Railways in Namibia*, 60; Gustav Röhr, *Die Feldspurbahnen Südwestafrikas: 1000 km auf 600 mm Spur* (Krefeld-Bockum, 1967), 76. Fencing could do little to keep workers on site—although according to one self-published apologist argument, the fencing was there to “protect” the nearby population of Swakopmund. Röhr, *Die Feldspurbahnen Südwestafrikas*, 31.
CHAPTER 4

Solving Aridity

Water had transformed Klein-Windhoek. Now a more affluent suburb of Namibia’s capital, the settlement is located on the central plateau east of downtown Windhoek. In the 1890s, it grew steadily as more and more German settlers arrived. According to some estimates, between February 1892 and September 1894 seven steamships brought twenty-five families, or a total of fifty-five individuals (thirty-three of them men) mainly to that region. They joined twenty-two former colonial soldiers and five settlers with German origins. The latter had migrated to the area from neighboring South Africa. Soon the region turned into a Kleinsiedlung, a small-scale settlement best described as a self-sufficient agricultural homestead. To incentivize settlement, prices for land were kept low. Plus, organizations such as the Südwestafrikanische Siedlungssyndikat (Southwest African Settlement Syndicate), founded in 1892 and tied to the German Colonial Society, supported settlements and gardens. In 1893, one newspaper noted, “German Southwest Africa is, there can be no doubt anymore, the only one among our colonies that appears suitable to satisfy one of the main demands of the creators of Germany’s colonial movement, namely to possess our very own overseas territory that is partially capable of absorbing the stream of German emigration.” Between 1898 and 1902, just the government alone sold 1,093,694 hectares of land to settlers. Concession companies sold even more. Such transactions meant a permanent loss for Herero in central Namibia. The first two German settlers in Klein-Windhoek had received their land in 1892; ten years later an official counted forty-three white settlers and between 200 and 250 black workers. The availability of water made the location desirable. By 1902, settlers could count on about 670 cubic meters of water per day from surrounding springs. That was enough to sustain fifteen hectares of vineyards and twelve hectares of gardens cultivating vegetables, fruits, and grain. Yet water was not endless. In 1892, Geographer Karl Dove had already warned that Klein-Windhoek could at best sustain seven to eight families. Some wondered about investments. Traveler Baron Edgar von Uechtritz und Steinkirch outlined that just a little work tied to digging irrigation channels would go a long way to possibly sustain forty-five families. By
then it was clear that any future growth, or even sustaining Klein-Windhoek long-term, required irrigation structures.

Solving the water question was essential for the transformation of South-west Africa into a sustainable settler colony. African societies had long navigated arid spaces. Later, Europeans saw only problems. According to a British description from 1884, “The whole of the territory, excepting the beds of the Kuisup [sic] and Swakop rivers, is an arid and sandy desert, with no appreciable rainfall, and almost entirely devoid of vegetation. Rain only falls for 5 to 6 days in the year (between November and April), and probably does not amount to one inch.” As a result, concerns around water fundamentally shaped colonial thinking and overall activities. After all, to follow such rhetoric and narratives, once the Mole allowed people to land in Swakopmund and a train reached the central plateau the transformation of arid landscapes into a settlement colony for Germans could begin. Water was essential for that. Efforts fully took off once experts such as Hydrologist Engineer Theodor Rehbock and Engineer Alexander Kuhn surveyed the region; both also provided decision-makers with an array of photographic evidence, elaborate blueprints, endless reports, and specific proposals. All of such documents envisioned a white settler future. Their ingenuity, it seemed, could squeeze water out of even the most arid landscapes, creating structures that turn existing wastelands into a German settler paradise.

Organized chronologically, chapter 4 focuses on environmental infrastructure meant to unearth water. It begins with existing understandings and structures before exploring early efforts at entry ports and along main access routes. In line with scholarship discussing irrigation, the mastery of nature, and broader transformations, German colonialists believed in progress, technology, and their own superiority. Their dismissal of pre-colonial environmental infrastructure, African expertise, and a general misunderstanding of natural forces partially explains repeated setbacks. The chapter then follows German attempts to make sense of arid lands. The expeditions of Theodor Rehbock and Alexander Kuhn, two experts personifying certain imperial mentalities and mindsets, are front and center. Their proposals capture visions of the colony as storylines of conquering and transforming nature yet again defined colonial minds and stories.

Existing Structures

Oral histories and traditions speak volumes about the importance of water in Namibia’s past. Legends point to its significance—such as one about a crying princess forming the Fish River. When interviewed for the Michael Scott Oral History Project in December 1985, interviewee Kenapeta Tjatindi out-
lined the significance of rain for Herero culture. “In times of drought people would come to him [the head of the Mbanderus, the late Kahimemua Nguvauva] to beg him to pray for rain. He asked for the rain, and it did rain.” Others sharing their recollections talked about similar rituals: “A sheep had to be slaughtered and the fat put in the fire: and then they called God: the smoke used to go up as a sign that their request would be answered: the rain came.” Places with water mattered greatly as well. Tjiponda of Kamarenga, for instance, spoke about the journey home from the sea when noting, “The place where he turned back is called Ekotokero, meaning the place of return where he got fresh water.” The Herero had long dug up drinking water here and rested before moving on with their cattle. The description became a kind of praise poem used by subsequent travelers to orient themselves. According to Henrichsen, the omutandu (pl. omitandu), or song of praise, a genre tied to a specific space and role for Herero history, marks places of water that are essential for cattle. Henrichsen points to an extensive network or topography of wells among the Herero: Otjizeva (waterholes), Otjondjomboimue (single wells), Oviombo (large wells), Ombujomatemba (well of water trough), and Otjiamangombe (the place where cattle are kept). Imperative markers etched onto the landscape, like gravesites, could also help find the precious liquid. Within Herero culture, geographies, directions, and spatial knowledge are deeply intertwined with this source of life.

Herero had lots of experiences and expertise around the construction of wells and how to access water. According to Henrichsen, and based on the descriptions of individuals like Missionary Büttner, they were the most famous Va-Schimba (well-diggers) in central Namibia in the nineteenth century. Büttner, who at one point described the social structure of Africans as a “quaint mixture of social democracy and feudalism,” demeaned such environmental infrastructure as no more than “pits . . . which with the most primitive of methods water is ladled-up.” African societies long employed iron tools acquired through trade networks to dig their wells. According to oral interviews and other records, the Herero generally picked locations for settlements near or in dried up riverbeds. Known as ondjombo (singular) or ozondjombo (plural), those wells were about three to five meters deep though could reach up to twenty. Use was communal. Construction was a collective effort, both the digging process and then getting the water out of the well. Büttner at one point described the process of retrieving the water noting that it generally involved five to six men lowest on the social hierarchy passing along buckets to the top while “singing and having fun.” Such structures even reached into the Kalahari Desert. There, the Herero had created up to twenty so-called field and sand wells (sg. ombu; pl. ozombu). These were about seven-meter-deep clay-made pools meant to collect groundwater. German Missionary Heinrich Vedder wrote that the Herero “dug wells untiringly with a pointed stick hard-
ened in the fire, and drew water from a depth of fifteen feet [about 4.5 meters]
and more, pouring it into wooden troughs for his thirsty animals.”24 Whereas
disputes over water could lead to broader conflicts,25 wells were “points of in-
tersection (Schnittpunkte) of economic and social (male) life.”26

Other groups equally made use of landscapes that seemed empty and hostile
to outsiders. Archaeologist John Kinahan has written extensively about groups
living near the Hungorob Ravine and the Khuseb River Delta, both areas that
have become case studies for further investigations surrounding settlement,
trade, and pastoralism.27 As noted in chapter 1, close adaptations to existing
environmental conditions required groups like the Topnaar to settle in small
homesteads a few kilometers away from a reliable water supply.28 Other Nama
were also experts and had long manipulated nature. According to one oral
history describing Nama migration into modern-day Namibia, “The southern
deserts are pitted with deep canyons and pockmarked with mountains and
extinct volcanoes. Human life is made possible only by the existence of under-
ground water. As the Nama trekked north into this unknown territory, they
were guided by dogs trained to sniff out hidden waterholes. Where the dogs
stopped the Nama dug their wells and built their settlements.”29 Historians Bri-
gitte Lau and Christel Stern noted broadly that Nama used water resources “ex-
tremely successful and in careful harmony with patterns of natural renewal.”30

The use of rain- and groundwater resources was certainly widespread in the
earlier part of the nineteenth century. Of course, those home in the region had
expertise regarding climate, underground water in dry river beds, or the prox-
imity of certain plants to water. As described by Vedder, “What really mattered
[to the Nama-Witboois] was not the outside limits of the territory, but the river
courses, on the banks of which wells could easily be made to provide water for
man and beast.”31 German Missionary Büttner made similar observations about
the Damara when writing, “Besides it is to be remarked that the Berg-Damara
have rather an inclination for gardening, and if they can get somewhere a se-
cure spot which offer them some garden land and water, they are soon ready to
make a small garden, to plant tobacco, dacha, pumpkins, and melons.”32 Know-
ing where to find and accessing water had long mattered in Southwest Africa.

German newcomers often belittled such environmental infrastructure and
overall ingenuity, or at least favored their own observations and efforts. That
response was in line with settler colonialism more broadly. Historian David
Lowenthal, who writes about the Americas, noted that “[a]t the outset, impe-
rial settlers were hardly aware of indigenous impacts, blind to signs of non-
European occupation. They assumed that they saw virtually untouched virgin
lands, ‘almost fresh from the Maker’s hands.’”33 Missionary Vedder described
existing footpaths as primitive and outdated when claiming, “There were no
roads in South West Africa in those days; there were just narrow footpaths,
which very often coincided with the tracks made by elephants.”34 At least he
added the voice of old Tjimba of the Kaokoveld and realized that those were connections between different water holes that humans had long depended on in search of water. Nonetheless, for Vedder these paths were useless because they were much too narrow and mountainous for ox wagons. Other newcomers seemed intrigued by the abilities of San to survive in barren landscapes; but they too remained dismissive in their descriptions or failed to include their voices. According to Kreike, “to colonial observers, ‘native’ constructions were of little value and hardly, if at all, transformed a wilderness environment (for the better).” Racist undertones at times surely prevented settlers from learning from local groups. One German farmer dismissed the indigenous population’s settlement near water, commenting that “enemies of any physical labor they only believed those places to be of value, where water comes to the surface or can be dug up easily.” Sometimes German officials also rejected local ingenuity simply because it did not fit into colonial topographies and plans. For them, waterholes away from German travel routes eventually became spaces just for nomads, not for white settlers. Of course, and as the colonial presence increased, the local population became increasingly secretive toward intruders. Settler Margarethe von Eckenbrecher wrote about how local groups survived in arid landscapes by eating certain plants and roots—and adding that they would not share this knowledge with the Germans.

The inability or unwillingness of newcomers to see existing structures and modifications of landscapes were not surprising. As more broadly discussed by Lowenthal, “Any impacts that settlers did note seemed to them trivial, wasteful or unproductive. Indigenes unable or unwilling to abandon ‘primitive’ practices for permanent settlement were thus held doomed to give way to superior races with advanced technologies.” In Namibia, Herero had long moved their cattle along with ecological patterns. German encouragement to settle down made little sense to them. Their minds were not changed once they saw repeated crop failures by those newcomers that themselves misunderstood rain patterns, soil, and climate. A far cry from the artificial division between nature and culture that lay at the heart of colonial narratives around development and progress, they had their own modern structures. German colonists, on the other hand, looked down on semi-nomadic traditions. Maybe, at best, they pointed to previous efforts by Herero as the baseline for much-needed development and technology. One commentator in a German colonial newspaper spoke about “decades of mismanagement” by Herero when describing the work that lay ahead for German colonizers; individuals such as geographer Karl Dove later used the word Pfütze (puddle) to belittle existing structures. Already in February 1888, a sequence of articles in one newspaper had blamed the indigenous population for not maintaining wells before outlining a bright future under German rule. More often than not, an underlying ethnocentrism left little room for anything non-German. After all, African landscapes
in no way matched long cultivated German *Kulturlandschaften*. To Germans, this indicated that Africans had done little to make the area habitable, sustainable, or profitable. Curt von François encapsulates some of these attitudes. Steeped in Prussian military traditions, a colonial mindset, and a good dose of racial supremacy, he pointed to the wide availability of water to easily grow corn, wine, and even rice. In his view, Africans had simply not done enough to make use of the “waterless steppe of Namaland.”

For the Germans such attitudes had drawbacks as well as benefits. For one, it resulted in several mishaps. According to two scholars, missionaries at times “diverted and destroyed springs by unskilled experimentation with dynamite to establish agricultural settlements.” Take the mission station in Keetmanshoop. Built in a dry riverbed that newcomers either knew little about or could not fathom would ever become a problem, it washed away during heavy rains in 1890. Head missionary Tobias Fenchel had to rebuild on a hill nearby. Another missionary, who had pushed the local population toward gardening and agriculture, saw his dam in the Nossob riverbed washed away. But for colonists the inability to see transformations of landscapes also had its upsides. According to Lowenthal, “it suited colonial incomers to overlook signs of native alteration: the apparent absence of indigenous ‘improvements’ helped justify the removal of indigenous tribal lands.” By the 1890s German authorities certainly employed different avenues to strengthen their colonial rule—and access to water mattered greatly in that context. As outlined by Gewald, Herero pastoralists living in Okombahe and Berg-Damara farmers had been within a rich symbiotic relationship for some time. However, the Germans believed the Herero had subjugated and enslaved Berg-Damara. Efforts framed as “help” became useful avenues for German colonists when trying to divide and conquer, limit Herero power, restrict overall movement, and gain access to labor, land, and water. Local groups, on the other hand, tried to situate themselves within shifting power structures. That turned out to be a complex process, particularly in times of divisions among the Herero. German authorities removed gardens, lands, and Berg-Damara from the Herero. For them, that opened up spaces for settlers to transform landscapes while ending a supposed waste of resources. After all, for colonialists this was a struggle against destructive forces. Agriculturalist Richard Hindorf, who spent about a year in Southwest Africa, pointed to the need to transform and improve upon nature with wells, dams, and all kinds of irrigation systems, all to easily sustain agriculture. That there would be no room for the existing population within such transformation was implied or sometimes stated directly. To follow a popular German novel about German Southwest Africa by Gustav Frenssen published later, “These blacks have deserved death before God and man not because they murdered 200 farmers and rose up against us [Germans in 1904] but because they have built no houses and have dug no wells.”
Nonetheless, African environmental infrastructure provided the foundation for the German settler topography. Expeditions used existing routes like the Baiweg or dry riverbeds both for convenience and the potential of underground water.⁵⁹ Since there existed few reliable maps of the interior they also trusted local guides both when searching for water and when scouting out new travel routes.⁶⁰ Although “[t]he great variety of toponyms did not satisfy the Europeans‘ demand for geographical unambiguity,” to follow one scholar,⁶¹ such indigenous knowledge still influenced German understandings of their surroundings, of course without giving Africans much if any credit. Key German writers such as Victor Franke and Heinrich Vedder built on the knowledge of Kakurukouye (alias Kasupi) from the western Kaokoveld in Ombepera and the “big man” Tjongoha of Kaoko Otavi, respectively.⁶² Similarly, missionaries out to convert generally settled next to indigenous groups that themselves had taken root near sources of drinking water.⁶³ Take Winterhoek, as Jonker Afrikaaner called it, today’s Klein-Windhoek and a location known for its hot springs.⁶⁴ There and elsewhere missionaries built small dams and dug wells, thereby adding to existing structures.⁶⁵ Nomenclature of certain topographies, or simple terms such as Fontein (spring) or Vley (waterhole or pond), spoke about such a transfer of knowledge as well (Figure 4.1). Klipfontein (now Bethanie), a village located in the south originally known as Uφ≠gandes, got its name due to the discovery of water (fontein) under a rock (klip).⁶⁶ Franz-

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Figure 4.1. “Spring in the Grootfontein region,” Scheel, *Deutschlands Kolonien*, 83, HathiTrust/public domain.
fontein, to follow a farmer in a magazine later on, was an area that used to be inhabited by a Khoikhoi group. It soon housed the farm of Hubertus Janson and Carl Schlettwein. A quick look at the list of German settlements included in the 1901 German Colonial Handbook outlines numerous imposed features that took over existing waterholes. Indigenous water topographies were thus the unsung heroes at the heart of German settler structures.

From a German perspective, real development began with their arrival. Missionaries had done some work already, of course; but real improvement defined by broader national and colonial efforts took off in 1884. “Certainly, the possibility of well systems is an extremely important factor concerning the cultural development of the country,” noted Hugo von François. Soon soldiers worked on the improvement and new construction of water holes along major travel routes, especially the Baiweg. A report by François illustrated some underlying misconceptions of original observations concerning rivers—it turned out that in several instances previously described streams were no more than “unimportant sidearms” and rivulets, or were not even connected to other rivers. The seasonal character of rivers, and their force once flushing down a long-dried up riverbed, surprised Germans as well. As François noted at one point, “Southwest Africa’s rivers have the odd peculiarity that they hold no water in the dry time of the year. And even in the rainy season they only flow at times.” A lack of knowledge did not hold back bold claims, however, including that certain springs could easily sustain “an infinite number of cattle.” Reports mostly published in the Deutsches Kolonialblatt newspaper gave potential newcomers the impression that these were sustainable locations for German settlements. Even Hugo von François pushed such claims. “It is a misconception to apply the traditional understandings of arid barren Africa readily to our protectorate,” he noted. “Southwest Africa has lots of water; one just has to learn how to find and develop it.”

Western experts also began studying ways to solve the perceived waterlessness. In 1892, geographer Karl Wilhelm Dove surveyed “the climatic and hydrological circumstances with attention to the possibility for more intensive soil utilization” for the German Colonial Society. In his view, a network of measuring stations and rain gauges easily manned by citizen scientists doing their patriotic duty could provide essential data regarding temperatures, precipitation, and more. Dove’s overall report, published in sections in a bulletin later, included some cautionary tales concerning the limits to agriculture. Though his assessment disrupted some initial fantasies regarding the potential for large scale settlement ploys namely around Windhoek, Dove actually saw the problem not with aridity. In his view, the issues lay with a lack of scientific ingenuity. He compared the region to neighboring South Africa, noting that in Southwest Africa scientific research “plays the role of a maker, pushing this landscape towards happiness and prosperity, and maybe that one towards the silence of the death.”
Meanwhile farmers had already begun dealing with aridity; they also framed their efforts as fights against nature. Farmer Ludwig Dominikus, who had owned Farm Stolzenfels since 1871, claimed that the alluvial soil along the riverbed is excellent. He added that “it will be up to the available means whether agricultural endeavors at the Orange River will be profitable” or not—he certainly needed more financial resources to expand his efforts.\(^{81}\) In 1891, he wrote to a colonial newspaper demanding support for drilling, reservoirs, and dams.\(^{82}\) Missionary Büttner had by then mentioned efforts at Stolzenfels, including a pump powered by a donkey that sustained the cultivation of tobacco.\(^{83}\) Carl Schlettwein, who came to the colony in 1896 and became an important voice for farmers throughout the colonial period, pointed to the use of domesticated animals for pumping up water efficiently at Groot Spitzkop in 1899.\(^{84}\) A certain Mr. Nitze, “in tireless diligence” and lots of hard work, had turned a wasteland into a blooming garden elsewhere.\(^{85}\) According to the already mentioned Dominikus, examples of newly built water reservoirs or dams near Ukamas (Walser), near Arris (Rautenbach), or at the Bakflus showcased further possibilities.\(^{86}\) German farmer Petersen, who settled at Außenk-\(^{87}\) jer along the Orange River by 1885, emphasized the lack of labor when trying to build any irrigation structures and also saw a bright future.

Berlin’s growing commitment to the protectorate eventually brought a somewhat more comprehensive approach to the solution of the water question. The appointment of Governor Theodor Leutwein in 1894 transferred naval staff surgeon and veterinary expert Ludwig (Louis) Sander to the colony. Leutwein himself had explained that there was “an urgent need for improvement as far as water supplies and pasture land are concerned.”\(^{88}\) He also saw the issue of water in the context of a potential war with the Bondelswarts. “The country is so deficient in water and pasture land that a force of 100 men would pose an almost insoluble supply problem. We would be defeated not by the people, but by Nature, to say nothing of the fact that our headquarters at Windhoek are a long way off.”\(^{89}\) In any case, Sander accompanied the governor on several expeditions. Although mostly focusing on animal diseases and pandemics, his publications also touched on water issues. His *Proposal for the Development of Southwest Africa* in particular outlined that this is a land “that struggles with a massive shortage of water under its natural conditions.”\(^{90}\) Apart from pointing to the scarcity of that resource and the limits imposed on agriculture, cattle farming, settlements, and exports, Sander discussed the fertile soil within the region. In his view, it is full of mineral nutrients. “Just resolving the water [issue] is missing to make it accessible for plants.”\(^{91}\) There seemed to be little to learn from African societies. At least Sander did not point to them. In his view, German colonists could learn much from the experiences and successes around irrigation schemes in the neighboring Cape Colony. Regarding costs, he simply suggested doubling regular expenditures given anticipated “African
difficulties." The *Deutsches Kolonialblatt* newspaper certainly endorsed such optimism when noting that the colony “was far from being arid.” Sander was particularly confident about the future of dams and other structures meant to support the cultivation of potatoes, barley, legumes, and turnips, reforestation and even the introduction of fish. Newcomers should also begin growing wheat, corn, and rye given “that the population is largely German.” This last comment plainly outlined his vision for a productive white settler space.

Such calls for action faced support and criticism. Georg Hartmann, who had arrived in the protectorate in 1893 and traveled extensively for several private companies, confidently pointed to “an abundance of water laying in the ground;” he also saw a need for infrastructure to access it, specifically wind power: “There is enough water around. It is just resting in the depth and must just be unearthed by force. Nature with its year-round winds already provides the power to do so.” In his view, much is possible in this only outwardly arid landscape. Early settlers like August Seidel also chimed in. He claimed that the colony had been underestimated in value and that settlers just needed to start digging for water: “I myself already built four wells and always strike water.” Seidel also referred to dams and other infrastructure. An article in the *Deutsche Kolonialzeitung* newspaper pointed to problems that Sander might have underestimated. Overall, however, that paper also supported irrigation schemes. At the same time calls for investments into irrigation structures, or at least the employment of an actual hydrology engineer expert, met concerns. According to the *Deutsches Kolonialblatt* newspaper, decision-makers wondered about “profitability.” Governor Leutwein, forced to work with a tight budget, had to weigh costs and benefits of any major investment. Uncertain about future settlements, and receptive to the anxieties of local farmers, he favored private irrigation initiatives. Those had materialized in the Keetmanshoop district on the farms Ukamas, Kais, Nonchas, Klipdamm, Jamahaalen, Korzibib, and Aronab. Plus, some farmers like Mr. Brand had built dams already, in his case in Mariental. For those awaiting government assistance regarding irrigation at least the formation of the Kolonialwirtschaftliches Komitee (Colonial Economic Committee) in 1896, meant for “the economic elevation of the protectorates,” gave some hope.

Yet it took massive lobbying efforts and broader shifts in colonial policies to move forward. The Colonial Department of the Foreign Office, the Colonial Society, and several well-known private entities got involved. On 14 June 1895, those entities formed a syndicate in Berlin, the Syndikat für die Bewässerungsanlagen in Deutsch-Südwest-Afrika. Ernst Vohsen, a well-connected former German consul in Sierra Leone, together with Sander, took the lead. Vohsen had an impressive resume. After working for the French company Compagnie du Sénégal in Freetown, Sierra Leone, he became German consul on site. He later worked for the East African Society in Zanzibar before taking over as di-
rector from Carl Peters in 1888. Three years later he stepped down to run the publishing house Ernst Reimer. Vohsen was also part of the German Colonial Society, which channeled funds to the syndicate right away—including 20,000 Marks for irrigation systems in German Southwest Africa.103 Sander, who broadly sketched out the creation of the syndicate in the press, pushed for scientific expeditions to evaluate potential locations for large structures near Rehoboth, Otjimbingue, Seeis, and Hatsamas.104 He was certainly excited about the syndicate’s prospects. And, he was confident that forthcoming investments would generate a report indicating “that it was not legitimate at all to decry Southwest Africa as a desert.”105

Water Structures

Sander’s call for experts found a good fit in hydrology engineer Theodor Rehbock. Often described as a pioneer, his resume outlined his expertise when it came to all things water.106 Later to follow in the footsteps of renowned hydrology engineer and straightener of the Rhine River, Johann Gottfried Tulla, he was born the son of a businessman in Amsterdam in 1864. Rehbock studied civil engineering at the Technical University in Munich and Berlin-Charlottenburg. He worked in Berlin, including for architect Paul Wallot in the final stages of the construction of the Reichstag parliament building.107 He also spent two years as the assistant of renowned hydrology engineer Ludwig Franzius in Bremen, a position that shifted his interests toward hydrology. After a research trip tied to irrigation that included visits to the American Southwest, Rehbock eventually moved to Berlin to open an agency. Such experiences and interests made him a perfect candidate for a stint to Southwest Africa funded by the syndicate.108

Rehbock’s expedition to the colony faced numerous delays and challenges. In his travel descriptions, he wrote about “a rather pleasant” journey aboard the steamer Mexican.109 He arrived in Cape Town on 20 August 1896. With a working space in the German consulate, Rehbock hired Chemist James Charles Watermeyer as his assistant. At the time working in the agricultural ministry in Cape Town, the latter had “been highly recommended to him” not least because he had helped in previous endeavors tied to what contemporaries referred to as civilizing structures.110 While Watermeyer waited to get approval for release time, Rehbock spent his days studying everything related to water, exploring town, and entertaining all kinds of dinner invitations. He saw an aged Theophilus Hahn, in Rehbock’s view “the best expert on the country I have ever met.”111 He got around, traveling first to Port Elizabeth, later to Oudtshoorn to see the Grobbelaars River and maybe the large ostrich farms, and ultimately on to the Touwsrivier. After boarding the steamer Leutwein
to Southwest Africa on 7 October he made a rare admission of ignorance: he had envisioned conditions in the Cape Colony “from Europe in a rather incorrect manner.” Rehbock added, “I had anticipated finding an abundantly rich land and instead, I found a sterile soil, that only strenuous work can get meager fruits out, because for the largest part of the land the nourishing water is missing completely.”

Maybe fittingly, a drought then welcomed both him and Watermeyer when landing in Swakopmund. They could not find anyone willing to take them inland and thus stayed busying trying to find ways to sustain the growth of the town. It took five and a half weeks until they finally had horses as well as the help of five Berg-Damara to leave the coast. Rehbock later complained about a lack of wells and watering holes along the Baiweg, their route to the interior prior to any railway. Once the rainy season caught up with them the expedition suddenly faced flash floods. In one instance at the Khan River the situation got dangerous: “One of the oxen would have certainly drowned if it was not for the help of some of the Herero, at the risk of their own lives, saved it,” he wrote. The trek finally reached Windhoek with “its cultivated gardens and numerous shady trees,” as Rehbock would later describe it to an audience in Berlin. It was the day before Christmas Eve.

Rehbock’s expedition was elaborate. According to his own report, they covered a stunning 8,000 kilometers by ox wagon and horse. First, he and Watermeyer spent time in the area around Windhoek. Apart from meeting with local colonial officials and farmers, including Sander, they also assessed options tied to large dams near Awispoort and in Hatsamas. In Rehbock’s view, “Based on this kind of climate Europeans are not just able to do intellectual work but are also able to do extensive physical labor. Given the small number of natives and the inability of a large part of them when it comes to ongoing physical labor the development of the country will need to be based primarily on a white labor force.” Second, the expedition visited structures meant to solve the water question. With little interest in engaging with African experts long familiar with existing landscapes, Rehbock and Watermeyer only spent time with German settlers and farmers. The recent 1896 drought had brought some careless settlers to their senses, Rehbock commented, and farmers “have begun to take better advantage of their surroundings by digging wells and by building small dams, which will prevent the repetition of major losses in the future.” Mr. Wheeler of Farm Seeheim, for one, presented a plan that included a centrifugal pump, powered by two oxen, for irrigation of grain, fruit, and vegetables. Several settlers had since gotten to work: Farmer C. Walser of Ukamas in district Keetmanshoop had built a dam in a dry riverbed by the mid-1890s; Farmer Voigtland of the company Wecke & Voigts near Windhoek, and the Farms Hoffnung (hope) and Unverzagt (undismayed) of the settlement society, and Farmer Gessert of Inachab near Bethanien had begun building earth dams.
grated to Namibia from Germany via South Africa, had anticipated damming a lake of 39,200,000 cubic meters. He planned to irrigate an area of 1,000 hectares. The Wecke & Voigts company also had irrigation setups that relied on a Bakkiespump (a bucket-and-chain setup) on their farm near Okahandja. Plus, there had been efforts to drill for water and install pumps along main trade routes. Settler Farmer Ferdinand Gessert, who at one point traveled to Egypt to study irrigation, particularly dominated early discussions surrounding irrigation schemes in Southwest Africa. Seen by many contemporaries as an independent mind and pragmatist with deep German roots and pride, Gessert believed that dams and wells would turn the colony into an oasis for all kinds of fruits such as figs and grapes. Although Rehbock himself was more interested in larger projects, like a dam at the gap of the Löwenfluss, conversations with locals such as Gessert influenced his plans. On the surface, this showcases the role of German knowledge. However, such expertise was, in the end, grounded in existing African understandings and experiences. After all, German newcomers had originally relied on the help of their workers, guides, and other Africans when trying to make sense of their surroundings. Apart from the reliance on German settler knowledge, British South Africa remained Rehbock’s main point of reference. While waiting in Cape Town, Rehbock had studied local hydrology literature, especially an array of blue books tied to land management; he had also visited some actual sites, including the last remaining forest areas, Knysna Forest and Titsikamma Forest. He would later talk about intricate irrigation systems and dams, as well as fruit trees, gardens full of grass, clover, grain, and bamboo. “The blessing of artificial irrigation in arid areas is apparent with surprising clarity,” he outlined to an audience in Berlin. Eleven months later he made time to return to Cape Town. There, he visited what he described as “the biggest and most famous dam of South Africa, the van Wyks Vley.” Barely in use due to the ongoing drought, Rehbock later pointed to “faulty assumptions” regarding its construction. He concluded without much humility that if South Africa, “which has also not been blessed any more by nature,” can provide a comfortable life for many, then German Southwest Africa could certainly do so.

Once back in Germany, an elaborate marketing campaign pushing for investments into large-scale structures took off right away. It all began with a presentation in Berlin on 26 November 1897, a Friday. Many attended the gathering taking place in the big ballroom of the exquisite Hotel Kaiserhof. With little time to analyze his findings, as Rehbock himself readily admitted, his talk was no more than an overview of the journey to the local chapter of the Colonial Society. Soon articles about specific opportunities in Hatsamas and elsewhere popped up. In 1898, Rehbock then published a massive volume about the potential for the economic development of Southwest Africa. Of course, he emphasized large-scale irrigation projects. Organized in ten sections, and full
of beautifully illustrated color sketches of proposed setups, the volume packaged main findings and vision for transforming the land. Accompanied by numerous articles in the press, photographs sustained Rehbock’s claims and overall narrative that these were far from arid wastelands. That storyline also defined a larger photo book published the same year. Beautifully bound and containing a total of ninety-six snapshots, it disclosed Rehbock’s own viewpoint and perspective. Photos show roadways, means of transportation, structures, panoramic outlooks onto landscapes, and domesticated animals—and one photo of a man, likely Rehbock himself, gazing onto water ready for use (Figures 4.2 and 4.3). Such a standpoint was meant to outline the dynamism and potential of this German colonial space, a storyline soon slopped all over the media. The local African population, on the other hand, remained little more than a backdrop, situated within untamed, arid landscapes or in group photos and close-ups that have long defined the imperial gaze.

This promotion of what Rehbock called “Germany’s duties in Southwest Africa” pushed two main points. First, water can be accessed with little effort by drilling wells or by constructing dams, all of which could lead to “extensive livestock breeding”: cattle in Hereroland and sheep, horses, and ostriches in Namaland. Second, several locations in the Herero and Namaland are suitable for larger dams. That infrastructure could easily become the basis for

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**Figure 4.2.** 116-357-028, Theodor Rehbock, March 1897, courtesy of the Bundesarchiv Koblenz.
broad irrigation schemes feeding fertile alluvial soils. As a result, expansive agricultural production could sustain inhabitants in several centers (Figure 4.4). Rehbock specifically proposed the construction of six major dams, four of them near Windhoek and two further south—the largest of those should hold 67 million cubic meters of water. Watermeyer agreed with Rehbock's endorsement of drilling crews, pumping stations, wind power, dams, and irrigation systems. It was equally clear to him “that gardening and agriculture can only be successful on alluvial soil or in completely leveled terrain on prime soil that can be watered extensively,” and that the solution of the water question—including along major travel routes—was vital for the future development of the colony. In that sense, neither Rehbock nor Watermeyer believed that natural forces and circumstances could hold back the economic development of the colony once investments into infrastructure materialize. In their view, and in the view of the Syndicate more broadly, “diligence and care,” so German ingenuity in the conquest of nature, could transform wastelands into blooming agricultural spaces.

These proposals saw widespread support among other experts. Geographer Karl Dove largely agreed with Rehbock or at least saw his contributions as essential for the development of the colony. In 1899, he outlined the need for dams and irrigation systems for agriculture and farming; he also pointed to the importance of small private dams. Support also came from professor
Figure 4.4. “The irrigation of German-Southwest Africa,” Deutsche Kolonialzeitung, “Die Besiedelung Deutsch-Südwestafrikas, III,” 4 October 1900 (Rehbock), Hathi-Trust/public domain.

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Ferdinand Wohltmann, who later became deeply involved in colonial agriculture. According to him, Rehbock and Watermeyer had brought light into “the mysterious darkness” that had long characterized the colony. Their proposal might solve the water question altogether. After all, he continued, the soil samples they had submitted “downright invited” the transformation into valuable agricultural lands. Although he later acknowledged that all that might not turn Southwest Africa into a major settler colony due to broader “natural circumstances,” addressing the issue of water would finally make up for previously missed opportunities. Organizations such as the Hatsamas-Gesellschaft society, which was grounded in Rehbock’s ideas, soon became the venue meant to implement proposals. Chairman Consul Vohsen in Berlin took the lead again. Rehbock himself worked out the charter. Soon supporters approached the imperial government hoping for an interest guarantee of 3 million Reichsmark joint capital for the society. Rehbock’s vision of large-scale irrigation schemes supporting broad settlements seemed to come together.

However, there had been some criticism as well, especially from farmers in Southwest Africa. One voice saw Rehbock’s proposal as “a remarkable submission” yet pointed to more cost-efficient earth-dams given financial implications; others outlined broader misconceptions about the region. In 1899, Rehbock had responded to criticism from Georg Hartmann in a thirty-two-page memorandum. Now settler and farmer Ernst Hermann from Nomtasa (formerly Kubub) criticized the “rosy calculations” put forward by the syndicate. In his view, it was simply too early for large-scale dams. He also worried about the sole reliance on such structures. Hermann had traveled throughout the colony for the German Colonial Society for Southwest Africa before settling down to breed sheep in 1890. His farm was destroyed during the war led by Hendrik Witbooi. When it came to Rehbock’s broader proposal tied to irrigation, farming, and settlement he had concerns about costs and viability. Rehbock, on the other hand, defended the need for adequate preliminary surveys, technical expertise, and, engineers; he also claimed that farmers simply feared competition. Yet funding did not materialize. Governor Leutwein, likely influenced by local sentiments against large-scale projects, ultimately did not endorse the proposal. Whereas the governor emphasized “technical concerns,” in a letter to Rehbock dated August 1899 he also outlined “that there is no market for settlers” to sell their products. Fears of failures, and the potential creation of “an unhappy proletariat” that no one will then be responsible for, loomed large as well. In the end, high officials in Berlin, including Kaiser Wilhelm II, seemed to be swayed by those concerns and denied the request of interest guarantees. Although some funding into small-scale drilling efforts spearheaded by Watermeyer did come through, only additional examinations and data by experts could possibly save large-scale projects.
“The Country Needs Engineers!” These were the words Alexander Kuhn wrote to consul Vohsen in July 1901, just three and a half months after arriving in Swakopmund. Although the government had hesitated to invest in large-scale projects, another expedition had made its way to the colony. Kuhn, an engineer himself, had been put in charge. Getting to that point had not been easy. Only once concerns about neglected responsibilities began haunting some officials did the expedition get funding. The syndicate wasted little time in finding an engineer. They approached Philipp Holzmann AG, a Frankfurt-based construction company, to come up with a proposal; that company was also to suggest an engineer. Several months passed before formal recommendations brought Engineer Alexander Kuhn into the limelight. He was a good fit. Born in 1853 in St. Pölten, Lower-Austria, Kuhn had received a technical education. He later joined the Austrian civil service before starting to work for Philipp Holzmann AG in 1896. After some delays tied to finalizing a contract, Kuhn got to work. Together with Engineer Skutari, who had been part of a survey for the infamous Baghdad Railway project, their overall instructions were clear. As outlined by none other than Theodor Rehbock, “The reason for the expedition is to supplement already existing preliminary work for dam structures near Hatsamas, Marienthal and de Naauwte”; it also included efforts to work on broader irrigation systems for agriculture. Apart from suggested readings by Dove, François, Sander, Rehbock, and others, that plan proposed an ambitious schedule: arrival in Swakopmund 5 February and return to Berlin 10 September. According to Kuhn, the mission was about “sending an engineer with practical building experience to Southwest Africa, and based on the survey and assessment of that expert, make a binding proposal for the construction of a larger dam at Hatsamas.” In early February 1901, with concerns regarding the Rinderpest still lingering, Kuhn and Skutari traveled to the colony to complete “extensive preliminary work for promising . . . irrigation systems”—especially tied to the large dam system and its connection to the agricultural colony near Hatsamas. Their mission ultimately had three distinct objectives. First, Kuhn was to figure out possibilities tied to the construction of a large dam near Hatsamas. Second, he was to complete and expand the earth dam of Farmer Brandt in Marienthal (District Gibeon). Finally, Kuhn was to look into options tied to a large dam near Naauwte along the Löwenfluss southwest of Keetmanshoop. Such efforts were meant to decisively dispel all those still following the “sandbox-theory,” or the view that the colony had nothing to offer but desert.

Kuhn’s letters to Consul Vohsen and Theodor Rehbock buried in an archive in Karlsruhe showcase the engineer’s ambitious vision for transforming the colony. Running well behind schedule, Kuhn arrived in Swakopmund on 12 March. He had read much about the area beforehand—and there “was thus no
surprise once presented with the dismal sand desert of Swakopmund. Kuhn met with long time farmer, trader, and ‘old African’ Gustav Voigts; he also listened to Governor Leutwein’s concerns. Kuhn saw the Rinderpest as a warning regarding large-scale cattle-farming. And he understood complaints, quarrels, and disagreements among settlers as a sign that honest, hard-working settlers, and “please no colonial soldiers” should settle the land. Engineers instead of lawyers, judges, and administrators, he proclaimed. Once he got to work, his surveys concluded that both the Hatsamas and the Naauwte dam were feasible large-scale projects. He imagined much broader transformations of nature, however. “Once the dynamos are running and the first arc lamps of the whole protectorate blink in the silent hermitage,” he stated, “then peace and solitude of this valley are surely gone forever.” Elsewhere he painted a similar picture regarding the makeover of colonial spaces when stating that “[i]t would be of great lament if this by nature so favored a spot within a by nature so neglected land would not initiate a path towards more sensible conditions.” Private dams, he claims, were “primitive” and would do little to alter the region.

Kuhn's findings eventually initiated another expedition. But first he published an extensive report following his return to Frankfurt in December 1901. Kuhn outlined “the necessity for irrigation schemes on a grand scale.” In his view, this was the government’s job, not that of private entities. “Either one creates larger irrigation systems in German Southwest Africa and with that, the opportunity for dense settlement by non-adventurers as well as the sustainable productivity of the land—or one stands at the same point fifty years from now where we are today granted the government and the Reichstag are willing to pay 8–10 million a year for the ‘protection’ of the land. There is not a third [option]!” A whole wish list referencing projects and investments followed. Kuhn even outlined ways to harness the forces of nature with hydropower. First, however, surveys finding worthy locations for dams as well as observation posts collecting more data tied to climate, precipitation, and flash floods would be needed. “The land is worth it that something happens!” A second part then offered detailed reports, blueprints, and calculations regarding costs for the Hatsamas, Mariental, and Naauwte projects, all ventures he supported. Rehbock quickly endorsed the publication. In his view, the colony needed a dose of “American boldness” as embodied by Kuhn and his ideas. Yet the acquisition of investments from parliament remained difficult. A working group had at least approved additional surveys in Southwest Africa and support for local dam-building projects; that entity had noted that expeditions to South Africa, Egypt, and North America could be useful to learn more about large irrigation schemes. An official in the foreign office eventually approached the Wohlfahrtslotterie (charity lottery) for funding. Thankfully for those hoping for investments, it financed another expedition, this time to the Fish River. Kuhn's second trip had three objectives: First, the creation of
a geographical map of the entire Fish River area at 1:100,000. Second, a cost estimate tied to damming structures in that region. Finally, and arguably most importantly, the expedition was to provide “encouragement and instruction” to farming associations and local authorities.192

The Fish River Expedition ultimately sketched out even more extensive structures and investments. Beginning in 1903, and widely reported on at the time,193 Kuhn first traveled to South Africa. He saw much potential when visiting Worcester. “The neighborhood is held up as a surprising example of what is and what might be done once employing irrigation.”194 He was also excited about a specific crop when noting, “I was rather pleased from what I had seen in the last three weeks, and mainly overwhelmed by the success of alfalfa [also known as lucerne] cultivation, that I decided to initiate the development of a medium-sized dam system meant for alfalfa cultivation”—the area near Keetmanshoop seemed to be fitting for that purpose.195 Joined by Rehbock’s former travel companion Watermeyer for parts of the journey,196 Kuhn frequently compared what he saw in the Cape Colony with the German protectorate: “The development that the German Protectorate has gone through in the last twenty years since its takeover has certainly been comparatively quicker.”197 At the same time, he acknowledged that more unfavorable climatic circumstances in German Southwest Africa were a problem—although “the higher intelligence of the average German settler compared to the majority of English [settlers]” could in his view easily make up for that.198 Kuhn arrived in German Southwest Africa in early May. He was slightly deflated when he landed in Lüderitzbucht: “I thought I would return differently: with a plethora of artisans and workers, with a ship full of tools, construction equipment, locomotives, and dynamos.”199 Instead, it was yet another expedition meant to collect mostly information. From the Atlantic coastline, the expedition moved inland, trekking through the Namib Desert by horse. Extensive travels to Gabachab, Itsabisis, Bethanien, Bersaba, Seeheim, and other locations along and near the Fish River defined the coming months. Apart from gathering intelligence tied to geographical, topographical, and environmental factors Kuhn commented on future possibilities. At Farm Seeheim he noted that a garden located on an island in the middle of the Fish River had long relied on a natural dam to cultivate orange trees as well as tobacco, various vegetables, barley, melons, and corn. Investments into a steam-engine pump, small mills, and another natural rock barrier further downstream could easily expand such schemes.200 Elsewhere the expedition began planting alfalfa, an effort settlement commissioner Rohrbach later described as a distraction from the needed hydrology work.201 Of course, and as Kuhn readily acknowledged, the time on the ground was again “much, much too short.”202

Kuhn’s second expedition accomplished its objectives. The mission ended up completing topographical records of more than 1,900 kilometers and a map became available quickly.203 Kuhn also outlined a variety of additional prospects
pointing to earth dams with an overflow area as the most promising setup for farmers.\textsuperscript{204} For the Fish River he had a larger irrigation scheme in mind, a ploy meant to sustain “space for thousands of German emigrants.”\textsuperscript{205} His overall vision of transforming presumed wastelands into productive landscapes also included the cultivation of alfalfa and afforestation.\textsuperscript{206} An understanding in line with those long dreaming about the “greening of Southwest Africa,”\textsuperscript{207} supporters of these efforts such as Hans Schinz, Moritz Eduard Pechuel-Loesche, and Karl Dove tended to blame Herero for deforestation and overgrazing.\textsuperscript{208} Desiccation followed, they argued, “the drying up of surface water, a declining ground water level and a decrease in rainfall; all this was a result of human misuse of natural resources.”\textsuperscript{209} Thankfully, they claimed, German ingenuity, specifically engineers, would be able to re-green arid landscapes. Finally, the expedition had reached out to local farmers. Kuhn thus became aware of practical concerns and issues, including the need for tools like scrapers and plows.\textsuperscript{210} This realization encouraged him to broadly sketch the basics for “an effective assistance” that included financial support from the government;\textsuperscript{211} it also helped him to more directly address their needs in his reports.

There had been some movement toward the support of solving the water issue up until that point. Sure, and to follow Lehmann, by the early 1900s, “the German administration had built only a single dam thirty-five kilometres east of Windhoek,” Neudamm.\textsuperscript{212} However, the apparent need for watering places had increasingly made boring for water a priority. That in turn lead to the installation of the first drilling crew funded by the charity lottery.\textsuperscript{213} According to one estimate, the crew would drill fifty-two holes by early 1904 with twenty-one considered a success.\textsuperscript{214} By then the colonial administration had also begun compiling lists of existing farms to get a sense of locations, size, and sources of water.\textsuperscript{215} The arrival of settlement commissioner Paul Rohrbach in 1903 and geologist Heinrich Lotz a year later also pointed toward forthcoming efforts regarding irrigation.\textsuperscript{216} Whereas some of Kuhn’s more elaborate proposals still remained a hard sell at the time, the charity lottery ended up earmarking 2 million Marks for water development in Southwest Africa.\textsuperscript{217} Kuhn remained optimistic, writing to Rehbock in late January 1904, “Came back from Southwest Africa, to where I plan to return to for maybe a longer time soon after the end of the stupid shootout and for the realization of construction, I am currently busy completing the report.”\textsuperscript{218}

Although the 1904 war disrupted such momentum, and ultimately put Kuhn’s proposals on ice,\textsuperscript{219} the debate about solving aridity lingered for some time. Those in favor of massive investments as well as large-scale irrigation schemes and settlements did not give up easily. Rehbock complained in January 1904 that “again nothing will come from [the latest expedition] except paper.”\textsuperscript{220} In his view, “The whole story [of irrigation] will become rather important soon after the end of the Herero-shootout because the indigenous question may certainly not be solved comfortably with powder and lead,
but as a serious social problem, which elegant instrument includes work and pay.\textsuperscript{221} Rehbock also believed that “fresh life” would be put into economic development after the war.\textsuperscript{222} He already begun planning for it. Deeply worried about losing Kuhn's expertise in the meantime, he left no stone unturned to speak favorably about the engineer.\textsuperscript{223} Both Rehbock and Kuhn also continually published in newspapers.\textsuperscript{224} Meanwhile settlers such as Carl Schlettwein and Gustav Voigts argued against large-scale investments and questioned the credentials of outsiders. In their views, those without personal experience of living in the colony should not be taken seriously.\textsuperscript{225}

Yet an array of setbacks ultimately disrupted the work of irrigation proponents. For one, Watermeyer, who worked for drilling operations on the ground in Southwest Africa, died in the war.\textsuperscript{226} As that conflict dragged on it also became more and more difficult to hold on to Kuhn. By April 1904 he had agreed to work for the colonial government in Southwest Africa. According to his contract, he was to project and estimate irrigation systems, oversee construction, and further support economic development—all beginning by December 1904.\textsuperscript{227} By February 1905, Kuhn wrote to a high official in Southwest Africa that he planned to come to the colony by the end of April.\textsuperscript{228} Apart from avoiding a still conflict-ridden colony, that deferment allowed him to travel to North America to learn more about irrigation schemes, specifically in the American Southwest.\textsuperscript{229} At that point he chimed in on the indigenous question. Unlike many of his contemporaries, and in line with some comments in his letters from Southwest Africa,\textsuperscript{230} Kuhn pushed for a trade education system similar to what he saw in the United States. Not all graduates will turn into a Booker T. Washington, he noted, yet decent, reasonable, and useful citizens capable of doing trade jobs could certainly emerge.\textsuperscript{231} Another delay until June 1906 then gave Kuhn a window to travel to South America.\textsuperscript{232} His sudden death likely due to meningitis in Chile that year came as a shock. As noted in one obituary, this tragedy robbed the government yet again of a man many hoped would solve Southwest Africa’s water question.\textsuperscript{233} Rehbock, by now heading the River Hydrologic Laboratory in Karlsruhe, tried his best to carry on the torch.\textsuperscript{234} In subsequent years he would repeatedly push for the implementation of existing proposals; he also continued to write directly to Colonial Secretary Bernhard Dernburg. Engineers are needed, he argued tirelessly, to avoid mismanagement and financial waste in the future.\textsuperscript{235}

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The water question defined Southwest Africa. Long before the arrival of German colonists Herero, Nama, and other African societies had relied on ways to survive in outwardly arid and hostile wastelands. German newcomers generally dismissed their local expertise and environmental infrastructure—though both
spilled into emerging colonial topographies. Efforts to solve the water issue took off with the installment of Governor Leutwein in 1894. Yet initial surveys, expeditions, and reports lacked coherence. It took experts such as Sander, Rehbock, and Kuhn to formulate German visions. The latter two in particular outlined large-scale transformations of the colony and showcased a belief in massive irrigation schemes. In their view existing desert wastelands in Southwest Africa were just awaiting German investments, awakening, and makeover. Until 1903, progress was slow, to follow Helmut Bley. At the same time, pressure to invest seemed to build. In 1902, for instance, the withdrawal of funds earmarked for dams to sustain Windhoek resulted in a media outcry. Plus, momentum increased following Kuhn’s second expedition. The 1904 war disrupted all of that—“what had been created has been largely destroyed,” to follow one commentator that year. By then there had been 276 farms, 200 wells, and 40 dams. To quote a colonial official later on, “All of these efforts were destroyed by the indigenous rebellion, yet at the same time exactly that showcased the necessity to put forward larger means for the development of water sources.”

The presumed conflicts between human ingenuity and natural forces shaped colonial narratives. Initial German water topographies more or less built on indigenous understandings and environmental infrastructure. However, grand narratives of German conquest silenced such inputs to claim ingenuity and superiority. Colonial storylines defined progress and development based on the creation of a profitable or at least self-sustaining settlement colony comparable to neighboring South Africa. Rehbock and Kuhn, who most directly encapsulate the imperial expert as drivers of modernization, pointed to technology and willpower. In their view, only major investments and large transformations of existing landscapes would solve the water question and make deserts bloom. Part of a global network that repeatedly referenced the American Southwest, they clashed with settlers in Southwest Africa. Schlettwein, Voigts, and Brandt saw themselves as the real experts, with knowledge about natural forces and actual experience working the land. For them, small dams would be needed, not large projects. Although such disagreements and broader hesitations stalled initial investments, these views agreed on the need to solve the water question to allow for the creation of living space for white settlers; they also all framed it as a battle against nature.

Notes
1. Kundrus, Moderne Imperialisten, 49.
5. Walther, Creating Germans Abroad, 17.
18. Ibid., 3.
21. Interview no. 26 (Viruuo Gotthard Yosha Kamberipa, 2.4.1990, WDH, translator Ebson Kapuuo), as referenced in Henrichsen, Herrschaft und Alltag im vorkolonialen Zentralnamibia, 3.
22. Büttnner, 1883a, 533, as quoted in Henrichsen, Herrschaft und Alltag im vorkolonialen Zentralnamibia, 6.
25. Chief Omusindii’s neighbor Kambungu agreed to the construction of a well in a riverbed near their own. Whereas both groups got along originally, the proximity eventu-
ally resulted in conflict, at least according to Vedder. See Vedder, *South West Africa in Early Times*, 159.


43. Schöllenbach, *Die Besiedelung Deutsch-Südwestafrikas bis zum Weltkriege*, 58.
44. *Deutsche Kolonialzeitung*, “Zur Wasserfrage in Deutsch-Südwestafrika,” 2 April 1892 (Schweinitz-Dieban).
47. Germans assumed superiority “manifested in material, technological, managerial, and disciplinary preeminence over non-Europeans.” Hull, *Absolute Destruction*, 34.
48. *Deutsches Kolonialblatt*, “Gesundheitszustand der Schutztruppe und Landesverhältnisse im südwestafrikanischen Schutzgebiet,” 1 April 1890. See also *Deutsches Kolonialblatt*,
“Die Landschaft um Windhoek (Südwest-Afrika) nach einem Bericht des Lieutenants v. François,” 15 August 1891.

49. François, Deutsch-Südwest-Afrika, 112.

50. Stern and Lau, Namibian Water Resources and Their Management, 5.

51. Baumann, Van sending tot kerk, 117; Michael Hofmann, Deutsche Kolonialarchitektur und Siedlungen in Afrika (Peterberg, 2013), 177.


54. Gewald, Herero Heroes, 93. A colonial official reported in 1912 that “[t]he residents of Okombahe have been cultivating crops for a long time already, some by irrigating the alluvial land, others in the riverbed itself after the river has come down in flood.” See ZUB W.II.n.4., as quoted in Lau and Reiner, 100 Years of Agricultural Development in Colonial Namibia, 23. See also Baumann, Van sending tot kerk, 134–41.

55. Gewald, Herero Heroes, 93–94.

56. Bülow, Deutsch-Südwestafrika, 358.


58. Gustav Frenssen, Peter Moors Journey to Southwest: A Narrative of the German Campaign, trans. Margaret May Ward (London, 1908), 236. Some of these colonial narratives were internalized. One San individual belittled her account when noting, “black people know nothing. Here we are sitting on top of water, but we are too stupid to drill it even on our own land.” Magdalena/Oxurus in Erichsen, What the Elders Used to Say, 35.


61. Ibid., 70.


63. Schneider, "Bewässerungslandwirtschaft in Namibia und ihre Grundlagen in der Kolonialzeit,” 107. See also Hindorf, Der landwirtschaftliche Werth und die Besiedelungsfähigkeit Deutsch-Südwestafrikas, 19.

64. Baumann, Van sending tot kerk, 23.


69. Henrichsen, Herrschaft und Alltag im vorkolonialen Zentralnamibia, 32.


Schneider, “Bewässerungslandwirtschaft in Namibia und ihre Grundlagen in der Kolonialzeit,” 123.


*Deutsche Kolonialzeitung*, “Koloniale Aufgaben in Süowiedenafrika,” 10 August 1895 (Dove).

*Deutsche Kolonialzeitung*, “Deutsche Kolonie Stolzenfels am Oranjefluss,” 15 June 1887.


*Deutsche Kolonialzeitung*, “Deutsche Kolonie Stolzenfels am Oranjefluss,” 15 June 1887 (Büttner). See also Schneider, “Bewässerungslandwirtschaft in Namibia und ihre Grundlagen in der Kolonialzeit,” 118.

Dominikus showed Consul Goering future investments possibilities in July 1890. See Deutsche Kolonialzeitung, “Mitteilungen aus der Gesellschaft,” 21 June and 4 October 1890.
91. Ibid.
92. Ibid., 8.
95. Sander, Ein Vorschlag zur wirtschaftlichen Erschließung, 10.
96. Georg Hartmann, Deutsch-Südwestafrika im Zusammenhang mit Süd-Afrika (Berlin, 1899), 9. See also “Hartmann, Georg,” 41, Deutsches Kolonial-Lexikon, II; Georg Hartmann, Meine Expedition 1900 ins nördliche Kaokofeld und 1901 durch das Amboland (Berlin, 1903).
97. Seidel, Deutschlands erste Kolonie, 21. See also Hartmann, Deutsch-Südwestafrika im Zusammenhang mit Süd-Afrika, 11.
101. Busse, “Kolonialwirtschaftliches Komitee,” 346, in Deutsches Koloniallexikon II. See also Laak, Imperiale Infrastruktur, 122–23. By 1902, the Committee turned into an advising body of the German Colonial Society.
102. Theodor Rehbock, Deutsch-Südwest-Afrika: Seine wirtschaftliche Erschliessung (Berlin, 1898), IX.


114. Ibid., 15.

115. Ibid., 16.


118. Ibid., 34.

119. Ibid., 26.

120. Ibid., 29–30.

121. Windhoeker Anzeiger, “Die Dammanlage bei Marienthal,” 11 April 1900. See also Schönlenbach, Besiedelung Deutsch-Südwestafrikas bis zum Weltkriege, 59. The dam of Farmer Brandt in Marienthal, District Gibeon, became a repeated reference point. See Schönlenbach, Besiedelung Deutsch-Südwestafrikas bis zum Weltkriege, 60.

Jahre 1896/97,” March 1898; Vohsen, *Denkschrift über die bisherige Thätigkeit der Siedlungsgesellschaft für Deutsch-Südwestafrika*, 2.


131. Ibid., 32.

132. Ibid., 33.

133. Ibid., 34.


137. Rehbock, *Deutsch-Südwest-Afrika*.


Expedition. Reisen und Arbeiten in Deutsch-Südwestafrika im Jahre 1903 (Berlin, 1904). See also Alexander Kuhn, “Die Fischfluss Expedition,” in Beiheft zum Tropenpflanzer V, no. 3 and 4 (June 1904).


144. Watermeyer, Deutsch-Südwest-Afrika, 13–14.

145. Ibid., 5.


149. Deutsche Kolonialzeitung, “Die Besiedelung Deutsch-Südwestafrikas, III” 4 October 1900 (Rehbock).


152. NAN, ZBU, 1402 P.III.F.2 Hatsamasprojekt, 1896–1899, Rehbock, Die Landwirtschaftliche Kolonie bei Hatsamas in Deutsch-Südwest-Afrika, 10 February 1899.


159. Kuhn, Bericht über die von der Deutschen Kolonialgesellschaft dem Kolonial-Wirtschaftlichen Komitee übertragene Fischfluss-Expedition, 12. See also NAN, ZBU, 1403, P. III. E7 Kuhn:sche Fischfluss Expedition (1902–05); Der Tropenpflanzer (June 1904).
161. Vohsen, Denkschrift über die bisherige Tätigkeit der Siedlungsgesellschaft für Deutsch-Südwestafrika, 14. The governor also worried about precipitation, locusts, fungus, and frost.
167. BArch-B, R 1002/1066, Alexander Kuhn, Personal-Nachweisung. See also BArch-B, R 1001/1472, Fischflussexpedition des Ingenieurs Alexander Kuhn.
168. Little is known about Skutari (Scutari). He had previously worked for the Holzmann company and later tried to plant cotton in German East Africa. Keller, “Die Aufgabe der Technik in den deutschen Kolonien,” Zeitschrift für Kolonialpolitik, Kolonialrecht und Kolonialwirtschaft VI, no. 2 (1904); Moritz Schanz, “Die Baumwolle in den Vereinigten Staaten von Amerika,” Beiheft zum Tropenpflanzer XII, no. 3 (1908), 164–65.
173. KIT, 27025, 22, Kolonialsachen. Korrespondenz betr. Erschließung Deutsch-Südwestafrikas 1901–1918 (18 January 1901, Brief Vohsen). See also Kuhn, Bericht über die von
der Deutschen Kolonialgesellschaft dem Kolonial-Wirtschaftlichen Komitee übertragene Fischfluss-Expedition, 2.
179. Ibid., (22 June 1901, Brief Kuhn an Vohsen).
182. Ibid., (4 July 1901, Brief Kuhn an Rehbock).
184. Kuhn, Bericht über die im Jahre 1901 nach Deutsch-Südwestafrika entsendete technische Studien-Expedition für Bewässerungs-Anlagen (Berlin, 1904), 5. See also Kuhn, Bericht über die von der Deutschen Kolonialgesellschaft dem Kolonial-Wirtschaftlichen Komitee übertragene Fischfluss-Expedition, 2–5; BArch-B, R 151, Stau- und Grunddämme (microfilm roll 83002).
186. Ibid., 8. See also Vohsen, Denkschrift über die bisherige Thätigkeit der Siedlungsgesellschaft für Deutsch-Südwestafrika, 15.
188. Kuhn, Bericht über die im Jahre 1901 nach Deutsch-Südwestafrika entsendete technische Studien-Expedition für Bewässerungs-Anlagen, 19.
190. NAN, ZBU, 1403, P. III. F.7 Kuhn'sche Fischfluss Expedition (1902–05), Verhandlungen des Arbeitsausschusses vom 30. Oktober 1902. Georg Hartmann and Farmer Gustav Voigs had been present during the meeting. See also Kuhn, Bericht über die von

191. Golinelli was that official. Kuhn, Bericht über die von der Deutschen Kolonialgesellschaft dem Kolonial-Wirtschaftlichen Komitee übertragene Fischfluss-Expedition, 92.


195. Ibid., 31. Efforts to cultivate alfalfa go back to the mid-1890s. See also Deutsches Kolonialblatt, "Anbauversuche mit Luzerne," 1 November 1895.


197. Ibid., 51.

198. Ibid. See also Jahresbericht 1902/03 and 1903/04 based on Jäschke, “Wassererschließung und Wassermanagement in der Deutschen Period,” 75.


200. Ibid., 62–63.

201. Paul Rohrbach, Deutsche Kolonialwirtschaft, I, Südwest-Afrika (Berlin-Schöneberg, 1907), 479.

202. BArch-B, R 1001/1472 Fischflussexpedition des Ingenieurs Alexander Kuhn (Brief 7 April 1903, Kuhn an Kolonial-Wirtschaftliches Komitee).


204. Ibid., 98.

205. Ibid., 108.

206. BArch-B, R 1001/1472, Fischflussexpedition des Ingenieurs Alexander Kuhn (Kuhn, "Aphoristische Gedanken").


211. Ibid., 114.


215. BAch-B, R 1001/1200, Kaiserliches Gouvernement Windhoek, Bericht 30 September 1903 See also Bley, South-West Africa under German Rule, 133.

216. Ousago and Erichsen, The Kaiser’s Holocaust, 111; Schöllenbach, Die Besiedelung Deutsch-Südwestafrikas bis zum Weltkriege, 62. It appears that Schöllenbach is referencing Lotz here. See also Deutsche Kolonialzeitung, “Erwiderung: Zur Wasserversorgung in Deutsch-Südwestafrika,” 30 April 1903.


220. BArch-B, R 1001/1472 Fischflußexpedition des Ingenieurs Alexander Kuhn (Brief, Kuhn, 15 January 1904).


222. Ibid., (25 January 1904, Brief Rehbock an Kuhn).

223. Ibid., (see, for instance, 4 March 1904, Brief Rehbock).


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227. BAarch-B, R 1002/1066, Alexander Kuhn, Vertrag 30 April 1904.  
228. BAarch-B, R 1002/1066, Alexander Kuhn, Brief 25 February 1905. See also BAarch-B, R 1002/1066, Alexander Kuhn, Vertrag 28 February 1905.  
231. Alexander Kuhn, Zum Eingeborenenproblem in Deutsch-Südwestafrika: ein Ruf an Deutschlands Frauen (Berlin, 1905), 38.  
234. Engineer Skutari had become part of other projects, most notably the Baghdad train construction. Kuhn actually hoped to hire him—but that was not possible. BAarch-B, R 1001/1472 Fischflussexpedition des Ingenieurs Alexander Kuhn (Brief 7 April 1903, Kuhn an Kolonial-Wirtschaftliches Komitee).  
237. Bley, South-West-Africa under German Rule, 133.  
CHAPTER 5

Access and Destruction

It all took place at a location the Herero refer to as “by the waterholes of Otjozongombe.” A space of deep cultural meaning with fertile lands and sufficient water, its location at the edge of the Omaheke sand field also made it a relatively safe and useful spot during the war. Here, at the Waterberg (literally water mountain), the Herero and their livestock awaited the end of the war with the Germans. General Lothar von Trotha, the commander of the colonial troops and virtual dictator of the colony following the demotion of Governor Leutwein, had other plans. With the support of the high military command in Berlin, and driven by a deep racial hatred that widely defined German mentalities, he was unwilling to engage in any peace negotiations. Instead, and shortly after his arrival in German Southwest Africa in June 1904, he pushed for a decisive battle in the form of encirclement. His strategy was to destroy, exterminate, annihilate the opponent. Later to formulate the war aims in the infamous Vernichtungsbefehl (extermination order) that called for the destruction or removal of all Herero from central Namibia, logistics disrupted his plans. The Germans had underestimated the terrain and availability of water. Supplies soon lagged behind. At times, resources awaited landing in Swakopmund for days before hauled inland on a narrow-gauge railroad. It got even more difficult once trying to move supplies beyond the reach of railway lines. In preparation for the Battle at the Waterberg (Battle of Ohamakari) that began 11 August 1904, “Everything the soldiers needed had to be transported by oxwagon,” to follow one historian, “a fact that was soon to pose serious problems for the Germans.” Isaac Magadi, an ox-driver from the Cape Colony employed by the Germans during the war, described his experiences of trekking to the battle site. “We travelled two months before we reached the scene of war, water was very scarce and we were often delayed four or five days at a time resting the oxen.” Without a railway reaching beyond Windhoek, it took German forces a remarkable three months to reach the Waterberg. Plus, sustaining soldiers required additional resources. A British observer put his finger on von Trotha’s dilemma when noting, “The more troops that are sent out, the more transport they want and the more men die.”
The 1904 war exposed Germany’s logistical problems. After countless small revolts, Herero and later Nama groups openly challenged the German Empire in a large-scale rebellion. The Germans were caught by surprise. For them, problems tied to access initially defined their response: all resources had to come through the bottlenecks in Lüderitzbucht and Swakopmund, a dynamic that put existing structures to the test. Although military leadership was generally confident, interruptions soon strained reinforcements and supplies. For one, Herero actively disrupted supply lines, especially railway tracks. Such attacks were part of their strategy to weaken German military efforts at the outset of the war. Moreover, natural forces threatened infrastructure. Flash floods in particular destroyed railways while a silting in process tied to the movement of sand along Namibia’s coastline north of the Swakop River disrupted landings in Swakopmund. In line with Emmanuel Kreike’s framework, chapter 5 centers environmental infrastructure as an instrument of war. Discussions again emphasize multiple agencies and broader colonial narratives. And again, this chapter moves beyond seeing nature merely as a backdrop for human actions. Instead, and in line with more recent scholarship focusing on sizeable territory, unfamiliarity with hostile climates, and unfamiliar diseases in this theater of war, this approach incorporates the impact of the environment onto warfare. After all, to follow historian Isabel V. Hull, “the difficulties of the desert and the climate, limited options for transportation and communication, [and] the shortage of water” defined warfare. Scholars long highlighted how nature helped the Herero; historian Matthias Häussler more directly underscored how logistical and on some level environmental factors shaped war and warfare, and fueled German brutality. Or, to follow Lehmann’s more direct claim, “Environmental conditions and cultural perceptions produced the extreme violence that the German army used against the Hereros, whom many soldiers treated on par with—and as a part of—the alien environment.”

Environmental infrastructure in war, initially defined by Mole and Staatsbahn, organizes this chapter. Both structures supplied the war effort and became key to defeating the Herero. The first section focuses on this early phase of the war, highlighting the role of resistance and flash floods. Germans landed supplies in Swakopmund before putting them on railways to reach their troops. Torrents washed away train tracks as Herero attacked Germans; those waters then flushed into the Atlantic Ocean and ultimately began silting in the harbor. The second section then explores German efforts to address disruptions of their structures. Improvisation and exploitation, visible in the use of rafts, dredgers, and Herero forced labor, compensated for such breakdowns. The last section then explores the consequences of these developments. Apart from delaying operations at the Battle of Waterberg and leading at least in part to the replacement of Governor Leutwein, logistical issues helped shape colonial violence. Colonial experiences and narratives certainly speak to Ger-
man soldiers repeatedly fighting against nature and people, a mentality that in their view justified brutality. The use of Kreike’s concept of environmental infrastructure, employed to incorporate an array of human agents and natural forces, to underscore entangled agencies, and to explore links between logistics and genocide, helps wrestle with such stories.

**Supplying War**

For the Germans the war came at an inopportune moment. When the shooting began 12 January 1904 in Okahandja, most of about seven hundred colonial soldiers were with Governor Leutwein in the south dealing with a smaller rebellion by the Bondelswarts. It would take a quick peace and about a month for him to get to Swakopmund. According to Hull, this left the “4,640 German colonialists amid an estimated sixty thousand to eighty thousand Herero.” At the time Captain Gudewill, a local commander, painted a gruesome picture: “confirmed losses—murdered and mostly mutilated: 44 settlers, women and children; 26 [soldiers] fallen; 50 others dead.” On 14 January, Local Windhoek District Judge Richter sent a desperate message to the German Foreign Office in Berlin. It read, “All farms in the vicinity of Windhuk plundered by the Herero. Whites living on isolated farms murdered. Situation very grave.”

Few German settlers would thus ever forget the moment when they “spotted the masts of the slim ship appear on the horizon and come towards us,” to quote one newspaper later on. “What a relief,” it added. News about the war had reached the German vessel Habicht in Cape Town just in time. About ready to leave South Africa following its yearly inspection, it rushed to Swakopmund instead, fully loaded with resources and supplies. “Our spirits rose after hearing that we were to be put ashore,” noted one of the fifty-five seamen on board at the time. After bringing supplies ashore using Mole and Kru men, the real challenge still lay ahead: protecting the vital railway route from Swakopmund to Windhoek.

German rescue expeditions quickly faced Herero resistance and flash floods. An initial effort to reach Okahandja from Windhoek under Lieutenant Voigts had to be aborted: Herero resistance had been too strong plus the only machine gun failed. A mission led by Lieutenant Zülöw and railway assistant Walter Paschasius then left Swakopmund on 12 January; it reached Okahandja three days later. “The fort had not been overtaken,” Paschasius wrote later on in a heroic tone, “and its occupants, mainly numerous women and children of murdered farmers and traders that had escaped here, had been saved just in time.” The subsequent journey by sailors meant to stabilize supply lines from Swakopmund ran into bigger problems. Their way forward up to the Khan River Valley about forty kilometers inland had gone more or less according to
plan. Then the situation changed. “It had not been the 60 cm gauge, not the materials used for the train,” to reference one military bulletin later. Instead, it had been “the water situation.” According to the official military report of the expedition, “The natural flow of water runoff had not been taken into account enough” during construction. Torrential rains had ensued in flooding that now washed away dams and bridges, neither of which had been built to withstand such an onslaught. Further inland groups of Herero had also destroyed tracks and railway lines, thus further disrupting potential supplies traveling to the interior. To quote one marine, “What the blacks did not destroy the rain did.”

Josef Bendix, an engineer formerly employed at the construction of the Otavi railway line, had been called upon to rebuild “the railway that had been destroyed by downpours and the Herero,” to quote him directly. He described what happened in several letters home. “I let the crew of sailors push one car at a time across a stretch of five kilometers by hand all in the darkest night. The machine that was last had to be left behind. Everything worked out. Nothing happened.” Although African workers helped with such efforts they rarely showed up in colonial narratives. Instead, tales speak of engineers going to work to repair lines and adding culverts so that water could rush under the tracks—in heavy rain and at times under heavy fire. This struggle against nature and Herero fighters defined the way forward. In several instances barely repaired segments washed out again. All of this took time and energy, even without working in the midst of Herero attacks. The elevation did not help either. Railways had to be divided into sections to make it up the hill, a time-consuming process. Eventually, the unit was able to rebuild certain parts before securing the railway line until Karibib. Nonetheless, problems with washouts continued to delay their mission, at times resulting in the locomotive derailing. After days, reinforcements for the fight against the Herero finally reached Okahandja.

Whereas colonial narratives spoke about heroic civil engineers and brave sailors overcoming both aggressors and nature to protect innocent settlers, for Herero the arrival of railways brought very different outcomes. There had been some criticism of early efforts in this colonial war in Germany at the time. The satirical magazine *Kladderdatcsh*, for instance, underscored the logistical issues at hand. That magazine commented on injuries to a white man and three or four blacks as a train derailed; it sarcastically added that at least there is a train running now. For Herero, on the other hand, the railway left little room for laughter. For them, it increasingly meant destruction. Niklaas Tsam, a San born in 1914 and one of the few voices commenting on events from a non-German perspective, noted, “I understand that the Hereros tried to stop the train from going north. During this encounter, many Herero were killed by the train.” Moses Maharero, who shared the words of his great-grandfather, the paramount chief Samuel Maharero, noted that for the Herero “the whole
war is just coming from Swakopmund." The detailed account by one marine leaves little doubt about the orders at hand: the further inland the Germans got the less likely they took prisoners, rolling over Herero land and people.

An array of reasons had resulted in the rebellion, not least of which was the overly zealous junior officer Lieutenant Ralf Zürn. Jan-Bart Gewald convincingly argues that "the origins of the war are to be found in the interpretations and perceptions of the German settlers and missionaries, rather than those of the Herero." In simple terms, more and more newcomers competed for the same resources—land and water. As outlined by much of the scholarship, settlers’ indiscriminate use of violence, especially in more remote locations and by private entities, was widespread. "A whip and sjambok," to quote one historian, "were always to hand, and were all too often used out of misunderstanding or sudden fear by settlers surrounded by Africans on a lonely farm." Additionally, a shift in power structures due to the consequences of Rinderpest and the reach of capitalistic tentacles stretching deeper and deeper into central Namibia fueled conflicts. That a white settler had murdered the daughter of an Herero leader only to be acquitted by a local court became just another example of everyday colonial violence. With Governor Leutwein in the south dealing with a smaller rebellion, it fell to District Administrator Ralf Zürn to defuse an increasingly tense situation. Yet the young lieutenant’s aggressive behaviors and his deep distrust of Herero eventually pushed the colony into war at an inopportune moment, catching German authorities by surprise.

Resources to sustain a war in central Namibia had to come through Swakopmund, a coastal town that had just experienced a "coming off." In late 1903 and early 1904, lots of rain from the interior had collected in generally dry riverbeds. High waters of the Swakop River certainly became a barrier for Victor Franke trying to reach Okahandja in late January. Water and debris then flushed downstream until eventually reaching the Atlantic Ocean, a process locally known as abkommen (coming off). Captain Hugo von François had described a similar situation in 1896. "Dirt, rocks, mud, muck, and such, not very pleasantly mixed, fill the actual riverbed, and then the brew widened to both sides over the inundation area at great speed, wherever there was space. A couple of days later, of course, one does see little more than some marks, the sand barely a couple of feet deep soaked with water." Such flash floods had reached the ocean before. In one instance observers had pointed to "massive coastal shifts of the sandbanks located" at the mouth of the river. The Nama words Tsoa (anus) and Xou (excrement), the basis for naming river and town, colorfully outline what "coming off" is all about. An undated photograph accessible in the colonial records in Windhoek provides some insights into what it all looked like this time around. There is little to see apart from some cloudy waters. Locals certainly did not seem alarmed whatsoever. If anything, they welcomed the rain with “excitement,” saddened to see the precious water
lost to the ocean. And so few worried about it at the time, especially since all that “sand, mud, rocks, brush, and such” was gone just a couple of days later.47

But all that debris did not simply disappear. A military report from November 1900 had on some level anticipated what might happen with it—“marsh-land on the southern side [of the Mole] has been forming since the beginning of construction in 1898, that now steadily follows the progression of the Mole, [and] even after its completion will with a high probability expand to the head of the Mole and will silt in the entry.”48 By referencing the situation in nearby Sandwich Harbor the author underscored concerns regarding shifting sands. And exactly that became a reality now. By December 1903, a local newspaper reported on a brown sandy substance making its way up the coastline, eventually reaching the Mole. These were the sands that had just been flushed into the ocean.49 By then local German inhabitants worried more about how to keep access to drinking water segregated for whites and blacks given disruptions to the water supply than what this could mean for the harbor.50 Several sketches by Captain Connemann later published in the journal Marine-Rundschau illustrated what happened next (Figure 5.1): in February of 1904 much of the sand that had been pushed into the ocean was still located near the mouth of the Swakop River. By May, currents had carried it northward near the Mole, where it began assembling on its outside wall. In June, it began forming a sand-bank at the tip of the Mole.51 Traffic meanwhile continued.52 It had to, especially in the wake of preparations for the Battle at the Waterberg.

Silting in resulted in delays right away. According to the Deutsch-Südwest-afrikanische Zeitung newspaper, which counted an astounding six steamships waiting to land in late June, “Existing infrastructure are not sufficient to address military needs, to say nothing about the supply of the civilian population.”53 While the paper called for the extension of the Mole already, the situation only worsened by July.54 According to another paper, “If this situation would have been sad enough during peace times, then today, when in a short period 7,000 German soldiers will be in Southwest Africa, it takes on a rather menacing character.”55 It referenced a telegram from von Trotha, the commander overseeing German military efforts. The general certainly demanded improvements on the Mole as soon as possible. He was not alone. As one German colonial official noted a little later, the silting in of the Mole in Swakopmund “severely endangered”56 reinforcements and supplies, turning Swakopmund into a chokepoint and logistical nightmare. The colony had turned even more into Germany’s Schmerzenskind mischief-maker.57

In desperate need of supplies, German ingenuity—or maybe more so despair and improvisation—relied on using rafts. Early trials took place in late July, and did not go well. For one, cargo transported on wooden rafts got wet, eventually rotting on the beach. Landing animals was even more tricky. Oxen and horses were put onto a raft before they were dragged as close to the shore-
line as possible. Then they were pushed into the ocean waves. Officials on site could only hope and pray the animals would reach the beach. One can only imagine the terror of such creatures, first traveling for weeks aboard some ship only to be shoved overboard into the cold and hazardous waters of the Atlantic Ocean. The animals arrived exhausted, if alive.58 As one newspaper noted when describing an early effort, “Only two arrived where they were supposed to, on land, the other three were carried away along the Mole with the strong current and had to be towed by boats towards the crane before dragged on land.”59 Although the newspaper concluded that repetitions were not encouraged, strained landing structures left officials with few alternatives. Resources had to land—German troops awaited them when closing in on the Waterberg. As the same newspaper blatantly put it a couple months later, “[i]t is indeed striking that the unloading process relies on rather primitive means,—but what can one do; most importantly, one achieves their objectives in the end.”60 The use of rafts thus continued. In one instance, several frightened horses jumped into the waves too early. “One of them drifted towards the Mole due to the strong current, and it seemed unavoidable that it would be thrown by the surf onto the cliffs and blocks surrounding concrete structure and be killed there. The horse came close to those cliffs yet then turned around and swam through an unforgiving surf away from the Mole. Instead of turning towards the shore, however, it continued to swim against the breakers further into the ocean.”61 In this case, the exhausted animal survived. With somewhat better rafts and a steam engine, the situation improved slightly over time. Soon around thirty terrified animals could be loaded on each raft, a couple of kilometers off the coast, with a crane. Horses dangled high up in the air, “screaming terribly and kicking,” an “amusing site,” to quote one unfazed observer.62 Still, and as apparent in photographs (Figure 5.2), much of the work fell to West African Kru men, “the lifeblood that ensured that the veins of commerce that coalesced at Swakopmund and Lüderitzbucht functioned,” to follow one scholar.63 On 7 September 1904, a stunning 277 animals came ashore that way; five days later it was 326. Whereas the latter number seemed to have been a high point and only short by six compared to the best days of the Mole,64 it became clear that something had to be done.

Maintaining Access

File number 509 can tell readers much about the situation in Swakopmund. Published on 29 November 1904 and part of the German parliament records, this particular document is a supplementary budgetary proposal put forward by Chancellor Bernhard von Bülow. In office since October 1900, Bülow was an ardent supporter of Wilhelm II’s Weltpolitik (world policy). In 1897 he had
gesüßt, und gleichzeitig hatte sich an der Mölenpfeife eine Barre gebildet, die anscheinend in ihrer Richtung vom Lande ab zeigte. Die Einfahrt bis hinter die Mole wurde hierdurch nur wenig behindert, da die Dampfer einfach um die Barre herumfahren konnten.

Ende Juni 1904. (Skizze 3.)

Die Berfsandung am Ausläufer südlich der Mole hatte wenig zugenommen, der südliche Winkel der Mole war ziemlich ausgesüßt, die Lotungen ergaben bereits eine

Skizze 1.

allgemeine Berfschlagung stärker der Mole und nördlich und südlich davon. Die Barre nahm an Ausdehnung zu und verlief in ihrer weiteren Fortentwicklung nicht mehr von der Küste ab, sondern parallel oder sogar etwas auf die Küste zu, so daß die Gefahr einer Schließung der Moleneinfahrt zu der Zeit bereits drohte.

Von Juli 1904 an. (Skizze 4.)

Es zeigte sich, daß die Bildung der äußeren Barre nur eine primäre Erscheinung war, der bald eine zweite, das Hineinschieben der Sandmassen vor die

Figure 5.1. “Sketches at Swakopmund’s landing spot, February to July,” in Marine-Rundschau, “Meinungsaustausch,” June 1908, HathiTrust/public domain.
Hafeneinfahrt, folgte. Dieses Hineinschieben wurde durch die von Südwest herankommende Brandung verursacht und trat besonders stark nach Tagen mit schwerer Brandung auf. Es ließ sich dies mit Hilfe der Lutungen, die stets nach dem Verlauf einiger schwerer Brandungstage gemacht wurden, gut verfolgen: Die äußere Barre hatte durch die Brandung abgenommen, die innere war gewachsen.

Trat nun auf einige Tage oder Wochen ruhiges Wetter mit geringer Brandung ein, so wuchs die äußere Barre (Rehrung) durch die sandführende Strömung wieder an, während die innere ziemlich unverändert blieb. Sobald wieder schwere Brandung einsetzte, wurde der ganze Sand nach der Küste zu, das heißt, vor die Mole

Gewaschen. Hier blieb er selbstverständlich liegen, da er im Schutz der Mole von der Strömung nicht weiter fortgetragen werden konnte.

Da vor der Hand keine Gegenmaßregeln ergriffen werden konnten (Bagger waren draußen nicht vorhanden und konnten für diese außergewöhnlichen Verhältnisse auch nicht zurückerbracht werden), so wiederholte sich das Spiel so lange, bis das Hafenbecken durch eine vom Molentopf im Bogen auf die Küste zu sich hinziehende Barre (Rehrung) so gut wie abgeschlossen war.

Art der natürlichen Verlandungserscheinungen an der südwestafrikanischen Küste.

Dieser bei der Mole beobachtete Vorgang deutet sich aber auch mit den sonstigen Verlandungserscheinungen an der Küste.
famously demanded Germany’s own place in the sun in parliament. Now, in 1904, his proposal pointed to expenditures. One item had been earmarked “For the operational restoration of the harbor structure in Swakopmund, first installment”—a stunning 2.2 million Marks. A more detailed explanation referenced the construction of another breakwater, the acquisition of two steam dredgers meant to keep access open to the Mole, and the expansion of the concrete structure; the proposal also included materials and machinery for the assembly of a wooden jetty meant to serve as a second landing spot. The situation tied to silting in had become a major problem, a summary explained, and something had to happen. After all, Swakopmund was “the only German entry into the middle and northern parts of the Southwest Africa,” a gateway that had to be kept open “under all circumstances.”

The acknowledgement that the Mole was failing took some time. As late as August 1904 some voices still praised the concrete landing structure. At that point the satirical magazine Klatterdatsch already commented on the constant problems and setbacks at the Mole in a poem. A month later one report then admitted that the sand that had flushed down the Swakop River had brought considerable problems: “During many days the traffic has to be stopped due to unfavorable [conditions of the] ocean.” By then the concrete landing structure could only be used four to five hours a day, at high water—instead of

Figure 5.2. NAN 05040, “Kru workers pull a raft with baled hay to the shore, Swakopmund 1904,” courtesy of the National Archives Windhoek.
twelve to fourteen hours. The situation became all the more complicated as the season began to change. On 3 November the wind and current caught the tugboat Südwest and pushed it into the Mole. Whereas all passengers were saved, the boat was lost—"already the next day it looked like a wreck," to quote one newspaper. From this point silting-in continued, even worsened. By early 1905 it became clear that the rafts could only be a "makeshift" solution. What was there to do? By August 1904, a commission assessing the situation in Swakopmund had already arrived on site. Hydrology engineers and other specialists were certainly required. However, as one local newspaper pointed out, the experts had spent little time in Swakopmund; they also only saw good weather. In any case, that commission proposed a three-part plan that called for the use of dredgers, the construction of a jetty including a breakwater, and the extension of the Mole. With just the first installment requiring a payment of 2.2 million Marks, it became clear that keeping Swakopmund’s harbor viable would be an expensive endeavor.

The removal of sand was no easy task. Two thick folders of Swakopmund’s harbor administration give a sense of the problems at hand. Newspapers also reported on efforts to reverse silting-in, with one article describing how logistical nightmares delayed the arrival of one dredger from far away Stettin. Several times the topic even came up in German parliament. There had been a debate on 1 February about the harbor and dredgers; it was on the agenda again in March. Delays meanwhile piled on. For one, authorities of Kaiser-Wilhelm Kanal (channel) in the north of Germany could not give up the only useable dredger. A different machine thus had to be organized and outfitted for the long journey to Swakopmund. That took months. One dredger finally arrived on 3 March 1905. Delays due to strong currents cost additional time. Once on site “the loaded [dredging] vehicles could not cross the breaking surf anymore,” to quote one internal report. This now required small crafts, machinery not readily available in Swakopmund. In the meantime, the dredger started “digging out a channel through the tidal bore to ensure the Mole could be used without disruption,” one newspaper noted. Representatives in Berlin were happy that these expensive tools would at least be used to some extent. Yet much of what was removed silted in again shortly thereafter. German shipping engineer and globetrotter Gustav Buß described the situation in Swakopmund in late 1904 in detail, including how a dredger silted in altogether. The mere presence of such large machinery within the busy loading zone also caused problems. In May 1905, for example, strong currents pushed one machine against other ships before it was almost completely lost. At that point, the Woermann-Line, the main logistics company responsible for landing supplies, threatened officials that it would stop using the Mole altogether. Whereas such warnings increased speculations about a forthcoming upgrade of harbor structures, the blame game had begun as well. One repre-

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sentative in parliament noted that the harbor in Swakopmund is certainly no “glorious chapter in the history of our colonial administration;” other voices pointed to environmental factors and outlined that it had just been an “exceptional year” regarding the movement of sand. With worries about future flash floods lingering, officials seemed to be unsure how to proceed. And so the situation got worse and worse every day, with newspapers soon updating readers on the slow death of the “unfortunate Mole.”

German authorities increasingly forced prisoners of war to replace machines and animals. It had taken pressures from Berlin to bring some sort of negotiations to the war, the first genuine effort coming from Major Ludwig von Estroff in December 1904. By that point other groups had joined the war and few Herero had survived the German onslaught. Missionaries thus eventually set up collection points. Those spots were not meant to provide support. Instead, they became ways to pull those that surrendered into a large-scale concentration camp system. Missionary documents are frank about the state of captives. According to the chronicle of Omaruru, “Most people that come from the fields were miserable figures so one had to ask oneself: how could they even make it here. Small children in particular brought pity. The body is often reamed to disfigurement, the rest of the body is completely haggard and coated with withered skin. It is often heart-warming to see how the starving mother is still caring about its child plagued by diarrhea with affectionate concern. . . . Miserable figures like this are likely never to be seen again in life.”

In Windhoek a similar description spoke of skeletons clothed in rags. Those collected in the interior by missionaries generally ended up on the coast. As outlined by Horst Drechsler, “Prisoners of war were immediately carted off to Swakopmund to perform slave labour, the most gruelling jobs on the railway line under construction there being assigned to them.” In Swakopmund, workers helped unload supplies pouring into a still inadequate harbor. According to statistics put forward in the Deutsche Kolonialzeitung newspaper in fall 1904, the harbor alone employed a total of 1,200 laborers to unload cargo: 500–600 Kru men, 400 likely white seamen, 80 white workers on the land, and about 80 black workers. In 1905, and according to another newspaper, the 130 Kru men and 443 Herero toiled in the harbor. A German account from September 1904 described the hard work of “negroes” in Swakopmund, “the whole day in water, where it is hardly 13 degrees (Celsius) and one must work in heavy surf;” that voice also added that “many die from pneumonia.” Apart from compensating for missing machines and failing landing structures forced laborers also completed the work of draft animals. Herero women formed teams of eight to pull cars on the narrow-gauge railway. Hendrik Fraser, a worker from South Africa, described the situation as women loaded and unloaded hand-carts and wagons. “They even had to pull fully laden donkey-carts to Nonidas [nine to ten kilometers from Swakopmund] where there
was a depot. Some eight women were harnessed to a donkey-cart and had to pull it like draft oxen," he added, before describing their total exhaustion and the brutal punishments with a sjambok whip.102 James Tolibadi, a worker from the Cape Colony employed in both Windhoek and Swakopmund, described women “compelled to work and carry heavy articles.”103 A photograph taken in Swakopmund around that time shows several women hauling wooden crates on their shoulders (Figure 5.3).104 Missionary Vedder, who visited prisoners several times, added that “[h]undreds were driven to their deaths like cattle and like cattle they were buried.”105

The situation for workers housed in Swakopmund was brutal. Apart from the Woermann-Line’s own private camp,106 most prisoners ended up in a concentration camp. “Ombepera I koza” (the cold is killing me).107 These were the words of Herero prisoners to German missionary Vedder in 1905. Vedder described the circumstances on site in great detail, including the cold that led to pneumonia overnight and death by the next morning.108 The camp was located near the harbor to have easy access to the pool of labor. According to Vedder, newly arriving inmates “were placed behind double rows of barbed wire fencing, which surrounded all the buildings of the harbor department quarters, and housed in pathetic structures.”109 Work shifts were from early morning until late at night, every day. Food was scarce, especially given that most inmates had already been weakened by life in the field. Miserable spaces, made up only
of sackcloth and laths, to still follow Vedder, as prisoners worked beyond exhaustion, with little food but brutal punishments. The cold and damp maritime climate made survival even more difficult. Diseases ran rampant. The personal photos of Nuremberg native and captain Friedrich Stahl depict barely clothed and haggard bodies of Herero lying in the dirt without any protection. As a result, and to follow another observer, “the Herero in Swakopmund were dying at an alarming rate due to “inadequate facilities.” The poor conditions were made worse by the “raw, uncommon ocean climates and the weakened state in which they [the prisoner] arrived.” Between 29 January and 12 June 1905, 583 Herero men, women, and children died. At the worst period, thirty people perished each day. A quick look into the death register of Swakopmund confirms high mortality rates: “death through exhaustion, bronchitis, heart disease or scurvy.” Historian Joachim Zeller estimates that in the camp in Swakopmund alone 2,000–2,500 individuals died—1,811 are recorded until March 1906 alone. Between October 1904 and March 1907, 7,682 out of 17,000 inmates (15,000 Herero and 2,000 Nama) lost their lives, which is a death rate of 45.2 percent.

Overworked, exhausted, exposed, freezing, and undernourished inmates had little left to resist—although some tried. Escape to nearby Walvis Bay seemed most promising and resulted in diplomatic entanglements with the local British magistrate, especially once German troops entered British territory or harassed African-British subjects. Take the German arrest of a postal runner and British subject by the name of Jacob in Swakopmund. As outlined in the colonial records, “The next morning he was taken to the ‘Mole’ and flogged in the presence of the same officer who assured him that he would be conveyed to Windhoek and then hanged.” Although locked up again he managed to escape to Walvis Bay, resulting in complaints from British authorities. In another instance, nine prisoners had dug up the cement floor in one of the barracks and slipped out under desert sands. “Pursuing them, of course, is useless,” a German newspaper commented, “because the escapees have turned towards Walvis Bay, which begins just ten minutes outside of Swakopmund.” In response to such defiance, the German colonial government felt it had to implement even more drastic responses, moving from corporal to capital punishment. For German officials the lack of labor had been upsetting already; that workers escaped to the German competitor nearby made them livid. Yet escapes continued, such as in November 1906, when Timotheus Hipangua fled with his wife, child, and many others, as one missionary noted. “Many preceded and many would follow him, to swap their toiling existence here for an existence of tedium in the mines of South Africa.” That would not end until the forced labor system shut down in 1908, after three years and five months, and many lives lost.
Fighting Nature and People

“So we stood by the hour at the bow, looking out; but a fog lifted, and we saw on the horizon some great steamers and behind them an endless strop of reddish-white sand lifting itself out of the ocean.” These are the words of Peter Moors, the main protagonist of Gustav Frenssen’s novel Peter Moors Journey to Southwest upon his arrival. Grounded in experiences of returning veterans, and a colonial narrative par excellence, the author described the arrival of soldiers in Swakopmund. He notes, “The harsh, glaring sun burned down on the dunes and sea, and we thought at first that was a bar which lay off the shore so that the great city of Swakopmund and the palms and lions wouldn’t get their feet wet, but soon, when the fog had entirely receded, we saw in the glittering light some white houses and barracks and a lighthouse on the bare sand. Then all stood amazed and delivered their opinions. Many looked silently and soberly upon the inhospitable, barren land; others jeered and said: ‘To come so far for a country like that!’” For many what they were about to see would be “the most desolate region in Africa, yes truly in the entire world,” to follow another account. As his ship steamed into the region of Swakopmund one German soldier thought he spotted some familiar green, maybe even trees, from afar. He was disappointed once he realized that all this was just sand lingering behind the city. “That is land,” exclaimed one arriving soldier, “Lord is that barren!” There was simply no lion along with submissive Africans paying homage to a heroic knight-like German figure as outlined in the satirical magazine Simplicissimus. According to another commentator, “How many of our people arrive naïvely, to hunt lions and to dream under palm trees, only to learn to capture their wild fantasies while making bricks.” Birthe Kundrus, who has analyzed such descriptions in detail, noted that for German newcomers these were open and empty spaces, dismal and barren landscapes, vermin, diseases, periods of drought. None of that was the norm back in Germany. Whereas later on German accounts of nature became somewhat romanticized, at the time descriptions painted a picture of some unexpected Other. The landing then underscored the overall shock of this space. One newcomer captured how he got soaking wet in the landing process in Swakopmund. He had expected a much more advanced and sophisticated German outpost, adding that he eventually traveled inland in a cheaply built train across “sand dune upon sand dune.” Expectations in the metropole and realities in Southwest Africa rarely matched.

Some volunteers had signed up enthusiastically to defend German settlers abroad against what they saw as criminal Herero slaughtering innocent German women and children. Accounts speak widely about such patriotism and the supposedly defensive nature of the war. Of course these heroic tales
generally emerged after the war. Women at the frontier like Margarethe von Eckenbrecher also contributed to such narratives. She found that she was “mutterseelenallein (all by her lonesome self)” at the frontier facing deceptive, cruel, and bloodthirsty black warriors. Such storylines portrayed the Herero as beasts. In February 1904, Curt von François wrote “[s]urprised, dismayed, originally helpless regardless of feeling our authority, we saw the bestial anger of this black tribe mangle our defenseless fellow countrymen.” Now, help and reinforcements were on the way, meant to maintain German presence and defeat local resistance. Hauptmann Maximilian Bayer compared it all to a “crusade” and “knights” going into battle; he also saw the conflict as a struggle according to “the laws of nature” as “the weak and purposeless will perish in favour of the strong.” Racism and Social Darwinism were thus key ingredients of German mentalities. According to two historians, “Although some overconfidence can be explained by the inordinate faith they placed in artillery and the Maxim gun, their readiness to discount the military and strategic abilities of the Herero also points to deeply held racial suppositions.” Germans indeed saw their opponents as racially inferior, a people that had been incapable of harnessing and managing nature.

Feelings of German superiority quickly clashed with the abilities of Herero fighters. Häussler recently underscored the difference between “old Africans” that had been in the colony for some time and oblivious newcomers just arriving on site; he also underlined how high expectations in Berlin raised all kinds of challenges on the ground. The initial phase of the war certainly highlighted the abilities and capabilities of the Herero as they attacked railway and telegraph lines; they had also lashed out against farmers found in more remote areas. During that phase Herero efforts to control strategic locations could barely be averted. Take the situation of Okahandja in January 1904. Located along the vital train route from Swakopmund to Windhoek, Herero control effectively disrupted this supply line. Victor Franke, the officer in charge, faced a skilled opponent making use of their surroundings, thick thorn bushes and difficult terrain. It was the use of a mobile gun that gained colonial troops control of the area. Herero resistance then moved eastward, taking further advantage of terrain and German inexperience. For weeks German patrols found themselves exposed while Herero warriors seemingly blended into their surroundings. German confidence and belief in technology increasingly faltered in thick and thorny bushes waiting for backup or losing their opponents in endless chases. According to historian Marion Wallace, “During March and April 1904 the Herero forces pursued a largely successful military campaign, making skillful use of their mobility and knowledge of the ground by repeatedly ambushing the Germans and drawing men into fighting in areas of dense bush, where heavy guns were of the least use.” A Herero group ambushed German soldiers desperately moving toward the waterhole called Owiumbo.
in early April. Such asymmetric tactics, or “small wars,” to follow Häussler, increasingly frustrated the Germans. For them, who were unprepared for these conflicts, the fighting style of the Herero was lazy and cowardly. Eventually, a period of waiting followed this early chapter of the war. Governor Leutwein, who by then had returned from the south of the colony, had initiated negotiations. He seemed willing to make peace. Awaiting potential talks, and given previous examples of peace agreements, the Herero retreated to the area of the Waterberg. But negotiations were cut short: decision-makers in Berlin had other plans. They replaced Leutwein with Lothar von Trotha, the latter unwilling to entertain negotiations. His plan was to encircle and annihilate the Herero, an effort that took shape with the Battle of the Waterberg.

Even without Herero fighters, the environment greatly worried German soldiers. Anxieties generally grew once newly arriving soldiers left hubs and main travel routes on their journey inland. Away from structures and supplies in Swakopmund or Windhoek, horses and ox wagons, not railways, defined the conflict. That there had been little penetration beyond such settlements now became blatantly apparent. In a way, colonial topographies could be compared to castles in the Holy Land during the crusades. In Namibia, and outside certain settler spaces such as Keetmanshoop, forts littered along major trade routes and in the proximity of strategically important sections. Few patrols ever left these strongholds beyond so-called punitive expeditions. As a result, there had been a surprisingly small presence of German authorities inland. As historian Susanne Kuss observed, “Those living beyond the reach of the station were viewed almost as part of the wilderness and were described as being shy and frightened.” Besides, there were few options to make use of indigenous knowledge. According to one report, local inhabitants knew about water along some routes but “they keep it a secret among themselves.” To still follow Kuss, “No official maps existed with information regarding altitude, the course of the rivers, the nature of the watering holes, or the land cover to the degree of accuracy necessary to enable the planning and evaluation of military operations. The areas away from the major routes were entirely blank.” Widespread fears of poisoned water holes, a real or imagined threat, thus only underscored German anxieties around this precious good. These logistical challenges directly defined the conflict. One military pamphlet spoke of “[t]he incalculability of the environment and the insecure nature of communications in South-West Africa.” Besides, such local circumstances, combined with German racist mentalities, made those living beyond the grasp of German structures part of nature. One contemporary commented that “[t]he extraordinarily confusing character of the land, the curious water conditions, the, at times, faulty knowledge regarding parts of this colony make fighting a war rather difficult and our good soldiers were put in a difficult position. Since the enemy was difficult to catch and stood still nowhere, so the war turned
Environing Empire

into a battle, in which the blacks are again and again able to break through somewhere with the masses and thereby escape from the vengeful nemesis.153

The water problem most directly shaped logistics and German anxieties; it also defined subsequent colonial narratives. Südwester (Southwesterner) folk tales capture the early experiences of German newcomers. According to one such storie, a soldier rode into the Kalahari Desert, got off his horse without taking his water along and saw the animal run away. Luckily a patrol found him before he died.154 Gustav Frenssen noted, “We had no moisture in our mouths to wet our lips a little. Our breath came dry and hot through our parched mouths and the burning dryness penetrated, as though with spurs and prickles, ever deeper into our throats.”155 Damara on some level served as paramilitary units and played a supporting role in the field and when it came to finding water. According to the oral history of !Kharuxab, “When they first began fighting, [the Germans] did not know how to find water.”156 Yet discovering water remained difficult in a country where it is as rare as champagne elsewhere, to follow one description.157 At times, “where there ought to have been water there was not always any there. Then, suffering terribly from thirst, we had to dig holes to see if we could find a little water slowly filtering through. Often it was salt or milky from lime, or smelled vile; and oftener we didn’t find even this miserable, loathsome water, and we had to go on again, thirsty, far into the night.”158 Elsewhere faded photographs showcase efforts

Figure 5.4. NAN 02438, “Schutztruppe water carts being filled from well (water trough), Windhoek, people standing around waiting their turn,” undated, courtesy of the National Archives Windhoek.
to dig for water—one with the caption “Digging for water in vain.” At the same time, soldiers also described the joy of returning to Windhoek (Figure 5.4) or finding water—“It quenches not just thirst but gives life.” In many instances, newcomers could not fully grasp the aridity of their surroundings. “‘Here is Otjikuoko!’ ‘Where? I do not see it!’ ‘The place, where we are now, is called that,’ he noted dryly, ‘there is nothing else around.’ I looked around. All around me there was nothing but thorn bushes, some taller trees were scattered around. White sandy surfaces shined through the undergrowth. Nothing to see of a settlement, negro huts, of water, trees, houses, people.”

A small biological agent equally shaped war, especially when conditions in the field turned unsanitary. Although widely described as typhus at the time, contemporaries tracked the spread of typhoid fever in some detail, a bacterium related to salmonella food poisoning known as *Salmonella typhi*. Presumably introduced to the area from the Cape Colony during the construction of the railway line from Swakopmund to Windhoek, typhoid had ravaged the country since 1898. A highly contagious disease, those infected can pass it on through their stool or urine. Since unwashed hands resulting in contaminated water are thereby a major concern, a Medical Ordinance from summer 1904 emphasized the need to be careful. “It is strictly forbidden to drink unboiled water. The use of a filter is to be viewed as a duty [of every soldier] and should be used only to clean cloudy water; the water must then be boiled. Wherever possible, washing water should also be boiled. Typhoid prevention is the primary task of all health measures. The troops are to be instructed in these tasks; officers and medical officers are to ensure that the provisions are maintained.”

Although soldiers had to follow these instructions, epidemics plagued different areas and groups throughout the war. Assistant physician Ernst August Kaerger, who was part of the expedition forces, observed the situation among the German troops in Southwest Africa in February and March 1905. He emphasized issues surrounding water and sanitation; Kaerger also pointed to an increase in “personal disposition,” a phrase utilized to capture the difficult circumstances grounded in a lack of supplies and overall support when fighting in Southwest Africa. Soldiers that got the bacteria had to deal with headaches, stomach pain, constipation or diarrhea, as well as high fever. Without access to microscopes doctors initially tended to prescribe quinine, which helped decrease a patient’s temperature but did little otherwise. Once a diagnosis based on clearer symptoms had been established, then getting the individual to a faraway hospital became the issue. Although some fully recovered, others dealt with subsequent episodes. Medical magazines later reported widely on the situation, comparing the spread to similar situations in British and US colonies and blaming it on “the undeveloped state of the country in German Southwest Africa.”

One recent estimate counts 1,613 casualties with only 88 based on combat or accidents among German soldiers; 725 fatalities were tied to illnesses (450 of
them from typhus). By mid-January alone the German troops had lost fifteen out of 247 men from typhoid fever. The study and use of early vaccines during the conflict helped on some level and speaks to the opportunities some in the medical field saw when it came to colonial playgrounds.

Other diseases equally shaped the war. As one anonymous contemporary voice summarized the situation, “Almost worse than enemy bullets are the typhoid, malaria and scurvy decimating the rows of German soldiers.” A report captured the German mindset at that time when noting, “The land itself provides nothing which one can use to restrict the spread of the epidemic; our actions cannot be measured against peace-time or European standards. Everything out there is different to that at home; even the use of familiar names rarely refers to a familiar phenomenon.” Of course, such diseases impacted Africans as well—yet apart from references to Krumen supposedly spreading certain diseases colonialists seemed to worry little about them. For Germans, fears about soldiers losing their minds played a role as well. The climate was much better in Southwest Africa compared to the so-called tropics. Nonetheless, sun and heat could presumably turn upright men into lunatics. Contemporaries referred to that as *Tropenkoller* (colonial madness), a state officials also frequently tied to sexual promiscuity, especially in the context of relations with African women. At least in response to his efforts to help imprisoned African women and children, the main protagonist in Uwe Timm’s novel *Morenga* hears his superior respond by shouting “Jungle fever!” In that sense, numerous threats defined the war and Germany’s response, and scholars have noted that two typhoid epidemics in 1904, one in summer, one in fall, contributed to Leutwein’s delayed response to the war and brought about his replacement with the ruthless Lothar von Trotha.

A struggle-against nature narrative in line with the survival of the fittest also defined warfare. From the German point of view, a nature people living in a preindustrial and maybe even a prehistoric age tried to upend the natural order. According to the German high command, “The struggle with these hard and worn out *Naturvolk* nature people in a land lacking culture has showcased that the German people have regardless of their cultural achievements not lost their warlike value.” A German soldier fighting in Southwest Africa noted along similar lines that a “*Naturvolk* had dared to do whatever it would like.” Although the Germans had long worked with different African societies and understood their opponents’ heterogeneity, the war increasingly overshadowed such nuances. Instead, accounts of soldiers describing the war made Herero and later Nama repeatedly part of the natural environment. Audiences could thus read about encounters in difficult terrain, hostile environments, and arid landscapes, all factors that brought Social Darwinist tales even more into the limelight. Later Farmer Schlettwein wrote that this was “[n]ot a war against men but beasts, worse than the animals of the wild.”
Failure to completely destroy the Herero at the Battle of Waterberg, and subsequent efforts to end the war, underscore the nature of this conflict. Complete destruction in a single battle, the African-Sedan some had hoped for, had not materialized. Many Herero had fled into the Omaheke desert to escape German annihilation. Herero had long traveled through these spaces; they also relied on water structures as described in chapter 4. Yet this was different. Instead of migrating along with yearly weather cycles in small groups now thousands together with their remaining cattle tried to cross that strip of land. Existing environmental infrastructure could not sustain such efforts. “The land had lots of sand,” recalled Herero Andreas Kukuri in 1953, “but green trees and water were not there. And we moved in vain into the center of the Veld, that had no water, until all living beings, that is cattle and humans died of thirst.”

This “desperate exodus” took Herero from empty waterhole to waterhole in the hottest time of the year. The timing had worked out for the Germans, and von Trotha turned the failure of his troops to fully encircle into a ploy of war. Now, the desert would “do the killing for him,” to follow one historian. Oral histories outline the devastation. Major von Estorff, who vividly described the situation and later complained that he was simply playing the role of a “hangman,” underscores that General von Trotha wanted “total extermination.” On 2 October 1904, the latter had published his infamous Vernichtungsbefehl extermination order. Widely referenced as showcasing the intent to exterminate the Herero people in the first genocide of the century, it simply codified long-standing German behaviors. Herero’s oral histories outline malnutrition and exhaustion during their escape. German soldiers, on the other hand, sustained by bases outside the Omaheke, had a somewhat easier time when chasing after Herero men, women, children, and their cattle. At times, they stumbled across “spots where the Herero had burrowed desperately for water,” to quote Lieutenant Maximilian Bayer. “There was not a single drop of liquid in these sand holes.” Some Herero later surrendered; many “had to run,” as oral histories have it. Countless died in the desert, struggling to move on, falling behind, left behind. “The wind has blown sand over the tracks and tears, one can’t narrate how it was,” one survivor noted to a missionary later on. Few made it across this desert to safety. One who did was Samuel Maharero, who according to oral traditions was “riding with horses of hunger” into neighboring British Bechuanaland (modern-day Botswana). Yet most perished in a desert landscape, chased out by German soldiers, cut off from accessing waterholes, and hindered from returning home.

Colonial narratives framed these moments as struggles against nature. Missionary Jakob Irle described how the war “turned Hereroland into a desert, full of human corpses and the cadavers of livestock.” He did not distinguish between perpetrators and victims when continuing, “Everywhere we encounter the bleaching bones of the Herero and the graves of brave German soldiers.
The country has become a giant cemetery in which whites and blacks rest facing one another.”\textsuperscript{194} For him, and many other German accounts, the torment of Germans due to a lack of water is central to the storyline.\textsuperscript{195} Logistics had certainly strained German troops. Yet they were still the ones doing the chasing. In that sense, and along with the official order to not take prisoners, the reversal of suffering became a way to deflect any responsibility or blame for the destruction of the Herero. Instead, Germans pointed to nature. As outlined by one eyewitness, “Sick and helpless men, women and children who had collapsed with fatigue, lay in masses in the bush . . ., parched with thirst, lacking all will-power and awaiting their fate.”\textsuperscript{196} Later descriptions began emphasizing the German suffering even more, with one noting, “On our thirsting, starving horses, we thirsting and starving men rode on. At some distance crouched a crowd of old women who stared in apathy in front of them. Here and there were oxen, bellowing. In the last frenzy of despair man and beast will plunge madly into the bush, somewhere, anywhere to find water, and in the bush they will die of thirst.”\textsuperscript{197} Moments of empathy for opponents shift into passive voice, and blame harsh desert landscapes for the tragedy. “Just like a hounded animal,” to follow the official history of the war put forward by the German military in 1906, colonial soldiers chased the Herero from waterhole to waterhole “until he finally became a will-less victim of nature in his own country.”\textsuperscript{198} Soon the Herero became no more than a faraway sight, according to some void of any humanity, as the Germans seemed to be no more than bystanders in all of this—“From a hill we saw two mighty clouds of dust moving rapidly to the north and north-east, toward a certain death from thirst.”\textsuperscript{199}

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The \textit{Rinderpest} pandemic, the tentacles of railway lines, and the increasing German takeover of land and water disrupted and destroyed pastoral livelihoods; it also brought the war and the subsequent genocide. Early on Herero targeted railway and telegraph lines, and focused on frontier settlements and farms situated beyond the reach of German defense lines. The destruction of farmhouses, wells, and experimental stations, all of which the Herero saw as signifiers of a future without African agents, made sense to them. For German settlers this was unfathomable. As reinforcements landed in Swakopmund and traveled along the railway, natural forces added pressure to their efforts, crushing expectations that this would be quick war. Apart from facing Herero fighters, battalions had to rebuild whole sections of a railway not meant to supply large scale operations during wartime. German ingenuity, or more so improvisation and desperation, was to keep environmental infrastructure open. Yet natural forces in the form of silting-in also shaped landing structures, forcing the Germans to yet again play it by ear. Rafts and Krumen picked up the slack,
to land supplies and keep the war effort on track. Over time, and as the war progressed, forced laborers equally compensated for failed structures. Apart from shaping access, human agents in the form of Herero resistance as well as natural factors such as aridity, difficult terrain, and diseases also shaped logistics and warfare. Racist mindsets and the unwillingness of decision-makers to make peace only worsened the situation. To follow Häussler, and as the war progressed, “the lower the potential to still catch and decisively defeat the Herero the more categorically German violence targeted every individual Herero.” Delays and anxieties, apparent once exploring the role of the multiple agents that shaped environmental infrastructure in times of war, thus complicated and brutalized warfare, especially once soldiers found themselves away from sustaining structures. In frontier spaces removed from supply lines, where opponents used terrain to mess with Germans that were unfamiliar, unprepared, and unwilling to engage in such skirmishes, extreme violence became acceptable. To follow Lehmann, “The alien and dangerous environment . . . heightened the feeling of the German soldiers that they were not dealing with an ordinary enemy, but with hostile nature above all else.”

German narratives soon packaged their military experiences into colonial frameworks. The struggle of sailors rebuilding railways and dredgers fighting against silting-in tell some of these tales. Nature has agency as an opponent worth wrestling. African fighters in the war, or African bodies repairing, maintaining, or expanding landing structures and railways, on the other hand, are either not seen as worthy opponents or completely silenced. That the exploitation of African labor meant systematic extermination, a final solution as discussed further in chapter 6, became a backstory. Natural forces, of course, shaped the war. However, such agents did not work in a vacuum. After all, and certainly after the replacement of Governor Leutwein, German leadership did not consider a peace settlement. Instead, German troops pushed Herero into the desert, von Trotha encouraged extermination as decision-makers in Berlin cared little about African populations. Efforts to deflect such responsibility as apparent in some apologetic narratives thus have little to do with the desire to underscore the multitude of agencies that are at play here.

Notes


2. Baumann, Van sending tot kerk, 150; Olusoga and Erichsen, The Kaiser’s Holocaust, 140. See also Hammerstein, “Kriegs-Schau-Platz Omaheke.”


7. TNA, CO 879/86/4, Further Correspondence [1905] relating to the Affairs of Walfisch Bay and the German South-West-African Protectorate, enclose no. 59, enclosure 1, Isaac Magadi, affidavit sworn 22 April 1905.


36. Ibid., 142.


39. German businessmen and traders at times took advantage of local groups, claimed their land and access to water. See Njaneuka and Muuondjo, “Tjiponda, Kahivesa, and the Wars of the Hereros,” 154–73, here 162, Michael Scott Oral History Project. See also Silvester and Gewald, Words Cannot be Found, 84.


41. Nuhn, Sturm über Südwest, 88.

42. François, Nama und Damara, 37. See also Moritz Eduard Pechuel-Loesche, “Das Abkommen des Riviers,” in Deutsch-Südwestafrika: Land und Leute: eine Heimatkunde für Deutschlands Jugend und Volk, ed. Bernhard Voigt, 24 (Stuttgart, 1913); Schwabe, Mit Schwert und Pflug, 419.


47. Rudolf Fitzner, Deutsches Kolonial-Handbuch, vol. 1, 2ed (Berlin, 1901), 127.

48. NAN, HBS, St. Unit 1, File 1/2, Allgemeiner generelle Verhandlungen und Verfügungen dn Hafenbau betreffend, 1898–1902, “Militärischer Bericht” der S.M.S. Wolf, 9 November 1900.


57. Deutsch-Südwestafrikanische Zeitung, “Der deutsche Reichstag und das südwestafrikanische Schmerzenskind,” 11 May 1904. See also Nuhn, Sturm über Südwest, 188–89.


68. BArch-B, R 1001/1865a, Hafenanlagen in Swakopmund (Vorschläge zum Ausbau des Hafens). There were no significant changes until April 1903; by 4 May 1904, there was already too much sand, however. BArch-B, R 1001/1865a, Hafenanlagen in Swakopmund, (Anlage).


75. NAN, HBS, 2, Baggerarbeiten im Hafen Swakopmund, 1904–06.


85. NAN, HBS, 2, Baggerarbeiten im Hafen Swakopmund, 1904–0 (“Auf das Telegramm Nr. 17, 10 June 1905).


94. Gewald, Herero Heroes, 183.


96. Ortschronik Windhoek, ELCRN, V. 37.2., 27, as quoted in Kreienbaum, “Ein trauriges Fiasko,” 223.


100. Werner Haak, Tagebuchblätter aus Südwest-Afrika (Berlin, 1906), 12, as quoted in Lyon, “Namibian Labor Empire.”


103. TNA, CO 879/91/4, Further Correspondence [1906] relating to the Affairs of Walfisch Bay and the German South-West African Protectorate, no. 291, enclosure (James Tolibadi, signed/sworn 11 August 1906).


106. Zimmerer, “War, Concentration Camps and Genocide in South-West Africa,” 53, in Zimmerer and Zeller, Genocide in German South-West Africa, 53. See also ELCIN, Ortschroniken Swakopmund, as quoted in Gewald, Herero Heroes, 188; Steinmetz, The Devil’s Handwriting, 205.


108. Letter Heinrich Vedder to Johannes Spiecker, 26 May 1905, Archiv der Vereinigten Evangelischen Mission (AVEM), Rheinische Missionsgesellschaft (RMG) 1.660a, Bl. 64–67, quoted in Kreienbaum, “Ein trauriges Fiasko,” 228. For his visit of the camp more specifically, see AVEM, RHG, C. V. 31, Gemeinde-Chronik Swakopmund, 220,
as quoted in Zeller, “‘Wie Vieh wurden Hunderte zu Getrieben und wie Vieh begraben,’” 227.
109. ELCIN, Ortschroniken Swakopmund, as quoted in Gewald, Herero Heroes, 188. See also Steinmetz, The Devil’s Handwriting, 205; Olusoga and Erichsen, The Kaiser’s Holocaust, 163.
110. AELCRN, Windhoek, C.V. 31, Gemeinde Chronik [Community Records], Swakopmund, 6f, as quoted in “‘Omberpera i koza—The Cold Is Killing Me,’” 64, in Zimmerer and Zeller, Genocide in German South-West Africa.
111. Olusoga and Erichsen, The Kaiser’s Holocaust, 165.
112. Abb. 6, as referenced in “‘Wie Vieh wurden Hunderte zu Getrieben und wie Vieh begraben,’” 233.
114. AELCRN, Windhoek, C.V. 31, Gemeinde Chronik [Community Records], Swakopmund, 6f, quoted in “‘Omberpera i koza—The Cold Is Killing Me,’” Zimmerer and Zeller, Genocide in German South-West Africa, 64.
115. Vedder, Kurze Geschichten, 138, as quoted in “‘Omberpera i koza—The Cold Is Killing Me,’” 69, in Zimmerer and Zeller, Genocide in German South-West Africa.
118. Zeller, “‘Omberpera i koza—The Cold Is Killing Me,’” 78, in Zimmerer and Zeller, Genocide in German South-West Africa.
119. Gewald, Herero Heroes, 190.
120. BArch-B, R 1001/1808, Grenzverletzungen, Okt. 1906–Okt. 1911, letter, Berlin 20 December 1906 (Lasalles).
124. ELCIN, V. Ortschroniken, Swakopmund 1906, as quoted in Gewald, Herero Heroes, 190.
125. Erichsen, What the Elders Used to Say, 49.
126. Frenssen, Peter Moors Journey to Southwest, 36–37.
127. Fritz Maywald, Südwest und seine Helden (Berlin, 1934), 9, as quoted in Kundrus, Moderne Imperialisten, 146.
128. Eisinger, Im Damaraland und Kaokofeld. Erinnerungen an Südwest-Afrika, 5–6. See also Philalethes Kuhn, Gesundheitlicher Ratgeber für Südwestafrika (Berlin, 1907), 223, as quoted in Kundrus, Moderne Imperialisten, 170; Max Belwe, Gegen die Herero 1904/1905 Tagebuchaufzeichungen (Berlin, 1906), 8.


143. Ibid., 148–49, 152 and 247.


149. Ibid., 168.


152. *Praktische Erfahrungen aus Deutsch-Südwestafrika* (Berlin, 1904), point 43, as quoted in Kuss, *German Colonial Wars*, 123.

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156. Erichsen, *What the Elders Used to Say*, 16. Those Damara groups that joined the rebellion would of course use their knowledge against the Germans—like Benjamin/Howaseb, who shared how a group under the leadership of Gariseb used mountains and rocks to target the Germans pursuing them. Erichsen, *What the Elders Used to Say*, 18.
159. Herrenkirchen, *Meine Erlebnisse während des Feldzuges*, 81. For the importance of waterholes in general, see also Ada von Liliencron, *Heiße Arbeit unter heißer Sonne: Bilder aus dem Südwestafrikanischen Feldzug* (Berlin, 1907), 64
165. Ibid., 12.
166. Ibid., 7.


180. Carl Schlettwein, *Der Herero-Aufstand, was hat ihn veranlaßt und was lehrt er uns? Vortrag* (Wismar, 1905), 14.

181. Walther Rathenau used such language while also condemning “the greatest atrocity that has ever been brought about by German military policy.” Walther Rathenau, *Industrialist, Banker, Intellectual, and Politician: Notes and Diaries 1907–1922*, ed. Hartmut Pogge von Strandmann (Oxford, 1985), 81.


183. Erichsen, *What the Elders Used to Say*, 44.


187. Telegram from Oberleutnant Estorrff to Foreign Office in Berlin, 10 April 1907, BArch-B, RKA, vol. 2140, 88v, as quoted in Steinmetz, *The Devil’s Handwriting*, 11. See


201. Lehmann, “Between Waterberg and Sandveld,” 553. See also Häussler, *Der Genozid an den Herero*.


CHAPTER 6

Expanding War and Death

The Kaiser’s telegram had reached the returning troops at the edge of the Kalahari Desert. It had taken some time before news from the Battle at Seatabut deep in British Bechuanaland east of German Southwest Africa had made it to Berlin. Now, in mid-March 1908, a note from Wilhelm II spoke of his majesty’s “great pride, accompanied by profound grief given the loss of officers and men.” The emperor highlighted that the Germans had defeated the enemy and died as heroes. One of the dead he mentioned by name, Hauptmann Friedrich von Erckert. He was, to follow the note, “one of the best and knightly officers of the colonial troops.”¹ Countless newspapers agreed, publishing heroic obituaries and stories of bravery in a faraway desert space.² Erckert, a logistical mastermind in the opinion of many contemporaries, had relied on camels to reach into the Kalahari Desert. There, one of the last insurgents still fighting against German control, the captain of the Franzman (or Fransman) Nama, Simon Kooper (also Kopper, Cooper), had found hideouts. Reluctantly supporting the Germans in the late 1800s, Kooper had joined the rebellion of Hendrik Witbooi and others. They had witnessed Germany’s brutal warfare against the Herero. Whereas Witbooi died in battle in 1905, and although the war had officially ended in March 1907, Kooper continued his raids from bases deep in the desert. In June 1905 he presumably attacked a small group of Germans and killed the guide Robert Duncan. Erckert thus prepared to reach him, relying on more than seven hundred camels in the so-called Kalahari Expedition. Leaving in early March, they trekked eastward, eventually crossing the border into British Bechuanaland. They did not care. After some time they found one of Kooper’s werfts and attacked in the morning hours of March 13.³ Newspapers saw the battle as a success against nature and its people, with one publication speaking of “a major but dearly bought victory.”⁴ The official military history portrayed von Erckert as a martyr.⁵ German writer Hans Grimm, the author of Volk ohne Raum, a book that later fueled Nazi visions of living space, later immortalized that heroic narrative.⁶ The Germans had indeed killed fifty-eight Franzman, including women and children; the rest fled, leaving behind live-
stock the Germans then killed as well. Yet the fact that Kooper had escaped prior to the actual battle indicated that war would drag on even longer.

The events that unfolded in the Kalahari Desert in March 1908, including how those would be framed within colonial narratives, are at the center of chapter 6. The shift of the war southward yet again exposed German logistical problems. The Battle of Waterberg and German efforts to push the Herero population into the desert defined the early part of the war; the resistance of Nama groups, among others, then gave Germans additional headaches. A non-human agent in the shape of a shipworm disrupted access once again while African forced labor continually compensated for such disturbances. The war in the south then more directly exposed German ineptitude to supply their troops. To follow Kuss, as the war shifted, fighters could more easily melt “into the apparently never-ending hinterland, where they could survive for long periods.” According to other historians, “Many mornings the Germans would wake to discover that the trails left by the Nama’s horses had been blown away by the strong winds that always seemed to accompany sunset.”

The construction of a railway, built through mobile sand dunes and arid desert landscapes by forced laborers shows the role of multiple agents. War then officially ended in March 1907. Yet some African groups continued to operate, and the Germans eventually employed camels to reach them. “The import and breeding of these animals,” to follow one scholar, “was one of the few attempts made to adapt the equipment of the Schutztruppe to the demands of the land.”

Yet it also captured German desperation at a time when African combatants employed inaccessible mountains and arid borderlands to sustain themselves. The focus thus remains on environmental infrastructure as an instrument of war and resistance, shaped by ingenuity, labor, non-human agents, and natural forces.

Chapter 6 is divided into three parts. The first section continues to track the struggles surrounding access. With debates lingering among decision-makers about the future of the Mole, locals officials on site eventually decided to build a wooden jetty. Described as remarkably effective at the time, the arrival of the naval shipworm soon underscored the vulnerability of this new landing spot. First detected in Lüderitzbucht, a space of increasing importance given the shift of the war southward, it also disrupted the landing process in Swakopmund. The next section then explores efforts to supply troops in the south. With few updates to Lüderitzbucht since the early days of German colonialism, war served as “a catalyst” for the expansion of railways. Natural forces, specifically mobile sand dunes, became a factor soon shaping this instrument of war. African bodies, exploited to build the railway in an effort to reach inland, now also completed the Sisyphean task of removing the sand from the tracks.

The last section then traces African ingenuity, or German logistical problems, as colonial troops tried to reach Jakob Marengo and Simon Kooper.
both individuals operated in British-Cape Colony-German borderlands and have seen some scholarly attention,\textsuperscript{11} they were also holding out thanks to their use of precolonial environmental infrastructure. The German colonial government relied on the help of the Cape Colony to kill Marengo, a storyline that has seen some scholarly interest thanks in part to a novel and TV mini-series.\textsuperscript{12} Officials then employed camels to get a hold of Kooper. Colonial narratives framed both struggles in large part as a battle against nature, a dynamic that yet again underscores efforts to minimize the agency of Africans.

Drilling Wood

A couple of sentences uttered during a debate in German parliament warned the audience of the naval shipworm. As part of larger discussions surrounding the situation of the harbor in Swakopmund in March 1906, politicians reviewed disruptions and miscalculations that long haunted Germany’s main entry point. Conversations outlined the challenges that had emerged when it came to silting-in as well as the described role of dredgers; they also already pointed to the construction of a wooden jetty and other potential investments. Government Building Officer August Wiskow, who had experience overseeing constructions in German East Africa,\textsuperscript{13} at one point elaborated on such issues in more detail. Along the way, and only in passing, he mentioned the shipworm and its potential role in Southwest Africa. Merely a couple of sentences overall, Wiskow outlined that the mollusk had been widespread along the West African coastline. Employing the passive voice, he then stated that “[i]n Togo back then the wooden landing pier, now replaced by a metal jetty, was destroyed within three months.” Luckily, he added, there had been no shipworm in Swakopmund. Yet Wiskow warned his audience to be diligent, adding that “the danger for the wooden pier is not barred.”\textsuperscript{14}

At the time of Wiskow’s comments, little had changed in Swakopmund. Although African labor had provided help unloading, military necessity still required a solution when it came to landing supplies. Speculations about the said commission’s proposal tied to investments into the harbor would run wild for years. Even suggestions about larger investments, or the takeover of Walvis Bay from the British, pop up.\textsuperscript{15} On the ground, the construction of a wooden jetty had seemed like the best solution. On 10 September 1904, the military railway construction battalion had been dispatched to the colony.\textsuperscript{16} It arrived aboard the steamer \textit{Ernst Woermann} in late October. Construction began quickly thereafter—several months before the dredger would even show up. Although everything had to be brought in, assembly moved along quickly. The structure relied on sixty-six wooden beams, around thirty centimeters in diameter each, mostly out of pinewood. Iron rods provided additional sta-
bility. A steam engine drove beams two-and-a-half to four meters deep into the ocean floor. In some instances, the rocky ground required detonations. Such tasks, and the project overall, were dangerous, making the use of forced labor come in handy. Workers connecting different beams were exposed to cold ocean waters. Only a foreman warned them to hold on tight before seven to ten-degree centigrade waves crashed over them. As one report further described, "The continual work within the cold ocean wind, in soaked clothing, was no fun at all, but could not be avoided. There were also stark differences in climate [throughout any given day], with cold fog in the morning and evening, yet around noon the heat was often burning hot." Not surprisingly, the workers’ state of health was generally terrible, with lots of sicknesses and several casualties due to typhoid. The pier was scheduled to open on 1 February 1905; however, a shift in the war southward required a temporary movement of materials to Lüderitzbucht. The jetty finally opened 29 April 1905, just in time given widespread disruptions of the landing process at the Mole and the failures of dredgers (Figure 6.1).

The wooden pier, grounded in African exploitation though sold as a sign of German ingenuity in the face of adversity, brought praise from all around. It was 275 meters long, with approximately seventy-five on land. It held a rotary steam crane that was able to lift seven to ten tons as it unloaded ships. Settler and writer Clara Brockmann, who had come to the colony intending to write a novel, voiced her relief: "Up to recent years," she wrote, "passengers were carried on land by natives." Africans thereby literally served as landing structures—"[t]wo black arms slinging around the new arrival, and a sturdy
negro waded away with them through the water.”

Captain of the German ship *Sperber*, Wilhelm Bertram, described the wooden jetty as “an excellent construction.” The *Deutsche Kolonialzeitung* newspaper agreed. That newspaper proclaimed in early 1906 already that it “had proven itself.” Even those voices still debating and hoping for additional investments increasingly acknowledged its success. The jetty had indeed endured heavy weather, most notably in mid-1906. According to one vivid description, “The sight of the breakers was of overwhelming magnificence. Far out the sea was covered by a white foam. In-between long-winding waves are rolling in, always three-wave mountain chains close together, reared up with a thunder-like roar overturning on the beach, blinding-white foam climbing up like a wall and below, blotching up the beach and here leaving little puddles that at the same time are prevented from draining back into the sea.” The description continued noting that “The landing jetty at times completely disappeared in the rolling waves crashing over it, through the wooden panels white foam splashed up.” However, and in the colonial spirit of withstanding anything, “it again held steady.”

For the fiscal year 1906 alone, and just for Swakopmund, the expenditures were enormous: 130,000 Marks to keep the *Mole* running on some level, 200,000 Marks for dredgers, and 100,000 Marks for sustaining the wooden jetty. Proposals now calling for a metal jetty referenced another 207,000 Marks and those wishing for a larger harbor budgeted an additional 1.4 million Marks. Guaranteeing access to the colony would remain an expensive endeavor.

So-called *Bohrwurmtagebücher* disclose the agency of non-human protagonists soon interfering with wooden structures in Swakopmund and Lüderitzbucht. Best translated as shipworm diaries, these hand-written files are housed in the National Archives in Windhoek. Mostly charts, the documents showcase ways authorities on site tried to understand what was happening after the arrival of the *Bohrwurm* (literally borer worm). How far has that antagonist drilled into wooden landing structures? What type of wood is more resistant? Would it be worthwhile to bring in turpentine-wood all the way from South America?

One report outlined past mishaps, current issues and future investments; it also included carefully labeled photos of riddled pieces of wood (Figure 6.2). Such artifacts showcase the efforts of non-human agents: slick and naked worms; damaged pieces of wood. Without the voice of the shipworm in the historical record otherwise, these journals give this non-human protagonist some agency, illustrating in text and image how those worm-like creatures began disrupting German logistics.

The naval shipworm is not even a worm. Generally known as *Teredo navalis*, it is a highly specialized bivalve mollusk adjusted for drilling into and living in submerged wood. To follow writer Joan Wickersham’s poem from several years ago, “You, shipworm, *Teredo navalis*, less than a tenth of an inch / from end to end, blind and mindless, / relentlessly debauched or relentlessly
Environing Empire

industrious—.”  Early descriptions saw its long and naked body to resemble worms. Swedish botanist and zoologist Carl Linnaeus categorized over thirty species under “teredo navalis,” or naval shipworm. To quote Wickersham again, “Your name shows up in every Vasa story, / both names: ‘Shipworm (Teredo navalis),’ / the Linnaean taxonomic like a graduate degree / trailing your name so that we will take you seriously.” Warnings were warranted. Although a small protagonist, the naval shipworm, colloquially known as an ocean termite, has had a major impact on maritime history. “Plenty of other shipwrecks in other oceans, / seasoned just the way you like them,” Wickersham continues. As a typical marine mollusk, it first lives like a tadpole in open waters. Once the size of a pinhead, it digs itself into wooden hulls, poles, and beams that are surrounded by water, leaving behind only tiny entry holes. As Wickersham writes, “Your life is tunnels. You borrow in, / eat your way home, eliminate, fornicate, / all in the same wet den. You’re a fraternity boy / who never leaves the house, / eating, drinking, shitting, releasing sperm.” Difficult to detect, the shipworm employs its tiny sharp teeth to drill, or better, grate and rasp. Over time, it forms and expands a honeycomb of passages, while itself, a husk-like creature, stays glued to the actual entryway. For wooden structures in Lüderitzbucht and Swakopmund, Teredo navalis meant disaster.
The arrival of the shipworm brought numerous problems. It is not quite clear where it originated. In the satirical magazine *Kladderdatssch* it already had a column in 1869. There, the mollusk pointed to man and his structures, built against bullets and opponents, strengthened with metal and might, and meant to dominate the ocean. “I have toppled him!” the column read, before adding, “What are you, man, you poor, weak earth worm against me—the shipworm!” Since then it had arrived in Lüderitzbucht, likely as a stowaway traveler. On site it found a perfect habitat. It seems that by mid-1906 the mollusk had created some damage. According to a memorandum submitted to parliament, the mollusk had settled in wooden rafts first before moving into landing structures. Early on the impact “had not been substantial.” Yet by November 1906 surveys of wooden parts of jetties showed clear shipworm infestation. Managing director of construction Kummer feared “that one must anticipate the destruction of the three wooden jetties.” According to two scholars, “By mid-February 1907, the damage done by the borers was so substantial that considerable repair work had to [be] undertaken.” The *Deutsche Kolonialzeitung* newspapers certainly came to a similar conclusion by fall that year. The Woermann-Line eventually stopped using the wooden jetties altogether. Similar to the situation in Swakopmund, landing now relied even more on surf boats and rafts. “Hopefully this unsustainable situation lasts only a little more time!” exclaimed one magazine. Frustration set in. “One should have not thought possible,” noted one account, “that after the embarrassing experiences with the *Mole* in Swakopmund again a situation would emerge with landing facilities in the protectorate as those are now visible at the main landing structure in Lüderitzbucht. The naval shipworm in the jetty has expanded further and further. Just recently one of its beams simply broke off when a small lighter hit it and [that] exposed that the naval shipworm had eaten away at it. Without doubt, the bearing capacity of the jetty has been cut in half.”

Renovations brought little relief. Workers started replacing infested beams with impregnated wood; they also used iron sheets to protect the jetty from the mollusk. Forced labor again came in handy, further weakening prisoners housed nearby on Shark Island, if not killing them. Prior to that the jetty had to shut down completely, at least until an expert could evaluate the damage and soundness of the structure. Locals at the site had long monitored the situation. At one point, worries increased when reports outlined that a structure can only remain in operation for about three months after the shipworm had infested it. Discussions had already begun with all kinds of proposals regarding possible replacements, including metal jetties and concrete structures. As Kummer noted in November 1906, “While with relative few expenditures could turn Lüderitzbucht and Robert Harbor from a nautical point of view in the best harbor of German Southwest Africa, two essential demands of any harbor are still completely lacking, [and] that is a good connection with the
producing and consuming backcountry as well as the supply with key resources from across the sea, namely useful fresh [drinking] water. Delays in funding would force supplies over increasingly decrepit wooden jetties for several more years while the Woermann-Line continually pushed for a replacement.

The situation in Lüderitzbucht gave officials in Swakopmund ample warning. To follow one early report, “When assessing its safety there are three elements to consider: silting, the ocean, and the naval shipworm.” Many officials held on to the idea that cold currents might prevent the arrival of this mollusk. Such optimism turned out to be an illusion. Yet even experts noted, “The use of wood to build the pier was considered unavoidable given the need for speedy construction, [and that] did not seem precarious either, because the naval shipworm had not been sighted in Swakopmund and the neighboring coastline.” Soon observations tracked the progress of the infestation—still confident that little destruction had occurred so far. Newspaper articles meanwhile described how the mollusk riddled poles and beams long-ways like a sieve. “Those frenzied wooden Gomorrahys,” to quote Wickersham’s poem once more, “are really testaments to your efficiency—.” At first, there seemed to be no imminent danger—but that changed quickly. According to one report, “If a swarm of naval shipworm larvae extensively attacks the pole woods, then the shipworm can develop in such a manner in the wood, that according to present—possibly pessimistic assumptions—within three months the wood fiber would be destroyed to such an extent, that the stability of the beams sinks to zero.” A slightly less pessimistic account stated, “The beams of the pier are exposed to the attack of the naval shipworm. Although beams are mostly not protected, destruction has been limited. The highest number of worms found in a beam has been twelve. . . . During monthly tests, young animals are often found, a sign, that there is now a fresh attack.” One German building officer now admitted to the role of the naval shipworm in the destruction of a similar project in the German colony of Togo in the recent past. In his view, other arrangements for sites in Swakopmund must be considered. Concerns spiraled, and reports soon spoke about a destructive force and the “danger of collapse.” The shipworm in Swakopmund, to quote one newspaper, had raised yet again the “harbor question.”

After monitoring the situation for some time officials on site decided to start replacing parts of the structure. Such work meant widening the pier by one-third, a process one colonial report described as a “vigorous interference” against this pest. Ultimately completed in 1907, this update still left room to shut down sections of the jetty without disrupting operations. Confident this would save the jetty, paid workers and forced laborers replaced riddled beams and poles with impregnated materials; they also protected some structures with sheet iron. Such work was a tedious and costly. Just armoring one beam could require an astonishing 3,000 nails. Similar to the construction
process, workers found themselves exposed to crashing waves and ice-cold waters. In the end, their efforts were in vain. Whereas sheet iron and some imported Australian woods replaced infected materials to provide more stability, overall this achieved little when it came to the prevention of ongoing decay. “The danger,” to quote from one newspaper, “that an extraordinary rough sea could suddenly take away for Swakopmund and the whole central and northern part of the protectorate the most important organ for the acceptance of imports is growing steadily.”

Debates about the construction of a metal jetty, and once again calls for the purchase of Walvis Bay, made discussions predictable. Meanwhile, colonial narratives characterized the wooden jetty built by the railway battalion as “an honorable monument to the diligence of those troops and its officers,” a colonial narrative that once again silenced the roles of Africans.

Accessing the South

Another natural force to wrestle with is perhaps best exhibited by figures hauling sand across railway tracks in the middle of the Namib Desert. Crossing the high dunes right outside Lüderitzbucht had always been an issue, not just due to a lack of water. Barchans, linear dunes, and star dunes are visible in the Namib, and many of them are active. According to two scholars, “they have steep slopes (c 32°) on their lee sides and gentler slopes (2–10°) on their windward (stoss) sides, they have an ellipsoidal shape in plan-view, and have formed in response to the strong unidirectional (SSW) wind regimes that are prevalent in the coastal zone.” These mounds are mobile, able to bury much of anything in their way. Houses and homes could get covered. Travelers feared their movement and ability to change landscapes. People got lost because of them. With stretched supply lines, a shift of the war southward, and repeated border closures to the south by the Cape government, military necessity seemingly dictated the construction of a railroad right through them. The assembly in itself was already a daunting endeavor. Contracted workers and prisoners of war, the latter held in the infamous concentration camp Shark Island in Lüderitzbucht, provided the labor to make it happen. Yet problems with mobile dunes persisted, and manually transferring the yellowish substance—basically carrying sand across the tracks one shovel at a time—became the most workable solution.

Prior to thinking about travel inland authorities first had to worry about landing materials nearby. The war had swung south as Nama rose up. Yet border openings into South Africa remained unreliable. Plus, supply lines in the north had been overstretched already. Thus, more had to come through Lüderitzbucht. A backwater awaiting reawakening, that location still dealt with...
a lack of drinking water. By December 1904 a drillmaster and his assistants arrived on site. They hoped to find fresh water nearby. Such efforts resulted in wells in Klein Kubub, Aus, and Gauamses, all locations at least thirty kilometers away from town. By 1906 the Lüderitz Condenser had been replaced by a larger plant, the so-called Government Condenser. However, even the representative for the company installing the machine soon acknowledged “that the new condensation machine . . . does not meet the guaranteed performance.” Although the quality of the water itself was good, sand plugged it up repeatedly. According to one government official, and future governor, Theodor Seitz, this was expensive for three reasons: water had to be shipped in from Cape Town, high wages of experts had to be paid, and the old condenser had to be overworked, which hurt that machine. More problematic were the limitations of the harbor overall. The bay was still shallow in several places. And, to follow two scholars, “the existing jetty situated on the lagoon side off Lüderitzbucht was not of such quality that it could cope with the increasing amount of military goods which were handled there.” In early November 1904, a representative of the Woermann-Line had assessed the harbor. He noted that the jetty had been built in the wrong location. Soon landing operations shifted to the more protected neighboring Robert Harbor instead, a location without a jetty. As the town saw a wartime boom similar to that in Swakopmund better landing structures made sense. The assembly of the eighty meters long and five meters wide wooden jetty began in November 1904. It was completed quickly. With demand still on the rise, a second such structure, 125 meters long and eight meters wide, had been completed by October 1905. At least the landing process had become a little easier.

Similar to the situation in Swakopmund, officials also widely relied on forced labor to compensate for existing limitations and expand operations. According to German missionary Laaf, efforts to occupy prisoners began with extensive blasting operations. “The aim was to construct a quay on the side of the island facing the Robertshafen. Almost 500 men were initially employed in the blasting operations.” Moreover, and as outlined by historians, Nama prisoners had to construct a pier and a wave-breaker. Both of these projects “involved standing in ice-cold water, picking up rocks, and dumping them in the sea,” as historian Casper W. Erichsen writes. Plus, and just like in Swakopmund, prisoners served as pack animals and machines when loading, unloading and moving around all kinds of cargo. To follow one newspaper article from South Africa at the time, “The loads . . . are out of all proportion to their strength. I have often seen women and children dropping down [in Lüderitzbucht], especially when engaged on this work, and also when carrying very heavy bags of grain, weighing from 100 to 160lbs.” Nama Anna Frederick shared the experiences of her great-grandparents who were imprisoned on Shark Island in an oral interview: “They carried soil and stones on their heads to fill this island.
up. They died from hunger and cold.\textsuperscript{90} Between August and November 1906, more than 2,000 Nama arrived on Shark Island, a camp located right next to the harbor.\textsuperscript{91} There, on a space that measured barely over a kilometer from end to end and about three hundred meters at the thickest point, surrounded by the ice-cold waters of the Atlantic Ocean, they tried to cling on to life.\textsuperscript{92} Samuel Isaak, imprisoned on Shark Island, remarked that to last the prisoners ate anything edible they could find—mussels and other sea life.\textsuperscript{93} There was also not enough firewood to keep at least a little warm.\textsuperscript{94} “It is difficult for me,” wrote camp prisoner Samuel Kariko. “My body is weak, and it is very cold. I do not know how I can stay here.”\textsuperscript{95} Inmate Edward Fredericks, who survived to tell his story under oath in 1917, stated that “[l]ots of my people died on Shark Island.”\textsuperscript{96} Diary entries and progress reports by Richard Müller, a German harbor engineer supervising projects in Lüderitzbucht, speak volumes about the conditions and the overall destruction of African lives.\textsuperscript{97} According to a report from Christmas Eve 1906, workers died so quickly that authorities ran out of them. “If measures are not actively taken to acquire labourers,” as one official writes, “I fear the work will not be completed.”\textsuperscript{98} With a mortality rate of 77.5 percent,\textsuperscript{99} that camp soon became known as the “island of Death.”\textsuperscript{100} “Notwithstanding the economic purposes of ruling the camps,” however, to follow Häussler, “guards went forward altogether uneconomically, yes even wasteful with the human labor force.”\textsuperscript{101} Or, as Zimmerer put it, “Not even the demand for labour led to better treatment for the prisoners. Rather was it seen as preferably [sic] to halt the building work.”\textsuperscript{102} The angel of death, as a German clerk wrote in passive voice, would visit the island many times.\textsuperscript{103}

Shark Island was a death camp and most knew that. According to missionary Vedder, “One account from Swakopmund in 1905 tells of a group of Herero assembled on the waterfront. Shortly after they had been informed that they were to be sent to Lüderitz, one prisoner fell to the ground, bleeding profusely, having drilled his fingers into his own neck in a desperate attempt to commit suicide.”\textsuperscript{104} The officer was angry and ordered him to get up immediately—to no avail. The man had opened the veins in his neck and was bleeding to death. Erichsen references a similar example when noting that the Arthur Koppel Company, one main contractor that employed forced labor, explained to German officials that many prisoners had run away from the railway works “solely out of fear that they might be sent to the South.”\textsuperscript{105} Whereas neglect at times has been cited to dismiss intent, efforts to deliberately kill off the local population are visible in the historical record. Governor von Lindequist was in no way shy about his objectives: “Since the Hottentots are at present safely confined to Shark Island where they are performing very useful work(?). I feel that their deportation may still be postponed somewhat. Perhaps one should wait and see first how the situation will develop and whether the numbers to be deported might be reduced so as to cut down the cost incurred.”\textsuperscript{106}
another instance described by missionary August Kuhlmann, overseer Benkesser shot a sick Herero woman five times and left her laying there. She bled to death.107 In that sense, the intent was not only to provide cheap labor to conquer nature; such labor and overall conditions also became ways to kill the native population. Both death and development, intricately intertwined, were part of the colonial project.

Whereas for Germans such investments promised at least some relief when it came to landing, reaching beyond desert dunes was still a problem. The lack of a stable supply of water widely impacted efforts to cross the roughly eighty mile stretch of waterless desert with ox carts. In 1906, one commentator wrote about “[t]housands of bleached oxen skeletons covering the path, herald death and danger, step by step.”108 A poem titled *Death in the Dunes* later illustrated the challenges when noting, “Lord, our days are numbered, God give us to drink!”109 Ways to improve travel had long circulated within the colony. For some, a railway would do the trick.110 One commentator from Southwest Africa had captured the dangers of ever-shifting sands when writing, “These [wandering dunes] are blown together by the wind, often resounding mountains of fine sand, that today block access and force freight carriers to take detours with their heavy oxcarts through deep, loose sand, [while] tomorrow the following [wagon] trailing in their steps face a high unscalable wall.”111 In his view crossing the dunes by train would not be an issue—the bigger concern was that few products required a train. Experts continued to argue, with some even proposing the construction of an elevated train scaling the dunes or a tunnel going right under them.112 One military report put forward by the S.M.S. *Wolf* in November 1900 claimed that “[c]rossing the belt of wandering dunes with a railway will not be possible without major problems and costs and the completion of similar projects, as will be needed for Lüderitzbucht, where first the construction of a tunnel through twelve-kilometer wide dunes had been planned, that a project of an elevated train going over the dunes has recently been pursued.”113 Without demand, however, such proposals went nowhere.

The war changed calculations and resulted in the return of animal transfer, especially given the growing demand to supply troops inland. In early 1905, Lothar von Trotha sent a telegram to Berlin endorsing the import of a hundred camels from Tenerife and five hundred from neighboring South Africa—to help with logistics on the stretch Lüderitzbucht–Keetmanshoop.114 Yet camels were hard to come by, and it took some time to get them. The purchase of originally seventy-six camels at Port Said in Somalia, followed by another 403 later on (accompanied by sixty experienced Arab camel handlers) eventually increased the use of such animals in Lüderitzbucht and Swakopmund.115 Next to animal transfers von Trotha also called for the construction of a railway. As summarized by Horst Drechsler, “This call went unheeded, however, because the authorities in Berlin were only too aware of the extraordinary technical difficulties posed by
such a project and because they reckoned that the war in the south would not last very long and might be over before the railway would make itself felt.” A more detailed proposal put forward in December 1905, combined with the continuation of the war in the south, got parliament to agree. The plan called for a line of about 140 kilometers from Lüderitzbucht to Aus. Tracks would be in Cape gauge (3.6 feet, about one meter) to possibly connect to neighboring South Africa later. The projected cost was estimated at around 9.5 million Marks, presumably about a quarter of the current annual cost for such travel.

Natural forces and broader logistics shaped construction. The building process began quickly, led by military headman Captain Schulze. Apart from determining the route and overseeing the building process, Schulze laid out ways to cross the dunes. In his view, rocks would not give moving sand any grip, thus keeping tracks “dune free.” “At those locations where there is a danger for the railway to be covered by wandering dunes later on,” he added, “one has to roof [it] [the railway] like a tunnel with corrugated sheet iron. These protective structures and detonations within dunes will result in a good amount of labor that has to be taken into account especially since the rest of the way to Kubub requires virtually no other works of civil engineering.” Judging the situation in the colony from faraway Germany had always been an issue, a point that at least Johannes Semler, a member of parliament visiting German Southwest Africa, readily admitted when discussing harbor installations in Lüderitzbucht. The magazine Kladderdatsch had long noted in its satirical tone that thankfully even a railway could do little to make things worse in Southwest Africa. In any case, the company Lenz organized the construction of what became known as the Südbahn (southern railway). As usual, landing materials in Lüderitzbucht was tricky, especially larger machinery. Plus, drinking water was still expensive. Crossing hostile landscapes and dealing with heat was not easy either and further delayed the project. As one newspaper later summarized, “Due to the terrain and weather the construction of bridges brought problems and held back the quick progress of the building process.” Camels also played a role—the German government by then had imported an astonishing 2,000 animals. Their initial purpose was to help transport materials for the construction of the Südbahn. “Provisions of those [workers] more or less united at the front end of the construction site was particularly difficult,” noted one observer, “especially when it came to water. The transport of all materials and foods was done originally by donkey cart and via camel, soon with track maintenance trains.” Photographs portraying structures in Lüderitzbucht and desolate landscapes in the interior showcase the scale of the project. In a way, the pace of construction tells that story. Early on, and due to the Namib Desert, crews only covered between three hundred and four hundred meters a day; later that process sped up to almost nine hundred meters. Construction reached Aus on 10 October 1906, allowing the railway to open on 1 November.
1906.\textsuperscript{125} By then Schulze’s colonial narrative of fighting against desert sands, heat, and aridity already referenced German character and ingenuity, just like Ortloff had done when describing the construction of the \textit{Mole}.

Forced laborers actually built the \textit{Südbahn}. As outlined in the \textit{Deutsche Bauzeitung} newspaper, “Excavation employed several hundred European workers and Kapboys [derogatory term for workers from the Cape Colony] as well as around 1,000 forced laborers”—the men of the railway brigade only completed work tied to the superstructure.\textsuperscript{126} Member of parliament Semler, who visited the construction site, described Herero workers hauling iron ties while the hands of white workers did the fitting—a smooth process, in his view.\textsuperscript{127} By January 1908, and according to recent scholarship, 503 whites and 1,859 blacks worked on the construction of the railway.\textsuperscript{128} One of the few photographs capturing the work along the \textit{Südbahn} gives viewers an idea of the strenuous task: desert sands, high temperatures, blazing sun, backbreaking labor.\textsuperscript{129} The route from the coast to Aus called for hundreds of workers laying heavy steel rails and prefabricated steel ties. British military attaché to Southwest Africa, Frederick Trench, reported in April 1907 that there were nine hundred prisoners of war working there. He added, “The Hottentots are poor labourers, though troublesome guerrilla warriors, and I think that there is a general hope that they will soon die out.”\textsuperscript{130} Trench had already described the situation in a concentration camp stating “It is not easy to avoid the impression that the extinction of the tribe would be welcomed by authorities.”\textsuperscript{131} The local newspaper \textit{Deutsch-Südwestafrikanische Zeitung} at one point mentions that concentration camp labor from the nearby camp Shark Island built the southern line, one of only a couple of references in the press.\textsuperscript{132} According to historians, “it was the construction of the railways, by far the biggest public-works project attempted in the colony, that became the engine driving the whole concentration camp system.”\textsuperscript{133} Private companies such as the Woermann-Line thus employed forced laborers in Swakopmund and Lüderitzbucht to compensate for the shortcomings of landing structures; other companies now relied on such labor for the construction of railways. The idea that corporations running their own camps would take care of their workers did not pan out whatsoever.\textsuperscript{134} The private sector as much as the colonial government worked Herero and Nama to death and ultimately profited greatly from these forced labor archipelagos. Overall, and as one summary pointed out later, “The statistics of the railway project are frightening. According to numbers kept in the records of the German Colonial Administration, a total of 2,014 concentration camp prisoners were used for the railway construction between January 1906 and June 1907. From these prisoners 1,359 died while working on the line: a 67 percent mortality rate. This means that every hundred metres of the railway line from Lüderitz to Aus account for one dead Namibian Shark Island prisoner.”\textsuperscript{135} The southern railway sits on the bodies and bones of Africans.
Reaching Beyond

Jakob Marengo’s revival of a “hidden retreat” delayed German efforts to end the war. As the conflict had expanded deeper into the south, Marengo, the son of a Herero mother and a Nama father, hid in spaces Germans knew little about. Borderlands became useful in this context, a factor widely discussed in the scholarship. Yet Marengo also relied on precolonial environmental infrastructure when disappearing into the Karras Mountains. According to scholar Klaus Dierks, a structure known as “||Khauxa!nas certainly appears, with its extensive protective walls, to have served a defensive purpose. The town within the protective walls was big enough to accommodate a large number of people and probably livestock as well.” Plus, a deep natural well provided water. Dierks argues that the site was potentially built between 1796 and 1798 “as a secret refuge against the threat from the south.” In his view, Jonker Afrikaner’s foundation of Windhoek in the early 1840s “could be seen as a successor to ||Khauxa!nas.” For Marengo the space was perfect. Here, he could hide from colonial troops. A German report speaks about a discussion with Marengo in one of his hideouts that references stone fortifications. Whereas this turned ||Khauxa!nas “a fitting symbol of Namibian resistance,” for the German military the existence of such remote spaces made a quick end to the war more and more unlikely.

It did not help that efforts to expand the railway southward all the way to Keetmanshoop had resulted in a political crisis in Germany. Calls for such an extension had increased given the continuation of the war in the south; there was also the potential for using such structures to settle the area after the war. In May 1906, an article on the front page of the Deutsch-Südwestafrikanische Zeitung newspaper argued in favor of expanding railways from the south all the way to Windhoek. “Such a train connection,” to quote directly, “would just like that . . . assist in the settlement of the land much more than any other measures ever could.” That year a memorandum made similar claims. Even General Helmuth von Moltke the Younger chimed in from far away Berlin in support of the route. Yet criticism of colonial endeavors had long been apparent in some political circles. Center Party politician Matthias Erzberger most directly pointed to financial strains and colonial fiascos in 1906. It took until the dissolution of parliament in the infamous “1907 Hottentotten elections” before funds poured in. At that point, assembly moved forward. The route to Keetmanshoop included the construction of a dam to deal with washouts in the Sandverhaar River; it also meant crossing the Fish River with a steel bridge consisting of three thirty-five-meter spans. Plus, there were the usual issues with accessing water. Geologists Paul Range and his drilling crew thankfully worked along that route. At least one borehole provided sufficient water near Garub, which somewhat alleviated potential delays. Again, forced labor
completed much of the work. One of the few photographs showcases “female workers (probably prisoners of war) carrying stones for railway embankments on their heads” in 1906 (Figure 6.3). The extension from Aus all the way to Keetmanshoop opened 21 June 1908, much sooner than had been anticipated; it cost 27.6 million Marks.

Shifting sands covering tracks remained a problem well beyond the official opening of the Südbahn. Complications emerged in a section of about six to seven kilometers right outside of Lüderitzbucht. A member of parliament visiting the site early on saw few issues; he also reported that a concrete covering meant to protect the tracks was not required. Instead, and in his view, there were cheaper options to solve the problem. Early efforts had included embankments meant to elevate the tracks; piles of rocks stacked to protect track against shifting dunes were another way to keep sand out. A detailed newspaper article with photos described the situation in 1908. One caption simply read, “A wandering dune in dangerous proximity to the railway.” Over time more sophisticated responses included the use of indigenous sand grass (Eragrostis) and German grass types; there was also the fixation of dung. Workers tried using mats made out of jute sacking and placed them on one side of the tracks hoping to hold down the sand, all to provide stability for the growth of

Figure 6.3. NAN 28671, “Construction of the railway line Lüderitzbucht-Keetmanshoop, 1906. Female workers (probably prisoners of war) carrying stones for railway dam on their heads,” courtesy of the National Archives Windhoek.
different vegetation. Mostly completed during months with less wind (May until October), sand grass seemed to be the only useful plant. However, shrubs withered away without water, “never awoke to life and just lingered as a dead arrangement,” as one magazine noted. Experimental stations in the middle of desert landscapes were supposed to help with the transfer and cultivation of plants that could presumably withstand heat and fix sand in place. Experiments with acacias (Acacia cyclops) and Naras (Acanthosicyos horrida) showed the best results. Whereas managing director Kummer remained confident, British colonel and military attaché Trench was less so. In his view, “to shovel the sand off the line about twice a week” was the only workable solution. Yet hopes to solve this problem continued for years to come. In fact, at one point plans even involved grasses used to fix shifting dunes along the faraway Trans-Siberian Railway. Throughout all that time, and as captured by a grisly photograph published in the magazine Kolonie und Heimat, forced laborers did the Sisyphean task of moving sand with shovels across the tracks, one scoop at a time.

Colonial narratives meanwhile painted a rosy picture of development and progress. “Now it is done,” proclaimed the magazine Kolonie und Heimat in 1908, “despite natural forces that had destroyed the site at the end of February [1907] in numerous locations and other technical difficulties.” The magazine had described the fight against desert sands. It now concluded its plot with a happy ending. There had been numerous of those by then. Ortloff had defeated ocean waters when constructing the Mole. Engineers had scaled hostile landscapes when building the Staatsbahn. And “our heroes in German Southwest Africa” constructed two jetties as well as a condenser for making drinking water in Lüderitzbucht. Now, and according to this narrative, Germans also had defeated mobile sand dunes. Two photographs from 1909 give a sense of this supposed battle against the desert. One photo titled “dune protection wall” shows the wooden planks supposed to hold back sand (Figure 6.4); another snapshot titled “Inspection of railway tracks threatened by sand dunes” captures German officials wandering along the desert line surrounded by sand (Figure 6.5). Officials seem to inspect the frontline like military generals observing a trench of some battle. For contemporaries it certainly felt like a war, a war meant to hold back the enemy again and again. In 1911, one estimate noted that 100,000 Marks were “thrown away” to irrigate plants meant to hold back sand; that year operations to keep the track clear cost the government more than 170,000 Marks. Some officials would later even consider expanding efforts when proposing the use of a giant vacuum, a Sandsauge-Maschine (sand sucking machine). This piece of technology would certainly solve remaining problems, they claimed. According to such rhetoric, it had always been German ingenuity, willpower, and hard work that had conquered and defeated nature. Natural forces, on the other hand, were at best adversaries,
and African workers, ninety to a hundred forced laborers in the case of dune operations along the Südbahn alone, had no voice at all.

Elsewhere African ingenuity, as well as natural forces, continued to define logistics. Take Simon Kopper’s escape into the Kalahari Desert. A borderland between Southwest Africa, the Cape Colony, and British Bechuanaland, Kooper employed San knowledge to find water. More importantly, and given long stretches without any available drinking water, Kooper and his people relied on the seasonal Tsamma melon (*Citrullus lanatus*). Its wide availability in some areas, combined with its high liquid content, could sustain whole groups with their cattle. As Jan Ntarewe Kundeb, born in Otjomungwindi in 1920 to !Xoon and Naro ancestors, recalled, “When the water in the pan was finished, we got water from tsamma melons and wild cucumbers. They were our water.” Careful animal adaptation allowing ungulates to digest the fruit was required and speaks volumes about the skills of those Africans covering larger distances in desert environments on horseback. Kooper and his men could thus use seemingly remote desert spaces as bases for raids into the colony; they could also escape across the border into neighboring British Bechuanaland or the Cape Colony. German colonial troops, on the other hand, had to work with camels yet again. In March 1907, a small group under the leadership of Major Pierer reached Kooper. The latter agreed to give up. However, once pressed for water the patrol had to go ahead and return quickly, which once again gave Kooper the opportunity to escape. A vast operation then took shape. Spearheaded by Friedrich von Erckert, months went into preparations. Cam-
els mostly employed for transport from Lüderitzbucht inland, and originally imported by Hagenbeck, were now to serve von Erckert. The latter then oversaw the training of both animals and soldiers. “Mainly introducing them to the nature of the Kalahari and how to defeat its peculiar difficulties” was on the agenda, according to von Erckert’s superior, Ludwig von Estroff.175 Few soldiers had any experiences with camels. Many times that resulted in the mistreatment of these animals. Descriptions of stubborn beasts thus likely speak much more to German impatience rather than actual animal behavior. Yet such obstinacy also underscores how animal agents shaped environmental infrastructure. For Germans, after all, these creatures were just tools employed to deal with an opponent. Early on most camels refused to get up or move once overloaded. At times they also screamed persistently until they got a more patient handler or less cargo. Since few of these pack animals were meant for riding, the Germans also had to spend weeks on increasing their pace.176 It ultimately took months before German animal engineering had the caravan ready, by then consisting of more than seven hundred camels. Aforementioned colonial narratives described the exhausting journey defined by thirst and uncertainty; those tales also credit von Erckert for using camels, praise him for thinking ahead when it came to travel routes, and turned him into a martyr. Kooper, on the other hand, is characterized as a lazy coward given that he would not face Germans in open battle.177 That the Franzman had created elaborate infrastructure in desert environments, and protected and sustained themselves against German extermination for months, did not seem to matter.

Figure 6.5. NAN 28724, “Construction of the railway line Lüderitzbucht-Keetmanshoop. Inspection of railway tracks threatened by sand dunes, 1909,” courtesy of the National Archives Windhoek.
The war by then had already ended. Officially concluded in March 1907, fights against individuals such as Marengo and Kooper continued to frustrate officials. At the same time, those conflicts also allowed German colonialists to request more troops and resources for years to come. In September 1907 the Cape Mounted Police patrolling across the border from Southwest Africa then riddled Marengo with bullets. They had cooperated with the Germans. Marengo and several of his companions died on the spot. Efforts to capture Kooper failed. The captain preferred to stay in an inhospitable environment rather than surrender. Thanks to such spaces, and combined with the British acknowledgment that it is more efficient to pay off opponents than invest into large military operations, the Germans dejectedly granted Kooper a pension. The captain of the Franzman and the rest of his people thus settled in British Bechuanaland, displaced by war and genocide, and only after promising not to return to Southwest Africa.

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The expansion of the war and the shift southward increased logistical issues for the German military. Lüderitzbucht had seen few investments. That made landing supplies a nightmare, especially once the shipworm further disrupted landing. Efforts to build a train across the Namib Desert brought additional challenges, overcome in large part on the backs of African forced labor. The import of camels, again meant to offer sustainable travel into arid landscapes, became essential for reaching Kooper. Meanwhile mobile sand dunes continued to disrupt entry. Broader political disagreements resulted in the repeated closures of the border to South Africa, another way to get in supplies. African leaders, on the other hand, continued to resist German control by harassing patrols in arid landscapes—only to quickly disappear into inaccessible regions such as the Karras Mountains or the Kalahari Desert. Border crossings into the Cape Colony or British Bechuanaland gave such insurgents room to evade German capture and destruction. Such partisan warfare and guerilla tactics worried the Germans and postponed the end of the war. And that in turn further delayed efforts to finally begin transforming Southwest Africa into a white settler colony.

Colonial storylines, many times devoid of African agency, meanwhile spoke of a struggle against nature. Narratives saw the mollusk as much as an opponent as mobile desert dunes and aridity. Defeat and setbacks were at best temporary, as German ingenuity, determination, and hard work would certainly overcome any adversary. If anyone, according to that storyline, it would be the Germans who could conquer nature in Southwest Africa. That African labor began replacing the wooden jetty, kept harbor operations running, and built as well as maintained the railway was not of interest. Nature was the opponent of
German greatness, a backdrop to be taken over and reshaped. Africans as individuals, on the other hand, were barely mentioned. As demonstrated by historian Gesine Krüger, colonial diaries speak to Germans denying the strength of their opponents, their fears of thirst, hunger, disease, and ambush; those publications also capture underlying racism. According to German colonial narratives Africans had no abilities in traditional warfare. They were cowards for shying away from open battle and cunning for making use of the territory. At the same time, German soldiers had some self-doubt, frustrations, and irritations, and their anxieties grew over time as opponents seamlessly melted into desert wastelands. One soldier described an incident near Otjasusu when noting, “If one could only see one of those black beasts! One is fighting against invisible ghosts of hell . . . ” Again, Germans compared them to animals and beasts, called their opponents malicious, like hyenas, to follow the description of settler Conradt Rust. In that context and mindset, and as emphasized in the scholarship more recently, indiscriminately murdering Africans seemed only logical.

As the end of the conflict came near colonial narratives also increasingly framed the war as a turning point. By 1907/8, a colony presumably slumbering like sleeping beauty could be awakened for good. As outlined in much of the scholarship, dispossession, expulsion, and extermination became prerequisites for the making of a German settler colony and society in Namibia. Equally, and as Miescher writes, “the development of such a settler society was influenced by the massive influx of funds for infrastructure and administration that poured into the colony after 1904.” To contemporaries, development was always just around the corner. In 1905, colonial proponent August Seidel already laid out his vision of the colony’s future. In his view, investments in Swakopmund, the solution of the water question, and the expansion of settlements would be essential; he also wanted the remaining Herero to become workers and called for the takeover of the Ovambo in the north. Such sentiments and hopes for the future were widespread. After all, the empire had just spent around 585 million Marks to crush the rebellion. The 1907 elections marked a particular shift away from a previously schizophrenic colonial policy as more money began pouring in. More so, and as outlined in numerous accounts, “all that German blood that drenched the sand steppes of Southwest Africa, better not [have] been spilled in vain.” Such bloodshed must have had a purpose, it must have been for something. According to one colonial administrator, “the blood of their sons has been spilled for us. The Southwest African soil has been soaked with it. And since the lifeblood of so many children of German mothers has trickled into the sand the land has truly become German.” The war became yet another foundational myth, a “rise like a Phoenix from the ashes.” The money spent and the lives lost now meant Germany had a responsibility to the land, to follow the rhetoric of
one contemporary.\textsuperscript{195} How could anyone argue with that? By 1905, Ferdinand Wohltmann, agriculturalist and colonial proponent, had already called on Germany’s honor: “A soil, that cost us much concern and sweat, that is soaked with blood, that has become to so many Germans, even if an unhappy, then certainly a lovely Heimat homeland, such a soil has become a piece [of the] Vaterland (fatherland). . . . To give up and leave such a piece of land now would be treason against the Vaterland.”\textsuperscript{196} In Southwest Africa, blood and soil, terms deeply ingrained in discussions of settler colonialism, war, and genocide, went hand in hand. A 1908 publication further summarized such sentiments when stating, “Again and again, well-meaning men raise the question if Southwest Africa was worth these sacrifices of resources and blood. Well, apart from the Namib Desert we can respond with an exultant yes. What the Cape land with its half a million whites is worth for the English that is what our South West Africa will be worth for us sometime, once we extract the values from the soil, which are in there.”\textsuperscript{197} The author continued by pointing to existing cattle farming, copper mining, and the exploitation of guano deposits; he also laid out a future of agriculture and raw materials such as gold and diamonds.\textsuperscript{198} The settlement of farmers, the construction of railways, and the digging of wells would make up the future of Southwest Africa.\textsuperscript{199}

Going hand in hand with development came the destruction of Herero, Nama, and other groups. That had meanwhile reached its climax. German troops killed many in war; they also pushed survivors into the desert where many died of thirst and exhaustion. Policies of extermination continued well beyond the departure of von Trotha and the shift of the war elsewhere. In need of labor to maintain, repair, and expand landing structures and railways, or just to replace draft animals, the German colonial government soon housed workers in concentration camps all over the colony. Gewald notes that there were four collection and concentration camps in central Namibia: Swakopmund, Windhoek, Otjihaenena, and Omburo.\textsuperscript{200} The emergence of what sociologist Steinmetz has called a “spatially discontinuous, pointillistic galaxy of werfts . . . scattered across the map largely according to colonizers’ needs” illustrates the expansive nature of this system well beyond these main sites.\textsuperscript{201} Railway construction “saw several thousands of Herero ‘accommodated’ in ‘Railway Concentration Labour Camps,’” to follow one report.\textsuperscript{202} As outlined by Erichsen, “the main reasons for sending prisoners to Lüderitz was to prevent their escape and to provide labour for the construction of local infrastructure.”\textsuperscript{203} Extermination based on labor became the name of the game, a costly game that few African captives survived. Those who did had lost their land, spaces soon deemed herrenlos (abandoned) in German documentation.\textsuperscript{204} They were now permanently trapped in a subservient role as a black proletariat. Governor von Lindequist already outlined in 1906 that he wanted to end the self-sufficiency of all indigenous groups that had been part of the rebellion;\textsuperscript{205} that now also
increasingly applied to groups outside direct colonial control, such as “a large number of Hai||om” from the north.206 In that sense, forced labor of a different kind would continue to define the postwar period, a timeframe recently described as much more than a peaceful graveyard.207

Notes


10. Laak, Imperiale Infrastruktur, 127.


24. Clara Brockmann, Briefe eines deutschen Mädchens aus Südwest (Berlin, 1912), 11. See also Africanus, Deutsch-Südwest-Afrika, 9; Emil Eisinger, Im Damarland und Kaokofeld, 5.

25. BArch-B, R 1001/ 1864, Häfen an der südwestafrikanischen Küste (Militärpolitischer Bericht, 24 April 1906).


28. NAN, HBS, St. Unit 5, File 2/4, Kaiserlicher Gouverneur 24 May 1906.

29. Ibid., Bericht, Hafenfrage Swakopmund, 1907.

30. For diaries from 1911 until 1913, see NAN, HBS, St. Unit 11, File 4/3; NAN, HBS, St. Unit 12, File 4/3.


37. Ibid., 127.

38. Ibid., 126.

39. Troschel, Handbuch der Holzkonservierung, 209–12. Troschel remarked that the naval shipworm was “particularly ravening (gefrässig) and feared” in Southwest Africa.


44. Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 110.


51. NAN, ZBU, 1884–1915 (Vol. 1), 1762, T.VII.G I, Hafen Lüderitzbucht, Allgemeines (Projekte- und Vorarbeiten) (1906–1908), letter 27 November 1906. See also Colonial Secretary Bernhard Dernburg in this context. NAN, ZBU, 1884–1915 (Vol. 1), 1762,


53. Oscar Bongard, "Dernburgs Studienreise nach Britisch- und Deutsch-Südwestafrika!" *Deutsche Kolonialzeitung*, Sonderbeilage zur Nr. 39, 26 September 1908, 700.


57. *Deutsche Kolonialzeitung*, "Dernburgs Studienreise durch Britisch- und Deutsch Südwestafrika!" 12 September 1908.


59. BArch-B, R 1001/1 865a, Hafenanlagen in Swakopmund (Antrag Untersuchung Hafenverhältnisse).

60. Ibid., (Bauprogramm für den Bau einer Landungsbrücke in Swakopmund).


62. *Deutsche Kolonialzeitung*, "Dernburgs Studienreise durch Britisch- und Deutsch Südwestafrika!" 12 September 1908. See also Bravenboer and Rusch, *The First 100 Years of State Railway in Namibia*, 102.


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For discussion regarding Walvis Bay see 
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*Annalen der Hydrographie und Maritimen Meteorologie*, June 1910, 304–6, “Häfen, Kanäle etc.,” 
*Schiffbau*, 25 November 1908, 142–44.


72. Goudie and Viles, *Landscapes and Landforms of Namibia*, 122. See also Erich Krenkel, 
*Geologie der Deutschen Kolonien in Afrika* (Leipzig, 1939), 164.


76. Bravenboer and Rusch, *The First 100 Years of State Railway in Namibia*, 106; 
*Deutsche Kolonialzeitung*, “Deutsch-Südwestafrika. Lüderitzbucht,” 8 July 1905. See also 
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*Deutsche Kolonialzeitung*, “Südwestafrika: Die Wasserversorgung von Lüderitzbucht,” 23 September 1905; 
*Deutsche Kolonialzeitung*, “Südwestafrika: Wasserstelle Anichab,” 21 October 1905; 
Freiherr von Danckelman, 257–73, here 260 (Berlin, 1906).

77. Wipplinger, “Sea Water Distillation Plant at Lüderitz,” 281. See also Bravenboer and Rusch, 
*The First 100 Years of State Railway in Namibia*, 106; 


For subsequent arguments see NAN, ZBU, 1454 P.V.E.3, Kondensator Lüderitzbucht 1904–1907, letters 28 December 1906, 29 December 1906, 14 May 1907, and 20 June 1907. See also NAN, ZBU 1454 P.V.E.3, (Vol. 2), Kondensator Lüderitzbucht 1907–1908, letters 29 July 1907; 

80. NAN, ZBU 1454 P.V.E.3, Kondensator Lüderitzbucht 1904–1907, letter 17 February 1907.

81. Bravenboer and Rusch, *The First 100 Years of State Railway in Namibia*, 107.

82. *Die Woermann-Linie während des Aufstandes in Deutsch-Südwest-Afrika*, 32, 
accessible at the Universitätsbibliothek Frankfurt am Main.

See also *Deutsch-Südwestafrikanische Zeitung*, “Die Eisenbahntruppe in Südwestafrika,” 26 September 1906.

84. *Deutsch-Südwestafrikanische Zeitung*, “Aus dem Schutzgebiet,” 31 May 1905. See also 

85. Bravenboer and Rusch, *The First 100 Years of State Railway in Namibia*, 109. See also 
Schulze, “Zwischen Lüderitzbucht und Kubub (mit 1 Skizze und 38 Abbildungen),”

86. Missionary Laaf’s eyewitness report, Chronicle of the Lüderitz Community, Archives of the Evangelical-Lutheran Church in the Republic of Namibia (AELCRN) V. 16, 21–26, as quoted in “War, Concentration Camps and Genocide in South-West Africa,” 54, in Zimmerer and Zeller, Genocide in German South-West Africa.

87. NAN, HBS 52, November 28, 1906, as referenced in Casper W. Erichsen, “Forced Labour in the Concentration Camp on Shark Island,” 91–92, in Zimmerer and Zeller, Genocide in German South-West Africa.


90. Erichsen, What the Elders Used to Say, 26–27.


92. Ibid., 84.


95. Letter of Samuel Kariko to Eich (in Otjiherero), March 3, 1907, ELCRN, II.1.9, as quoted in Kreienbaum, “Ein trauriges Fiasco,” 228.

96. Silvester and Gewald, Words Cannot Be Found, 172. Although this Blue Book was a propaganda tool aiming to degrade German colonial rule, it is “a prime source material presenting an early African perspective on the particular features of colonial genocide.” Silvester and Gewald, Words Cannot Be Found, xxxiii.


102. Zimmerer, “War, Concentration Camps and Genocide in German South-West-Africa,” 56, in Zimmerer and Zeller, Genocide in German South-West Africa. See also Zimmerer, Deutsche Herrschaft über Afrikaner, 47.
110. Quiring, Die Eisenbahnen Deutsch-Südwestafrikas und ihre Bedeutung für die wirtschaftliche Entwicklung der Kolonie (Borna-Leipzig, 1911), 21. Discussions often circled around the water question. See NAN, HBS, St. Unit 1, File 1/2, Bericht, 31 March 1901.
111. Deutsche Kolonialzeitung, “In den Wanderdünen Deutsch-Südwestafrikas,” 6 March 1902.
113. NAN, HBS, St. Unit 1, File 1/2, Allgemeiner generelle Verhandlungen und Verfügungen den Hafenbau betreffend, 1898–1902, “Militärischer Bericht” der S.M.S. Wolf, 9 November 1900.
114. BArch-B, R 1001/8537 Kamele in Deutsch-Südwestafrika—Beschaffung von Kamelen Juni 1900—Nov. 1907, Band 3, telegram, von Trotha an Auswärtiges Amt (Kolonial-abteilung), 22 Feb. 1905. See also Kaulich, Geschichte Deutsch-Südwestafrikas, 374.
117. Kaulich, Die Geschichte der ehemaligen Kolonie Deutsch-Südwest, 447. See also Zeitung des Vereins Deutscher Eisenbahnverwaltungen, “Der Bau einer Eisenbahn von


120. Semler, Meine Beobachtungen in Süd-West-Afrika, 3.


130. TNA, CO 879/94/4 Further Correspondence [1907] relating to Affairs of Walfisch Bay and the German-Southwest African Protectorate, no. 128, enclosure (British Embassy 22 April 1907, signed Colonel F. Trench). See also Jahresbericht 1905/06, 67, as referenced in Die Geschichte der ehemaligen Kolonie Deutsch-Südwestafrika, 448; Silvester and Gewald, Words Cannot Be Found, 171n155.

131. F. Trench (21 November 1906), as quoted in Silvester and Gewald, Words Cannot Be Found, 171n156. See also Sarkin, Germany’s Genocide of the Herero, 125


133. Olusoga and Erichsen, The Kaiser’s Holocaust, 203.
134. Corporations did not pay their workers—they paid the local government instead, 50 Pfennig per day per worker Abschrift einer Verfügung des Etappenkommandos, 29 March 1905, NAN, BWI 406 E.V.8 Generalia, Bl. 3f, as referenced in Kreienbaum, “Ein trauriges Fiasko,” 250.


139. Dierks, ||Khauxana!nas, 12.

140. Ibid., 42. See also Masson, Jakob Marengo, 28.

141. Dierks, ||Khauxana!nas, 42.


143. Dierks, ||Khauxana!nas, 51.


145. BArch-B, R 34/926, Denkschrift betreffend den Weiterbau der Eisenbahn Lüderitzbucht-Aus (Kubub) bis Keetmanshoop.


147. Laak, Imperiale Infrastruktur, 128.

148. Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 121.

149. Deutsch-Südwestafrikanische Zeitung, “Wassererschliessungsarbeiten,” 10 January 1907. See also Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 124. This was one of the spots marked by dowser von Uslar. See Hans Berthold, “Eine Fahrt auf der Eisenbahn Lüderitzbucht-Keetmanshoop: Reisebrief unsres nach den westafrikanischen Kolonien entsandten Berichterstatters,” Kolonie und Heimat, 23 May 1908.

150. NAN, 28671, Construction of the railway line Lüderitzbucht-Keetmanshoop, 1906. Female workers (probably prisoners of war) carrying stones for railway dam on their heads [1906].

151. Baltzer, Die Kolonialbahnen, 86–88. See also Kaulich, Die Geschicht der ehemaligen Kolonie Deutsch-Südwestafrika, 448–49; Jäschke, Die polyzentrische Infrastruktur Namibias, 143; Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 126–27.


159. NAN, 28715, Construction of the railway line Lüderitzbucht-Keetmanshoop. Experimental garden for dune fixation at km 22, 23 Oct 1907.


162. CO 879/94/4 Further Correspondence [1907] relating to Affairs of Walfisch Bay and the German-Southwest African Protectorate, 1907 (British Embassy 22 April 1907, signed Colonel F. Trench). See also Häussler, Der Genozid an den Herero, 35.


164. Lau and Reiner, 100 Years of Agricultural Development in Colonial Namibia, 7. See also BArch-B, R 1001/8534, Kamele in Deutsch-Südwestafrika Dez. 1902–März 1914, report, 7 May 1908.


176. Ibid.


181. Nuhn calls it the first partisan war for the German army overall. Nuhn, *Feind überall*. 


190. Bravenboer and Rusch, *The First 100 Years of State Railways in Namibia*, 131.


198. Ibid., 181.
199. Ibid., 180.
CHAPTER 7

Creating a Model Colony

Little is known about Zacharius Lewala. He was a black laborer from South Africa who had worked in the diamond mines of Kimberley. That experience probably helped him recognize a shiny stone one day in April 1908. As a migrant worker, Lewala had been employed in the construction process of the rail line stretching into the desert from Lüderitzbucht. Commissioned to keep the sand off the tracks of the southern railway, he found himself near the Grasplatz railway station near Kolmanskop in spring that year, about seventeen kilometers inland. There, he spotted a one-quarter carat diamond simply laying in the hot desert sand. Lewala handed the stone over to his supervisor, chief railway foreman August Stauch. The latter began quietly buying up mineral rights while awaiting scientific results. He ended up with sixty-three fields for himself, soon a millionaire and “frontier tycoon.” Lewala, later portrayed as a businessman with a suit and tie in the magazine Kolonie und Heimat, got a job at Stauch’s company. That is it. Yet following a war that contemporaries soon defined as a necessary baptism by fire, Lewala’s discovery of diamonds marked a turning point and juncture. Now, to follow that colonial narrative, the Sleeping Beauty among the colonies could finally awake from its “deep sleep” to truly blossom. Southwest Africa was open for business.

German efforts to fully transform German Southwest Africa defined the postwar period. Grounded in Rinderpest, genocidal warfare, and forced labor, Germans now felt they had the blank canvas for a complete makeover. After all, the government had acquired a total of forty-six million hectares of land formerly utilized by Herero, Damara, Nama, and San people. Farms almost tripled, from 480 German farms before the Uprising to 1,331 farms by 1913. Investments began pouring in as well. Those funds were intended to turn barren and arid lands into productive Kulturlandschaften (cultural landscapes) for whites. As one narrative from the time has it, “The soil is pleading with observers to be utilized. . . . Be patient, you steppes and meadows, the culture bearer, man, will arrive.” In that story, German blood had virtually soaked and fertilized the soil, and now provided the basis for a once colonial Sorgenkind (problem child) to finally grow up. Chapter 7 focuses on that postwar
process: the expansion of landing structures, railways, and irrigation systems; animal transfers and engineering; as well as the cultivation of plants. While some contemporaries favored resource extraction over cattle farming or agriculture, all agreed when it came to creating reliable access and the need for solving the water question. Environmental infrastructure, defined by human agencies such as labor or the commodification of certain products, as well as natural factors, shaped processes that colonial narratives portrayed as the creation a new home abroad. After all, and according to those advertising the empire, “Southwest Africa more than any other of our colonies is suitable to become a Heimat homeland for families and to provide well for them.”

The following discussion is organized along four main sections. It begins with an exploration of different visions of the colony. Debates at the time reached from prioritizing the extraction of raw materials to cattle farming and agriculture, all understandings grounded in environmental infrastructure and the exploitation of African labor. The next part then focuses once more on access into the colony. Germans poured millions into landing structures and railways. They were confident their ingenuity would clear up bottlenecks and allow exports to reach world markets. Efforts to solve the water question—including the use of drilling and dam-building crews—are in the center thereafter. Here, administrative energies and organizational structures are most prevalent. After all, cattle farming and agriculture in particular depended on water. A final section concentrates on livestock farming and agriculture, including the introduction of new animals, plant cultivation, and afforestation. Government-funded experimental stations and other subsidies, combined with landing structures, railways, and irrigation, increasingly promised German farmers countless new opportunities.

Visions of a Model Colony

The Versuchsstation (experimental station) Neudamm near Windhoek was among the most active when it came to the creation of a sustainable agricultural colony. Colonists had long tried to figure out what could be grown in Southwest Africa. After individualized efforts and the investments of some private entities, the late 1890s witnessed a more comprehensive approach. Efforts had come to fruition in Germany with the formation of the Deutsche Kolonialschule für Landwirtschaft, Handel und Gewerbe (German colonial school for agriculture, trade, and industry) in 1899. Characterized as promoting scientific colonialism, and meant to train farmers, cattle breeders, and agriculturalists, its curriculum had an eye on future settlements in German Southwest Africa. To prepare women for empire, and to help deal with a shortage of women in the colony overall, the Deutsche Kolonialfrauenschule (German col-
lonial school for women) opened in May 1908. Such infrastructure expanded over the years, soon reaching into Germany’s settler colony. There, in Southwest Africa, all kinds of operations popped up. Forstgärten (forestry gardens), Versuchsgärten (experimentation gardens), Versuchsstationen (experimental stations), and Tropengärten (tropic gardens) opened in Windhoek, Grootfontein, Bethanien, Gobabis, and Klein Windhoek. In Neudamm, the colonial government contracted farmer Albert Voigts to build a dam, the only such structure the German administration had funded by the turn of the century. After setbacks due to the 1904 war, the rebuilding process and expansion of “real experimental station” took off. Experiments now included a whole array of potential cash crops such as coffee, rubber, tobacco, and cotton; colonists also experimented with endemic plants such as !nara-melons, fruits from palm trees, salt bushes, and seeds from the Weltwitschia mirabilis plant. Elsewhere stations looked specifically into afforestation—in the fiscal year 1911/12 alone, the entirety of such stations delivered 58,975 young seedlings to private entities. The Lehrfarm (training farm) in Brakwater became a hub for young German women to learn about daily life in the colony. Then there were experiments with livestock such as the sheep farm at Fürstenwalde, ostrich breeding in Otjituezu, and a veterinary institute in Gammans originally established following the Rinderpest. Several editions of the “official manual for emigrants” to Southwest Africa soon gave newcomers detailed advice on settling and farming. The Germans had big plans for the colony’s future.

Discussions had long lingered around the question of what kind of colony Southwest Africa would turn into. Would its seal show an ox for cattle farming or corn for agriculture? How would the colony become profitable? The liberal newspaper National-Zeitung had posed the latter question as part of a competition in its 1906 Christmas edition. Soon experts and laymen alike chimed in and catapulted these matters further into the limelight. Discussants wondered about priorities and proper size of farms; they also pondered the role of raw materials. In a way, three entangled visions of the colony emerged: resource extraction, cattle farming, agriculture. First, there were those dreaming of raw materials. Adolf Lüderitz had come for such riches. In 1898, some had already been certain that the discovery of diamonds was just around the corner. Descriptions of mining towns amid the Namib Desert speak volumes about such imperial fantasies. Failures, on the other hand, were generally blamed on “difficult circumstances rather than the environment of the land.” Mining experts at times found lead, tin, and iron ore; they were also confident regarding potential deposits of coal and gold. Although one publication noted that a dose of “indestructible optimism” is vital for anyone searching for raw materials in Southwest Africa, in the end, few of such hopes materialized. Deposits were often small and problems tied to accessibility and labor made them unviable. The extraction of marble and copper had some poten-
tial, the latter with a long history in the region. Initially, a low copper price, cone-shaped deposits with limited depths, and expensive transport routes to Walvis Bay limited options. The foundation of the Otavi Minengesellschaft mining company at the turn of the century, and its subsequent takeover of some copper concessions, later fueled hopes once more. The construction of a railway from Swakopmund to Tsumeb, the colony’s most profitable location, had begun in 1903, disrupted briefly by the war. Withdrawals reached 21,000 tons by 1906/7. Yet this was not comparable to the diamond boom. Experts and prospectors had long hoped for these precious stones, especially given deposits in similar geological formations and landscapes in neighboring South Africa. After Lewala’s discovery countless adventurers flooded Lüderitzbucht and turned it into a “transnational space.” Whereas some authorities worried about drunkenness, prostitution, and the overall deterioration of social order and racial lines, missing infrastructure and a lack of labor most worried those hoping to further development.

A second vision for the colony’s future pushed for cattle farming. In line with historic land use, arguments circled around farm sizes, the role of water and fodder, and markets. Geographer Paul Rohrbach became its strongest and most influential advocate. Settler commissioner from 1903 to 1906, and widely involved in colonial affairs as a writer and lecturer focusing on colonial economy thereafter, Rohrbach traveled extensively throughout the protectorate during his tenure. Although he criticized Lothar von Trotha’s extermination policies on economic grounds—Southwest Africa depended on cheap labor—his own vision of the colony’s future also had little room for the local population. According to Rohrbach, economic prospects were deeply tied to geographic circumstances and race. Since the interior provided few opportunities for large settlements, and because irrigation could at best sustain agriculture and gardening for some hundred families in small homesteads, for him the solution lay in cattle farming. In his view, large-scale estates inhabited by a new elite—middle-class and almost knight-like landlords—could also spread Germandom. Their strong cultural background and steady character could withstand foreign natures, climates, and peoples. Fifty million hectares of farmland meant for three million cattle and twenty million small livestock was his vision—if the water question could be solved. This “mixture of manor and farm,” to borrow Kundrus’s phrase, had some support among farmers. Overall, it encapsulated an elitist vision of the colony’s future that seemed to have much more in common with Teutonic Prussian rule in the East than with settler colonialism in Southwest Africa.

Lastly, there were voices promoting broader transformations of landscapes. Equally endorsing the importance of working the land, they felt that there were many more opportunities in Southwest Africa than met the eye. Kurd Schwabe, colonial soldier and official in Swakopmund, Otjimbingwe, and
Okahandja, spoke out against the mockery of the German colony as a desert wasteland. Although acknowledging the difficulties regarding access as well as idiosyncrasies of the region and populations, Schwabe emphasized a variety of opportunities reaching from cattle farming to agriculture: “Gardening can be done with lots of success; grain only in certain areas and in the future where the suitable land can be artificially irrigated and made fertile.” In his view, drilling, damming, and irrigating would do the trick, and allow for the production of fine wines, dates, figs, cotton, tobacco, wool, and more. “Sure, even German Southwest Africa extends into sterile desert regions that appear dismal,” he admitted, “but these [areas] only mark an unsightly shell of a golden core.” References to stories of successful transformations served as evidence to sustain these claims. At Farm Schlangkopf near Keetmanshoop a lack of water had originally crushed plans put forward by a large trading company. Two German farmers, however, who had recently migrated from Transvaal, had unearthed a source of water and built a successful farm from the ground up. It helped that colonial officials such as Deputy Governor Oskar Hintrager remained particularly dedicated to turning the colony into a white agricultural paradise.

All three visions of, or priorities for, the colony’s makeup agreed on the importance of landing structures, railway lines, irrigation schemes, and cheap labor; all also planned with government support. Copper and diamonds had to be accessible and needed to be exported. The same applied to produce and cattle. Harbors and trains were thus a must. Solving the water question was also essential, from having access to drinking water to irrigating gardens and fields. Of course, mining required much less water compared to cattle farming and certainly major agricultural operations. Still, workers needed to drink and diamonds had to be washed. “Even I,” to quote one voice from the time, “would have exchanged the most beautiful diamond for a refreshing drink of water (even if that Lüderitzbucht condenser-water).” Finally, commercial farming and mining wanted cheap labor. The construction and maintenance of harbors, railways, and irrigation schemes equally needed workers. Since few settlers would leave their homeland only to scuttle on desert sands searching for diamonds, it would fall on the African population long deemed inferior to provide the needed workforce. To quote one contemporary, “Even the construction of infrastructure, that comes first in the development of the country, is only possible based on the labor of the natives.”

The solution to the labor question had already begun. Kru men had long unloaded ships landing in Swakopmund and Lüderitzbucht. During the Uprising, the concentration camp system had delivered African bodies to turn imperial visions into realities; the latter had also helped build landing structures and railways. Kru men stuck around after the Uprising. As outlined by one scholar, “West African migrant labourers who came to the colony in the
1890s were essential to the development and maintenance of the German colonial infrastructure before the First World War. Such German dependencies gave Kru men leeway. At least one German observer was surprised to see them use the tools of the modern class struggle. Yet it was the dramatic loss of life during the war that most directly resulted in labor shortages. Colonial ordinances and laws tried to step in. In August 1907, the German colonial government institutionalized the *Eingeborenen-Verordnungen* (indigenous ordinances). Meant to cement the subjugation of Africans and create a permanent pool of black laborers, these laws basically barred non-whites from the ownership of cattle, land, and the freedom of movement; black Africans also had to carry so-called *Passmarken* (passes) at all times to limit what contemporaries called “vagrancy” and “vagabondage.” Of course, Africans technically were allowed to choose their employer; plus, they also tried to avert and subvert government oversight, with some still owning cattle, for instance. Several escaped into the veld as well, a move that largely depended on the amount of seasonal rainfall. According to one disgruntled farmer writing in March 1908, “from every farm people fled, after all they were allowed to do so now and were secure from punishment. Who would be so stupid under these circumstances to punish his workers. Then they really don’t want [to work], they cause trouble and harm. Finally they run away and that is the worst.” A lack of workers after the war, combined with African resistance, eventually forced the colonial government to consider importing contract labor, especially given growing demands following the discovery of diamonds, the expansion of copper mining, and the construction of railways. Migrant workers from the British Cape Colony provided one solution. Higher pay and above-ground work compared to mines in South Africa might have pulled sixteen-year old James La Guma to work for Southwest Africa’s diamond industry. Among workers from the Cape Colony he had a third party that could theoretically intervene on his behalf—a factor that probably encouraged the German colonial government to recruit labor from the north of the colony as well. There, at the border with Angola, and thanks to their reliance on autarkic agrarianism, the Ovambo had so far been largely independent. However, once drought, locusts, and floods brought famine to that area thousands found themselves trekking southward to work in the diamond fields. According to one estimate, in 1910 alone five thousand Ovambos made that journey. Many times, and given other demands and responsibilities, it seems that they only signed up for six months during the winter. Overall then, individuals such as Rohrbach and Governor von Lindequist might not have agreed on specific settlement policies, farm sizes, the prioritization of cattle farming over agricultural schemes, or the value of large-scale infrastructure projects; yet they did agree on the need to solve the labor question based on the creation of a permanent black underclass.
Constructing the Future

His visit to German Southwest Africa had been all over the news. Bernhard Dernburg, a liberal politician meant to bring a more practical mind to colonial affairs, had become Germany’s first colonial minister in 1907. A larger debate about funds for the colonies had led to the dissolution of the German parliament by Chancellor von Bülow and the notorious 1907 “Hottentot elections.” Although willing to sustain funding for the railway expansion from Kubub to Keetmanshoop, Social Democrats and the Center Party had refused to support funds for military operations. Subsequent elections and the eventual formation of the Bülow Block Coalition, which supported investments in the colonies, also brought the creation of the Imperial Office headed by Dernburg. After his initial travels to German East Africa in 1907, Dernburg came to Southwest Africa from May until August 1908. Accompanied by fellow banker and politician Walther Rathenau, the mission’s objectives were “to study the British native police, the experiences in exploiting water resources and the possibility of reducing the colonial budget by extending the railway lines in the South West.” Dernburg was a banker and economist with a background in restructuring businesses; he was also someone with an eye on protecting the diamond industry from DeBeers. Dernburg knew that investments into “modern means of development” were essential for the future of the colonies. The Colonial Institute in Hamburg, founded in January 1908 and meant to train future colonists, certainly spoke to his support for broader structures. Although his confidence seemed to wane slightly once visiting the region in person, calls tied to investments into infrastructure were now heard in Berlin.

There was certainly much to do in Swakopmund. Landing structures, for once, had been an embarrassment for some time. Although increasingly described as Southwest Africa’s *Haupthafenstadt* (main harbor city), rafts, a silted-in concrete pier, and a wooden jetty destabilized by the shipworm painted a worrisome picture. As one traveler wrote in 1906, “The immigrant loses heart once he sees the sandy, barren coast of Southwest Africa from the ship for the first time, and that is particularly the case at the sight of Swakopmund, which makes a grim impression with its bleak sand dunes in the background and the steady raging surf in front of it. Even the courageous are captivated by the mild creeps because they have to cross with an open, shaky boat; already many happy human lives have fallen victim to it.” Two years later a description noted how boats were still “subject to the ocean’s whims.” Luckily the 1907 budget had earmarked funds for Swakopmund’s harbor. Yet by 1908 a report in the *Deutsche Kolonialzeitung* newspaper noted that “it might be necessary to renew the pier in a couple of years because of the prevalence of the naval shipworm in the
As indicated in chapter 5, debates about a more sustainable solution took place thereafter, including in parliament. Government building officer Kummer's idea of a spur dike meant to divert sand gathered the most attention and support. Kummer had suggested the construction of a jetty structure that would later be converted into a spur dike to limit silting-in; an additional extension of the Mole could be added later as well.

Eventually officials endorsed the construction of a metal jetty. Work crews arrived in November 1911 and assembly commenced in 1912. Projections estimated a timeframe of about three and a half years and costs of 3.5 million Marks. Slowly and steadily, and again built in part by African labor, a pier grew into the rough and sandy waters of the Atlantic Ocean. Plans envisioned reaching 640 meters into the ocean crossing breakers to ease the landing process (Figure 7.1). This was a massive project, a major investment in the colony's future. It was about time. In late July 1911, the tugboat Windhuk of the Woermann-Line had sunk. Three massive waves had hit it with full force, capsizing the boat rather quickly. Three men died, a machinist and two Krumen. In another instance, an anchor chain had ripped due to strong currents. The
fi shing boat Möwe was lost. Just observing the “interesting spectacle” as sixty-nine Argentinian horses and 303 mules arrived using rafts gave anyone the chills.

A similar situation unfolded in Lüderitzbucht. Although some thought updating the natural harbor would be easy, realities on the ground turned out to be complicated, especially after the arrival of the shipworm. Countless reports and the aforementioned diaries outlined efforts put in place to monitor the infestation. By 1907 it became increasingly clear that the safety of structures was in jeopardy. Proposals included a metal jetty. Even the idea of building a cable-car that would reach into the ocean made the rounds. Additional surveys, delays, debates, and threats of shutting down landing structures slowed down any decisions thereafter. In 1908, Hans Berthold, the correspondent for the magazine Kolonie and Heimat, pointed to the need to update landing structures to make Lüderitzbucht profitable. He stayed optimistic: “Regardless of all the suffering of the present, it is absolutely certain that the Lüderitzbucht location has still had a bright future.” Yet the availability of land on the central plateau following the defeat of the Herero, lingering fears about continuing insurgencies in the south and a diamond boom that needed small volume for export fetched few investments. Accidents thus continued to happen, such as in September 1911 when a German sorter and two unnamed Ovambo workers drowned at the northside of the Roberts Harbor; that same month prospector Arthur Beck and two horses also died. As late as 1913 the landing situation in Lüderitzbucht remained “unsatisfactory.”

Diamonds helped when it came to funding investments; those also required their own structures. After the discovery of diamonds in 1908 hundreds of claims had resulted in an uncontrollable boom. For one, Lüderitzbucht changed overnight. It had consisted of “little more than a forlorn collection of corrugated iron huts clustering around two of the more important buildings, dignified by the names of ‘hotel,’ ‘store,’ and ‘custom house.’” Now a haste set in. A “stream of suspicious elements” rushed into town hoping to find diamonds and make money, to follow one newspaper. Water prices skyrocketed, with the price per gallon reaching one mark. Colonial Secretary Dernburg, keen on controlling the diamond industry together with the giants of the German banking industry, issued a decree in late September 1908 that established a Sperrgebiet (forbidden zone). At more than 25,000 square kilometers, this strip along the coastline covered much of the Namib Desert in-between the Orange River and Lüderitzbucht. As individual prospectors diverted northward, supplies and equipment began reaching the sealed space via Sandwich Harbor, Conception Bay, and Meob Bay. Traveling along the coastline was still dangerous. Take the story of steamer Eduard Bohlen. Now sitting more than 390 meters in the notoriously harsh Namib Desert, it was originally launched in Hamburg in 1891. Built by the prestigious Blohm and Voss ship-

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yard, this steel-hulled steamship had served as the first prisoner-of-war camp for those Herero living in Swakopmund during the Uprising. On the way southward to deliver mining equipment in September 1909, and about ninety meters offshore near Conception Bay, it got stuck in the breakers, unable to be freed. The abandoned wreckage, purchased and salvaged by a former passenger, later housed miners, likely Ovambo migrant workers employed in the diamond industry.

Mining settlements such as Holsatia, Charlottenfelder, and Grillenberger, spaces still visible in the midst of the Namib Desert, tell stories about remote places and structures where African labor yet again compensated for the lack of access. Theoretically, diamonds just laid on or near the surface. That encouraged the satirical magazine *Simplicissimus* to include a sketch showcasing that even a blind pig could find them. Yet such work was much more difficult. In the absence of machinery, and given that wind constantly covered the prize, Africans searching for diamonds had to crawl through the hot desert and move massive amounts of sand by hand. Conditions on site were terrible. Diseases ran rampant and harsh punishments were the norm. Following a gruesome two-week journey to Lüderitzbucht, Ovambo workers from the north had to make do with little once on site. They then laid face-down more or less breast stroking like swimmers through hot sand trying to spot the precious goods (Figure 7.2). The water supply was insufficient as well, both for washing diamonds and for drinking—how to turn “our diamonds into water” was a major question at the time, to quote one contemporary observer. For African workers that meant they had “to drink the water used for pack animals,” to follow one scholar. All of that seemed counterintuitive given the lack of labor. However, it was not surprising when thinking about underlying racism and the history of brutality in the colony. Ruthless punishment was widespread, and many Ovambo families back north would await the return of their men in vain. Kolmanskop Diamond Mines had a death rate of about 10 percent in late 1911. According to historian Steven Press, a confidential account points to a death rate of 45 percent at that site in a single year. Not surprisingly, and in a sign of resistance, fewer workers showed up over the years, as news about the conditions in the diamond fields traveled back north.

Revenues meanwhile piled up even though smuggling remained rampant. Dernburg’s scheme and the mere value of diamonds invited illegal removal; that stones initially loitered atop sands in vastly open spaces made control all but impossible. Steven Press tells countless tales of savvy smugglers foiling local officials; he also points to the dangers of the Namib Desert. The local police at times relied on camels for that reason. Overall, however, millions still ended up in the coffers of a German consortium installed by Dernburg. Diamond extraction grounded in African labor was more than profitable. Up to now much more money had been flushed into Southwest African than came
back. Diamonds changed all that. Some estimates note that their extraction contributed two-thirds of revenue toward the local budget (1909–13); more recent discussions have convincingly demonstrated much more has been moved. In contrast with the economic fiasco of its early days, “the colony was able to achieve a profit with diamonds during the last years of German colonialism.” While a few got incredibly rich thanks to Dernburg’s schemes, the revenue was used to fund landing structures, railways, and later irrigation, thus underscoring the importance of diamonds for subsequent investments.

Apart from landing structures such as the jetty, money primarily went into railways. A Railway Memorandum had brought an array of investments; there had also been a learning curve regarding structural issues, gauges, and the layout of tracks. For one, workers partially retrofitted parts of the Staatsbahn into Cape gauge, a process that also included some rerouting due to previous misconceptions. Elsewhere improvements came with modifications of existing structures, such as the Okahandja bridge. Flash floods remained a concern, however. An entrancing black and white snapshot published in the colonial magazine *Kolonie und Heimat* in 1908 confronts readers with a lone man sitting atop washed-out railway tracks, gazing toward the onslaught of water and “cowering and dispensing any heroic pose,” to follow a recent description. A year later the Fish River came off “with rarely seen force,” to quote one commentator. In January 1912, two people died when a train traveling between Johann-Albrechts-Höhe and Karibib unknowingly crossed an embankment undercut by water and derailed. The colonial records in Windhoek are filled with files discussing disruptions, accidents, and trage-
African labor yet again had to remedy these problems. In 1912, when water flooded the train station in Karibib it would be “blacks that carried arriving passengers to surrounding hotels,” to reference one newspaper. So-called Stopfkolonnen (plugging crews), which had been created to fix whatever issue, relied on black labor as well, as did the construction of new routes. Just for a section starting from Windhoek northward, three private companies employed 110 whites, 904 Transkei (from South Africa), and 1,450 indigenous laborers; the stretch leaving from Keetmanshoop employed 120 whites, 1,230 laborers from the Cape Colony, and 1,840 indigenous workers. The mistreatment of workers was widespread. Take the experiences of James La Guma, a black worker from the Cape Colony previously mentioned in the context of diamond mining. He later recalled how a “burly overseer applied the stipulated number of strokes wielding a sjambok with sadistic vigour.” Some walked off the job in protest. At a construction site of the company Bachstein-Koppel in early October 1910, South African workers protested against terrible working conditions. The army ended up killing fourteen workers in what became known as the Wilhelmstal massacre. By the end of 1913, there were a total of 2,104 kilometers of railway lines in use. According to one commentator, once the water issue was solved, settlers would finally pour into the colony to “transform the wild land into a cultural or cultivated land.”

Solving the Water Question

Jose Rafael Perfecto Antonio von Uslar believed strongly in his abilities to find water. Born to the German consul general and a Spanish woman in Mexico City, his tenure in German Southwest Africa pushed dowsing into the limelight. At times known as water divination, dowsing refers to the employment of rhabdomancy, the use of a Y-shaped wooden stick or metal wire to find water. Although widely criticized by German geologists as a superstitious folk tradition, water divination had made a recent comeback. By 1906 none other than Kaiser Wilhelm II himself supported von Uslar’s stint to Southwest Africa. At one point during his time in the colony, and according to local newspapers, “captain [Victor] Franke, three corporals, three carts, . . . six natives,” and four horses accompanied von Uslar. The latter described his endeavors as “the life of a nomad” to friends back home. He indeed traveled extensively, first in central Namibia, by October 1906 in the south before moving north again. Along the way he pointed to spots for drilling. Settlers had certainly been desperate for any help, including dowsing, thus once more underscoring the importance of the water question.

The imperial government had initiated and invested in drilling crews before von Uslar’s arrival; after the conclusion of the Uprising, those efforts ex-
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Budgetary constraints had limited some investments before the 1907 elections. Still, Governor Friedrich von Lindequist’s *Comprehensive Plan for the Development of Water Sources* got approved by April 1906. That blueprint included efforts to centralize drilling by relying on two drilling crews, one for the north and one for the south. Directly under the supervision of the governor, Geographer Heinrich Lotz, employed as the first government geographer in Southwest Africa since late 1903, supervised *Kolonne Süd* (crew south). Originally based in Lüderitzbucht (later Kuibis), Lotz was eventually replaced by geographer Paul Range. Victor Franke, the aforementioned official accompanying von Uslar, led *Kolonne Nord* (crew north) (Windhoek). Each crew included about six to nine drilling squads under the supervision of a drilling inspector. A drill or boring master, an assistant, an array of indigenous workers then made up each squad. Geology was supposed to determine where to dig for water—unless an overconfident von Uslar stopped by. The successful discovery of drinking water then became the basis for the construction of wells and possible irrigation schemes (Figure 7.3). Funding increasingly came from the charity lottery; some assets were also specifically earmarked for the German colonies, including the solution of the water question. Such financial assistance was desperately needed: locating water was expensive, as was getting it out of the ground. A 1912 estimate noted that about 59 percent of a settler’s capital alone—a whooping 6,600 Marks—went to the development

Figure 7.3. NAN 00518, “Boring for water on Farm Otjisoroe boring machine [1907],” courtesy of the National Archives Windhoek.
of a water source. According to a newspaper article signed by “The average farmer,” the costs for drilling for water were around 30 Marks a day. As more settlers arrived in the colony, it became even more apparent that without government subsidies the transformation of arid landscapes into productive settlements would not be possible.

Drilling crews ran into all kinds of issues. The annual report for 1907 spoke of “satisfactory progress”; yet according to the Deutsche Kolonialzeitung newspaper, by 1908 initial meager investments had resulted in little overall success when it came to the solution of “one of the most important, if not the most important questions for the country.” Funds ran out as well. By 1910, Lotz and Rohrbach, among others, called for additional investments. They noted that “half measures and false frugality regarding the most important factor, the development of water, mean mostly throwing away money altogether.” Then there were uncertainties of where to dig. Expertise was hard to come by, particularly in remote areas. The groundwater also started to drop. According to an official bulletin, water once only “a few meters” deep now required drilling crews to dig between forty and fifty meters to find it. One study from 1912 concluded that the whole situation tied to the solution of the water question stayed “unsatisfactory.” Whereas between 1906 and 1911 seventy water holes were drilled in the Okahandja District alone, twenty brought no water whatsoever—and eleven less than 2.6 gallons (10 liters) per minute. Finally, there was the issue of labor. As one young economist visiting the colony noted in 1906, “the real problem … has always been not only how to find the white man to settle the country, but quite as much how to find coloured labourers to support them when settled.” Although few African workers wanted to travel to remote spaces under the strict and brutal supervision by German foremen, ordinances often left them with few alternatives. An incident from September 1913 vividly underscores the violence present at many work sites. According to a police report, Berseba-Nama Kakub, pass no. 4418, did not want to work. At least the report talks about his “cheeky” response when he supposedly pointed out “that is not my job but the job of the drillmaster.” A policeman wanted to slap him, which ensued in a brawl. Authorities punished Kakub with fifteen blows using a whip. That he showed up at work on time the next day constituted proof for officials that their measures had straightened him out. Kakub ended up in the hospital for several weeks thereafter. Only that triggered a brief inquiry and evidence in the colonial records, while leaving the drilling crew short a worker.

Settlers in need of water began to complain; they also increasingly started helping themselves. In 1911, an unnamed farmer noted, “The government is under the obligation to get water on those farms it had sold.” Another writer grumbled in the newspaper Der Südwestbote that “[o]wners have to pay property taxes and a cattle tax, have to move around with their cattle to here
and there and still have to pay for water and rangeland. Making drilling equipment available for rent became one way to stretch funds. Yet that brought few results. The local newspaper agreed with farmers’ sentiment, calling it “a cry in distress.” Government officials, on the other hand, whined that it was mainly those who have made no effort whatsoever that ended up demanding government assistance. Instead of waiting, some settlers also began taking matters into their own hands. Farmer Hans Lohse in Okahandja purchased his own drills. Others called on dowsers to help. Farmer Kubisch later noted that von Uslar is “a most-respected person among farmers” in German Southwest Africa. Thanks to him, he added, dowsing is widespread and helpful for solving the water question. Contemporary colonial publicist Clara Brockmann wrote in this context, “There are in the main two, in their way essentially different, means with which we have worked, namely the divining rod and discovery by scientific manner through geologists.” In her view, a simple farmer said it best when stating that his cattle does not care who discovered water. Or take the experiences of Farmer Hellmuth Forkel from Holoog in the South. In May 1911, he sent a letter to Drilling Crew South asking for geographer Range, a drill expert, and “a man with knowledge regarding the dowsing rod” as soon as possible. Forkel had been awaiting tree seedlings and grapevines, and those needed water as soon as possible. But delays piled up. For one, a windmill pump he had ordered sat in Lüderitzbucht for some time. Plus, the drilling crew ran behind schedule. By September Forkel pleaded with officials—it did not help any. Eventually, the drilling crew arrived in Nanibis, one of two farms Forkel owned in the Keetmanshoop region. After drilling for seventy meters without finding water he requested it to move on to nearby Holoog right away. Although the drilling crew followed his request, Forkel remained unsatisfied: the hole was in his view no more than twenty meters deep. “I now have no advantage whatsoever based on this drilling hole especially because the drilling hole does not go into the hard rock but just sits loosely so that it brings up sand.” His threat to withhold payment might speak to the widely documented willingness of settlers to sue and complain. Walther Rathenau counted a stunning average of at least two lawsuits per settler in 1908. Yet Forkel’s experiences also showcase the issues farmers faced when trying to access water.

The imperial government also set up dam-building crews. Publications had long pointed to the potential of dams and irrigation. According to one local newspaper, “that is how the water question would be solved in the south.” Officials agreed. In 1911, mining assessor Hermann Nieß from District Rehoboth, for example, noted that dams would be essential. By then farmer Hermann Brandt, the owner of a farm in Marienthal, had already built a dam to irrigate his farmland. It had a capacity of 52 million cubic yards (40 million cubic meters). Settler Maria Karow had also described an array of efforts trying
to irrigate a garden, including the construction of a protective dam to prevent flooding.\textsuperscript{172} Her brother-in-law, she added emphasizing the pioneering settler spirit, had also not shied away from toil or labor when he had constructed twelve dams meant to collect rainwater.\textsuperscript{173} Overall, however, such constructs were few in number. Since they were generally built with little expertise, several failed, debacles that then only added to costs.\textsuperscript{174} It did not help that few agreed on what constitutes the best structure. Farmer Ferdinand Gessert, an outspoken voice on all matters regarding irrigation, emphasized that smaller dams might do the trick. In his view, grain could sprout after the water evaporated.\textsuperscript{175} Hydrology engineer Zwergern, on the other hand, pushed for trials with underground earth dams meant to contain the groundwater within the Swakop Riverbed.\textsuperscript{176} For him, such \textit{Grundsperren} (ground barriers) and \textit{Grundschwellen} (ground dikes) would be the only way to elevate the groundwater level again.\textsuperscript{177} The German parliament eventually agreed to financially support the construction of dams in 1907. By January 1908 the dam-building crew began its work.\textsuperscript{178} Later coordinated with drilling crews, teams were supposed to plan irrigation schemes, evaluate existing proposals, and advise private entities.

Dam-building crews had no easy task. For one, the 1909/10 annual report did not earmark specific funds for them just yet.\textsuperscript{179} One million Marks was eventually set aside in the 1911 budget.\textsuperscript{180} The charity lottery was supposed to help out as well.\textsuperscript{181} According to governmental statistics, all of that resulted in the construction of sixty-five dams by 1910. By 1912 funds ran dry.\textsuperscript{182} One government publication tried to see the silver lining: “Nonetheless lots of farmers that see the value of such dam systems constructed dams with their means without government support.”\textsuperscript{183} On the ground, the situation was far from rosy. Take the example of farmer Otto Brinkman near the Langeberg mountain northwest of Otavi. He noted in personal correspondence from 1909 how “[w]ater dam structures here cost, if they should be useful, a grave amount of time, labor, and money; it takes years until a dam can be completed.”\textsuperscript{184} He had to delay planting because existing wells were simply not sufficient to sustain his crops. Vast distances were also a problem. It took until 1913 before a dam-building crew finally reached the south of the colony.\textsuperscript{185} There were also issues with property rights. Rivers often demarked borders between different owners. However, the nature of ephemeral rivers and shifting riverbeds made that tricky,\textsuperscript{186} issues not really addressed until early 1913.\textsuperscript{187} Farmer David Maritz of Garis Farm near Kub eventually took matters into his own hands. In the view of several observers, his dam, which did well in early 1912, outlined the potential of such projects.\textsuperscript{188}

Those most dependent on water had been looking into another way to make aridity work: dryland farming. “What is dryland farming?”\textsuperscript{189} asked Arthur Golf, an agronomist researching colonial agriculture at Halle University. Ac-
According to his definition, “Dryland farming means a [type of] agriculture in an arid region that is based on the conservation of moisture in the ground based on appropriate efforts regarding the soil before and during the growing season, and on the selection of such plant species and kinds that are particularly drought resistant.”  

Global connections had long defined discussions. Take South African agronomist William MacDonald, who had visited the 1909 Dry Farming Congress in Wyoming and influenced discussions in German Southwest Africa. In his view, “Dry-farming is destined to revolutionize the agricultural industry of South Africa as well as to solve the profound problem of the future, namely land settlement.”  

References to South Australia, North Africa, and the American Southwest were also widespread. One commentator noted in the magazine *Der Tropenpflanzer* that the “situation in Southwest Africa is rather similar [compared to the American Southwest], and I am very certain that we can learn from the development of the North American step-child.”  

Farmers were mostly working with what contemporaries called the Campbell System. This approach basically relied on a packer for proper tillage of the ground as water was more or less “forced” into the soil. Some also began toying with growing alfalfa and corn. By 1911, at least Farmer Eickhoff had some good results with dryland farming on his farm in Omantangara; Farmer Gessert’s “great success” equally “proved that this protectorate could become a settler colony with a much larger capacity for immigrants than previously anticipated.”  

The colonial government itself completed trials at its experimental farm in Neudamm. Yet by 1913 even the most outspoken advocates had to acknowledge that experiments were still “in the initial stages.”  

Large-scale irrigation structures also saw a rebirth. Discussions about the ideas put forward by Rehbock and Kuhn had never fully gone away. At least government building officer Rudolf Schmick’s detailed report for such a project at the Naute had been calling for additional surveys into the region by 1907. Two years later, one magazine stated, “The construction of large dams has increased in importance so rapidly in the German fatherland from year to year that it should primarily play an important role in the future of our African colonies,” that outlet also pointed to the Naute and Hatsamas, both locations Rehbock and Kuhn had explored much earlier. In 1907/8, a banking conglomerate had funded an expedition to examine existing proposals. Building officer Rudolf Schmick, a strong proponent of massive transformations of landscapes, was in charge. In one instance, Schmick outlined his vision “of superb vegetables such as artichokes, cucumbers, beans, tomatoes, additionally date palm trees, melons, strawberries and such, all in copious amounts” when describing successes with broader schemes in Bethanien. A concise proposal for the construction of two dams along the Naute came out of the expedition. Soon calling on the government to provide the required funding, Schmick employed colonial frameworks of conquest when noting that
“pioneers willing to make sacrifices” should not have to deal with bureaucratic difficulties and limited funds.205 Range’s report submitted in October 1908 then concluded that “the geological conditions are generally favorable.”206 By the 1910s, Governor Seitz and the colonial administration in Windhoek had apparently realized that drilling and the construction of small dams would not generate enough water. Plus, some influential voices in Southwest Africa such as Gustav Voigts endorsed large-scale projects.207 The budget for 1911 had still been “ stingy” when it came to funding for the development of water sources.208 Thanks to diamonds that began to change.209 At least state secretary Wilhelm Solf gave good prospects “for the beginning of construction of a dam in the Löwenfl ussnannte.”210 Discussions around property rights, additional expeditions, and time for preliminary measurements followed.211 In late 1913, a memorandum outlined the possibilities of using the water of the Fish River by constructing three dams.212 A fifteen-page foldout from 1913 outlining the colonial government’s vision for transforming the Fish River near Hatsamas certainly points to big ideas being hatched in Windhoek.213 For some this was only the beginning. Soon afforestation and the eventual change of the overall climate would fundamentally transform the region. In early 1914 a first of three one-million Mark installments actually came through.214 Efforts to complete the Avispforte dam, among others, had also moved forward by then.215 A dam-building frenzy seemed to be on the horizon.

By 1914 the solution of the water question had progressed. Scholars estimate that crews “drilled between 50 and 100 boreholes per year and provided the basics of water supply to farmers, towns, and villages.”216 Much later Range spoke of sixty-three kilometers total when it came to drilling,217 a number that is difficult to confirm. Farmer Carl Schlettwein, who contributed widely to debates regarding specifically the role of agriculture, noted in 1914 that “in almost all regions” water is accessible. In his view, experiences in reading “nature’s sign” would easily provide the needed water.218 The photographs he included in his publication showcase all kinds of structures—a successful transformation, it seemed. At the same time, and as one newspaper admitted in 1912, drilling efforts could “not keep up with the settlement of the country.”219 Besides, one commentator leaving the colony following World War I noted that farmers were still awaiting the arrival of long-promised drilling crews; he also criticized bad planning in regard to certain damming projects.220 Regardless, there was a feeling of progress among settlers. Their publications spoke about a noticeable upswing in the development of the colony by 1908, even as problems remained.221 By 1914 northern districts had an average of five dams, central districts an average of thirteen dams, and the southern districts an average seven dams.222 Support for larger projects had increased as well. Irrigation schemes indeed took shape for settlements in Windhoek (Farm Voigtsland, Hoffnung, and Neudamm) and Mariental (Figure 7.4).223 Whereas for Herero,
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Nama, and other African populations existing “sustainable economic patterns were replaced by dependencies deliberately brought by the colonial state,”224 for a white settler minority the solution of the water question seemed within reach.225

Creating a Settler Paradise

The mood was good. It had been a sunny day in late May 1914 and the district administrator’s meeting in Windhoek had just concluded. Discussions around self-government had been front and center. However, the water law, the role of afforestation, and the use of small dams also came up.226 Now, it was time for the colony’s first Allgemeine Landesaustellung (general state exhibition) to open its gates. An agricultural exhibit in 1913 had already displayed an array of products.227 Yet his event seemed even more impressive. Fruits such as apricots, peaches, apples, and pears, as well as vegetables were on display together with all kinds of grains. The experimental station near Grootfontein received the first price for its large corn husks. John Ludwig, farming in Klein Windhoek since at least 1893, served his local wine. Others showed off their spirits and tobacco. A lot was going on at the stand of Robert Hummel who had beer.
Cattle wandered around while stands showcased leather and furs from South-west Africa meant to conquer the world market. Even camels, now tamed by German experts like the land itself, performed by jumping over hurdles—“the high point,” to follow one description.\textsuperscript{228} Mining interests had a presence as well. There was copper, marble, and of course diamonds. The local building industry, together with countless machines for drilling, pumping, or irrigation, pointed to the development of the colony, all while a recently arrived plane circled over the fairgrounds. Elsewhere governmental statistics spoke of impressive growth when it came to the export of copper, diamonds, wools, furs, ostrich feathers, and more.\textsuperscript{229} Later on, and in line with colonial narratives, farmer Gustav Voigts would speak of “the great success of this event.” In his view all the work Germany had put into “a seemingly bleak and ignored land” had paid off.\textsuperscript{230} Former Deputy Governor Hintrager added that the event met even the most courageous expectations.\textsuperscript{231}

Cattle farming had certainly benefited from the availability of landing structures and railroads; it also now relied on expertise when it came to dealing with diseases. The \textit{Rinderpest} pandemic had demonstrated the power of small pathogens and the wide dependency on animals for travel. Whereas the construction of the railway soon decreased such reliance along major travel routes, immunization had brought the pandemic under control. Of course different diseases, both threatening cattle and other livestock, still mattered. But veterinary infrastructure and a better understanding of diseases lowered dangers overall.\textsuperscript{232} Cattle farming in particular became big business. Discussions surrounding the export of beef are a case in point. Thanks to easier access to world markets, cattle farmers increasingly thought about selling their beef in Germany, especially during the Meat Crisis. Soaring meat prices had been “less a problem of actual shortage than of meat becoming too expensive for the poor,” as one scholar writes.\textsuperscript{233} Regardless, the situation was socially explosive. By 1910 the German chancellor Theobald von Bethmann Hollweg opened the German market for imports. That move attracted interest among cattle farmers from around the globe. In the following years newspaper reported widely about the issue,\textsuperscript{234} with some specifically pointing to the potential of feeding Germany with beef from Southwest Africa.\textsuperscript{235} One expert from Berlin writing in the magazine \textit{Kolonie und Heimat} acknowledged logistical issues and the comparatively poor quality of beef from that particular colony. It was just too chewy. Yet he also pointed to future possibilities when it came to feeding the metropole with surplus meat from the periphery. “Naturally and of course Southwest Africa will deliver meat to Germany,” he concluded.\textsuperscript{236} That France had been relying on her colonies only added fuel to such debates.\textsuperscript{237} Cattle farmers in Southwest Africa certainly saw the opportunity. Georg Schmidttsdorf and Otto Külbel, a butcher and an entrepreneur, invested in a meat cannery opening in Karibib in 1913.\textsuperscript{238} Problems with the quality of frozen beef leaving
Swakopmund, which persisted well into 1914, had made meat conservation a viable alternative.239 Whereas German administrative hurdles meant to limit the spread of diseases brought additional delays, expanded investments and infrastructure increasingly allowed Southwest African cattle farmers to dream about markets well beyond the horizon.

Investments into logistics also invited additional experiments with other livestock. The larger-scale introduction of sheep, an idea originally floated by Adolf Lüderitz in 1885,240 led Ernst Hermann to conduct trials as early as 1891. Subsidized by the government, he imported about 2,000–3,000 sheep from the Cape Colony. His efforts seemed promising. Then, in 1893, Hendrik Witbooi and his men stole 2,350 Merino sheep, 125 oxen, and 28 horses, all worth about 80,000 Marks.241 Hermann tried again in Nomtsas—this time the formation of the Southwest African Sheep Farming Society helped.242 After the 1904 Uprising such attempts finally moved forward. By 1906 one proposal already recommended the import of 20 million animals to produce 100 million kilograms of wool.243 Two years later, and with an eye on potential exports, Colonial Secretary Dernburg called on farmers to more broadly replace their goats with sheep.244 Hopes to break into the world market dominated by Australia and Argentina drove such propositions. Some even estimated that Southwest Africa could potentially contribute about half of the world’s overall demand in wool.245 Even just exporting to Germany, which had a net import of slightly over 200,000 tons of wool in 1912, made sense.246 That year, an estimated 26,900 wool sheep lived in Southwest Africa altogether. Solving the water question, along with complaints about African labor, shaped discussions in the colony.247 Colonial consultant and lawyer Wilhelm Külz, who had been involved in promoting the introduction of sheep early on, meanwhile began advertising Southwest African wool in Germany; Paul Rohrbach equally pointed to the future of this industry.248 Subsequent efforts aimed at scaling up production by improving the organization of exports, refining the breeding process, and purchasing additional land. Next to the import of Angora and Merino sheep, Karakul sheep seemed particularly promising. Originating in central Asia, the slaughter of young lambs brought precious pelts commonly known as Karakul. In late September 1907, two bucks and ten ewes of Persian Karakul sheep landed in Swakopmund. Undersecretary and future governor Friedrich von Lindequist had bought them for 200 Marks each from Leipzig-based Paul Albert Thorer, a leading pelt businessman. Albert Voigts, who originally had little interest in these animals, took some of them, thus setting the basis for a successful industry later on.249 Even Kaiser Wilhelm II invested in two farms in Southwest Africa.250

The development of ostrich farming followed similar trajectories. Feathers, cut in pens from cornered birds in a process that generally resulted in injuring these poor creatures, had long been a highly-sought after luxury fashion item,
especially among European and American upper-class women. As outlined by historian Sarah Abrevaya Stein, this was the time for elaborately trimmed hats decorated with plumage from not just ostriches but also hummingbirds, herons, bird of paradise, and other fowl. By the 1880s such trends resulted in a craze for feathers. Inventory mainly came from Oudtshoorn in South Africa, the epicenter thanks to broad irrigation schemes, an arid climate, and other suitable factors. By the 1910s prices went through the roof. According to one estimate, “nearly a million pounds of ostrich feathers, valued at roughly £2.6 million, were exported from the Cape in 1912, yielding the largest gross income for ostrich feathers yet seen.” A highly lucrative if ultimately short-lived boom, voices in German Southwest Africa began wondering about how to get in on commercial ostrich breeding. One debate focused on best breeding practices. While some saw wild ostriches as useful, others only wanted to rely on imported animals from South Africa—and shoot the rest. Other discussions focused on demand, irrigation, and feed. The cultivation of alfalfa, talked about like a silver bullet for turning outwardly arid landscapes into productive spaces, was often seen as a viable solution. The creation of an experimental farm for ostrich breeding at Otjituesu by 1911 underscored the role of government subsidies meant to promote overall efforts: colonial funds helped with the import of ostriches from South Africa and paid allocations for the construction of pens. Plus, German regulations prohibited the hunt of the flightless bird or the taking of their eggs. Meant to assist breeding efforts, such laws hurt African societies long relying on such practices to sustain themselves. Although repeated setbacks defined trials early on, breeding efforts began showing promise, with some rounds of “cut-ready feathers” turning out well.

Plant cultivation played a major role for livestock feed such as cattle, sheep, and ostriches; it also shaped agricultural schemes hoping to move beyond self-sufficiency. Farmers had long grown grain, vegetables, and fruits. Now, the increasing availability of transport and irrigation systems invited them to think about cash crops. Early experiments regarding the cultivation of cotton had resulted in promising evaluations of samples. New sources of cotton had certainly been in high demand, with one commentator calling it “one of the most pressing questions of economic survival.” However, the lack of control over regions beyond the police zone, combined with a limited pool of labor and irrigation, delayed progress. Soil and climate in Southwest Africa also made the cultivation of tobacco a possibility, a process that required experience when it came to proper curing. Discussions exploring the potential farming of this product had long appeared in newspapers. Early trials then took shape mainly in the District Okahandja, with the help of an experimental station by 1911. Although experts on the ground painted a mixed picture, struggling with aridity, locusts, and difficulties in regard to curing, and al-
though actual trials rarely matched overall fantasies, government reports continually painted a “promising” picture. Farmers Karl and Gustav Holtz from Osona were equally confident when noting in 1914, “Our experiences and beautiful successes in the cultivation of tobacco in a relatively short amount of time entitle us to speak of tobacco in Southwest as an economic opportunity with a great future.”

The employment of experimental stations as environmental infrastructure in its own right also defined efforts regarding afforestation. The planting of trees as a way to combat aridity, raise the water level, and influence the climate had popped up for some time. With little awareness of, or concern for, underlying indigenous understandings or long-term climatic cycles, German newcomers generally felt confident that their ingenuity could reverse supposed destructions and desiccation. By 1913 at least one farmer claimed that “human skill can restore a previous situation” and prevent the loss of water. Others took it a step further. As outlined by historian Harri Siiskonen, “Wild visions were raised: Mr Schramm, a forester of the town of Rostock in Germany, suggested the creation of artificial swamps in the valleys of the Central Highland, allowing the green zone to be extended to the slopes of the mountains.” Farmer Ferdinand Gessert pushed for “redirecting” the Kunene River altogether. A certain Mr. H. Schweichel of Berlin clearly had an even more far-fetched idea. As proposed in two letters he sent to governor von Lindquist in 1907, colonialists should transform the Namib Desert and the Central Highland by creating “green zones” every couple of kilometers. The fact that this proposal was even entertained prior to being rejected by Chief Forestry Officer Hartmut Pogge highlights a certain belief in such possibilities. That there was also a lack of wood only invited such thinking. Forestry stations had already popped up at the turn of the century. With plans for Okahandja disrupted due to the war, and some setbacks due to incompetence that even the colonial government acknowledged, efforts soon became much more systematic. Experts experimented with nonnative and native plants such as Eucalyptus, Casuarina, and Acacia; by 1910, there were also ten forest stations or nurseries in operation. According to estimates, in 1913 the station at Grootfontein alone sold 30,000 vines and Windhoek sold 12,208 wood-lot trees. Trials expanded thereafter, soon including maize, millet, mustard, all kinds of fruit trees, as well as an array of other plants. Agroforestry methods, employed to reduce costs for farmers, played an important role in a world defined by afforestation, intercropping, and irrigation. Although many of these trials failed or yielded much less than anticipated, proponents remained confident in the power of trees.

Overall then, by the 1910s the colony seemed to be on an upswing. More German settlers had arrived. In 1898, there were 1,242 German males living in Southwest Africa. Four years later that number had reached 2,595. It dou-
bled by 1908 to 6,215 (males and females), reaching 9,288 in 1909 and more than 12,000 in 1913. Although German immigration still fell well short of those leaving for the United States, locations such as Windhoek, Okahandja, Gibeon, and Keetmanshoop became settler hubs. “Progress in settlement,” to follow one commentator, became increasingly visible. By 1909, agricultural scientist and colonial enthusiast Ferdinand Wohltmann had already noted a “tangible turnaround”; two years later he wrote about the largest upswing in all of Germany’s colonies. In 1912 exports overtook imports for the first time. A year later Wohltmann wrote, “The early stages of agricultural development within our colonies are behind us!” By early 1907, 480 farms had been sold; by 1913, farm sales had risen to 1,331. Estimates note that in 1891/92 around 135 hectares of land were in use for agriculture; by 1912, the last year with sufficient data before World War I, it was more than 6,000 hectares. This shift also meant an increase in irrigation since most cultivations required water. Of course, and according to one scholar, “German state control resembled more ‘islands of rule’ than a net, and, until the end, its power remained arterial rather than capillary.” Still, newcomers could rely on landing structures, railways, irrigation systems. Most notably, they had access to a permanent black proletariat. Whereas such workers had found ways to navigate these structures, German farmers repeatedly mistreated them. Take Ludwig Cramer at his farm in Otjisororindi. Presumably threatened by Herero workers, he lashed out, brutally punishing seven of them. Two women died. Initially sentenced to twenty months in jail, the punishment was later lessened—and his wife got to tell the story of their own suffering. In that sense, and apart from land, labor, experimental stations, and other subsidies, settlers could take advantage of broader discriminatory policies. Whereas that did not necessarily guarantee success, newcomers generally saw a way forward. For them, the colony was finally on the right track as “old Africa” had died through investments, technology, and progress. Or, to quote one contemporary writing in 1913, “German Southwest Africa is a civilized land!”

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The period following the war saw the expansion of environmental infrastructure meant to help turn a conquered land into a white settler paradise. According to the Windhuker Nachrichten newspaper in 1905, settlers had dealt with all kinds of issues: “Torrential rains have filled valleys and rivers here as well and washed away dams and gardens—but we did not grumble; hail, frost, drought, and locusts have resided on fields, gardens and grazeland—but we did not grumble. Rinderpest, horse sickness, and other pandemics have devastated our herds;” it continued, closing by noting that politicians would be at fault if after the conclusion of the Uprising all had been for nothing. And so investments into landing structures, railways and irrigation began pour-
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ing in. Work began on a metal replacement for the failing wooden landing structure; crews helped with irrigation schemes; experimental stations provided resources and advice. Largely sustained thanks to the exploitation of diamond fields and African labor, settlers could now come into the colony to find living space. Similar to other colonial settler spaces, the subsequent commodification of lands began changing the face of agriculture. The introduction of large-scale commercial farming enterprises, for one, resulted in subsequent land alienation. In Southwest Africa, towns, settlements, and homesteads, connected by railways and sustained by wells and dams, popped up throughout a supposedly empty land. Such commodification, as Emmanuel Kreike writes, “and the imposition of colonial power also led to the colonial state’s channeling of African rural labour from pastoralism and crop cultivation into the colonial economy through forced labour, forced cultivation, and migrant labour.” It is in this context that Southwest African deserts seemingly turned into a white settler paradise, uncultivated land into productive spaces for the privileged few, as dreams of a German living space began becoming a reality.

Colonial storylines of conquest framed such experiences. Contemporaries wrote about arid frontier spaces and their pioneering spirits as they toiled to create these islands of Heimat abroad. Former colonial soldiers turned farmers relied on “sword and plow,” to follow contemporary Kurd Schwabe. Margarethe von Eckenbrecher and her husband “fought, worked and suffered for the

Figure 7.5. NAN 09490, “Swimming in dam, Heusis, ca. 1912,” courtesy of the National Archives Windhoek.
Southwest” at their farm in Okombahe. These struggles against nature at the frontier became part of a Südwest identity. In 1911, the Kolonie und Heimat magazine published a coffee table book outlining that character. Filled with 212 photographs and claiming to bring some objective knowledge to ongoing discussions about the colony, it basically portrayed Germanization in Southwest Africa. Farms, situated within harsh but managed landscapes, are at the center. Comparable to missionary hubs, sceneries showcase homesteads framed by a handful of trees and lots of greenery. A set of four photographs titled “Irrigation Systems” specifically includes dams, small lakes, and drilling efforts; other photographs capture cattle, sheep, horses, and ostriches. Germans with their “fighting spirit” had conquered harsh landscapes, to follow another contemporary. Settler Clara Brockmann noted how they had followed their “duty,” returned to a romanticized nature juxtaposed against the “modern human.” Now they posed in photographs in front of their prized possessions as lords at the frontier (Figure 7.5). Africans, at best a backdrop, showed up only as laborers processing tobacco plants, working in mines, or herding cattle. The emerging Südwest identity, a sense of a white self intricately wedded with colonial narratives and shaped by a larger struggle against nature, thus included the destruction of those non-whites long making a living in this land. The hymn of Southwest Africa, at times sung for the Kaiser's annual birthday celebration in January, fits into that. It speaks of a soil soaked “with the blood of German heroes,” a baptism, it seems, as men “from the German race” and “true German women” build their new “homeland.” As demonstrated by historian Lora Wildenthal, the “myth of the Farmersfrau (colonial woman farmer),” sustained by publications and overall efforts namely in the magazine Kolonie und Heimat, played an important role within a context grounded in agrarian nostalgia. For contemporaries, such colonial narratives held even without Social Darwinist undertones. For them, subsidies and benefits, African labor and open lands in need of transformation, all of that seemed normal, natural, and in the great scheme of things even inevitable. Who else would improve on the land as settlers had? Who else would make this a cultivated space? And so, in the end, the image of a farm on the frontier—a German farmer toiling to get water to his cows while his wife tries to cultivate a garden—took over, a narrative structure that would haunt Southwest Africa well beyond colonial rule.

Notes

1. Grimm, Afrikafahrt West, 98.
3. Press, Blood and Diamonds, 57.


15. Zimmerer, *Deutsche Herrschaft über Afrikaner; Muschalek, Violence as Usual*.


18. Wildenthal, *German Women for Empire*, 166.


23. Lau and Reiner, 100 Years of Agricultural Development in Colonial Namibia, 37. Settlers spent little time thinking about, or even acknowledging, precolonial efforts tied to the cultivation of some of these plants, including tobacco.
28. BArch-B, R 1001/1199–1202, Landerverbungen und Aufgebote von Landansprüchen; BArch-B, R 1002/2610, Farmangelegenheiten. See also Kundrus, Moderne Imperialisten, 64.
37. Conradt, Erinnerungen aus zwanzigjährigem Händler- und Framerleben in Deutsch-Südwestafrika, 69–70.
42. Laak, Imperiale Infrastrukturen, 184.
43. Schmidt-Lauber, Die abhängigen Herren.
44. Paul Rohrbach, Die Kolonie (Frankfurt am Main, 1907); Paul Rohrbach, Deutsche Kolonialwirtschaft: Kulturpolitische Grundsätze für die Rassen- und Missionsfragen (Berlin-Schöneberg, 1909); Paul Rohrbach, “Deutsche Welt- und Kolonialpolitik,” in Preußische Jahrbücher 152 (1913), ed. Hans Delbrück, 509–25 (Berlin, 1913).
45. Paul Rohrbach, Deutsch Südwest-Afrika ein Ansiedlungs-Gebiet? (Berlin-Schöneberg, 1905), 26–27 and 81. See also Kundrus, Moderne Imperialisten, 63; Wildenthal, German Women for Empire, 97.
46. Rohrbach, Deutsche Kolonialwirtschaft, 305. See also Quiring, Die Eisenbahnen Deutsch-Südwestafrikas, 45.
47. Rohrbach, Ansiedlungs-Gebiet, 24, as quoted in Kundrus, Moderne Imperialisten, 71. See also Olusoga and Erichsen, The Kaiser’s Holocaust, 237; Laak, Imperiale Infrastruktur, 187.
48. Schlettwein, Der Farmer in Deutsch-Südwest-Afrika, 40; Joachim Pfeil, Deutsch-Südwest-Afrika, jetzt und später (Munich, 1905), 11; Wolf, Deutsch-Südwestafrika. See also Steinmetz, The Devil’s Handwriting, 182.
50. Ibid., 20.
51. Ibid., 21.
53. Windhuler Nachrichten, “Ist Deutsch-Südwestafrika ein Bauernland?” 22 August and 29 August 1908 (Bonn). See also Olusoga and Erichsen, The Kaiser’s Holocaust, 236.
56. Lyon, “From Labour Elites to Garveyites,” 54.
57. Hans Dominik, Vom Atlantik zum Tschadsee: Kriegs- und Forschungserfahrungen in Kamerun (Bremen, 1908), 13.


60. Zimmerer, *Deutsche Herrschaft über Afrikaner*, 191. See also Prein, “Guns and Top Hats.”

61. 1908/09, 1909/10 and 1911/12 provided more sustainable rains compared to 1910/11 and 1912/13. See Prein, “Guns and Top Hats,” 106.


63. Ibid., 105.


72. BA Koblenz, RKolA, Personalakte Dernburg, 2/5, iv, Dernburg to the Duke of Mecklenburg (President of the Colonial Society), 4 May 1908, as quoted in Rathenau, *Industrialist, Banker, Intellectual, and Politician*, 60. Rathenau was rather critical when it came to the recent war and subsequent investments.

73. Laak called it a “new economic spirit.” Laak, *Imperiale Infrastruktur*, 134. See also Press, *Blood and Diamonds*.


77. Otto, Südwest-Afrika, 4.
89. BArch R 1001/1868, Seeunfälle (Eduard Bohlen, Untergang des Schleppers Windhuk, und Seeamt Hamburg).
92. NAN, ZBU, 1767 T.VII.G.5 Hafen von Lüderitzbucht Bau und Unterhaltung der Landungsbrücke. Specialia (1906–10), Eisenbahnbattalion, letter 27 March 1907; NAN,


98. Cornell, Glamour, as quoted in Press, Blood and Diamonds, 61.


100. Ibid., 71–72 and 76.


103. Ibid., 71–72 and 76.


107. Ibid., 114.

108. Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 176. According to Press, by 1912 it was 75 percent of the Southwest’s budget. See Press, Blood and Diamonds, 200. Scholars long pointed to 52 million between 1908 and 1913. See Olu-soga and Erichsen, The Kaiser’s Holocaust, 241; Klaus Dierks, Chronology of Namibian History: From Pre-Historical Times to Independent Namibia (Windhoek, 2002), 138; Kaulich, Die Geschichte der ehemaligen Kolonie Deutsch-Südwestafrika, 399.
115. Press speaks about 118 million Marks for 1913 alone. Press, Blood and Diamonds, 89.
118. BArch-K, N 1037/8, Nachlass Hintrager, Eisenbahn-Programm.
126. That applied to track maintenance along the OMEG Line when only the track inspector, supervisors, and foremen were white. Bravenboer and Rusch, The First 100 Years of Railways in Namibia, 140.
128. Bravenboer and Rusch, The First 100 Years of Railways in Namibia, 153.
129. La Guma, A Biography by Alex La Guma, 19. It is not clear where exactly he worked.


140. *Deutsche Kolonialzeitung*, “Wassererschliessung in Deutsch-Südwestafrika,” 22 July 1911. Until 1911 funding did not come from a regular budget line.


143. Johannes Gad, *Die Betriebsverhältnisse der Farmen des mittleren Hererolandes (Deutsch-Südwestafrika)* (Hamburg, 1915), 42.
144. **Südwest**, “Was wird aus der Wassererschließung im kommenden Etatsjahre?” 24 November 1911.


148. **Amtliche Mitteilungen**, 1910/11 (1912), 119. See also NAN, BKN, 7, B. 3a Verzeichnis über fertiggestellte Bohrungen, Stand des Personals, Personalangelegenheiten, Zuger (1909–13), (Bericht der Bohrkolonne-Nord über ihre Tätigkeit im Rechnungsjahr 1910, 8 April 1911).


150. NAN, BKN, 7, B. 3a Verzeichnis über fertiggestellte Bohrungen, Stand des Personals, Personalangelegenheiten, Zuger (1909–13), (Verzeichnis der im Distrikt Okahandja fertiggestellten Bohrungen in der Zeit vom Jahre 1906 bis 31. März 1911).


153. Ibid., Brief, Range, 29 September 1913. Kakub’s testimony, one of the few voices available from African workers, described the situation from his perspective. See NAN, BKS, 7, B.23., Beschwerden und Reklamationen (1912–14), Kais. Distriktamt, Beglaubigte Abschrift, Protokoll, 22 September 1913.

154. **Südwest**, “Was wird aus der Wassererschließung im kommenden Etatsjahre?” 24 November 1911.


158. NAN, BKN, 1, Akta b (Band 2): betr. Verfügung des Reichskolonialamts und Gouvernements (1908/09), (Jahresbericht, 16 July 1908).


160. Franzius, **Tagung des Verbandes zur Klärung der Wünschelrutenfrage**, 27.


163. NAN, BKS, 4, B.8., Bohrungen für Private (1910–12), Forkel an Bohrkolonne-Süd, 13 May 1911.

164. Ibid., 19 August 1911.

165. Ibid., 28 September 1911.

166. Ibid., 9 October 1911. See also NAN, BKS, 4, B.8., Bohrungen für Private (1910–12), Forkel an Bohrkolonne-Süd, 11 October 1911.

167. NAN, BKS, 7, B.23., Beschwerden und Reklamationen (1912–14), Forkel an Bohrkollonen-Süd, 3 November 1913. See also NAN, BKS, 7, B.23., Beschwerden und Reklamationen (1912–14), Forkel an Bohrkolonne-Süd, 27 November 1913.


170. BArch-B, R F 151, Wasser-Erschliessung, P. II. C1., Band 1 (microfilm roll 82992), Bericht über eine zwecks Wassererschließung im Bezirk Rehoboth von Bergassessor Dr. Niess unternommene Dienstreise, 18 October–13 November 1911.

171. Bravenboer and Rusch, *The First 100 Years of Railways in Namibia*, 156.


173. Ibid., 69.


178. Reichstag 1907, as quoted in Schneider, “Bewässerungswirtschaft in Namibia und ihre Grundlagen in der Kolonialzeit,” 135. See also NAN, BKN, 14, 40, Dammbauhilfen.


183. In 1912/13, the *Deutsche Kolonialgesellschaft* provided 60,000 Marks to help out. See Reichs-KOLONIALAMT, *Die deutschen Schutzgebiete in Afrika und Südsee*, 1911/12, 138


200. Rudolf Schmick, Gutachten über die Talsperrenanlage an der Naute im Löwenfluss (Darmstadt, 1907), 28–30.


204. Schmick, “Die Wichtigkeit der Bewässerung in Deutsch-Südwestafrika und Deutsch-Ostafrika,” in Schneider, Jahrbuch über die deutschen Kolonien, 150.

205. Ibid.


209. Press, Blood and Diamonds, 199.

210. NAN, ZUB, 1402 P.III.F.3 Dammbauprojekt Betr. Naute am Löwenfluss (1903–14), Solf, letter, 17 June 1912. Solf compared the situation in Southwest Africa to South Africa and the American West. See BArch-B, R 1001/1496, Informationsreise des Staatssekretärs Dr. Wilhelm Solf, Teile von British-Südafrika Muster für die wirtschaftliche
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Entwicklung von Südwestafrika, 1912. See also: BArch-B, R 1001/1497, Informations-reise des Staatssekretärs Dr. Wilhelm Solf.


216. Stern and Lau, Namibian Water Resources and Their Management, 63. See also Stern and Lau, Namibian Water Resources and their Management, 63. See also Bravenboer and Rusch, The First 100 Years of Railways in Namibia, 175.


218. Schlettwein, Der Farmer in Deutsch-Südwest-Afrika, 8. Schlettwein complained about a lack of drilling equipment in some regions. Schlettwein, Der Farmer in Deutsch-Südwest-Afrika, 17–18.


220. Hennig, Sturm und Sonnenschein in Deutsch Südwest, 25.


223. Ibid., 158 and 163. See also Hintrager, *Südwestafrika in der deutschen Zeit*, 140–41.
225. *Der Tropenpflanzer* XIII, no. 3 and no. 4, “Über die Komponenten des Wasserbedarfs der Nutzgewächse mit besonderer Berücksichtigung tropischer Verhältnisse,” March and April 1904 (Vageler); *Der Tropenpflanzer* XV, no. 8, “Vermischtes. Der Anbau der Luzerne mit Bewässerung in subtropischen Ländern,” August 1911 (Ludewig).
241. Ibid., 69–70. See also Halenke, “Viehwirtschaft in Deutsch-Südwestafrika,” 121.
242. bei der Wieden, “Wollschafzucht in Deutsch-Südwestafrika,” 71. At its foundation it had 664,500 Mark in capital. See also Wedekind, Impfe und herrsche, 181.
246. Import was 217,977 tons; export only reached 17,198 tons. See Statistisches Jahrbuch für das Deutsche Reich XXXVI (Berlin, 1915), 193, as referenced in bei der Wieden, “Wollschafzucht in Deutsch-Südwestafrika,” 69. See also Der Tropenpflanzer XVIII, no. 5, “Schaafzucht und Wollproduktion in Deutsch-Südwestafrika,” May 1914 (Behnsen); Der Südwestbote, “Zur Frage der Wollschafzucht in Südwestafrika,” 19 March 1913; BArch-B, R 1001/1833, Ausfuhr von Angoraziegen, Straußen und Straußenfedern, 1904–1908, Auszug Wollschafzucht.
252. Ibid., 780–81.
253. Ibid., 773.
255. Wilhelm Bassermann, Der Strauß und seine Zucht (Berlin, 1911); Carl Schlettwein, Der Farmer in Deutsch-Südwest-Afrika, 169.


258. *Amtliche Jahresberichte*, 1912/13, 146. By 1913, a total of 1,507 tamed ostriches lived in the colony. See *Deutsches Kolonial-Lexikon* (1920), Band III, 429 (Neumann).


265. *Amtliche Mitteilungen*, 1911/12 (1913), 126. See also *Amtliche Jahresberichte*, 1912–13, 148; *Landwirtschaftliche Beilage des Amtsblattes für das Schutzgebiet Deutsch-Südwestafrika*, “Ueber den Tabakbau in Deutsch-Südwestafrika,” 1 October 1911, 1 November 1911, and 1 December 1911. For a broader discussion see Martin Kalb, “Tobacco Fantasies? German Tobacco Cultivation in Southwest Africa” (paper presented at the workshop/conference Rethinking Tobacco History: Commodities, Empire and Agency in Global Perspective 1780–1960, online 1–4 December 2021).

266. *Landwirtschaftliche Beilage des Amtsblattes für das Schutzgebiet Deutsch-Südwestafrika*, “Der Tabakbau in Südadwestafrika,” 1 March 1914. See also Lau and Reiner, 100 Years of Agricultural Development in Colonial Namibia, 38.


269. Siiskonen, “The Concept of Climate Improvement,” 293. See also *Deutsche Kolonialzeitung*, “Beschaffung von Wasser in Deutsch-Südwestafrika,” 29 July 1903.

270. *Globus*, “Zur Aufforstungsfrage in Südadwestafrika,” 1904 (Gessert), as quoted in Siiskonen, “The Concept of Climate Improvement,” 294. See also KIT, 27025, 32, Zeit-


276. BArch-B, R 1001/7687, Forstwesen in Deutsch-Südwestafrika. Allgemeines Gouvernment Deutsch Südwestafrika, Brief, 29 September 1908. See also BArch-B, R 1001/7688 Forstwesen in Deutsch-Südwestafrika. Allgemeines.

277. Erkkilä and Siiskonen, Forestry in Namibia, 94. See also [n.a.] “Landwirtschaft. Aus den amtlichen Berichten über Garten-, Feld- und Forstwirtschaft,” 231–58.

278. Bravenboer and Rusch, The First 100 Years of State Railway in Namibia, 175.

279. Layout of the Forest Station Grootfontein in 1914, NA ZBU I.VIII.d.5, as referenced in Lau and Reiner, 100 Years of Agricultural Development, 88. See also “Annual Report of the Agricultural Experimental Station Grootfontein 1913/14,” as referenced in Lau and Reiner, 100 Years of Agricultural Development, Appendix B, 65–71.

280. Erkkilä and Siiskonen, Forestry in Namibia, 83.


283. Walther, Creating Germans Abroad, 24. The total white population was 14,830 in 1913. Walther, Creating Germans Abroad, 25. See also Drechsler, “Let Us Die Fighting,” 243–44.


287. Olusoga and Erichsen, The Kaiser’s Holocaust, 238.


291. Muschalek, Violence as Usual, 3.


293. Steinbach, “Carved out Nature,” in Cultivating Colonies, 64.


297. Ibid.

298. Schwabe, Mit Schwert und Plug in Deutsch-Südwestafrika.

299. Walther, Creating Germans Abroad, 92. See also Eckenbrecher, Was Afrika mir gab und nahm; Falkenhausen, Ansiedlerschicksal, 37; Karow, Wo sonst der Fuß des Kriegers trat, 53.


304. Wildenthal, German Women for Empire, 151/152.

Conclusion

It was 15 September 1914 when the British ship *Armadale Castle* bombarded the radio station of Swakopmund. Decorations for the celebration of Germany’s victory in the Battle of Tannenberg were still up.¹ Fearful of additional attacks German officials decided to destroy the apparatus themselves.² After inhabitants wrecked water pumps and other supply structures an evacuation followed.³ Germany’s entry point, the key to the colony, it seemed, turned into a “ghost town.”⁴ In the early hours of 18 September, British and South African forces then slipped into Lüderitzbucht. They came with two cruisers, four torpedo boats, more than ten transport ships, and 8,000 soldiers; yet they also brought instruments meant to deal with logistical issues: 750,000 gallons of bottled water, an extra locomotive, railway tracks, thousands of pack animals.⁵ Once the remaining Germans on sight saw them, they hastily raised the white flag.⁶ What else was there to do other then maybe poison the water supply and surrender? Once on site, the occupation troops erected an evaporator and storage spaces to supply troops with drinking water.⁷ They knew water was hard to come by. Meanwhile, German forces under major Victor Franke had withdrawn inland. Maybe ironically, they now tried to turn the Namib Desert into a shield against outsiders.⁸ After dealing with delays tied to a rebellion at home, South African troops led by Boer War hero Louis Botha moved toward Windhoek. That Franke and Governor Seitz eventually surrendered at the water hole, in Khorab, near Grootfontein, 9 July 1915 seemed only fitting.⁹ On 21 October 1915, German Southwest Africa officially became the British Protectorate of South-West Africa; four years later, in June 1919 representatives of the German government—ironically none other than colonial critic Matthias Erzberger—signed the Treaty of Versailles.¹⁰ According to Article 22 of the Covenant of the League of Nations there were three types of mandates, theoretically supervised by the League’s Permanent Mandates Commission.¹¹ German Southwest Africa became a class C mandate assigned to neighboring South Africa, the actual overseer of the area. Officially, at least, German colonialism had come to an end.
The war disrupted investments and turned Southwest Africa into a back-water. For one, those German settlers returning to the colony after this global conflict now had to deboard in Walvis Bay. Occupying forces had taken apart the wooden pier in Swakopmund; the metal jetty had only reached about 262 meters when the war broke out. Overall, one might say, Swakopmund was left to its own devices. Soon the appearance of the coastal town began to change. As outlined by one contemporary in the 1920s, “The massive work of German engineering was now little more than Swakopmund’s landmark and promenade [meant] for those suffering of too much leisure on their hands. If someone would be enterprising enough to build a casino at its bridgehead then a completed jetty like in Nice [in France] would have emerged. But no one had the courage and so the big tower cranes whose rattles and turning gave testimony to German diligence and German hard work, rose lonely and sad into the air, unsavable [and] shortly giving in to rust, no good for anything anymore, except as resting places for seabirds.” “Today,” he added, “the jetty is gone from the townscape. With melancholy in our hearts, we had to watch how the British removed it, how it got shorter and shorter, how it was hauled away by [train] wagon-load.” The same applied to railways and other infrastructure projects, as well as measures around afforestation. The dam and irrigation system of Farmer Brand, for instance, did not deliver as anticipated. He had been unable to fully complete it. The same applied to the construction of dams along the Fish River as virtually everything came to a grinding halt, a storyline that of course conveniently fitted into a development-narrative long pushed by German settlers.

Environmental infrastructure had reshaped much of the region. After natural forces virtually rerouted travel away from the shoreline it became the commodification of nature that drew human agents into this borderland. Dingy structures appeared near Cape Cross, Walvis Bay, and Lüderitzbucht. These constructions were meant to help outsiders plunder. Eventually the British snatched up Walvis Bay, the key to colonizing the region. The birth of German colonialism came with the annexation of Angra Pequena in 1884, the only other entry point into the colony. Local resistance led by Hendrik Witbooi, combined with dependence on the British in Walvis Bay, encouraged Germans to create their own harbor in Swakopmund. Investments into landing structures seemed to solve the entry question, thereby providing the basis for colonization, transformation, and Germanization of the interior; the construction of a railway from Swakopmund to Windhoek followed a similar trajectory. Yet apart from German ingenuity and mostly African labor it became natural forces that defined these setups: ocean currents, flash floods, wandering dunes. Non-human agents, specifically a virus and a mollusk, further shaped emerging environmental infrastructure and with that German colonialism. Animal transfers, most notably the introduction of camels, underscored ef-
forts to rethink existing structures in the face of new challenges. Meanwhile, efforts to solve the water question meant to stabilize transport and expand settlements already hinted at broader visions of the colony. All of these factors, human and non-human, mattered when Herero and later Nama groups widely revolted against German colonial rule in 1904. Environmental infrastructure as an instrument of war, or logistics more broadly, shaped that conflict. African forced labor compensated for Germany's logistical problems and failures—and underscored the close relationship between death and development within this colonial setting. The African reliance on remote locations and hidden precolonial structures captures the importance of such setups for resistance. After Rinderpest and genocide, and thanks in large part to the discovery of diamonds, the colony experienced a turning point. Investments into landing structures and railways, as well as irrigation schemes, now provided German settlers with ways to potentially reach world markets; African labor, experimental stations, and other subsidies further sustained their efforts as they created a white settler colony. By 1914 it was thus not surprising that the colony seemed to be on an upswing.

Colonial narratives repeatedly constructed such efforts as the conquest of, or a struggle against, nature. Dramatic episodes such as the construction of the Mole became packaged as heroic tales in a faraway, hostile land. Here, the dichotomy between German culture, encapsulated in technology and science, clashed with nature—hostile ocean waters, arid landscapes, backward inhabitants. Heroic storylines of brave German pioneers weathering storms, heat, thirst, and even ambushes to transform land and people soon characterized countless tales. Prior to 1914, toward the end of German rule, such a model colony seemed on the horizon. In line with settler colonialism elsewhere, farms and homesteads, small towns made up of hard-working, pioneering, and self-sustaining Südwester people, characterized that vision. Novelist Gustav Frenssen captured the essence of his narrative. Farmer Carl Schlettwein agreed when writing in 1914 that settlers needed to have a certain “diligence and a sense of duty”; they also had to be self-sufficient in frontier environments, upright given all kinds of temptations, and hard working. The use of the English term farmer instead of the German word Bauer speaks volumes about a certain identity. They were to “domesticate the harsh nature of the land and to push for technological progress based on machines,” as Birthe Kundrus writes. Land and space, elbow room, according to one narrative, or Lebensraum (living space) for a people without it, to follow another. For contemporaries such life meant living in a pre-industrial Germany, a better and more idyllic time, defined by middle-class values like frugality, discipline, modesty, and a certain German manliness. The obituary of German settler John Ludwig encapsulates this mentality when stating, “Here he realized with clear eyes what to make out of the Klein Windhuk Valley: The water sources
and the excellent soil seemed meant to create a flourishing settlement. And what moved in the mind . . . developed through iron willpower, courage, and knowledge." In this view, John Ludwig left behind “history and development,” setting an example for those to come after him, before returning home in death.\(^{23}\)

German women played important roles in these settings, especially since there was a constant shortage of them in the colony. Similar to men, they framed their lives as struggles against nature. Take the previously mentioned Ada Cramer, wife of Ludwig at the farm Otjisororindi. In her volume focusing on their years of “learning and suffering,” she binds together the struggle against nature at the periphery of the colony with the fight against the indigenous population, all in her effort to defend her husband’s brutal punishment and the subsequent death of two Herero women.\(^{24}\) On a broader level, and as outlined by Lora Wildenthal, these colonial women were wives and mothers with the duty to ensure racial hierarchies; otherwise, miscegenation laws meant little.\(^{25}\) Women were “to serve as a bastion of national culture, to resist the potential dangers to Deutschtum, and to ensure an enduring German presence in the region,” as historian Daniel J. Walther writes.\(^{26}\) Clara Brockmann, a settler herself, agreed: “The fact is undeniable: a farmer with a wife comes ten times farther than one without one.”\(^{27}\) Magazines like *Kolonie und Heimat* advertised the colony to women, and in that illustrated their assigned role of the “German homemaker in the colonies,” as caretakers of children and overseers of domestic servants in rugged environments. However, women did not just fight nature in supporting roles. As gardeners women were supposed to wrestle flowers and vegetables from the dry arid landscape that had presumably laid barren and unused before they came.\(^{28}\) In that sense, they fought their own struggles against nature.

Most settlers and farmers were dependent on government structures; plus, many did not even live such a “frontier fantasy” in the first place.\(^{29}\) Much more a myth than reality, this identity was a settler narrative. German newcomers certainly faced challenges and toiled on the frontier. Yet they had an array of factors working in their favor. If anything, it had been an unexpected environmental agent in *Rinderpest* that weakened those inhabiting the land economically; that disaster also facilitated the German takeover and settlement of the interior. The German foothold then remained precarious and provisional until genocide, forced labor, and the exploitation of diamonds invited large-scale funding and a greater commitment to settlements and German living space in the metropole. At that point the continuing exploitation of labor, discriminatory laws and daily colonial violence turned the African population into a proletariat subjugated to build and maintain environmental infrastructure. They worked on farms, toiled in mines, and collected diamonds. It had been their blood, sweat, tears, pain, and lives that had created a new homeland for a white German settler minority. A dose of Social Darwinism, this struggle
between a *Kulturvolk* and a *Naturvolk*, at times became a way to justify discrimination, exploitation, and destruction. “There is a fight against sand and rocks,” noted one German contemporary, “a fight of the white race against blacks and yellows; within the white race, a battle between high and low German (Boer) and Anglo-Saxons, a fight between farmer and the big industry of mining towns. . . . This cannot be achieved without hard work, without duty, without love for *Volkstum* (people), and certainly not without Christianity. But if we utilize all moral power then we can unearth a treasure out of the stony steppe, which brings us blessings.” Similar justifications describing the destruction of certain groups as “natural” were often added with hindsight. “Just like the times of elephants and rhinoceroses are over,” noted one voice in 1916, “the Bushmen [San] and work-shy indigenous population step aside for the value-creating *Kulturmenschen* (culture people), the days of the extensive uninhabited steppe are numbered.” That description directly tied land to people when adding, “People will come, others that you have provided a safe haven to so far. They will move into your depths and draw the exhilarating water that you have been hiding. The plow will dig wide furrows in your face. . . . Conclude your thousand-year-long dream, sleeping steppe, a young generation of hard-working people, whose homeland does not have enough space for them anymore, will ask for entry into your empire. Open your doors and give them their daily bread.” Yet many times such reasoning or rationalizing was not even necessary. The struggle to overcome nature, the struggle to transform an arid landscape, the struggle to Germanize a region, all of that had always entailed the destruction of those living there.

This mythical storyline was also devoid of non-human agents and natural forces. These factors were more than just passive players repeatedly overcome in some sort of endless fight. Instead, they shaped and reshaped environmental infrastructure throughout this period—and continue to do so to this day. The *Rinderpest* pandemic fundamentally remade the colony; the exploitation of diamonds, combined with other factors, provided the basis for the creation of German living space. Flash floods and mobile sand dunes, silting-in and wood-eating mollusks, all of these players actively shaped logistics and with that the colony. The loss of structures, debates about the value of the colony, calls for more funding, the employment and exploitation of African labor, and even the stress and anxieties German soldiers felt during the war, all of these dynamics speak to an array of cluttered agencies. Stories of conquest, trial-and-error narratives, references to optimistic Germans by outside observers, or the artificial division between nature and culture, do not adequately capture those nuances. Kreike’s concept of environmental infrastructure, on the other hand, the combination of human and non-human factors, can help unpack these muddled and entangled agents, and by doing so it helps deconstruct still prevalent colonial storylines of development and progress.
All of this matters also because such narratives did not end with Germany’s loss of the colony. According to van Laak, “German colonialism as \textit{Realgeschichte} real history ended with World War I yet not as fantasy and projection history (\textit{Fantasie- und Projektionsgeschichte}).”\textsuperscript{33} Once apartheid South Africa administered Southwest Africa, a nostalgic loss-of-\textit{Heimat} narrative brought idyllic and romantic stories of a far-away paradise all the more into the light. Many government officials, travelers, and seemingly anyone with any experiences in the region began publishing their views; settlers like Voigts, Schlettwein, Falkenhausen, Eckenbrecher, and Brockmann also shared their nostalgia for a lost time and place. Lydia Höpker wrote that “Everything was so dewy fresh and untouched, roundabout loneliness and quiet; only from afar did the call of a bird resound now and again. We hiked silently through this beautiful morning. A dreamlike feeling enveloped me, and I felt enchanted, as if in another world.”\textsuperscript{34} A sense of accomplishment drove many of these tales. As former colonial official Oskar Hintrager wrote in the 1950s, “What the Germans have achieved in Southwest Africa has been acknowledged by leading South Africans.”\textsuperscript{35} After all, German colonialism had accomplished much, so the story went, disrupted only by an unnecessary war triggered in faraway Europe that settlers in Southwest Africa had little to do with. German expeditions to the region eventually resumed as well, including explorations of harbors and coastline.\textsuperscript{36} Individuals previously involved with the colony stayed connected, such as geologist Range, hydrology engineer Rehbock or former settlement commissioner Rohrbach.\textsuperscript{37} During the 1930s, former colonial officials actively pushed for the return of “German colonial glory.”\textsuperscript{38} They pointed to the past efforts and development presumably still visible in landing structures, railways, and dams to sustain their claims.\textsuperscript{39} Decolonization, or even just the inclusion of subaltern voices when it comes to the acknowledgment of African labor, remained largely missing.

German perceptions of Walvis Bay, thoughts about the water question, and other discussions tied to the environment and German ingenuity are cases in point. From that German colonial perspective, a shift to the formerly British enclave just did not make sense. After all, Swakopmund was deemed clean, friendly, and orderly. That entry point included “green areas magically created from the desert along the coastline,” to follow one description.\textsuperscript{40} Walvis Bay, on the other hand, although a busy harbor, lacked streets, trees, and bushes. Plus, progress had been made regarding infrastructure thanks to German efforts. “After two decades of investigating and experimenting,” to follow one publication from 1938, infrastructure projects moved forward after the war and could do so again now.\textsuperscript{41} Similar conversations emerged when it came to the water question. Take one publication from 1919 meant to showcase the current status and overall development. It acknowledged that “high expectations regarding the production of wheat and corn did not materialize due to
the brackish ground [water].” However, that failure was “solely explicable based on the fact that all works were grounded in unscientific and un-technological efforts” by laymen. Discussions of railway projects, and the role of German colonial engineers as pioneers, also speak to continuities well beyond 1915. In the 1930s, the image of the German colonial engineer as a universal authority and grantor of progress became increasingly dominant and widespread. Still pushing colonial narratives of fighting against nature in a transportation-hostile Africa, such glorified narratives and overall hero-making thus continued well beyond 1915 without much scrutiny.

Continuities also define life in Southwest Africa. The South African takeover of the colony and the institutionalization of an apartheid system ultimately changed little for the white German settler community: they kept their privileges, status, and land. This lack of decolonization allowed for the continuation of cattle farming and agriculture, maybe with fewer government subsidies but still the availability of cheap labor. As several historians write, “Much native affaires legislation throughout the early South African period was, like that of the Germans before them, centred around labour procurement for white farmers and colonial industry.” A rigid apartheid system meant to control black Africans elevated German interests. In the early 1920s, the South African government resettled thousands of Herero from central fertile parts of the colony into so-called Native Reserves. In a way, and to follow one historian, that move just completed their economic disenfranchisement. Over time the South African government permitted some cattle ownership. However, loss—loss of home, loss of land, loss of cattle, loss of life—remained a key ingredient of Herero identity, especially since apartheid continued to push them to the margins. According to Mutjinde Katjiua, the head of the department of land and property studies at the University of Namibia, land dispossession was not simply about the loss of livestock, resource rights, and so on. “For the dispossessed communities, losing the ancestral land means that they have lost the connection to their ancestors.”

Experiences for German settlers in postwar Namibia were different. German business models often survived South African takeover, such as wool production. Although it became no second Australia, it was a worthwhile economic endeavor. Stories about the struggles against nature remained prominent as well. In mid-December 1933, for instance, a major flood destroyed a bridge across the Swakop River. According to one recollection, “The inhabitants of Swakopmund in their struggle against the Swakop flood were an excellent example of endurance, diligence, and co-operation.” Südwester stories speak of stranded farmers and the will to overcome nature’s onslaught. They saved the metal jetty in Swakopmund from ocean currents. And their Südwester-centric stories defined textbooks for school children in which Uncle Erhard arrived in “steppe and bush, just like god had created it in primeval
times,” “looked for water,” and ultimately turned wastelands into farmland. Continuities also exist when it comes to water structures. The Avis Dam, first proposed in 1895 by Ludwig Sander to solve the water issue for a growing Klein-Windhoek, became a reality by 1933. New “pioneers” such as Heinz Stengel already contemplated future avenues for development. Such storylines of harnessing nature continue to define current projects. Take Namibia’s newest irrigation site, the Neckartal Dam. Originally envisioned by “father” Theodor Rehbock, the site holding back the Fish River near Keetmanshoop is now meant to make “a desert bloom.” However, “[t]he unseen costs of these dams,” according to one critique, “is that communities who traditionally sustain themselves from riverbed farming—a pre-colonial practice—cannot do this any longer.” A local inhabitant by the name of Willibald Gaseb of Otjimbingwe added, “We cannot dig for the underground water anymore because the rivers are dry. It is also not possible to produce vegetables—grains, watermelons, pumpkins, carrots, those that we used to plant; we can’t do that anymore, the space is too limited and there’s no water anymore.” In a sense, and in line with broader legacies of colonialism, little has changed.

Leftover colonial structures also continue to haunt modern-day independent Namibia. Land-ownership and broader settlement structures are obvious examples; the forbidden zone still off limits is another. Namibia’s tourism landscape, largely in the hands of and catering to whites, celebrates the remains of German colonialism. Environmental infrastructure still littering the country thus has taken on new meaning as tourist hotspot. Visitors travel to Etosha National Park in the north, a game reserve originally created by Governor Friedrich von Lindequist in March 1907. Like other parks, it is a space for African wilderness, a space feeding European imaginations of empty landscapes, devoid of people and history. They can walk through the abandoned diamond town Kolmanskop outside Lüderitzbucht, to marvel at German efforts to make this hostile space livable—ice was available in the desert, a guide will tell them. Their photographs then capture how sand dunes are “reclaiming” buildings and other remains of empire. Visuals that might capture the importance of African labor are rare, however, and do not play a role during tours. In the town of Lüderitzbucht, a campground now sits atop the former location of Shark Island concentration camp. It comes with a gorgeous view of a quaint bay. Gravestones tell some stories there—but a chat with a local manning the gate is needed for any unassuming traveler. Elsewhere, guest farms such as Deutsche Erde (German soil) actively sell “the good old days.” That still very much includes the struggle against nature. Whole series of publications available in bookstores in Swakopmund are aimed at German tourists and come with a dose of nostalgia. Visitors of that most German place of all can wander along turn-of-the-century buildings, broad avenues, a lighthouse, and some remaining street names. A failed entry point has transformed into the perfect
seaside resort. Here, visitors can stay at the luxurious Strand (beach) hotel located along the silted-in Mole. “Where the Namib Dunes meet the Atlantic Ocean,” it advertises, and invites guests to gaze at the constant onslaught of ocean waves. The view inland, to the shanty towns that actually make up Swakopmund, are off tourist minds and maps. Maybe they see workers walk back to the outskirts of town on their way to eat at an upscale restaurant now sitting at the tip of the leftover metal pier. It is appropriately called Jetty 1905, “much more than a restaurant, it’s a landmark!” Environmental infrastructure thus lives on well beyond its intended lifespan, still defined by human and non-human actors, still taking on new meanings and uses. And in Namibia, to follow the voice of Moses Maharero, “The whole country . . . is basically full of things that were left behind.”

Notes

2. Ibid. See also W. S. Rayner and W. W. O’Shaughnessy, How Botha and Smuts Conquered German South West (London, 1916); Otto Reiner, Achtzehn Jahre Farmer in Afrika (Leipzig, 1924), 234; Hennig, Sturm und Sonnenschein in Deutsch Südwest, 71.
3. Bravenboer and Rusch, The First 100 Years of Railways in Namibia, 217.
5. For numbers, see Press, Blood and Diamonds, 210.
12. Bravenboer and Rusch, The First 100 Years of Railways in Namibia, 200.
15. Erkkilä and Siiskonen, Forestry in Namibia.

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17. Frenssen, Peter Moors Journey to Southwest, 145–47. See also Kundrus, Moderne Imperialisten, 67.
20. Hennig, Sturm und Sonnenschein in Deutsch Südwest, 159.
22. Kundrus, Moderne Imperialisten, 43 and 59.
25. Wildenthal, German Women for Empire.
26. Walther, Germans Abroad, 46.
27. Clara Brockmann, Die Deutsche Frau in Südwestafrika: Ein Beitrag zur Frauenfrage in unseren Kolonien (Berlin, 1910), 6. See also Walters, Germans Abroad, 47.
30. Henkel, Der Kampf um Südwestafrika, 181–82, as quoted in Kundrus, Moderne Imperialisten, 44.
32. Assertions about improvements, self-sufficiency, and environmental friendliness have to be contextualized with that in mind. See Botha, “People and the Environment in Colonial Namibia,” 173–74.
34. Lydia Höpke, Um Scholle und Leben: Schicksale einer deutschen Farmerin in Südwest-Afrika (Minden, 1927), 21, as quoted in Walther, Germans Abroad, 93.
35. Hintrager, Südwestafrika in der deutschen Zeit, 179.
38. Hugo Blumenhagen, Franz von Epp, and Heinrich Schnee, Südwestafrika einst und jetzt (Berlin, 1934); Paul Rohrbach, Deutsch-Afrika—Ende oder Anfang? Briefe an


45. Bernhard C. Moore et al., “Balancing the Scales,” 6. The authors specifically point to water infrastructure in this context.


59. Ibid.

60. Kalb, “Reprinting German Colonial Settler Narratives in Namibia Today.”


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