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INTRODUCTION: A LAND FLOWING WITH MILK AND HONEY

> There is an excited call from the girl at the machine. She turns on the tap and the first honey flows into the pail; deep, rich, amber fluid. Honey from the land which is flowing with milk and honey.
>
> —Dorothy Kahn, "Flowing with Honey: How It's Done in a Jewish Settlement" (1938)

It was Zakia from Umm Djouni, a dwindling Arab village near the Sea of Galilee, who taught her how to make milk flow. Miriam Baratz, a young Jewish settler who arrived in Palestine four years prior to that transformative event in 1911, was determined to go against her parents' will in Russia and the demands of her fellow male settlers; she wanted to work the land. They used to call her "the wild goat" for this kind of stubbornness. The small group had recently settled in Umm Djouni, not long after Ottoman authorities allowed land purchases in Palestine, and as the village moved between Persian and Jewish hands.[1] They began forming Deganya, later known as the first communal agricultural settlement. Their single cow, which they named "First" (*Rishona*), was considered difficult, but Miriam was adamant that she could manage her despite having no relevant experience. She turned to her skilled neighbor who had "a good brain and a good heart."[2] The two women met secretly at night, and Zakia guided her through; success depended on a combination of bodily techniques and husbanding intimacy. Zakia let Miriam wear her blue gown, and they rehearsed Arabic songs considered necessary for the compliance of the animal. Milk

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finally flowed.[3] It was the beginning of a life in the cowshed for Miriam, who became a leading authority among the growing Jewish settler community. She nursed and raised her seven children in the shed while tending to the cows, and trained many generations of milk producers. A few years after that nocturnal female interspecies encounter, experts secured the bond between milk, governance, and settlement with publications such as *The Dairy Industry as the Basis for Colonisation in Palestine*, and Zakia disappeared from the historical record.[4]

With the stabilization of the British rule after World War I, milk became the pillar of settlement, its quantities a marker of success, and the bodies of cows sites of technological manipulation. Since the continuous production of milk depends on annual pregnancies, success was not limited to the crop of the body but also was tied to the fruit of the womb. Furthermore, this didn't only concern cows. As Miriam demonstrated with cows and through her own bodily labor, agricultural production and female reproduction were deeply entangled in the demographic transformation of Palestine and shaping changes in the land. The blending of progeny and flow of milk had a strong public face, as champion cows—producers of both milk and offspring—were lionized, and mothers of many children were prized; it reached new heights half a century later when the so-called Israeli cow was announced as a global milk-producing champion, and Israeli women and cows became global leaders in the consumption of artificial reproduction technologies.

The attention to milk production along with shifting demographic trends was not limited to the settler population but also nurtured by the shifting governing powers. The investment in the dairy industry was, in fact, part of broader Ottoman and British imperial efforts to enhance the implementation and use of agricultural technologies in a changing global economy.[5] It fit neatly with the British agenda of development and separatism.[6] During the interwar period, moreover, milk became an important material of concern for questions of demography, nutrition, and health far beyond the territories under British rule, and the investment in cattle breeding emerged as a central element across colonial regimes.[7] This made the cow a useful analogy for criticizing colonial governance and the systemic impoverishment of the people under its rule; as one Palestinian Arabic newspaper put it in 1930, "There is no milk left in this cow."[8] Indeed, such emphasis on milk production as the backbone of the settler colonial

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project was long-lasting and particular to Palestine; it was part of explicit efforts to literally create a land flowing with milk and honey.[9]

European settlers and the governing regime interpreted the land according to a widely accepted narrative of decline. The idea that a once-plentiful and green land became desolate was imperative to colonial rules across North Africa and the Middle East, as were the attempts to bring back plenitude through afforestation as well as the struggle against desertification and grazing goats.[10] Particular to governing Palestine was the belief that this past plenitude—of a land believed to be that of the Bible—was characterized by milk and honey. In 1942, Gilbert Noel Sale, who became the conservator of forests in British Palestine after holding posts in colonial Cyprus and Mauritania, detailed "the history of erosion in Palestine" to an audience of experts:

> The land was originally covered with a forest which varied in height and composition. . . . Multitudes of flowers were visited by the bees which provided wild honey, one of the foods of early man. In due course, as we know from ancient literature, man evolved from the stages of hunting and honey collecting, and began to keep domestic animals. The changes in the vegetation and in the condition of the land dated from the time when the country was flowing with milk and well as honey. At first, no doubt, little damage was caused by small flocks of goats and sheep which wandered in the great forests . . . and it was not until man became more completely master of his environment that he enlarged his flocks to dangerous proportions. . . . [S]ubsequently, the invasions of less civilized races, unversed in the agricultural arts, led to the neglect of the terraces, which rapidly decayed.[11]

Milk and honey were Palestine's natural condition, according to this common view, and the behavior of latecomer people and animals—interpreted as unnatural and harmful to the land—disrupted its balance and were its ultimate source of decay. "Palestine is a natural garden," summarized Sale, who was also poet, "and must be restored to its original condition."[12]

This book hones in on such plans for restoration, and the technological means state experts and settlers employed to materialize a religious idea of the land, even when those made little economic or environmental sense.[13] From the turn of the twentieth century, Christian and Jewish settlers as well as the changing governing powers utilized a variety of tools and techniques in order to demonstrate that Palestine could literally flow with milk and honey, and eliminate what they understood to be the causes of damage to the land. Put differently, these were both technopolitical and envirotechnical plans.[14] Such plans to realize a biblical metaphor, I argue further, were

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carried out on a pragmatic level through the bodies of animals and people. In 1921, for example, the US consul in Jerusalem reported home about the state of beekeeping, noting that the question of "whether or not Palestine may literally become a land flowing with milk and honey is now being tested in a practical and a commercial manner."[15] Similarly, journalist and settler Dorothy Kahn summarized her experiences in beekeeping in 1938 with the practical title of "Flowing with Honey: How It's Done in a Jewish Settlement."[16] Indeed, as we will see, different kinds of political, social, and religious powers came together in using technological means for re-creating the Holy Land in modern Palestine.

Demonstrating plenty depended on human and animal, often female, bodily labor. As reflected in the logic of Sale's historical narrative, this process was also frequently entangled with disregard for, and the delegitimization and criminalization of, local Palestinian forms of life and knowledge. But as the story of Miriam and Zakia illustrates, this same process deeply depended on local expertise. These types of knowledge, such as the manner by which people tended their animals and made them produce, were frequently unrecognized, repeatedly erased from the historical record, and ultimately forgotten. This book engages with a specific kind of such "disabled histories," and as a result, particular kinds of appropriated knowledge—intimate knowledge—of living bodies along with their production and reproduction.[17]

Furthermore, an ongoing tension existed between intimate forms of knowledge that grounded the settler colonial plans and formal means of governing the land. Numbers were such a formal means, albeit certainly not new to the region. Some of the cardinal techniques of Ottoman governance included enumeration and registration for the purpose of taxation. The accumulation of funds was, in turn, key for sustaining the empire. Beginning in the mid-nineteenth century, with growing European involvement in the region, surveying and mapping joined the intensifying efforts to quantify Palestine. Numerical data, which unlike intimate knowledge, allows for growing levels of abstraction, standardization, and universalization—indeed, the foundations of modern science—was essential for knowing and controlling the land, and ultimately, regulating everyday life under British and Israeli rules.[18]

Numbers had another purpose: they allowed settlers and state experts to prove that the land was becoming, again, a land of plenty. In this sense,

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counting and measuring were pivotal "technologies of plenty." These along with other tools and methods of demonstrating plenty form the focus of *Milk and Honey*. Among them are beehives, lists of livestock, breeding practices, pregnancy tests, and fertility treatments, but also bodily and sensorial techniques. Although settlers and state experts such as Miriam and Sale make frequent appearances in the book, its main subject is other creatures—ones that produce milk, honey, and offspring, and embodied or interfered with the plans to restore the land—water buffalo, bees, goats, sheep, cows, and finally, women.

A DESIRE FOR A HOLY LAND

Travelers to Palestine have long been occupied with describing the land and its religious traction. Ottoman officials, such as Āşik Mehmed, Kātib Çelebi, and Evliyā Çelebi, who traveled the land during the sixteenth and seventeenth centuries, supplied their impression of the landscape, people, and animals. While earlier travelers, following medieval cosmographic works, focused on comparing classic Arabic texts with their own observations, later depictions relied on a combination of personal impressions and the collection of local testimonies.[19] The Napoleonic and Crimean Wars that were a watershed in global politics and the economy ultimately enabled European powers access to Palestine along with gradual control over many of its territories. The professionalization and growing success of biblical studies among midcentury European intellectuals, in conjunction with archaeological findings from the ancient civilizations of the Near East, contributed to changing perceptions of religious texts.[20] These combined political, economic, and intellectual processes resulted in increasing numbers of Europeans and Americans in Palestine. The scope of traveler accounts grew dramatically in the second half of the nineteenth century, along with lengthy descriptions and analyses of the land by researchers, imperial agents, and settlers. Their view of the Bible as a record of historical events shaped their experiences; travelers and settlers were carrying the Bible in their hands, seeking to find the Holy Land there.[21]

What Europeans found in Palestine, however, was dramatically different from what they expected. Both Christians and Jews were overwhelmed with the desert that stood between what they hoped to find and the unfamiliar land. A British traveler to Palestine wrote in 1882, "My first strong

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impression, and, I may say, my last, on beholding Palestine was one of astonishment. Can this be that glory of all lands—that Promised Land—the land flowing with milk and honey? No! Surely not. . . . I had pictured fertile plains and dewy meads . . . cultivated lands bringing forth luxuriant crops almost spontaneously. . . . Palestine, of all countries, is now desolate, barren, and accursed."[22] European comers to Palestine wanted to find a Holy Land, but what they encountered was a place that seemed worse than profane.

The biblical phrase "a land flowing with milk and honey" appears many times in the scriptures, and has usually been interpreted as a metaphor for abundance.[23] Many generations of Christians and Jews used it as a way to imagine the Holy Land. For centuries, for example, Christian Europeans hymned—in both Latin and English—"Jerusalem the Golden with Milk and Honey Blest. . . . I know not, O I know not, what joys await us there, what radiance of glory, what bliss beyond compare."[24] Yet with the growth of European presence in Palestine, this metaphor became a powerful tool for demonstrating the gap between the imagined and the real, and exposed ignorance about local forms of life, production, and expertise. Newcomers to Palestine commonly used the phrase "a land flowing with milk and honey" to dramatize their sense of disappointment: "Is this the land of my fathers? The land that is said to flow of milk and honey?" asked a discontented Silesian Jewish traveler to Palestine in 1838.[25] "Jerusalem the Golden with Milk and Honey Blest, Where is that Milk and Honey? It seemed to have 'gone West'" sang British troops as they took control over Palestine in 1917.[26] But the use of the phrase did not end with that bitter disappointment. The image of a plentiful land, a land flowing with milk and honey, became idealized, emerging as an organizing principle for the changing political regimes and growing European settlement in Palestine.

This phenomenon of understanding and treating a land according to previous expectations was not unique to Europeans in Palestine but instead was prevalent across colonial contexts. In *Changes in the Land*, for instance, historian William Cronon argues that the descriptions of the first European settlers in New England reflect both contemporary environments and their own ideological biases. The way settlers in the Americas viewed the land was heavily influenced by the potential profit to be made by circulating its resources in European markets.[27] The expectations of Europeans in Palestine were manifested through a consistent search for plentiful

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land, a Holy Land.[28] The use of this specific metaphor—"flowing with milk and honey"—to portray a land was not unique to Palestine/Israel either.[29] Indeed, this biblical phrase and other expressions of fecundity have frequently been used to describe fertile and plentiful environments of other "newfound lands," such as the Americas and Oceania.[30] Adopting the Bible as a historical document, however, Europeans in Palestine believed that the land of Palestine was *the* land depicted in the Bible, and as such, it should literally be full of milk and honey.

The theme of decline—the idea that the land used to prosper in biblical times, but had since decayed—was widely discussed and debated in European interpretations of the land.[31] Numerous state experts and settlers occupied themselves with analyzing ancient prosperity and the process of impoverishment. Furthermore, this debate regarding the ancient past encapsulated grander tensions of European colonialism in the Middle East. In their perception of the Middle East as the "cradle of civilization," Europeans were torn between their belief in a glorious past that they considered their own and their faith in the tools of modernity. Some suggested that the land of the Bible was as bountiful as a land could be; others asserted that while the process of environmental degradation was evident, the land of the Bible was naturally meager. For both approaches, the main motivation for controlling the land of Palestine was the belief that unusual, unique things had happened there in the past. Yet in order to justify seizing control and transforming Palestine, the future had to look brighter than this past. To the governing powers and for the settlers, the land, as part of this paradigm, should become extraordinarily plentiful and its creatures extremely productive.

TECHNOLOGIES OF PLENTY

Three main threads interlace throughout this book: first, the ways agricultural technologies were utilized to materialize a particular, religious notion of the past; second, intimate forms of knowledge and bodily labor—production and reproduction—as the main spheres in which this process took place; and finally, how the bodily, political, and environmental realms intertwined in the transformation of Palestine.

Technology, religious fervor, body labor, and political ecology fuse in this story. A wooden movable beehive became a tool for demonstrating

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that land was changeable; early Christian settlers considered the flow of honey that this beehive allowed as a literal expression of the land's revival. The growth of the dairy cow population and successful management of its fertility were similarly seen as verification of the land's exceptionality; the crosses of European and Middle Eastern cattle breeds, which broke milk production records both locally and globally, were viewed as the ultimate proof of the power of technology in erecting plenty, and considered a justification for the growing European intervention in the region. Problems with the production of plenty were managed with scientific means: when cows, sheep, and women failed to reproduce, settler farmers, veterinarians, gynecologists, and endocrinologists came together to find solutions to infertility across species divides. Other challenges to the attempts to "make the desert bloom" necessitated the rhetoric and tools of ecology and demography. When the behavior of water buffalo came to interfere with intensive agriculture, their long-standing valuation dissipated, and movement restrictions resulted in their eventual disappearance. When goats defied newly established borders between private and state land, they came to be seen as enemies of nature and the state. Large-scale British and Zionist tree-planting efforts—understood to be a project of reforestation—were threatened by the appetite of black, herding goats. Their feeding needs won them, along with their Palestinian Arab owners, the title of "the creators of deserts."

Such examples challenge our assumptions about the relation between religion and modern science and technology, revealing their nonbinary nature. Much work is dedicated to showing how science emerged from religious ideas and the manner in which scientific thinking grew from religious institutions, ranging from ancient times and until the early modern period.[32] But when it comes to late modern science, the majority of the scholarship describes a world where science and religion clash.[33] It is also a world in which scientific and technological superiority replaced religion as a tool of governance.[34] Some recent work has contested this notion of discrepancy, demonstrating how late modern scientific thought and technological practice have helped appease the tensions inherent in nationalism—tensions between narratives of mystical pasts and utopian, rational futures.[35] Yet the tendency to place religion and modernity in opposition along with the belief in the secularizing power of science remain dominant in studies of Palestine/Israel; Zionism is repeatedly understood to be a national and

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FIGURE I.1
"Modern science is taught in the home of ancient religions," an image from a lengthy article published in the *National Geographic Magazine* depicting the transformation of life, practice, and landscapes in Palestine under British rule. *Source:* Edward Keith-Roach, "Changing Palestine," *National Geographic Magazine*, April 1934, 510; photo by S. Kaplansky.

settlement movement that raised the banner of modernity, secularism, and technocracy.[36] The case studies that follow reveal the ways in which technology did not replace religion as a colonial device but instead was blended with aspirations to salvage the land, and how this blending became crucial for seizing control over lands and people.[37]

These efforts to utilize technology for re-creating plenty were exercised primarily through bodywork and the formation of life, both of humans and other animals.[38] Bodies, in other words, were the main sites for exercising this change. One was the crossbred body that Jewish settlers called the "Hebrew cow," and that labored to produce a flow of measurable milk. Another was the body of the male Jewish settler, who was trained by Bedouin shepherds to move and use senses and voice in particular ways in order to communicate with as well as manage sheep. These bodily movements of shepherds and sheep across the Palestinian landscape allowed settlers to become Hebrews and hence connect to the practices of biblical leaders. By

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paying attention to the body in relation to the environment, the book follows other histories of settlement and colonialism.[39] It describes the ways in which bodies were used and manipulated in order to impregnate the land, ultimately recounting a tale of producing new modes of becoming native.

An extensive body of work in the fields of colonial studies, feminist theory, and anthropology attends to intimate relations in order to portray, respectively, the colonial situation and the essence of power, the global, and the universal.[40] *Milk and Honey* similarly pays attention to intimacy, extends its application to the nonhuman, and demonstrates how managing the functionality, labor, and fertility of (primarily female) bodies relied on knowledge in proximity, and a mitigation between individual bodies and generalizable data. Through this focus on intimate knowledge, the book engages with the sensibility to particularities and the local in recent science and technology studies scholarship, and goes further to align them with large-scale historical processes such as settlement and colonialism. It shows how managing the bodies of both animals and humans was foundational to such processes. Following historian Tiago Saraiva's exploration of how organisms embodied fascist regimes, which he defines as "a study in fascist ontology," this book supplies a study in settler colonial ontology.[41] Without paying attention to knowledge of the intimate, I contend, we cannot understand technopolitics; the most profound forms of technopolitics are biopolitical.[42]

Creating a land of plenty in Palestine was a more-than-human process at its core.[43] Animals have long been central to colonial and environmental histories, and gradually, also key protagonists in histories of science and knowledge of nature.[44] This book builds on these perspectives as well as recent sociological and anthropological attempts to consider animals as and in relation to laborers.[45] It then bridges such approaches from animal studies with the history of the body to show that labor, production, and reproduction of both humans and animals were considered as well as managed in conjunction with one another within this particular political context. By tracing the joint understanding and management of the reproduction of animals and humans, this book also offers a prehistory to the so-called fertility revolution in Israel, while undermining its strictly human, cultural, and socioeconomic scholarly reasoning.[46]

Cutting across three political regimes—the late Ottoman rule (~1880–1917), British rule (1917–1948), and the early Israeli state (from 1948

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on)—*Milk and Honey* explores the various ways that state experts and settlers understood the land, and highlights how configuring bodies and the environment intertwined with governance and the construction of settler society.[47] As an environmental history, this book analyzes European efforts at political domination as well as ecological control and manipulation as deeply interrelated. It pays particular attention to the ways in which conquest, governance, and settlement were entangled with dramatic biotic transformation, and to ideas about the environment, or "environmental imaginaries," that were used to justify colonial expansion.[48] Unlike studies of agricultural theory and institutions, which have dominated the scholarship on Palestine/Israel and Zionism, this work focuses on skill, practice, and embodiment.[49] *Milk and Honey* deals with the labor and value of water buffalo, goats, and bees. It tells the stories of the holy bee queen that crossed the ocean, Shatra the rebellious sheep, Stavit the prolific and celebrity cow that outlived her productive life, and even Rutie the horse, whose bodily fluids were used to appease anxieties about infertility among other female, human and nonhuman, creatures. By so doing, this work exposes how large-scale environmental and political changes were defined through the labor, physicality, and limitations of individual bodies, and illustrates how the presence, knowledge, and practices of Palestinian people shaped European governance and settlement in Palestine/Israel.

CHRONOLOGY AND STRUCTURE

The global political, economic, and demographic transformations of the nineteenth century left their mark on late Ottoman Palestine. Midcentury, ongoing changes to landownership and use received their formal legal stamp as part of the Ottoman program of reforms known as the *Tanzimat*, and the possibility of private property gradually gained prominence at the expense of the communal land tenure system (*mush*ā).[50] As the case of the Umm Djouni village demonstrated, foreign money became an important player in Palestine. By the 1880s, not only European and US travelers and researchers but also settlers became common to the land. By studying, writing about, investing, and settling in Palestine, these various groups contributed to making Palestine legible to the West.[51]

World War I brought an end to the Ottoman Empire; in 1917, Britain seized military control over Palestine, and starting in 1922, governed

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according to the contemporary mandate system. This period transformed the settlement patterns, economic structures, and environmental policies of the area. The dramatic growth of European (predominantly Zionist) settlements in Palestine, grossly encouraged by the British rule, sparked great tensions between the Jewish and Arab populations, and between those and the governing rule, on methods of the ownership and use of the land. Escalating tensions turned violent in the 1920s, and particularly intensified from 1936 until 1939, in a series of events remembered as the Arab Revolt.[52] The 1948 war shifted power structures and population composition in Palestine, of which major parts became the State of Israel. During the war, many hundreds of thousands of Palestinian Arabs were forced into exile (740,000 people according to recent estimates), and only a small number were able to stay and live under the new military rule (for Palestinians only), which lasted until 1966.[53] In those years, more than a million Jews immigrated to Israel from Europe and the Arab world, settling in Palestinian houses or other dwellings in cities, and joining existing or new agricultural settlements and peripheral towns.

Milk and Honey is organized around the production of milk, honey, and offspring, gradually moving from the late Ottoman period, through the British mandate years, to the early Israeli state, with a focus on the period between 1880 and 1960. The book is primarily based on what can been characterized as the “colonial archive” and “settler archive,” and fuses a combination of sources: state-produced documents such as legislation, taxation, and administration records, correspondence between state experts and bureaucrats, petitions sent to state officials, scientific publications, newspaper items, personal records, poems, fables, memoirs, and oral histories. The great majority of these sources were written, published, or recorded in Hebrew and English, others were in Arabic, and a small portion were in German or French. Following anthropologist and theorist Ann Laura Stoler, I analyze these diverse and complementary types of sources preserved at the colonial and settler archives by reading along the archival grain.[54] The curatorship and presentation of this diverse collection is key for proving that the efforts to demonstrate plenty were widely practiced, and brought together a variegated group of participants—different British and Israel state experts and stakeholders as well as different Christian and Jewish settlers. By doing so, the book ultimately attempts to describe the settler colonial condition.

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The book begins by tracing water buffalo throughout Ottoman Palestine by way of supplying a prehistory of plenty. I use Ottoman taxation records as well as ethnographic evidence and oral histories in order to estimate changes in the number, use, and importance of milk-producing buffalo in Palestine, and recount the process by which this once-prevalent and valuable animal was eventually removed from the landscape by the mid-twentieth century.

Chapter 1 then analyzes the emergence of "modern beekeeping" in Palestine at the turn of the twentieth century and centers on the use of one technology: the movable frame beehive. It looks specifically at the story of an Alsatian Christian missionary family that utilized this wooden hive to transport numerous honeybees across country, and is based on family records and publications. European settlers used this technology and the movements it allowed in an effort to demonstrate not only the land's sanctity—in showing that it was literally "flowing with honey"—but also the power of Western interventions in transforming the "immovable East." With attention to changes in the lives of bees and production of honey, I examine how early European settlers and the shifting regimes interpreted the role and limitations of honey-making machines.

Chapter 2 focuses on the denunciation of the leading milk producer of the area: the black herding goat. It examines the process by which British and Israeli experts and state officials came to see the hungry goat as a threat to the revival of the land. As the records of the British Forestry Department and Israeli Agriculture Ministry at the Israel State Archives reveal, the tools of denunciation included counting, recording, measuring, and classifying, ultimately culminating in a plan to terminate these destructive creatures and replace them with prolific others. By analyzing a series of petitions sent by Palestinian goat owners to British and Israeli state officials, the chapter considers the professional and lay debates and actions that emerged as a result of these convictions along with new ways of organizing the land.

Knowledge of sheep herding is at the heart of chapter 3. It delves into Jewish settlers' attempts to revive a biblical practice and hence the land in the first half of the twentieth century. I examine two organizations of Jewish settlers with opposing ideas about practicing shepherding, and compare the types of knowledge and practices they considered valuable: either relying on the senses or employing numbers. As shepherds themselves became obsolete, however, the sheep milk economy was in the end unsuccessful.

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Based primarily on the records of these organizations and their members, the chapter explores this once once-widespread agricultural and cultural phenomenon of shepherding as a way of considering the meanings of failure.

Chapter 4 explores dairy farming among Christian and Jewish settlers during the British mandate and early State of Israel. It revolves around an analysis of the records of the Dairy Cattle Breeders Association, and the invention and costly success of the Hebrew cow. I ask why the foreign bovine dairy industry was positioned at the center of the growing settler's agricultural economy and track the process of creating a high milk-yielding species, which was the result of multiple attempts at breeding local and European cows. As milk yield became the new way of measuring success, breeding practices interacted with and changed in response to environmental challenges and political upheavals. In dialogue with the "New Jew," the term utilized to explain the ideal Jewish male settler body, the chapter also introduces the term "New Jewess" to contend that producing a plentiful land depended on fertile female bodies.

Chapter 5 scrutinizes the problem of infertility, which threatened the existence of the entire settlement project. It focuses on a group of settler gynecologists and veterinarians, and their correspondence and collaboration with farmers in an attempt to deal with the reproductive limitations of the human and animal body. Through this work, the urine of mares and women—an abundant source of sex hormones—emerged as a savior substance and connected the farm to the clinic. This chapter utilizes laboratory and farm records as well as scientific publications addressed to the global scientific community in order to show the extent of efforts put into realizing plenty.

Taken together, the chapters offer a way of looking at the connections between the social order and transforming environmental and biological ones. Following the paths of production and dysfunction, the book ends with a discussion of the meanings and consequences of such images of entanglements. It proposes and supplies evidence—such as the stories of Methuselah, the lonely male palm tree that could not reproduce, and superior female bovine embryos—to show that many technologies of plenty are alive and well.

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Milk and Honey

Technologies of Plenty in the Making of a Holy Land

By: Tamar Novick

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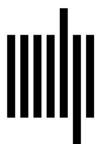

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