UNIVERSITY OF CALIFORNIA SAN DIEGO

Betting on the Farm: Rural Economic and Environmental History of Greece, 1860–1900

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy

in

History

by

David Harrison Idol III

Committee in charge:

Professor Thomas Gallant, Chair
Professor Hasan Kayali
Professor Thomas Levy
Professor Michael Provence
Professor Pamela Radcliff

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The Dissertation of David Harrison Idol III is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California San Diego

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DEDICATION

To my parents

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VITA

2008 Bachelor of Arts, New York University

2009 Master of Arts, New York University

2019 Doctor of Philosophy, University of California San Diego

ABSTRACT OF THE DISSERTATION

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by

David Harrison Idol III

Doctor of Philosophy in History

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Professor Thomas Gallant, Chair

In the second half of the nineteenth century, the vast majority of nuts, citrus, and dried fruits consumed in Europe and North America came from Mediterranean Europe. Demand for these and other Mediterranean agricultural products rose due to a general demographic growth in importing countries combined with the growing prosperity of middle classes in Western Europe. As a result, agricultural production in Mediterranean Europe intensified. This dissertation analyzes the late nineteenth-century boom of commercial agriculture in Mediterranean Europe and the effects of foreign demand for Mediterranean agricultural products on the region's environmental condition. With a focus on the case of Greece, I examine a variety of sources including contemporary Greek agricultural journals, the records of companies formed to

undertake land reclamation projects, historical maps, census records, and statistical records on agricultural production. I argue that to satisfy Western European demand for Mediterranean agricultural products such as olives and raisins, Greeks made immense changes to their environment, reclaiming wetlands, terracing hills, clearing forests, and digging canals. When demand for these products abated at the end of the nineteenth century, the Greek landscape was left permanently altered to suit the needs of a market that was no longer there. I conclude that these changes hindered Greece's recovery from its late nineteenth-century crisis by removing resources and by creating homogenous ecologies less suitable to diversification, leading to emigration and landscape abandonment. As a result, the rural economy remained impaired throughout the twentieth century. This dissertation focuses on two case studies, each in a region of Greece where foreign demand for Mediterranean agricultural products remade the landscape. The first case study region is the North and West coasts of the Peloponnese, where growing British and French demand for currant raisins caused lowland wetlands to be drained and hills to be terraced to make the landscape better suited to intensive, specialized currant viticulture. The second case study region is Boeotia in Central Greece, where demand for grains and cotton created the imperative to drain a large lake, Lake Kopaïs, and turn it into an irrigated estate for the intensive cultivation of cash crops.

CHAPTER 1.
INTRODUCTION

At the southern tip of the Mani peninsula in the Peloponnese is a coast known as Cape Tenaro. Also called Cape Matapan, it is the southernmost point of the Balkan peninsula. Like much of the rest of the Mani, Tenaro is rough and rocky terrain with a relatively arid climate. In the nineteenth century, Western European travelers to Greece described Tenaro as they saw it from the sea. Depending on their route, Mani was often their first sight of Greece. They watched from their boats, eager to catch sight of the country they had read so much about and experienced vicariously through Pausanius. What they saw shocked them: "I do not believe that there exists in the world a desert more sterile and desolate than the two southern promontories of Morea, which end at capes Malea and Matapan," wrote the French traveler Edmond About in the 1850s. "This country, called Maina, seems to be deserted by God and man."[1] A quarter century later, another French traveler, Henri Belle, was called to the deck of his ship by a sailor and was welcomed to Greece with the same view. Belle, however, was struck by something different—an aspect of the landscape that had changed since About's voyage: "Nearby, on the left, I saw a large, somber cape, falling in a sheer drop to the sea and beaten by the swell, which was whipped into a white foam; above, and dominating it, a series of harsh and arid terraces… Such was the appearance under which this land of Greece appeared to me, which I had never seen before except through the conjuring of classical memories."[2] The "series of harsh and arid terraces" that Belle saw survive in the present-day landscape of Tenaro. They stretch on for kilometers—rocky, overgrown, and abandoned. Tenaro is not obviously well suited to agriculture, and the observer is left to wonder what could have motivated their construction (Figure 1.1).

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[1] Edmond About, *Greece and the Greeks of the Present Day*, trans. by Authority (Edinburgh, UK: Thomas Constable, 1855), 3.
[2] Henri Belle, *Trois années en Grèce* (Paris: Librairie Machete, 1881), 2.

The terraced cliffs of Tenaro are just one example of many similar riddles in the present-day landscape of Greece. Terraces can also be seen carved into the hills of the island of Lesvos, once used to support the island's olive monoculture.[3] Water mills scattered throughout the island of Andros now sit abandoned, no longer in the vicinity of any obvious water source.[4] These and many other features of the Greek landscape are remnants of another time—a legacy of the late nineteenth century.

This dissertation is about the changes in the relationship between Greeks and their environment in the second half of the nineteenth century. During this time, Greek agricultural products became internationally exchanged commodities, and the ensuing expansion of foreign demand for these products altered Greek agricultural practice. Growing for international markets prompted a normative shift in Greece from traditional, risk-averse Mediterranean agriculture toward risky, specialized, intensive agriculture. This new system was motivated by profit rather than subsistence—a goal which was outwardly manifested in the landscape by the ways Greeks changed their environment to better suit the intensive cultivation of certain profitable crops. Out of diverse, fragmented, and marginal landscapes, the interests of profit-driven agriculture produced homogenous landscapes specializing in intensive agriculture.

In 1832, after a decade of war, Greek nationalists' aspirations for independence from the Ottoman Empire were finally fulfilled. The lands contained within the borders of the newly established Kingdom of Greece, however, were no great loss for the Ottomans, who kept not

[3] Thanasis Kizos and Maria Koulouri, "Economy, Demographic Changes and Morphological Transformation of the Agricultural Landscape of Lesvos, Greece," *Human Ecology Review* 12, no. 2 (2005): 183–192.
[4] Thomas W. Gallant, "Social History and Historical Archaeology in Greece: The Kefalonia and Andros Project, 2010–2014," in *Reframing Classical Archaeology in Greece: Festschrift for Anthony M. Snodgrass*, ed. Lisa Nevett and James Whitely (Cambridge: The McDonald Institute for Archaeology, 2018), 188.

only the major port cities but also the best agricultural land of Rumelia. In a speech given to the National Assembly in 1844, Greek statesman and soon-to-be Prime Minister Ioannis Kolettis famously voiced this idea as part of an irredentist vision: "The Greek kingdom is not the whole of Greece, but only a part, the smallest and poorest part."[5] From 1832 to 1864, the Kingdom of Greece consisted of the Peloponnesian peninsula, Attica, part of Central Greece, and the Cycladic Islands. None of this territory was ideal for intensive, specialized agriculture. The Peloponnese was mountainous, and its low-lying plains were often waterlogged and uncultivated. Attica and the Cyclades were arid and mountainous. Boeotia in Central Greece was a region of extremes—it was wet in winter, but it received almost no rain in the summer.

Under these conditions, Greek agricultural practices continued much the same as they had for centuries: small, family farms continued to grow primarily for their own subsistence. In this agricultural system, rural labor was characterized by diversity, resourcefulness, and risk aversion. Farmers owned small plots of land spread across different landscapes, and they grew different crops on each. Their landholdings were fragmented in multiple locations to spread their risk over distinct micro-ecologies with different productive strengths. This was done to take full advantage of the various resources that different landscapes could offer in different seasons of the year. The goal was to diversify production and minimize risk: if one plot of land under-performed one year, hopefully others would not, and all would not be lost. Pastoralists were seasonally transhumant, meaning they grazed their flocks in different landscapes over the course of the year to make full use of the land, to avoid cold winters in the mountains, and to also avoid the wet seasons in lowland plains. Rural populations were also pluriactive, meaning they were not just farmers or shepherds, but performed multiple roles. A rural worker might, for example,

[5] Richard Clogg, *A Concise History of Greece*, 3rd ed. (Cambridge, England; New York: Cambridge University Press, 2013), 48.

work his own land one season, work as a day laborer on neighboring farms in other seasons, and also undertake artisanal work or other forms of petty commodity production when the opportunity arose. They also foraged for resources in marginal landscapes such as wetlands and forests. Any surpluses that were produced were stored to be consumed later or exchanged for other goods. Rural Greek cultivators did also grow cash crops purely for exchange, but this constituted a relatively small part of production on most family farms.

This traditional Greek agricultural system had developed in sync with ecological constraints imposed by the landscapes and environments of the Mediterranean basin, where the climate was unpredictable, both within a single year and from one year to the next, and ecological and climatic characteristics varied greatly from one location to another. Greece, like the Mediterranean region in general, is best considered as a patchwork of mutually interdependent micro-ecologies. For most of the population, it was not usually possible to impose monoculture on such land, nor was it desirable to concentrate risk in this way. The agricultural system found in Greece was one that had developed to limit the risk of subsistence failure due to market volatility and the capricious Mediterranean climate.

Then, around 1860, something began to change. Improvements in transportation technology, particularly with the advent of steam ships, facilitated Greece's integration into the capitalist economies of Northwestern Europe, and certain Greek agricultural products became highly-demanded in foreign markets. These included olives and olive oil, silk, cotton, and above all the small, black raisins known as currants. As demand for these products rose, agricultural practice changed in three fundamental aspects. First, Greek agriculture became more commercial—more oriented toward market production than household subsistence. Second, rural populations moved away from diversification, and Greek agriculture became more specialized in

the production of commodities meant primarily to be sold and exported. Third, more land, labor, and resources were devoted to producing these commodities than to other activities, and Greek agriculture became more intensive. As agricultural production in Greece was tied ever more closely to the tastes of European consumers, cultivators in the regions that produced goods consumed in Europe abandoned earlier risk-aversion strategies in favor of the intensive cultivation of cash crops for export.

In order to accomplish this commercialization, specialization, and intensification of agriculture, great changes needed to be made to the Greek landscape. Land was "reclaimed" for agriculture as wetlands were drained, cleared, and converted into arable land. In the traditional Greek agricultural system, wetlands were valued as a source of fish, fowl, and other resources. In the new system, they were seen as an obstacle to the intensive cultivation of cash crops. Forests were also cleared or depleted. Like wetlands, forests supplied Greek peasant families with resources, such as timber and game, but in the new agricultural system, the demand for timber was beyond what could be grown sustainably in Greece, and the land occupied by forests came to be seen as more useful for the production of cash crops. Some forests were depleted by the heightened domestic demand for timber, and others were intentionally burned down through the practice of "fire farming" to produce fertile soil for farmland. Another change was the wide embrace of large-scale watercourse manipulation projects that were previously unknown in Greece, including the dredging of canals that radically changed the country's natural fluvial channels. These included canals for navigation, for irrigation, and for river rectification to drain wetlands, as well as the construction of water mills. Terraces were installed in hillsides and mountains to maximize the land area that was available for growing cash crops. Finally, there were new settlement patterns that were adopted. At the beginning of the nineteenth century, most

permanent settlements were located at higher elevations, and rural populations descended into low-lying plains for a few months out of the year in order to minimize risk and maximize the exploitation of diverse landscapes. By the end of the nineteenth century, new settlement patterns entailed widespread permanent lowland colonization in order to more intensively grow profitable export commodities.

These transformations in landscape and land use required a heavy investment of labor and of capital. The Greek state took on large amounts of debt to fund such initiatives as well as to undertake other economic modernization projects that helped move goods from farm to market, and lenders granted these loans based on their belief in the future profitability of export agriculture. Other projects were financed through foreign direct investment, as investors in Paris and London formed joint-stock companies to dredge canals, drain land, and to operate large, commercial farms. Local elites in the Greek countryside took advantage of state land policies to consolidate landholdings and convert mixed-use and unused land into year-round farmland. Many small-scale cultivators who stood to profit also helped facilitate these changes in the land. Motivated by the belief that Greek agricultural exports would continue to be profitable in the long term, all of these actors became deeply invested in Greek farmland. Their investments paid well for several decades.

While many Greeks profited from and helped to enable these changes to the land, many others were harmed in the process. As more of the Greek countryside became private property, land that was previously shared in common by cultivators and pastoralists became inaccessible or else required payment to use. Moreover, the growth of market-oriented production meant that resources inherent in the Greek landscape were destroyed, and these resources could serve as a social safety net in difficult times. A large segment of Greek rural society, therefore, saw their

livelihoods threatened in the new agricultural economy. The homogenization of the Greek countryside and the trend toward the monocultural production of cash crops for foreign markets meant that the more vulnerable residents of rural Greece were exposed as never before to the risks of market volatility and the variability of the Mediterranean climate. The old rules of land use had changed to the benefit of some and the detriment of others. Less affluent Greek villagers were forced to assume a greater risk of subsistence failure so that wealthier Greeks might profit, and many people were compelled to resist such changes.

Suddenly, in the early 1890s, foreign demand for Mediterranean agricultural products evaporated, and the gains of export agriculture in Greece were swiftly reversed. The ensuing economic crisis sent the Greek government into bankruptcy. Free-standing companies formed to undertake land reclamation projects were also bankrupted, and their backers in Paris, London, Athens, and elsewhere saw their investments disappear. Small farmers in the Peloponnese who had gone into debt to plant their plots with currant vineyards could no longer sell their produce, and they could not command the resources needed for their own families' subsistence. Indebted, impoverished, and unable to find work, many of them abandoned their land, often emigrating in search of new opportunities. At the close of the nineteenth century, after much effort and at great expense, the landscape, agricultural system, and settlement patterns of rural Greece had been reformed to better satisfy foreign demand for Mediterranean agricultural commodities—a demand that no longer existed. The consequences of this period were felt in Greece for decades.

This dissertation comprises two parts, each built around a regional case study of foreign demand for Greek agricultural products creating homogenous zones of monocultural specialization out of diverse and fragmented landscapes. Part one focuses on the first case study

region: the coastal, currant-growing areas of southern Greece. Over the course of the nineteenth century, growing foreign demand for Greek currants made them into a global commodity. Because of this, in the parts of Greece that could grow currants, agricultural practice shifted from diversified agriculture and transhumant pastoralism to the much risker pattern of permanent lowland settlement and year-round currant monoculture. The currant-growing region expanded as currant vineyards extended from traditional zones of specialization to encompass the north and west coasts of the Peloponnese, the south coast of Aetolia-Acarnania, and the Ionian islands of Zakinthos, Kefalonia, and Ithaki, with the attendant alterations made to the Greek landscape in these places. Chapter three describes how and why Greek currants became such a highly demanded global commodity in the second half of the nineteenth century. Chapter four examines the consequent transformation in the Peloponnesian Greeks' relationship with their environment as currant vineyards extended throughout the region and seasonal migration gave way to permanent lowland settlement. The physical landscape was also transformed as lowland wetlands were drained and hills were terraced to make the region better suited to intensive, specialized currant viticulture.

The second part of this dissertation centers on the second case study region, Boeotia, in Central Greece. At the time that currants were taking off in the Peloponnese, different Greek products became profitable commodities in other parts of the country. In Boeotia, the most important crops were cotton and grains. Chapter five examines how demand for these Greek products created the imperative to drain a large lake in Boeotia and turn it into an irrigated estate for the intensive cultivation of cash crops. First, it describes the larger context within which these Greek goods became global commodities. Then, it describes the project to drain this lake to produce arable land for agriculture. Finally, chapter six describes how, after the physical

landscape of Kopaïda had been transformed to suit these new imperatives, the region still had to be transformed socially and politically. Traditional subsistence practices had to be remade into the profit-driven practices of modern agriculture.

I conclude by examining the effects this period had on the long-term trajectory of development in Greece. The path of progress in rural Greece was neither straight nor smooth. As a result of landscape abandonment, rural depopulation, and the elimination of resources, the Greek rural economy remained impaired well into the twentieth century. Linear narratives of development in the Mediterranean have neglected the ways that the countryside of Greece was at its productive apex in the late nineteenth century, and they have also neglected the ways this early period of economic modernization stymied growth in the first half of the twentieth century.

Before exploring these case study regions, the next chapter situates the present study within the historical literature on Modern Greece and the Mediterranean and elaborates on the methodological considerations underpinning this dissertation.

FIGURES

Figure 1.1: Cape Tenaro. Now rocky and abandoned, the terraces on this hillside once served to make an inhospitable landscape more suitable to intensive agriculture.

CHAPTER 2.
ENVIRONMENTAL HISTORY AND COMMERCIAL AGRICULTURE IN MEDITERRANEAN EUROPE

Research in several disciplines has uncovered the effects of the incorporation of Mediterranean agricultural production into a global, capitalist system in the eighteenth and nineteenth centuries. The preponderance of research on this topic has come from an economic perspective. Economists and economic historians have demonstrated the ways development in Greece and the greater Mediterranean region during this time was tied to export agriculture, and they have also demonstrated the ways the globalization of Mediterranean agricultural production caused these countries to develop in a subordinate or "peripheral" position.[1] Social and economic historical scholarship has also focused on the wide-ranging effects of the nineteenth-century boom in Mediterranean commercial agriculture on the political organization of this region and the formation of classes and cultural identities.[2] Despite compelling research on the long-term social and economic consequences of this period, the environmental transformations

[1] Petros Pizanias, *Οικονομική ιστορία της Ελληνικής σταφίδας, 1851-1912* (Athens, Greece: Idryma Erevnas kai tis Paideias Emporiki Trapezas, 1988); Reşat Kasaba, *The Ottoman Empire and the World Economy: The Nineteenth Century* (Albany, NY: State University of New York Press, 1988); Jose Morilla Critz, Alan L Olmstead, and Paul W Rhode, "'Horn of Plenty': The Globalization of Mediterranean Horticulture and the Economic Development of Southern Europe, 1880–1930," *The Journal of Economic History* 59, no. 2 (1999): 316–352; Socrates D. Petmezas, "Export-Dependent Agriculture, Revenue Crisis and Agrarian Productivity Involution. The Greek Case (1860s–1930s)," *Histoire & mesure* 15, no. 3 (2000): 321–337; Vicente Pinilla and María-Isabel Ayuda, ""Horn of Plenty" Revisited: The Globalization of Mediterranean Horticulture and the Economic Development of Spain, 1850–1935" (Working Paper, Asociación Española de Historia Económica, 2006).

[2] Reşat Kasaba, Çağlar Keyder, and Faruk Tabak, "Eastern Mediterranean Port Cities and Their Bourgeoisies: Merchants, Political Projects, and Nation-States," *Review (Fernand Braudel Center)* 10, no. 1 (1986): 121–135; Çaglar Keyder, Y E Özveren, and Donald Quataert, "Port-Cities in the Ottoman Empire: Some Theoretical and Historical Perspectives," *Review (Fernand Braudel Center)* 16, no. 4 (1993): 519–558; Athanasios Gekas, "Class and Cosmopolitanism: The Historiographical Fortunes of Merchants in Eastern Mediterranean Ports," *Mediterranean Historical Review* 24, no. 2 (2009): 95–114.

made in Mediterranean Europe in the nineteenth century to sustain intensive commercial agriculture are not well understood. The effects of global capitalism on the landscape and environment of the Mediterranean have been widely noted, but this area of inquiry has received less scholarly focus. Recent scholarship on the Anthropocene and the so-called Capitalocene has brought these questions to the forefront. The spread of global capitalism in the nineteenth and twentieth centuries had significant and often permanent environmental effects in developing countries worldwide, including air and water pollution, deforestation, resource depletion, severe erosion, and an overall decline in biodiversity due to the destruction of ecosystems. With respect to the Mediterranean in general and Greece in particular, many questions remain about the environmental changes brought by global capitalism, including the regional variations exhibited, the mechanisms of landscape transformation, and the long-term social and economy consequences. Despite this gap, there is a great potential for such an environmental history of Modern Greece building on more well-developed fields.

In this chapter, I situate the present study within the existing scholarship on the social and economic history of the Eastern Mediterranean in the nineteenth century, agriculture and historical ecology in the Mediterranean, and the global environmental history of capitalism. First, I review the literature on the incorporation of the Mediterranean into the emerging global, capitalist economy in the eighteenth and nineteenth centuries— this was the catalyst for the social and environmental transformations examined in the chapters that follow. In the second section, I argue that the scholarship on the historical ecology of the Mediterranean and "traditional" Mediterranean agriculture can help to contextualize the environmental changes seen in Greece in the nineteenth century. Finally, I situate this study within European, Mediterranean, and global environmental history. Here, I place the historical, anthropological, and

archaeological studies that have been done on Greece into a broader context and put them into conversation with the environmental historical literature on Italy, Egypt, Germany, and other places where the sub-field has enjoyed greater success.

Market Integration in the Mediterranean

Over the course of the eighteenth and nineteenth centuries, labor and commodity markets in Southeastern Europe and the Eastern Mediterranean were more thoroughly integrated into a global economic system. The terminology commonly used to describe this process comes from World Systems Analysis. Immanuel Wallerstein developed the World Systems model to explain how capitalism functions on a global scale and how, because of market integration, some regions became rich and powerful while others seemed stuck in a trap of relative under-development. In Wallerstein's model, the modern world-system—i.e. the capitalist world-economy—emerged in Northwestern Europe in the fifteenth century and slowly expanded by incorporating new labor and commodity markets. The expansion of the world economy divided the globe into three distinct zones that Wallerstein, borrowing from Dependency Theory and Andre Gunder Frank, termed the core, the periphery, and the semi-periphery. These categories reflect the distribution of wealth and functions within the system. The core regions imported raw materials from the periphery, manufactured them into finished products if necessary, and exported the surplus back to the peripheral territories for purchase and consumption. The core, therefore, possessed capital and the means of production, and the periphery supplied cheap, labor-intensive commodities.[3]

[3] Kasaba, *Ottoman Empire World Economy*; Immanuel Maurice Wallerstein, *The Modern World System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (New York; London: Academic Press, 1974); Thomas R Shannon, *An Introduction to the World-System Perspective*, 2nd ed. (Boulder, CO: Westview Press, 1996).

Before this system emerged, the predominant world-system was the world empire. Unlike the modern world-system, which was singular, many world empires could coexist at once. Each world empire unified a single division of labor under a single state structure. Their economic integration was limited to the exchange of luxury goods. Strong world empires were capable of controlling production within their own domains, channeling revenue from production toward the center through taxation and controlling the distribution of wealth to keep the ruling class dominant. Weak world empires, meanwhile, were dismantled and incorporated into rival world empires. In contrast, the modern world-system unified a single division of labor within multiple state structures, and economic integration of states in this world-system went well beyond the exchange of luxury goods. The division of labor was no longer directed toward the maintenance of elite power within the state structure, as in a world empire. Instead, it followed a capitalist rationality and was directed toward the endless accumulation of capital in the world center.[4]

World Systems Analysis has been one of the dominant paradigms for studying market integration in Southeastern Europe and the Eastern Mediterranean in the modern era. Inspired by this model, scholars since the 1970s have studied the incorporation of the Ottoman Empire and the Balkans into the European economy in the eighteenth and nineteenth centuries. Using Wallerstein's vocabulary, they initially termed this process "peripheralization." Trade took place in a few major Eastern Mediterranean port-cities—Salonika, Smyrna, Patras, Beirut, and others—and these cities' Jewish, Greek, Maronite, and Armenian populations acted as intermediaries between Ottoman commodity-producers and European merchants.[5] These minority merchants began shipping Ottoman agricultural products, including staples, to Europe.

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[4] Kasaba, *Ottoman Empire World Economy*; Wallerstein, *Modern World System I*; Shannon, *Introduction to World-System*.

[5] Huri Islamoğlu and Çağlar Keyder, "Agenda for Ottoman History," *Review (Fernand Braudel Center)* 1, no. 1 (1977): 54.

Through this process of commodification, the Porte lost its power to control agricultural production within the empire, and as a result, agricultural production shifted to meet European market demands. In the Balkans, large estates called çiftliks were amalgamated to produce agricultural products to be exchanged with Europe.[6] As the Ottomans ceased to be able to control the agricultural production within their own realms, the empire ceased to be a self-contained world-empire, and the agricultural production within the empire ceased to be an engine of the reproduction of imperial authority. Through tax farming and the rise of contraband trade with Europe, Ottoman agriculture became commercial, and the Ottoman labor market was integrated into the world labor market.[7]

In addition to studying the process by which regions were incorporated into the European economy as a periphery, scholars have also been interested in the social and political consequences of peripheralization, particularly through the formation of national and class identities. For example, the disintegration of the Ottoman Empire into nation-states in the nineteenth and twentieth centuries is understood as an effect of market integration. The economic and intellectual ties ethnic minority merchants in the Ottoman Empire developed with the West facilitated the political transformation of the region. The creation of a cosmopolitan bourgeoisie and their conversations with the West helped to unravel the Ottoman Empire and reorganize the region politically into nation-states.[8] As such, these cities are also considered sites of class formation. European economic penetration created commercial bourgeoisies that benefited from

[6] This process varied in form in different regions of the empire. In Egypt, large estates emerged for growing cotton; in other places, like Western Anatolia, smaller peasant farms were redirected to market production. Ibid.; Roger Owen, "Cotton Production and the Development of the Cotton Economy in Nineteenth Century Egypt," in *The Economic History of the Middle East, 1800–1914*, ed. Charles Issawi (Chicago: University of Chicago Press, 1966), 417–429.
[7] Islamoğlu and Keyder, "Agenda for Ottoman History," 53–55.
[8] Islamoğlu and Keyder, "Agenda for Ottoman History"; Kasaba, Keyder, and Tabak, "Eastern Mediterranean Port Cities"; Keyder, Özveren, and Quataert, "Port-Cities."

European capital as well as working class populations that resisted it, forming their class identities through labor organization and strikes.[9]

The world-systems model has been criticized for its adoption of a Eurocentric narrative that maintains that there was a single, modern European world-system into which the rest of the world was incorporated, overlooking the systems and networks that existed in these places before the moment of their incorporation.[10] When applied to the Mediterranean, the model's focus on "high commerce" may be said to "minimalize" the pre-modern economy—by neglecting the regional connectivity that existed well before the eighteenth century, the model does not take into account the dense trade in staples as well as luxury goods that occurred through the movement of small cargoes and was present since antiquity.[11] Others have argued that World-Systems Theory exaggerates the role of international influences as an explanation for Balkan economic under-development, and that Balkan "dependency" on Europe is too steep a claim. To Lampe and Jackson, the Ottoman and Hapsburg empires exerted a greater influence on the Balkans from the sixteenth to the nineteenth centuries than did Northwestern European consumers or businessmen.[12]

Despite these and other criticisms, World Systems Analysis has left an indelible mark on the study of market integration in Southeastern Europe and the Eastern Mediterranean. The overall narrative of this process has remained largely unchallenged: over the course of the

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[9] Keyder, Özveren, and Quataert, "Port-Cities"; Donald Quataert, *Social Disintegration and Popular Resistance in the Ottoman Empire, 1881–1908: Reactions to European Economic Penetration* (New York and London: New York University Press, 1983).
[10] Eric Wolf, *Europe and the People Without History* (Berkeley, CA: University of California Press, 1982), 23.
[11] Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford, UK; Malden, Mass.: Blackwell, 2000), 143–152.
[12] John R Lampe and Marvin R Jackson, *Balkan Economic History, 1550–1950: From Imperial Borderlands to Developing Nations* (Bloomington, IN: Indiana University Press, 1982), 13–16.

eighteenth and nineteenth centuries, growing foreign demand for Mediterranean agricultural products facilitated the integration of regions along the Mediterranean littoral into a larger market for goods and labor. This integration caused the states of the Mediterranean to develop in a subordinate—if not altogether dependent—position vis-à-vis Northwestern Europe. The terms "core" and "periphery," moreover, are still widely used to characterize this unequal relationship, although the more precise terminology of World Systems Analysis, such as "semi-periphery" and "peripheralization," have receded from use. Instead of "peripheralization," with its Eurocentric and teleological connotations, this process may be referred to simply as "market integration."[13]

The newer work from a world-systems perspective has attempted to move beyond teleological modernization frameworks. Recent scholarship on "working class cosmopolitanism" in Mediterranean port-cities, for example, utilizes world-systems narratives and terminology, but it conceives of class outside of a Marxian framework, and it also posits important cultural identities other than national ones. This literature shifts focus from the port-cities' merchant bourgeoisies to their sailors, day laborers, outlaws, and prostitutes, arguing that they constituted a diverse "cosmopolitan" class. Migration between port-cities in the Eastern Mediterranean created cultural identities that no longer exist and have receded from view because of the rise of national historiography—market integration and the consequent rise of the Mediterranean port cities not only created a non-Muslim bourgeoisie, but it also created a lower class of cosmopolitans.[14] Other world-system studies attempt to transcend the literature's

[13] See, for example: J. R. McNeill, *The Mountains of the Mediterranean World: An Environmental History* (Cambridge ; New York: Cambridge University Press, 1992).
[14] Gekas, "Class and Cosmopolitanism"; Thomas W Gallant, "Tales from the Dark Side: Transnational Migration, the Underworld and the 'Other' Greeks of the Diaspora," in *Greek*

overwhelmingly urban focus, for example by studying the ways rural banditry helped incorporate the countryside into the world economy.[15] This newer world-systems-inspired literature fits neatly with other historical approaches to the modern Mediterranean region. First, it fits surprisingly well with other economic historical approaches, such as the more classical and "cliometric" study of modern Mediterranean economies.[16] These once-oppositional frameworks have converged—the Mediterranean was not fully dependent, and the post-Ottoman nation-states did not suffer from a failed modernity, but they did develop in a subordinate position vis-à-vis Northwestern Europe, and this was largely due to aspects of the international trade of agricultural commodities. Second, this literature fits well with cultural and intellectual historical approaches to the modern Mediterranean region, such as the study of modern Mediterranean diasporas and of political and intellectual networks.[17]

With respect to Greece specifically, the story of market integration with Western Europe begins in the second half of the eighteenth century. The main catalyst was the rise of Greek merchant houses which opened in all the major cities of Europe and the Mediterranean in the eighteenth century. The result was that Greeks in Ottoman port cities controlled a significant portion of the empire's trade with Europe. This was further facilitated by the Treaty of Küçük Kaynarca, signed in 1774 between the Ottoman and Russian empires, which was interpreted to

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Diaspora and Migration since 1700: Society, Politics and Culture, ed. Dimitris Tziovas (London: Ashgate Publishing, 2009), 17–30.

[15] Thomas W. Gallant, *Outlaws: Bandits, Pirates and the Making of the Modern World* (New York: Routledge, forthcoming).

[16] For example: Lampe and Jackson, *Balkan Economic History*; Socrates D. Petmezas, *Η ελληνική αγροτική οικονομία κατά τον 19ο αιώνα* (Herakleio: Panepistimiakes Ekdoseis Kritis, 2003); Critz, Olmstead, and Rhode, "Horn of Plenty."

[17] Maurizio Isabella and Konstantina Zanou, eds., *Mediterranean Diasporas: Politics and Ideas in the Long 19th Century* (London and New York: Bloomsbury Academic, 2016); Ilham Khuri-Makdisi, *The Eastern Mediterranean and the Making of Global Radicalism, 1860–1914* (Berkeley, CA: University of California Press, 2010).

allow Orthodox Christians in the Ottoman Empire to sail under the Russian flag. Over the course of the nineteenth century, market integration was further promoted by several forces, especially advances in technology such as steam ships, liberal trade policies in the UK, the establishment of an independent Greek nation-state in the 1830s that was able to trade more freely with the West, and industrialization in Western Europe, which caused an increase in aggregate demand for commodities produced in Greece and elsewhere. As a result of all these processes, over the course of the nineteenth century, there was a marked increase in the volume of trade between Greece and Western Europe.[18]

In the second half of the nineteenth century, this process of market integration accelerated to an even greater degree. Beginning around 1860, there was a sharp rise in global demand for agricultural products grown in the Mediterranean region, and the vast majority of nuts, citrus, and dried fruits consumed in Europe and North America came from Mediterranean Europe—Southern Spain specialized in raisins, for example, and Southern Italy in citrus and almonds. In the middle of the nineteenth century, demand for these and other Mediterranean agricultural products rose due to general demographic growth in importing countries and the growing prosperity of the middle class in Western Europe.[19] At the same time, industrialization created an ever-growing need for cotton for the textile mills of England, and Britain's colonies and trade

[18] Reşat Kasaba, "Economic Foundations of a Civil Society: Greeks in the Trade of Western Anatolia, 1840–1876," in *Ottoman Greeks in the Age of Nationalism: Politics, Economy, and Society in the Nineteenth Century*, ed. Dimitri Gondicas and Charles Issawi (Princeton, NJ: Darwin Press, 1999), 45–76; Thomas W. Gallant, *The Edinburgh History of the Greeks, 1774 to 1909: The Long Nineteenth Century* (Edinburgh, UK: Edinburgh University Press, 2015), 24–50; Alexis Franghiadis, "Peasant Agriculture and Export Trade: Currant Viticulture in Southern Greece, 1830–1893" (PhD dissertation, European University Institute, 1990), 10–11; Elena Frangakis-Syrett, "Patras," *Review (Fernand Braudel Center)* 16, no. 4 (1993): 411–433.
[19] Critz, Olmstead, and Rhode, "Horn of Plenty."

associates in the Mediterranean felt the pull of this demand. As a result, production of these agricultural commodities in Mediterranean Europe intensified.

In sum, for the Mediterranean in general and for Greece in particular, the focus of scholarship on market integration and the globalization of Mediterranean agricultural products has been on its social, economic, and political consequences. The environmental consequences and the effects on agricultural practice, however, are not well understood. While the sub-field of environmental history has enjoyed great success in other regions, above all in North America and Germany, there is no environmental history of modern Greece *per se*. There is, however, great potential to construct an environmental history of globalization in nineteenth-century Greece by combining disparate approaches and putting them into conversation with environmental histories of other parts of the world in the nineteenth and twentieth centuries.[20] These approaches include the literature on the economic history of Greece and the Mediterranean;[21] the historical, geographical, anthropological, and archaeological literature on land use, historical demography, and agricultural practice in Greece and the Mediterranean;[22] and historical ecologies of the Mediterranean.[23]

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[20] David Blackbourn, *The Conquest of Nature: Water, Landscape, and the Making of Modern Germany* (New York and London: W. W. Norton and Company, 2006); William Cronon, *Nature's Metropolis. Chicago and the Great West* (New York: W. W. Norton & Company, 1991); J. R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (London: Penguin, 2000).

[21] Petmezas, *Η ελληνική αγροτική οικονομία*; Franghiadis, "Peasant Agriculture"; Faruk Tabak, *The Waning of the Mediterranean 1550–1870: A Geohistorical Approach* (Baltimore, MD: The Johns Hopkins University Press, 2008).

[22] William McGrew, *Land and Revolution in Modern Greece, 1800–1881: The Transition in the Tenure and Exploitation of Land from Ottoman Rule to Independence* (Kent, OH: Kent State University Press, 1985); Paul Halstead, *Two Oxen Ahead: Pre-Mechanized Farming in the Mediterranean* (Malden, MA: Wiley-Blackwell, 2014); Thomas W. Gallant, *Risk and Survival in Ancient Greece: Reconstructing the Rural Domestic Economy* (Cambridge, UK: Polity Press, 1991); Malcolm Wagstaff, "Settlement Pattern Evolution in the Helos Plain, Lakonia, Greece," *Bulletin de la Société Geographique de Liège* 1 (1979): 133–149; Maria Stamatoyannopoulou,

In the sections that follow, I engage these disparate approaches and direct them toward constructing an environmental history of the globalization of Mediterranean agricultural products in Greece in the nineteenth century. First, I focus on the historical ecology of the Mediterranean region and the study of "traditional" Mediterranean agricultural practice. Then, I shift focus to the environmental history of Modern Greece and the Mediterranean.

Traditional Agriculture and Historical Ecology in Greece and the Mediterranean in the Nineteenth Century

Scholarship on the Mediterranean has envisioned the region as a unit from antiquity to the early modern era. This literature has had difficulty, however, in dealing with the nineteenth and twentieth centuries. It is generally acknowledged that sometime in the nineteenth century, Mediterranean unity was destroyed by the fracturing of the region into nation-states and by the globalization of trade. As a result, scholarship divides the study of the Mediterranean in the nineteenth and twentieth centuries into the rival civilizational spheres of Europe and the Middle East. For the literature on the pre-modern Mediterranean, ecology and agricultural practice are often regarded as key commonalities—Mediterranean agriculture is understood as a series of integrated strategies developed in concert with the environment for making productive use of diverse micro-ecologies and for limiting the risk of subsistence failure. In this section, I adapt this model in order to apply it to the study of the nineteenth century. I contend that the

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"Déplacement saisonnier et exploitation rurale en Grèce dans la deuxième moitié du XIXe siècle : le cas de Krathis," in *Espaces et familles dans l'Europe du Sud à l'âge modern*, ed. Stuart Woolf (Paris: Editions de la Maison des sciences de l'homme, 1993), 205–212.

[23] Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, trans. Sian Reynolds (Berkeley, Calif.: University of California Press, 1995); Horden and Purcell, *Corrupting Sea*; A T Grove and Oliver Rackham, *The Nature of Mediterranean Europe: An Ecological History*, 2nd ed. (New Haven and London: Yale University Press, 2001); Gallant, *Risk and Survival*.

agricultural system outlined in the literature on pre-modern Mediterranean agriculture and historical ecology was the norm in Greece and Mediterranean Europe generally at the beginning of the nineteenth century, and that it was transformed over the course of the century. In applying this model to the present study, I historicize "traditional" Mediterranean agricultural practice, arguing that it was not an unchanging structure, but a dynamic process that was influenced by a variety of factors, particularly economics, demography, and climate.

Pre-Modern Mediterranean Micro-Ecologies

The literature on the pre-modern Mediterranean is largely grounded in historical ecology, as studies of the Mediterranean in history identify it as a unit based either wholly or in part on environmental or ecological factors. One approach is to define the Mediterranean region as a unit based on a shared climate—the Mediterranean is the region with a "Mediterranean" climate, characterized by hot, dry summers and mild, wet winters.[24] Other definitions rely on the areal extent of the production of certain crops associated with the region—the northern limit of the growth of the olive tree, for example, is offered as a border between Europe and the Mediterranean.[25] Another approach which has gained in recent years employs the concept of "micro-ecologies" to describe the Mediterranean in history. This approach, particularly as elaborated by Horden and Purcell in their 2000 book *Corrupting Sea*, conceives of the pre-modern Mediterranean as a unit not because it is homogenous; on the contrary, the region is defined as such by its great internal diversity.[26]

[24] Grove and Rackham, *Nature of Mediterranean Europe*, 11.
[25] Horden and Purcell, *Corrupting Sea*, 13–14.
[26] While I borrow the term and much of the theoretical model of "micro-ecologies" from Horden and Purcell, in this section I draw on the larger literature on historical ecology of the

This approach has attracted scholars studying the history of places along the Mediterranean littoral from antiquity to the early modern era. The Mediterranean basin during this period is seen as an interconnected set of fragmented micro-ecologies. The lands surrounding the Mediterranean Sea and the islands contained within it possess a myriad of physical features including Alpine mountains, arid deserts, lush forests, and volcanic islands, and the distance between two distinct ecologies can be very small. As Grove and Rackham write, "In Crete there is an immense contrast between the misty, well-vegetated rain-excess areas on the north sides of high mountains and the arid rain-shadows a few kilometers away on the south sides."[27] The result is that one slope of a snow-capped mountain is a desert, the other slope is a jungle, and at its base is a boggy marsh. The Mediterranean region is not unique for its ecological diversity and fragmented landscape, but it is exceptional for its degree of fragmentation as well as the degree of connectivity between fragmented landscapes. As one scholar has written, "Nowhere else is the weave of the world's surface so fine."[28] Mediterranean micro-ecologies are understood to be shifting and unstable. Due to natural erosion, variations in precipitation, regular fires and occasional natural disasters, such as earthquakes and volcanic eruptions, micro-ecologies do not remain the same from year to year. They also transform due to changes in human interactions with the land.[29] As a result of their differing productive strengths as well as their volatility from year to year, pre-modern Mediterranean micro-ecologies were

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Mediterranean, especially Gallant, *Risk and Survival*; Grove and Rackham, *Nature of Mediterranean Europe*.

[27] Grove and Rackham, *Nature of Mediterranean Europe*, 25.

[28] P. Birot and P. Gabert, *La Méditerranée et Le Moyen Orient* (Paris: Presses universitaires de France, 1964), 3; Horden and Purcell, *Corrupting Sea*, 79.

[29] As Horden and Purcell write, "the principle elements in a microecology's character derive as much from its changing configuration within the web of interactions around it, across aggregates of 'short distances', as from any long-lasting physical peculiarities." Horden and Purcell, *Corrupting Sea*, 54.

highly interdependent. A single micro-ecology was unlikely to be able to support the various needs of its population, but various forms of connectivity are built into the landscape, the sea being the most important of these. This is a large part of what gave the Mediterranean its unity. It was very highly fragmented into small ecologies, the populations of these places needed products from other places in order to survive, and the sea and other forms of connectivity facilitated exchange between these micro-ecologies.

In a Mediterranean region composed of shifting micro-ecologies, instability and uncertainty were built-in factors of life. The instability and uncertainty were caused above all by two forces: variable climate and variable markets. With respect to climate: from one year to the next, rainfall could vary dramatically. As a result, a given location might provide very productive agricultural land one year and be barren the next. The other factor that shifted from year to year and affected the characteristics of a micro-ecology is what Horden and Purcell call "its changing configuration within the web of interactions around it,"[30] or what for the purposes of this study might more simply be called "markets." Precipitation was variable, but so were the needs of the populations within a given micro-ecology. Moreover, precipitation and needs varied in neighboring micro-ecologies and in more distant ones that were nevertheless connected through exchange. All of these variables were relevant at the micro-scale to the productive capacities and the overall fate of a given locale from year to year.

Traditional Mediterranean Agriculture

It was in this context that traditional Mediterranean agriculture took shape as a way to manage risk and ensure that subsistence needs were always met. As a result of the capricious

[30] Ibid.

Mediterranean climate and shifting interactions with other micro-regions, populations living in Greece had to be flexible in order to meet the needs of their own subsistence from year to year. In the words of Paul Halstead, "Each year the farmer may be aiming for a different production target, from a different area of land, with a different labour force and with the cushion of a greater or lesser amount of produce in store."[31] On the local scale, Greek populations adopted certain strategies in order to maximize their potential for meeting their subsistence needs as well as those of their families. The three over-arching strategies undertaken by Mediterranean populations in order to survive were "diversify, store, redistribute."[32]

Diversification can be seen in every choice made by Greek populations to meet their subsistence needs. In terms of agricultural production, Greek populations knew that they could not rely on a single plot of land to meet the needs of their subsistence from year to year. As a result, they undertook strategies to diversify their production. One such strategy was polycropping or intercropping, whereby farmers planted different crops on the same plot of land. This made the most productive use of a plot of land in all seasons and helped to ensure that even if adverse conditions caused one plot to under-perform the land would still be productive in another season. Olives, cereals, and pulses were harvested at different times, for example, and could be planted alongside one another.[33] Figs mixed well with olives or with vines, so these could also be planted side-by-side.[34] Polycropping also occurred in household gardens, where cereals and a variety of vegetables were grown together.[35] Another strategy was land

[31] Paul Halstead, "Traditional and Ancient Rural Economy in Mediterranean Europe: Plus Ça Change?," *Journal of Hellenic Studies* 107 (1987): 85.
[32] Horden and Purcell, *Corrupting Sea*, 175–230.
[33] Gallant, *Risk and Survival*, 38–41; Gallant, *Edinburgh History*, 220–285.
[34] Vasos Krimbas, *Η φθορά της Σύκης εν Μεσσηνία. Ανατύποσις εκ των Νέων Γεωπονικών* (Athens, Greece: Typos Athanasiou A. Papaspyrou, 1916), 2.
[35] Horden and Purcell, *Corrupting Sea*, 220–224.

fragmentation, meaning rural populations owned small plots of land in different places. This allowed them to spread their risk across different micro-ecologies, so adverse conditions in a given year on one of their holdings did not result in a total loss. Diversification also meant Greek populations were "pluriactive," meaning they undertook activities beyond agricultural production. They were not simply farmers —they also kept livestock and they engaged in seasonal skilled and unskilled manual labor.[36]

Greeks also turned to other resources beyond those they produced themselves. Rural Greek populations knew that they could not depend on agricultural production alone to meet the needs of their subsistence, so they also relied on "marginal landscapes" in order to obtain other resources. In times when traditional sources of livelihood under-performed, rural populations had to be ready to exploit other resources provided by different micro-ecologies. Depending on the characteristics of the micro-ecology, there were different alternative sources of food. Lakes, rivers, and the sea could be turned to, for example, for fish, starfish, and eel. Other environments might provide tortoises, fowl, or game. Collecting wild greens, or *horta*, was a very common strategy throughout the Greek world.[37]

The other two imperatives, as mentioned above, were to store and to redistribute. Whenever a resource was produced in excess of the needs of the family at a given time, the surplus could either be stored or exchanged. It could be stored and thus saved for a time when other sources of production under-performed, and then it would buffer against the risk of subsistence failure in the future. Alternatively, it could be exchanged for other useful

[36] Gallant, *Risk and Survival*, 41–45; Gallant, *Edinburgh History*, 220–285.
[37] Horden and Purcell, *Corrupting Sea*, 181; Grove and Rackham, *Nature of Mediterranean Europe*, 12; Gallant, *Risk and Survival*, 116–119.

commodities that were necessary for survival.[38] All of these strategies were developed to maximize the potential for meeting one's family's own subsistence needs every year. As such, we can say that subsistence was the norm—it was the goal that every peasant household aspired to achieve. In an ever-uncertain world, rural Greek populations sought to minimize their exposure to the risk that they might fail to marshal all the resources necessary for their survival.

Historicizing the "Traditional" and Accounting for Contingency

Scholarship on the historical ecology of the Mediterranean and on so-called traditional agricultural practice stumbles over the nineteenth century and collapses in the twentieth century. Horden and Purcell acknowledge that their model of the Mediterranean as a patchwork of shifting, interdependent micro-ecologies is difficult to apply in the modern period. They acknowledge that "Mediterranean history" ends sometime in the nineteenth or twentieth century, although they are uncertain when the shift occurred and what caused it.[39] Grove and Rackham run into a similar problem. They argue forcefully against what they call the "ruined landscape" theory—that the Mediterranean landscape was more lush and fertile in ancient times, and modern Mediterranean people degraded the land with their unscientific use of it. Their thesis is that human actions are not to blame for environmental changes in Mediterranean Europe. Mediterranean ecologies are resilient and constantly changing; fires and erosion are natural aspects of the Mediterranean and not a result of human misuse; "badlands" is a misnomer; and a lack of forest is not the same thing as deforestation. This argument certainly has its merits, but Grove and Rackham downplay the significant changes that have occurred since the nineteenth century. For example, when discussing the changes in Greece specifically, they write,

[38] Horden and Purcell, *Corrupting Sea*, 175–230.
[39] Ibid., 466–474.

> Comparing ancient with modern Greece, surprisingly little has changed, except for coasts, deltas and the absence of written mention of terraces…. Xenophon would instantly recognize most of nineteenth-century Greece, before the recent decline of cultivation and expansion of woodland in the mountains. However, in modern Greece one misses fens. In ancient times wetlands were abundant and probably useful as pasture, but nearly all have been destroyed in the last 150 years…[40]

In this passage, Grove and Rackham acknowledge changes to the Greek landscape since the nineteenth century that were truly massive in scale—e.g. the complete disappearance of the once-"abundant" fens or marshes—yet they still contend that "surprisingly little" has changed in the Greek landscape since Xenophon.

The literature on the historical ecology of the Mediterranean depicts a timeless, unchanging Mediterranean region from antiquity to the modern era. In this way, it replicates a pitfall of the related historical and anthropological literature on Mediterranean agricultural practice. If the Mediterranean ecology was unchanging, so, too, were human interactions with it. Scholars studying the ancient past have used ethnography of contemporary Greece to supplement literary sources and material culture. To better understand ancient farming practices, for example, they studied contemporary farming practices. John Campbell and Ernestine Friedl pioneered the field of ethnography of Greece, conducting field research in rural settings in Greece in the 1950s and recording their observations of rural Greek populations' concepts of honor and shame, gender roles and family structure, and agricultural practices.[41] There has been a tendency to treat these studies ahistorically as representing "traditional" Greek society, as if their descriptions of Greek village life could be applied equally to the 1950s, the 1850s or the fourth century BCE. Susan Buck Sutton has called this approach "survivalism," in which, "The

[40] Grove and Rackham, *Nature of Mediterranean Europe*, 171.
[41] Ernestine Friedl, *Vasilika: A Village in Modern Greece* (New York: Holt, Rinehart and Winston, 1962); John K. Campbell, *Honor, Family, and Patronage: A Study of Institutions and Moral Values in a Greek Mountain Community* (Oxford: Oxford University Press, 1964).

nineteenth or twentieth century existence of a folk song, ceramic vessel, or farming technique similar to that of antiquity has been taken as proof of unbroken continuity." This approach has been replicated in other disciplines, such as ethno-archaeology.[42] It also fits well with Greek nationalist historiography, folklore studies, and Romanticism—endeavors for which an unbroken Greek cultural continuity from ancient times to the present is expedient.

Ethnography has certainly been a useful way to fill in the gaps left by the limitations of other sources. Studying the ancient past through analogy to the present, however, has had its drawbacks, and more recently, this approach has come to be challenged. As Paul Halstead has argued, "Emphasis on relatively *timeless* constraints… of environment (e.g. low rainfall), technology (e.g. "primitive" wooden plows) and perhaps know-how (e.g. presumed ignorance of crop rotations) has encouraged uncritical extrapolation to antiquity. Traditional practice was highly variable, however, and demonstrably shaped also by medium-term historical contingencies (e.g., land tenure, markets…) and cultural preferences and by short-term tactical decision-making." Traditional farming practices were not timeless—they have altered with changing circumstances.[43]

It is now recognized that the Greek countryside and Mediterranean farming practices were contingent on a multitude of factors. As Halstead argues, there has been a tendency to over-generalize Mediterranean farming practices, and there was, in fact, a great diversity of practices. Different regions in the Mediterranean imposed different material constraints—e.g. based on climate, terrain, and quality of soil—but many more factors also influenced farming practices. Individual factors also mattered a great deal, such as one farmer's specific production goals, his

[42] Susan Buck Sutton, ed., *Contingent Countryside: Settlement, Economy, and Land Use in the Southern Argolid since 1700* (Stanford, CA: Stanford University Press, 2000), 7.
[43] Halstead, *Two Oxen Ahead*, 2–8.

strength and skill, the size of his plots, and the distance of his plots from his home. As Halstead writes, "Individual farmers often do things differently, because they are more or less industrious, conservative, proud, burdened with dependents to feed, or blessed with "hands" to help." Based on these factors, individuals made different choices. Rich farmers with lots of land left more of their land fallow; poor farmers farmed every inch they could afford to.[44] Finally, cultural factors need to be accounted for. Diversity in farming practice also results from different cultural "ways of doing." There were many local customs that influenced farming practices, and not all of them were grounded in practical considerations.[45]

In sum, ethnography is a useful tool for postulating about farming practices in the past, but only when it is considered alongside other sources and when the contingencies of rural Mediterranean life are kept in focus. Among the larger contingencies that affected Mediterranean ecology and agriculture over the medium-term were economic, demographic, and climatic changes. As I examine next, the influence of these factors needs to be taken into consideration in order to understand the changes that occurred over the course of the nineteenth century.

The Waning of the Mediterranean

The dynamism of the Mediterranean countryside is well illustrated by an examination of long-term changes in settlement patterns, crop regimes, and climate. In the fifteenth and sixteenth centuries, the population of the Peloponnese—and of the Mediterranean basin in general—was concentrated in the lowland plains, which were the center of economic activity, and the main crops were cereals, especially wheat. Then, beginning in the middle of the sixteenth century and lasting until the middle of the nineteenth century, a new settlement regime became

[44] Ibid., 31–33.
[45] Ibid., 2, 11–13.

dominant as populations shifted away from low-lying plains and became more concentrated in the hillsides and mountains of the Mediterranean. Grain cultivation moved out of the Mediterranean, and the Mediterranean returned to the cultivation of its "civilizational crops," i.e. vines and olives.[46]

The shift of the economic and demographic center of the Mediterranean from its low-lying plains to its hills and mountains occurred at the interface of two larger processes. The first was a drop in the annual average temperature, often referred to as the Little Ice Age. Estimates vary, but this Little Ice Age lasted roughly from the middle of the sixteenth century to the middle of the nineteenth century in the Mediterranean. The Little Ice Age was a period of "several phases of cool summers and cold, snowy winters."[47] During this period, there were also several clusters of extreme weather events in Mediterranean Europe, including floods and out-of-season rain, droughts, and especially cold winters—the worst decades were the 1540s, the 1560s to the 1640s, the 1680s to the 1710s, and the 1810s. These weather events often resulted in failed harvests, frequent famines in much of Europe, and favorable conditions for certain diseases, such as malaria and plague.[48] The cause of the Little Ice Age is unknown. Alpine glaciers advanced at times during this period due to successive heavy snowfalls followed by cool, late springs—this could explain extreme weather events in the Alpine Mediterranean, but not in the southern Mediterranean. Other possible explanations include volcanic eruptions, sunspot minima, a shift

[46] Tabak, *Waning of the Mediterranean*, 14.
[47] Grove and Rackham, *Nature of Mediterranean Europe*, 130.
[48] Ibid., 80.

in the anticyclonic belt of the Northern Hemisphere similar to the one that caused the Medieval Warm Period that preceded the Little Ice Age, or some combination of these factors.[49]

Whatever the cause, this change in the climate of Europe and the Mediterranean made the cultivation of lowland plains more difficult and less predictable. In Mediterranean Europe, the colder average temperature meant a shorter growing season in the summer and a wetter climate overall. Due to increased fluvial discharge, the best croplands in the low-lying plains were waterlogged for a longer segment of the year. As Faruk Tabak has written, the lowland plains "were largely deserted and taken over by swamps, wetlands, and reeds—not to mention the fauna that thrived in such environments: the mosquito, snakes, storks, and lizards."[50] During the Little Ice Age, making wetlands suitable for habitation and cultivation was an expensive, labor-intensive task. Drainage works needed constant upkeep, and they could be swiftly undone by an unexpected deluge. Furthermore, the risk of malaria made it a dangerous endeavor, and land reclamation needed to be done on a sufficiently large scale to eliminate the risk of malaria from nearby fields. This was the world that Braudel described in *The Mediterranean and the Mediterranean World in the Age of Phillip II* in which he wrote, "To colonize a plain often means to die there."[51] With the beginning of the Little Ice Age, permanent settlements moved from lowlands to highlands, and temporary settlements (hamlets, mazra'as, bastides), "mushroomed throughout the basin."[52]

The second factor that caused population to become more concentrated in upland areas was the transplantation of American crops to Europe and of old world crops to the Americas—a

[49] Ibid., 130–140. Grove and Rackham also point to a long cluster of unusual weather events from the 1280s to the 1380s, but the events of this period were less extreme than the clusters that followed.
[50] Tabak, *Waning of the Mediterranean*, 14–17.
[51] Braudel, *The Mediterranean*, 63–66.
[52] Tabak, *Waning of the Mediterranean*, 27–28.

process often referred to as "the Columbian exchange."[53] In the seventeenth century, land- and labor-intensive "oriental" crops, especially cotton and sugar, moved out of the Mediterranean and to the Americas, where there was plenty of land to exhaust and slave labor to exploit. From the 1650s on, sugar production shifted from the Mediterranean (particularly Cyprus) to the Atlantic (particularly the Caribbean), and sugar production was much greater there. In the fifteenth century, Cyprus exported a few hundred tons annually; in the seventeenth century, Jamaica exported 72,000 tons annually.[54] In addition, grain production moved out of the Mediterranean and was relocated to large estates in Eastern and Central Europe, also with coerced labor. In the sixteenth century Mediterranean, the grain trade was 100,000 to 200,000 tons. In the seventeenth-century Baltic, the grain trade was 600,000 tons.[55] Meanwhile, in the Mediterranean, American crops were being introduced to replace sugar, cotton, and grains. The American crops that were introduced—e.g. tobacco, maize, and beans—could be grown at higher altitudes in the Americas, and they similarly thrived in the highlands of the Mediterranean basin.[56] As populations were forced to relocate to higher altitudes by the inhospitable conditions of the Little Ice Age, the crops that justified lowland settlement in the first place disappeared from the basin, and upward relocation was facilitated by the availability of new crops that thrived at higher altitudes.

As a result of harsher conditions in the lowlands and new crops from the Americas, from the middle of the sixteenth century to the middle of the nineteenth century, permanent settlement in the Mediterranean region became more concentrated in the hills and mountains. Populations

[53] Alfred W Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, Conn. and London, UK: Praeger, 2003).
[54] Tabak, *Waning of the Mediterranean*, 73–75.
[55] Ibid.
[56] Ibid., 27–28, 220.

that could not keep up with the drainage work in low-lying fields were forced to abandon settlements there and relocate to hillsides and mountains, which became more densely populated, and were transformed into the new epicenter of economic life. Without lowland stretches to plant grains, and with the removal of "oriental" crops from the Mediterranean (sugar and cotton), the region returned to its indigenous crops—olives and vines.[57] The movement of cereals out of the Mediterranean meant that permanent settlement in the region's low-lying plains was abandoned, and these plains were repurposed for seasonal migration and animal husbandry.[58] Commercial agriculture left the shores of the Mediterranean from the middle of the sixteenth century to the middle of the nineteenth century. During this period, rural populations retreated from lowland settlements into the hills, and the agricultural landscape shifted from monocultural grain production in low-lying plains to polyculture, primarily in the hills in mountains.[59]

Around the middle of the nineteenth century, this upland movement was reversed. Two transformations caused a shift in land use and settlement patterns around the middle of the nineteenth century. First, as discussed above, the Little Ice Age came to an end around the middle of the nineteenth century. This made land reclamation in low-lying plains much easier.[60] Second, market integration caused commercial agriculture to return to the shores of the Mediterranean. After 1750, there was a period of expansion of the world-economy. This was due in part to a demographic boom throughout Europe and the Mediterranean basin, which created increased demand for wheat and cotton. Higher demand for both of these crops made cultivation in the low-lying plains where these crops could be grown in large stretches a more attractive prospect. While the Little Ice Age climate was still in effect, lowland plains remained marshy,

[57] Ibid., 14–16, 77–78.
[58] Ibid., 74–75.
[59] Ibid., 27–28.
[60] Ibid., 22.

and lowland colonization was still more difficult and more deadly than it had been during the Medieval Warm Period. The demand for wheat and cotton, however, provided the incentive to overcome additional obstacles and undertake lowland colonization. To reclaim wetlands under these conditions, it was often necessary to form large plantations worked by coerced labor. In the Ottoman realm, this took the form of çiftliks, which began to abound in lowland fields. Moreover, in the 1850s, quinine became more widely available in Mediterranean Europe, making malaria a less harmful disease.[61] Colonization of low-lying plains continued to intensify throughout the nineteenth century, propelled by deeper market integration and greater global demand during the mid-Victorian boom and aided by the palliative effects of quinine. Nevertheless, most of the lowlands remained neglected through the middle of the nineteenth century.[62]

As a result of these two processes—market integration and the end of the Little Ice Age—by the middle of the nineteenth century, the low-lying plains of the Mediterranean were once again opened for settlement and tillage, beginning a process of downhill migration.[63] As Tabak argues: "the relocation of oriental cash crops and commercial bread crops, the widening stretch of dispersal of manufacturing, and the growing weight of terrestrial trade led, in unison, to the long-term retreat of commercial agriculture in the region."[64] As a result of the disappearance of these major commercial crops, the Mediterranean basin became more self-sufficient.[65] From the eleventh century to the mid-sixteenth century, lowland plains had been claimed and tilled. Then, from the mid-sixteenth century to the mid-eighteenth century, the

[61] Katerina Gardikas, *Landscapes of Disease: Malaria in Modern Greece* (Budapest; New York: Central European University Press, 2018), 289–293.
[62] Tabak, *Waning of the Mediterranean*, 17–21.
[63] Ibid., 27–28.
[64] Ibid., 80.
[65] Ibid., 77–78.

lowlands were abandoned. In the mid-eighteenth century, the plains began to be settled again, with lowland reclamation picking up pace in the middle of the nineteenth century. Grains did not reappear in Mediterranean plains until the mid-eighteenth century and not in a considerable amount until the mid-nineteenth century.[66] When cotton returned to the Mediterranean, it was not grown as a plantation crop, but as a niche crop—"another addition to the petty producers' reserve, cultivated in smaller fields and mostly for local and regional markets." In contrast, sugar disappeared completely from the Mediterranean, except for Egypt, where it continued to be grown but on a much smaller scale.[67]

Climate, Agriculture, and Profit in Nineteenth-Century Greece

In the period under review in this dissertation, the norm of risk-averse subsistence agriculture was challenged, and—in places, for a time—it was replaced by profit-driven capitalist agriculture. With the onset of the Little Ice Age and the relocation of plantation crops from the Mediterranean basin to the Americas, normative Mediterranean agricultural practice became like the "traditional" model described by the older historiographical tradition. In the second half of the nineteenth century, climate change, market integration, and technological innovations caused such changes in land use that this model began to break down. In the period under review in this dissertation, the so-called traditional model co-existed with and was being supplanted by a very different model of land use. In sum, the starting point of this dissertation envisions Greece at the beginning of the nineteenth century as an area composed of shifting, inter-dependent micro-ecologies in which populations strove to meet the needs of their own subsistence through diverse strategies in which exchange played a crucial role. This is the

[66] Ibid., 74–75.
[67] Ibid., 77–78.

baseline which was altered in the late nineteenth century by the rise of specialized, intensive, commercial agriculture.

As a result of growing foreign demand in the second half of the nineteenth century, Mediterranean agriculture became more specialized and more intensive. The external forces acting on the ecological and agricultural systems of the Mediterranean began to change and, as a result, the character of agriculture in Greece and Mediterranean Europe began to change as well. There was a shift from the old Mediterranean norm of diversified subsistence agriculture, fragmented landscapes, and transhumant pastoralism to the new norm of commercial agriculture. This dissertation rests on the argument that, in the nineteenth century, the nature of Greek agriculture changed from a system oriented toward subsistence into a system oriented toward commerce. In the most basic sense, commercial agriculture was not new in Greece in the nineteenth century—far from it. The exchange of agricultural products existed as a feature of ancient and medieval Mediterranean economies, and, as mentioned above, exchange was built into the old agricultural system. The cultivation of cash crops intended for sale was just one among several strategies for meeting needs.[68] Furthermore, beyond the cultivation of cash crops, any surplus not stored for later use could be sold or exchanged. Agricultural products had been exported from Greece and consumed abroad for centuries. One of the major forces that moved Greek agricultural production across long distances was a phenomenon known as tramping or cabotage, whereby small boats with small cargoes hugged the Mediterranean coastline, stopping in ports along the way to buy and sell. Through this process, goods were relayed around the Mediterranean basin.[69] The exchange of agricultural production in Greece has a very long history, as does the long-distance trade of Greek agricultural production. The term "commercial

[68] Horden and Purcell, *Corrupting Sea*; Gallant, *Risk and Survival*.
[69] Braudel, *The Mediterranean*, 101–108; Horden and Purcell, *Corrupting Sea*, 143–152.

agriculture," then, is not meant to refer to either of these phenomena, nor is the term meant to refer simply to the presence of specialized, intensive production of cash crops or other agricultural products for exchange or export. Large farms that specialized in the production of agricultural products to be sold or exchanged existed at least since the Ottoman period.

The change that occurred in the second half of the nineteenth century was not, therefore, the appearance of a new phenomenon, but a dramatic growth in the scale of an existing phenomenon. From 1860 to 1893, Greek agriculture became more commercial, more specialized, and more intensive. First, agricultural practice in Greece became more commercial, meaning there was a greater participation in markets by agricultural producers. Small-scale producers became more involved in markets, and they moved from production for family subsistence to growing crops for exchange.[70] There was also a greater level of participation with markets that were farther away, particularly in Western Europe. Market integration with Western Europe was made possible by advances in transportation, particularly the invention of faster steam ships.[71] Second, Greek agricultural production became more specialized, meaning there was an increasing move away from diversified agriculture and toward monoculture. At the small scale, cultivators moved away from diversification practices such as land fragmentation and polycropping. Instead, to take advantage of economies of scale, certain elite cultivators consolidated large, contiguous land holdings growing the same crop. At the macro scale, different regions of Greece became associated with different monocultures. Finally, Greek agricultural production became more intensive, meaning that more land and labor were devoted to agricultural production. In sum, instead of diversification, there was a trend toward

[70] Nikos Bakounakis, *Πάτρα, 1828–1860. Μια Ελληνική πρωτεύουσα στον 19ο αιώνα* (Athens, Greece: Ekdoseis Kastanioti, 1988), 17–18.
[71] Frangakis-Syrett, "Patras."

specialization and intensification; instead of family-level subsistence, there was commercialization. Landscapes became more homogenous and monocultural. There was also a trend away from transhumance toward settled agriculture.

In the larger Greek world, several crops were important. Largely to satisfy foreign demand, different parts of Greece grew to specialize in the intensive production of different agricultural commodities including olives and olive oil, silk, and cotton. As a percentage of export revenue, currants were the most important crop in the Kingdom of Greece in the second half of the nineteenth century.[72] As such, Greek historians have been interested in this period of currant monoculture, and there have been many studies of the currant question in the nineteenth century.[73] The studies on the Greek currant boom are written primarily from an economic perspective. In their studies on Patras, the "capital" of the currant trade in the nineteenth century, Bakounakis and Frangakis-Syrett have demonstrated that currants strengthened Greece's trading connection to Western Europe and facilitated foreign access to Greek markets.[74] From Pizanias, we get the history of the prices of currants—in Greece, France, and the UK—and a broader commercial history of the European demand for currants and its effect on Greek output. Petmezas writes about the role of currants and of agriculture in the larger Greek economy, and Nikos Bakounakis has studied the financial history of currant cultivation in Achaea.[75] Other studies have addressed the effects of intensive currant production on peasant society and on land tenure practices. Franghiadis has shown how rural populations felt the pull of foreign demand for

[72] Pizanias, *Οικονομική ιστορία*; Petmezas, *Η ελληνική αγροτική οικονομία*; Petmezas, "Export-Dependent Agriculture."
[73] Dimitris Psychogios, *Προίκες, φόροι, σταφίδια και ψωμί. Οικονομία και οικογένεια στην αγροτική Ελλάδα του 19ου αιώνα* (Athens, Greece: Ethniko Kentro Koinonikon Erevnon, 1995).
[74] Bakounakis, *Πάτρα*; Frangakis-Syrett, "Patras."
[75] Pizanias, *Οικονομική ιστορία*; Petmezas, "Export-Dependent Agriculture"; Petmezas, *Η ελληνική αγροτική οικονομία*; Bakounakis, *Πάτρα*.

currants, and they undertook land improvement projects to extend currant cultivation. Bakounakis has elucidated how currant cultivators often went deeply into debt to finance the planting of their land with currant vineyards, borrowing from currant merchants at usurious rates.[76]

Environmental History of Modern Greece and the Mediterranean

Finally, I discuss the environmental history of Modern Greece and the Mediterranean. First, I focus on the European and global environmental history of the "conquest of nature." Then, to segue into the narrower topic under review in this dissertation, I shift focus to the effects of the globalization of Mediterranean agriculture.

The Conquest of Nature

In the nineteenth century, Europeans began changing their environments in more ambitious and more impactful ways than ever before, especially through the manipulation of water resources. Around the middle of the nineteenth century, Europeans began digging bigger canals and building bigger dams than ever before. They changed rivers, lakes, and wetlands, and they dredged navigation canals that connected seas and oceans—in short, they permanently changed the hydrosphere. During this time, a number of factors came together that led people to undertake these ambitious projects to "tame" the hydrosphere. First, there were new needs during this time that motivated these projects. Some of these new needs were the result of population growth—the population of Europe more than doubled over the course of the nineteenth

[76] Nikos Bakounakis, "La vigne et la ville: qui finance la culture?," in *Banquiers, usuriers et paysans. Réseaux de crédit et stratégies du capital en Grèce (1780-1930)*, ed. George Dertilis (Paris: Édition la Découverte et Fondation des Treilles, 1988), 82–94; Franghiadis, "Peasant Agriculture."

century.[77] This unprecedented demographic expansion created a need for more food and clean water than ever before, placing new demands on land all over the continent. New needs also sprung from economic growth. This created a need for faster and cheaper transportation—to sustain this economic growth, it became necessary to remove barriers to the movement of people and goods. Draining lakes and reclaiming wetlands provided new agricultural land, which was needed to feed a growing European population and to support growing agricultural economies. At the same time, rectifying inland rivers facilitated the movement of raw materials like coal and iron as well as finished products, supporting growing industrial economies. Taken together, these two process aided in connecting regions by increasing the speed and decreasing the cost of transportation.

Efforts to tame the hydrosphere were not new, but in the second half of the nineteenth century, there was a sudden increase in the scale and the intensity of water management projects. Engineers in Europe and North America straightened rivers, dredged canals, drained wetlands, and constructed dams and reservoirs like never before. In addition to the new needs created by demographic and economic growth, three changes also made this change in scale possible. The first was new technology and new sources of energy. Notably, the nineteenth century saw the introduction of new dredging machines. Made of steel, powered by coal, and moved by steam, these dredging machines were much more efficient than their wooden, human-powered precursors. They could be used to excavate soil in order to dig canals, or they could be built into ships and used to deepen a river or a bay. Before the nineteenth century, this work was done by men with shovels and buckets. With new technology like the steam dredge, new projects suddenly became possible for the first time. The second change in the nineteenth century had to

[77] T. C. W. Blanning, "Introduction: The End of the Old Regime," in *The Nineteenth Century: Europe, 1789–1914*, ed. T. C. W. Blanning (Oxford: Oxford University Press, 2000), 1–9.

do with new sources of financing for these projects. Industrialization combined with population growth had created economic growth in Western Europe. This led to the emergence of a new class of investors—people looking for ways to invest their surplus income. Projects to manipulate the hydrosphere promised to be very lucrative, and so they attracted money from investors hoping to make big gains. As a result of this change, not only was there new technology in the nineteenth century, but there was also the capital to undertake bigger projects than ever before.

Finally, the nineteenth century saw the emergence of a new attitude. The spirit of the age was one of progress. With so many advances in science and engineering, there was a sense that humanity was advancing into a new era in which the relationship between humans and their environment could be redefined. There was a new optimism that people were not limited by the world they inherited; they could wage a war against the imperfections of nature. Indeed, nineteenth- and twentieth-century water management projects were often articulated as a kind of warfare, with nature seen as an enemy to be conquered.[78] This rhetoric had many historical antecedents, such as Frederick the Great's famous proclamation upon the completion of the project to drain the Oder Marshes in 1753: "Here I have conquered a province in peace."[79] Beginning in the second half of the nineteenth century, however, rhetoric of a war against nature became ubiquitous. It was now possible to manipulate the physical landscape unlike ever before, and with this power came a new optimism that humans could wage war against the natural world.

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[78] Blackbourn, *The Conquest of Nature*, 5, 191; Piero Bevilacqua, "The Distinctive Character of Italian Environmental History," in *Nature and History in Modern Italy*, ed. Marco Armiero and Marcus Hall (Athens, OH: Ohio University Press, 2010), 18–19.
[79] Blackbourn, *The Conquest of Nature*, 40.

In the nineteenth and twentieth centuries, engineers throughout Europe straightened rivers, dredged canals, drained wetlands, and constructed dams and reservoirs at an unprecedented scale. Over the course of the nineteenth century, German engineers tamed the wild Rhine—a "labyrinth of waterways and islands" that changed course from year to year—into a shorter, straighter, and more predictable single channel.[80] The period from the 1880s to the middle of the twentieth century was also the "age of dam building" in Germany, motivated by the idea that, in some places, nature provided lakes, while in others, rocky basins required human effort to be "complete[d]."[81] In Italy, wetlands were drained in the nineteenth and twentieth centuries to create more land for capitalist agriculture and—misguidedly— to combat malaria.[82] The most notable case in the nineteenth century—and one that bears a striking resemblance to the project to drain Lake Kopaïs discussed in later chapters—is the draining of Lake Fucino. The third-largest lake in Italy at the time, it covered 155 square km of the plains of Abruzzo. From 1862 to 1875, Prince Alessandro Torlonia drained Fucino and converted it into agricultural land. For generations, the lake had been used by local fishermen. Draining the lake deprived residents of the region of this and other resources.[83] The draining of Fucino was followed by a "draining frenzy" in the Po Plain and the fascist-era draining of the Pontine Marshes.[84]

Europeans exported their conquest of nature to the developing and colonized world in the form of foreign investment. The successful completion of the Suez Canal in 1869 by Ferdinand de Lesseps and his Compagnie universelle du canal maritime de Suez sparked an enthusiasm for

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[80] Ibid., 79–117. See also Mark Cioc, *The Rhine: An Eco-Biography* (Seattle: University of Washington Press, 2015).
[81] Blackbourn, *The Conquest of Nature*, 191.
[82] Grove and Rackham, *Nature of Mediterranean Europe*, 79; Bevilacqua, "Distinctive Character," 18.
[83] Bevilacqua, "Distinctive Character," 17–19. See also Sergio Raimondo, *La risorsa che non c'è più: Il lago del Fucino dal XVI al XIX secolo* (Manduria: P. Lacaita, 2000).
[84] Bevilacqua, "Distinctive Character," 18. See also McNeill, *Something New*, 173–177.

foreign investment in navigation canals. By the time he officially announced his next project—a canal through the Isthmus of Panama—founders' shares of the Suez company, initially priced at 5,000 francs each, were valued at 380,000 francs per share. Investors anticipated similar profits for the Panama Canal, and when de Lesseps issued public shares of his Compagnie universelle du canal interocéanique de Panama in the 1880s, it quickly became the mostly widely-held stock of any ever before issued.[85]

The conquest of nature arrived in Greece in the 1880s. As in the colonized world, it was brought by Europeans searching for opportunities for investment. Although the Kingdom of Greece was an independent country and not a colony, in several respects the country's experience in the nineteenth century resembled that of the colonized world, as many have argued.[86] With respect to the development of infrastructure, Greece could not afford to fund its own modernization and like the colonized world relied on foreign investment.[87] In the 1880s, the modernizing fervor of the government of Harilaos Trikoupis and Greece's renewed access to foreign credit markets for the first time in half a century made infrastructural development a possibility. Meanwhile, an economic depression in Europe caused European entrepreneurs to look abroad for investment opportunities.[88] The Corinth Canal, dredged through the Isthmus of

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[85] David McCullough, *The Path Between the Seas: The Creation of the Panama Canal, 1870–1914* (New York; London: Simon and Schuster, 1977), 124–127.
[86] See, for example, K E Fleming, *The Muslim Bonaparte: Diplomacy and Orientalism in Ali Pashas Greece* (Princeton, NJ: Princeton University Press, 1999); Thomas W Gallant, *Experiencing Dominion: Culture, Identity and Power in the British Mediterranean* (Notre Dame, Ind.: University of Notre Dame Press, 2002); Yannis Hamilakis, *The Nation and Its Ruins: Antiquity, Archaeology, and National Imagination in Greece* (Oxford: Oxford University Press, 2007); Michael Herzfeld, "The Absence Presence: Discourses of Crypto-Colonialism," *The South Atlantic Quarterly* 101, no. 4 (2002): 899–926; Artemis Leontis, *Topographies of Hellenism: Mapping the Homeland* (Ithaca, N.Y.: Cornell University Press, 1995).
[87] Maria Kaika, *City of Flows: Modernity, Nature, and the City* (New York: Routledge, 2005), 109–113.
[88] Ibid., 112–113; Gallant, *Edinburgh History*, 174–176.

Corinth from 1882 to 1893, was begun by a French company—the Société internationale du canal maritime de Corinthe—led by the Hungarian general-cum-entrepreneur István Türr and the Hungarian engineer Béla Gerster, both of whom had been involved in the Panama Canal project.[89] In 1890, the company declared bankruptcy, and a Greek company led by Andreas Syngros took over for the failed French company, resumed the works in 1890, and finished the canal in 1893.[90] The 1880s was also the railroad decade in Greece with railways built all over the country, mostly by a group called the Delegation of French Engineers.[91] From the time Trikoupis first became prime minister until the time of his death in 1896, the length of the country's railways increased from 12 kilometers to almost 1,000 kilometers.[92]

These and other infrastructure projects in Greece in the nineteenth and twentieth centuries have been studied primarily from an economic perspective. They have been studied for the ways they impacted the Greek economy—both by boosting it in the nineteenth century and by causing it to lag in the twentieth century under the weight of foreign loans. The social and environmental aspects of these infrastructure projects have received less study. This dissertation focuses on a subset of the "conquest of nature" projects in Greece in the late nineteenth century, i.e. those

[89] The Corinth Canal was initially estimated to cost 30 million francs. By 1889, the estimated cost had risen to 60 million. Dragoumis Papers, Box 56, Folder 9, Dragoumis to Renieri 10/22 June 1889.

[90] Although successfully completed in just over a decade, the canal had several major drawbacks. The canal was too shallow for the steam ships of the age to pass through without running aground, and the narrowness of the canal also created counter-currants that made it difficult for ships to pass through. As a result, traffic through the Corinth Canal was lower than anticipated. McCullough, *Path Between the Seas*, 60–69; Gallant, *Edinburgh History*, 179–181; Korinna Schönhärl, "Behavioural Finance as a Methodological Approach for Historians? A Field Report Concerning the Construction of the Canal of Corinth in Nineteenth-Century Greece," in *Decision Taking, Confidence and Risk Management in Banks from Early Modernity to the 20th Century*, ed. Karl Schönhärl (Cham, Switzerland: Palgrave MacMillan, 2017), 293–314.

[91] Kaika, *City of Flows*, 113.

[92] Clogg, *Concise History of Greece*, 68.

made to strengthen intensive, commercial agriculture, and I examine the social and environmental effects.

The Globalization of Mediterranean Agriculture

Research on the globalization of agricultural production has demonstrated that it had had large-scale and often permanent environmental effects including resource depletion, upland erosion, and the elimination of ecosystems. As J.R. McNeill has written, when global demand for a resource is concentrated on a small region, the effect on that region's ecology can be "roughly analogous to the focusing of the sun's rays on a single point, as children do with a magnifying glass in order to set a leaf on fire."[93] Evidence suggests that globalization had a similar impact on the Mediterranean environment, but the scale and broader consequences remain unknown. Case studies of economic history and historical demography in small regions in Greece have indicated that land use transformed dramatically during this period to create new land to grow crops for export. To support increasing global demand for olives, cultivators on Lesvos transformed the landscape of the island by stretching terraces up into the hills to exploit land that otherwise would not be ideal for agriculture. Scholars who have studied landscape change on the island note that this process of terracing began in the eighteenth century, but it expanded greatly in the second half of the nineteenth century.[94] There is reason to think that terracing on Lesvos is representative of a larger regional trend. As Horden and Purcell write, "The terraces that we see today in Italy or Greece derive largely from the later nineteenth century. Widespread rural overpopulation was combined with new opportunities for the exchange of Mediterranean tree-

[93] McNeill, *Mountains of the Mediterranean*, 9.
[94] Kizos and Koulouri, "Agricultural Landscape of Lesvos."

products in a conjunction that has only occasionally been found in the more recent past…"[95] Yet more research is required on the local scale to determine the chronology, motivations, and extent of terracing in Greece and the Mediterranean during the commercial agriculture boom of the later nineteenth century. Other case studies have demonstrated how commercial agriculture created the impetus and the capital to drain lowland swamps and turn land that was not being used or was being used for other purposes into agricultural land for the intensive cultivation of cash crops. In the municipality of Krathis on the northern coast of the Peloponnese, rural populations drained lowland swamps to plant currant vineyards, and a society based on seasonally transhumant pastoralism changed into one based on settled viticulture.[96] In another case study, we see that villagers from the mountainous inland Peloponnese entered into planting agreements with an elite landowner in Pirgos to clear his land and plant it with currant vineyards.[97] The long-term effects of these transformations have similarly received little study, although the work that has been done demonstrates the importance of this topic.

In the Pindos mountains in Northern Greece and in other parts of the Mediterranean region, over-use of the land caused erosion, leading to permanent environmental degradation.[98] Upland settlement and lowland colonization were prevalent in the broader Mediterranean region as well. J. R. McNeill argues that demographic trends and environmental changes imposed constraints on the altitudes at which Mediterranean populations could settle. He examined the evidence from five Mediterranean mountain regions: the Rif Mountains in Morocco, the Sierra Nevada and Alpujarra in Spain, the Lucanian Apennines in Italy, the Western Taurus mountains in Anatolia, and the Pindos Mountains in northern Greece. From 1800 to 1950, he argued, the

[95] Horden and Purcell, *Corrupting Sea*, 236.
[96] Stamatoyannopoulou, "Déplacement saisonnier."
[97] Franghiadis, "Peasant Agriculture."
[98] McNeill, *Mountains of the Mediterranean*.

dual processes of population overshoot and population "undershoot" worked in tandem to render a greater segment of the environment uninhabitable desert. First, a demographic boom in the eighteenth and nineteenth centuries caused overshoot, meaning the populations of Mediterranean mountains grew beyond the land's carrying capacity, or its ability to sustain life given its resources.[99] As a result, from 1800 to 1950, there was "massive deforestation and soil erosion" in the mountains of the Mediterranean.[100] These two processes created lowland marshes ideal for mosquitoes, thereby causing the malaria stratum to rise, intensifying the already severe overshoot in the mountains.[101] Most people were forced to live between 500 and 1,800 meters above sea level, i.e. between the malaria stratum and the tree line. The rise of malaria "made lowlands into deserts. Only the foolhardy and the desperate ventured down except in the winter months." Therefore, as the tree line descended due to deforestation in the mountains, the malaria stratum rose, and Mediterranean populations were constrained to settle in the highlands, "squeezed between a rock and a hard place that were slowly moving closer and closer together."[102] As the amount of arable land decreased, many people were forced to leave. The result was massive emigration, especially to Mediterranean port cities, to Northern Europe, and to the Americas. This triggered a second process: "undershoot." Mediterranean mountain regions have a minimum population threshold, below which "terraces and irrigation cannot be maintained, agriculture becomes noticeably less productive, and the survival of one and all is imperiled…" Emigration, therefore, accelerated desertification.[103] It was not until after the Second World War that malaria was eradicated and widespread colonization of the lowland plains was once again possible.

[99] Ibid., 3–6.
[100] Ibid., 349.
[101] Ibid., 312.
[102] Ibid., 350.
[103] Ibid., 6–7.

Conclusion

By shifting focus to the environmental changes made during this period to suit foreign demand, the present study emphasizes an often-overlooked force that impacted the trajectory of development in Mediterranean Europe. Based largely on historical ecology, scholars have posited a unified Mediterranean basin of micro-ecologies, rendered inter-dependent through prolific trade, where residents practiced risk-averse, subsistence-directed agriculture. Yet scholarship has had difficulty applying this model to the modern era, when the arrival of the steam ship and the nation-state disintegrated the sea's littoral.[104] In the twentieth century, the region is divided into national histories, but in the nineteenth century, Mediterranean environmental history is not well understood. As one scholar has recently put it, the nineteenth century is "the orphan of Mediterranean historiography."[105] My case studies in Greece, where the shift from risk-averse, "traditional" Mediterranean agriculture to monocultural, capitalist agriculture was swift and dramatic, improve historical understanding of modernity in the Mediterranean region.

The chapters that follow elaborate two case studies, each of which demonstrates how market integration in the second half of the nineteenth century caused traditional agricultural practice motivated by subsistence to be supplanted in certain zones of specialization by the new norm of profit-driven, commercial agriculture. This normative shift was made visible in the physical landscape of Greece as wetlands were drained, hills were terraced, forests were cleared, fluvial channels were rerouted, and human settlement patterns were altered. In this way, it will be demonstrated that this moment of intensive commercial agriculture in Greece, while itself

[104] Isabella and Zanou, *Mediterranean Diasporas*, 3.
[105] Molly Greene, "Review of Isabella and Zanou, Eds., Mediterranean Diasporas: Politics and Ideas in the Long 19th Century," *Historein* 16, no. 1–2 (2017): 192–196.

fleeting, left a lasting imprint on the Greek physical environment, with consequences to be felt in that country for decades to come.

CHAPTER 3.
CURRANT MANIA AND COMMERCIAL AGRICULTURE IN THE PELOPONNESE

In the second half of the nineteenth century, a small, black grape grown only in Greece became a highly profitable global commodity. The Black Corinth, or currant raisin, had been an export commodity since at least the fourteenth century. Yet before the nineteenth century, foreign demand for currants occupied a relatively small niche of interregional trade, and currants were only cultivated in a few places. Over time, currant cultivation intensified and abated in these places in response to changing political and economic factors, but currants did not spread beyond the confines of a relatively small region in the vicinity of the Gulf of Corinth. Then, in the nineteenth century, an increase in Western European consumption of Mediterranean fruits created a ballooning demand for Greek currants. In response, currant cultivation intensified, and exports soared to previously unknown levels. Currants became the most important crop grown in the Kingdom of Greece. For three decades, they occupied a central role in the Greek economy, accounting for a majority of the value of Greek exports, and taxes on currants were used to finance and to underwrite certain state modernization projects. Currant cultivation spilled out of its centers of specialization and spread along the northern and western coasts of the Peloponnese to become a connected, monocultural region. This process was boosted by certain technological innovations and by land reform policies.

This chapter shows how the integration of Greek currants into a global market transformed the nature of their cultivation. What had been for centuries the niche product of a few specialist micro-ecologies became a regional monoculture. Part one argues that while currants were always a cash crop for export, before the nineteenth century, their cultivation aligned with the traditional Mediterranean model. Part two describes the conditions that created

an unprecedented spike in demand for Greek currants in the second half of the nineteenth century. Part three describes the consequent expansion of currant production and the extension of vineyards to create a monocultural region. A brief epilogue describes the "bust" of the currant economy in the 1890s and the fate of currant cultivation in the following decades.

Currants and Traditional Mediterranean Agriculture

From the beginning of their cultivation, currants were purely a commercial crop, grown only for export to foreign markets. At first, this may seem to differ from the model of Mediterranean subsistence agriculture. Yet before the nineteenth century, currants occupied a niche market, and the relatively small demand was met with currants being grown in just a few specialist micro-ecologies.

The Demand for Currants Before the Nineteenth Century

Currants are a variety of the common Mediterranean grape vine (vitis vinifera var. apyrena) that produces a small, black grape.[1] Currants are seedless, making them ideal for being dried and consumed as raisins.[2] This is likely the reason they were first brought into cultivation.[3] The drying of grapes into raisins is a practice mentioned by ancient Greek and Roman writers, but it is not known if the raisins mentioned in these texts were currants or some other variety.[4] The first explicit references to currants appear in the historical record during the period of

[1] P. G. Gennadios, *Λεξικόν Φυτολογικόν* (Athens, Greece: Paraskeva Leoni, 1914), 58.
[2] Franghiadis, "Peasant Agriculture," 16.
[3] T A Burlumi, *History of Currants and of the Currant Vine* (Patras, Greece: Independently published, 1909), 5.
[4] Gennadios, *Λεξικόν Φυτολογικόν*, 59; Nikolaos Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος εν Κεφαλληνία," *Παρνάσσος* 14, no. 2 (1972): 276.

Frankish rule on the Peloponnese, and it is often suggested that the Franks initiated the cultivation of currants in the thirteenth or fourteenth century.[5]

Currants were a cash crop for export at least since the fourteenth century. One of the earliest references to currants is found in a book written by the Florentine merchant Francesco Balducci Pegolotti around 1340 called *Pratica della mercatura*. Pegalotti compiled tables of the many different currencies and forms of measurement found in different trading cities to assist merchants in converting between them when buying and selling abroad. One of the places listed in his *Pratica* is Chiarenza, also known as Glarentza. Located on the west coast of the Peloponnese, Glarentza was the main port on the peninsula during the era of Frankish rule and was, along with Patras, the chief commercial center for the Franks.[6] Pegalotti notes that Glarentza was importing from Corinth a product called *uve passe di Coranto*, or Corinthian raisins. Glarentza, in turn, exported *uve passe* to the Italian cities of Venice, Ancona, and Florence.[7]

The currant trade maintained this basic structure until the mid-fifteenth century, with currants being exported from Glarentza to a few major Italian ports. In 1430, the Byzantines captured Achaea from the Franks, and during the war, Konstantinos Palaiologos ordered the

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[5] Kaiti Arone-Tsichle, *Το σταφιδικό ζήτημα και οι κοινωνικοί αγώνες : Πελοπόννησος 1893–1905* (Athens, Greece: Ekdoseis Papazisi, 1999), 24.

[6] William Miller, *The Latins in the Levant, A History of Frankish Greece (1204–1566)* (New York: E.P. Dutton and Company, 1908), 87, 267–268; D. Athanasoulis, *Glarentza Clarence Γλαρεέντζα* (Athens, Greece: Hellenic Ministry of Culture, 6th Ephorate of Byzantine Antiquities, 2005), 20–23.

[7] Francesco Balducci Pegolotti, *Pratica della mercatura*, ed. Allan Evans (Cambridge, MA: The Medieval Academy of America, 1936), 118, 149, 159, 198; Jean Alexandre Buchon, *Nouvelles recherches historiques sur la principauté française de Morée et ses hautes baronnies à la suite de la quatrième croisade* (Paris: Comptoir des imprimeurs unis, 1843), 99, 102.

fortifications of Glarentza to be destroyed along with the city's churches and monasteries.[8] Nevertheless, the port seems to have recovered quickly under Byzantine rule, and although it lost its exalted position as the chief port of the Peloponnese, it continued to control the peninsula's currant trade with Italy. In 1440, another Florentine merchant, Giovanni di Antonio da Uzzano, revised Pegolotti's *Pratica della mercatura* with more up-to-date information. Uzzano's updates show that currants continued to be shipped from Corinth to Glarentza, and thence to Venice, Ancona, and Florence.[9] With Ottoman conquest in 1460, Glarentza was marginalized, and the currant trade relocated to other ports.[10] By this time, the Venetian Empire, with outposts at the ports of Modon, Corone, Navarino, Malvasia, and Nafplion, ascended to dominate the peninsula's trade with the Italian peninsula, and Venetian merchants inherited control of the currant trade.[11]

From the Italian ports, currants were sent to Northern Europe, particularly to Britain. Extant commercial records from southern England indicate that "raisins de Corauntz" were sold in small quantities in London in 1345 and 1392 and in Boxley in 1376 and 1377. The average price for these four sales was about 3d per dozen pounds.[12] This demand became more steady

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[8] Miller, *Latins in the Levant*, 390–391; Antoine Bon, *La morée Franque: recherches historiques, topographiques et archéologiques sur la Principauté d'Achaïe : (1205–1430)* (Paris: E. de Boccard, 1969), 292–293.

[9] Giovanni di Antonio da Uzzano, *La Pratica della Mercatura* (Florence, Italy, 1766), 89–92; Buchon, *Nouvelles recherches historiques*, 102.

[10] Glarentza declined in relative importance as it was incorporated into a much larger empire, but English merchants were still in Glarentza trading currants as late as 1605. See Joseph Partsch, *Kephallenia und Ithaka, eine geographische Monographie* (Gotha: J. Berthes, 1890); Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος."

[11] Arone-Tsichle, *Το σταφιδικό ζήτημα*, 24.

[12] Information on currant prices and references to currants in English commercial records in James E. Thorold Rogers, *A History of Agriculture and Prices in England: From the Year after the Oxford Parliament (1259) to the Commencement of the Continental War (1793)* (Oxford: Clarendon Press, 1882), 1:632, 2:523–525, 545–547, 4:653–691.

over the course of the fifteenth century.[13] Commercial records show that currants were purchased by Cambridge University almost every year from 1403 to 1450. The price Cambridge paid for currants during this period fluctuated from a low of 2d per doz. lbs. to a high of 8d per doz. lbs., but the price rose on average, indicating a growing demand in England and the formation of a more stable market.[14] Soon, Britain was the chief market for Greek currants. By the seventeenth century, British currant consumption was six times that of the next highest consumer, Holland.[15] In the eighteenth century, Britain consumed 78% of the total production.[16]

In the early modern period, and perhaps from the beginning of their cultivation, currants were purely an export crop. There was very little or no demand for currants in the places where they were grown or elsewhere in Greece. An English observer in the seventeenth century noted that the inhabitants of Zakynthos, by then the chief currant-producing region, were unaware of the use of currants. He wrote, "The Zaniots have not long known what we do with them, but have been perswaded that we use them only to Dye Cloth with; and are yet strangers to the luxury of Christmas Pies, Plum-potage, Cake and Puddings, &c. amongst the English."[17] Nevertheless, currants were a niche market, and aggregate demand remained relatively low.

[13] Thorold Rogers attributes the gaps between imports in the fourteenth century to disruptions caused by the plague and by the Ottoman conquest of Byzantine lands. Ibid., 4:666–668.
[14] Ibid., 2:523–535, 4:653–691.
[15] Sir George Wheler, *A Journey into Greece* (London: W. Cademan, 1682), 42–43.
[16] Arone-Tsichle, *Το σταφιδικό ζήτημα*, 26.
[17] Wheler, *A Journey into Greece*, 42–43. This may have been the result of deception: English merchants could pay lower prices for dyes than for food commodities. Arone-Tsichle, *Το σταφιδικό ζήτημα*, 26–27.

The Traditional Currant-Growing Core

The region where currants were first cultivated is contested. Based solely on the name, many sources contend that Corinth must have been the first region to cultivate currants.[18] In Greek, currants are called *korinthiakes stafides*, or "Corinthian raisins." In French, they are called "*raisins de Corinthe*," which English received in the slightly corrupted form of "raisins de Corauntz," which eventually became "currants."[19] Alternatively, currants may originate from the regions of Patras and Elis in the West Peloponnese. Patras is located at the entrance to the Gulf of Corinth, and the name "currant" may have been derived from the Gulf of Corinth rather than from the town of Corinth.[20]

As discussed above, Pegolotti's *Pratica* mentions currants being sent from Corinth to Glarentza and thence to Italy, but this does not necessarily mean that all currants were being grown in Corinth. It is possible that the currants shipped to Glarentza were combined with currants being grown in that town's hinterland and shipped from other locations in the North Peloponnese such as Patras and Vostizza before being sent on to trading cities in Italy. It is also possible that the currants sent to Glarentza from Corinth were actually being grown in another location in Corinthia or elsewhere, and Corinth was just the first port of egress in the early currant trade rather than the place of cultivation.

Despite the uncertainty surrounding their exact date and place of origin, it is nevertheless clear that, by the early fourteenth century, currants were being grown in the Northern Peloponnese, certainly in the vicinity of Corinth, and perhaps also in other locations along the

[18] Burlumi, *History of Currants*, 5.
[19] Ibid.; Arone-Tsichle, *Το σταφιδικό ζήτημα*, 24; Thorold Rogers, *Agriculture and Prices*, 4:666–668.
[20] Arone-Tsichle, *Το σταφιδικό ζήτημα*, 24. There is also a theory that currants were first cultivated on Naxos, but there is not much evidence to support this. Gennadios, *Λεξικόν Φυτολογικόν*, 59.

coast. Before the nineteenth century, the demand for currants was low enough that it could be satisfied through the production of a few specialist micro-ecologies. These places were dynamic, as currant cultivation intensified and abated in response to changing political and economic factors, but they were all located within a relatively small region in the vicinity of the Gulf of Corinth. In the Northern Peloponnese, Corinth, Vostizza, and Patras were the regions most associated with currant cultivation (Figure 3.3).

Currant Monoculture on the Venetian Ionian Islands

Monoculture, however, is not by any means a purely modern phenomenon. In pre-modern Mediterranean history, islands were frequently the site of specialization and intensification.[21] The cultivation of currants in isolated micro-ecologies may have been the normative preference before the nineteenth century, but it was not the only possible option. In at least one instance, currant cultivation did grow to assume an outsize role in a larger region. When currants were transplanted to the Ionian Islands in the early modern period, they did grow to approach a state of monoculture.

Currants were first transplanted to the Ionian Islands in the sixteenth century. With the Ottoman-Venetian Wars of 1499–1503 and 1537–1540, the Venetians lost all of their strongholds on the Peloponnese. As a result, Venetian merchants lost their privileged access to currant cultivation, but the Venetians lost no time in transplanting currants from the Peloponnese to their possessions in the Ionian Islands. In 1541, an observer in Zante (Zakynthos) noted their

[21] Horden and Purcell, *Corrupting Sea*, 224–230.

"recent" planting on the island.[22] The provveditore of Kephalonia, A. Balbi, noted in 1560 that currants had been planted on that island just a decade earlier.[23]

Currants brought great prosperity to Zakynthos and Kephalonia. The islands were relatively new additions to the Venetian Empire, having been acquired in 1481 and 1500, respectively. At first, they were both a financial burden to the empire, requiring Venice to invest in their development and to pay tribute to the Ottoman sultan. With the introduction of currants, however, the islands became hugely profitable for Venice.[24] The English traveler Sir George Wheler, visiting Zakynthos in 1682, wrote that it was called the "Golden Island," a name "which it well deserves, because of the fruitfulness and pleasantness of its soil and abode. But it now more truly merits that name from the Venetians, who draw so much Gold, by the Curran-Trade, from hence and from Cephalonia, as beareth the ordinary charge of their Armada at Sea."[25]

The profitability of currants on Zakynthos and Kephalonia meant that vines began displacing other crops. By the 1570s, on Kephalonia, it was about seven or eight times more profitable to plant a field with currants than with wheat.[26] As a result, currant cultivation on Zakynthos and Kephalonia started displacing cereals. This became a problem for the Venetian governors, who worried that these islands soon would not be able to feed themselves. As William Miller writes, "The wholesale conversion of corn-fields into currant plots caused… such alarm that the local authorities applied to Venice for leave to root up the currant bushes."[27] The Venetians responded to this in 1576 by imposing a land tax on currants to discourage new

[22] Miller, *Latins in the Levant*, 557–558.
[23] Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 276.
[24] Miller, *Latins in the Levant*, 558.
[25] Wheler, *A Journey into Greece*, 1:39.
[26] Kephalonians estimated that plains planted with currants yielded 25–30 ducats, whereas plains planted with wheat yielded only 3–4. Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 277.
[27] Miller, *Latins in the Levant*, 558.

plantations. The tax worked on Zakynthos to discourage cultivation, but on Kephalonia, it was ignored. As Phokas-Kosmetatos has written, "on rough and mountainous Kefalonia, the residents were not at all in the habit of obeying orders from the Venetian government."[28] In 1584, the Venetians imposed an export tax on currants in addition to the land tax. Called the *nuova imposta* or "new tax," the proceeds of this tax would be used to buy and store cereals for the islands. This tax, however, had the opposite of its intended effect on Kephalonia. Seeing decreasing profits from their existing vineyards, the inhabitants planted even more vineyards to compensate for their losses. Kephalonia's currant output grew from 400,000 Venetian liters in 1576, to 1,500,000 in 1593, and to 4,000,000 in 1603.[29] After protests from the islanders, the Venetians abolished the *nuova imposta*, but to capture more of the revenue from the currant trade, they mandated that all currants leaving the islands must be shipped directly to Venice. This measure also failed, as it only led to the creation of a thriving smuggling industry. On Kephalonia, about a quarter of the currants were shipped to Venice, and the rest were smuggled off the island by night through the island's many bays and taken to the (now Ottoman) port at Glarentza, where English merchants bought them and took them West.[30] Production continued to rise, reaching a high of 9,000,000 Venetian liters on Kephalonia in 1640.[31]

The monocultural character assumed by currant cultivation in the Ionian Islands did not spread to Ottoman Greece. In the Northern Peloponnese and on the coast around the Gulf of Corinth, currants continued to be grown in isolated, specialist micro-ecologies. These places changed, however, as currant cultivation spread to other locations around the Gulf of Corinth

[28] Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 277.
[29] Miller, *Latins in the Levant*, 558; Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 278.
[30] Partsch, *Kephallenia und Ithaka*, 104; Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 278.
[31] Phokas-Kosmetatos, "Η καλλιέργεια της σταφίδος," 278.

over the course of the sixteenth and seventeenth centuries. In 1678, the French physician and archaeologist Jacob Spon traveled to Corinth and noted that, although currants owed their name to that town, they were not being grown there anymore. He made inquiries in the town and gathered that currants used to be grown in Corinth, but under Ottoman rule, "The cultivation had been neglected because the Turks do not use the fruit," and to protect the Gulf of Corinth, "the Turk has built two forts at the entrance to the Gulf of Lepanto, and does not permit the passage of our ships for fear that the forts may be suddenly occupied or attacked by Maltese pirates entering the gulf on the pretext of shipping currants." As a result, currant cultivation shifted westward to locations closer to the entrance of the Gulf of Corinth or outside the gulf altogether. In the northern Peloponnese, currants were grown in Patras, in Vostizza (Aigio), and in the village of Sikionas, just West of Corinth. Currants also spread to the southern coast of Aetolia in towns along the gulf, including Lepanto (Nafpaktos), Anatolikon (Aitoliko), and Messolonghi. From these locations, currants were shipped to the port of Patras, which became the bulking center for currants grown in Ottoman territory before their journey westward.[32]

Despite the continuing cultivation of currants in Ottoman Greece in the sixteenth and seventeenth centuries, most currants were grown on the Venetian Ionian Islands during this time. The English traveler to the Ionian Islands Sir George Wheler wrote in the late seventeenth century that Zakynthos produced enough currants annually to fill five or six cargoes, and Kephalonia produced enough to fill three or four. At the same time, all the currant-growing regions around the Gulf of Corinth in Ottoman Greece—Anatolikon, Messolonghi, Patras, and Lepanto—together only produced enough to fill a single cargo.[33] This continued throughout the

[32] Burlumi, *History of Currants*, 8–9.
[33] Wheler, *A Journey into Greece*, 42–43.

eighteenth century and well into the nineteenth century, even as currant cultivation abated substantially on Zakynthos and Kephalonia and intensified somewhat in Ottoman Greece.

In the eighteenth century, currants circulated through the early modern trade networks that connected the major trading hubs of the Mediterranean, including Venice, Trieste, Livorno, Smyrna, and Constantinople. The primary market was England, but they were also destined for consumption in Holland and elsewhere in Europe. By the end of the eighteenth century, there were six million Venetian liters of currants being exported from the Peloponnese, mainly from Patras.[34] On the eve of the Greek Revolution, currant cultivation was growing, but currants remained the product of isolated zones of specialization around the Gulf of Corinth and on the Ionian Islands. The currant-growing places were not yet united into a region—they remained small islands surrounded by a sea of diverse cultivation.

The Development of Currant Monoculture

In the nineteenth century, four forces worked together to transform currant cultivation into a monoculture. These were an increase in the demand from Britain, technical and technological innovation, land reform in Greece, and a phylloxera outbreak in Western Europe.

The Age of Pudding

First, the demand for currants in Britain, the main currant-importing country, increased due to changing consumption habits. This was just the latest development in a longer process. In

[34] Arone-Tsichle, *Το σταφιδικό ζήτημα*, 27–28; Malcolm Wagstaff and Elena Frangakis-Syrett, "The Port of Patras in the Second Ottoman Period. Economy, Demography and Settlements c. 1700–1830," *Revue du monde musulman et de la Méditerranée* 66, no. 1 (1992): 79–82; E Frangakis-Syrett, "Market Networks and Ottoman-European Commerce, c. 1700–1825," *Oriente moderno, nuovo serie* 25, no. 1 (2006): 109–128.

the eighteenth century in Britain, the growing middling and trading classes had adopted new consumption habits. Demand for luxury items was previously limited to the old elite, but with the expansion of British trade and growing prosperity, there was an increase in demand for luxury items and non-essential food commodities from faraway places such as tea and sugar and the porcelain and silver with which to consume them.[35] The Industrial Revolution in Britain in the late eighteenth and early nineteenth centuries expanded this consumer class even more and increased demand for these commodities. Rituals were created to consume these commodities. For example, breakfast and tea-drinking were both new rituals that were introduced in Britain in the eighteenth century. These customs coincided with the introduction of hot beverages such as coffee, chocolate, and tea and the ceramic, silver, and steel commodities used to consume them. By the middle of the eighteenth century, it was customary among middling and trading groups to consume a breakfast of bread and tea.[36]

One of the commodities that experienced a rise in demand was puddings, or sweet desserts made with sugar and dried fruit—particularly Greek currants. As described above, the market for currants in England to be consumed in puddings goes back to the fourteenth century or earlier, but because of new consumption patterns, around the middle of the nineteenth century, this market began to grow at a much faster rate. By the middle of the century, currants were the main export of the Peloponnese and of all of the Kingdom of Greece, and the UK was their principle market.[37]

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[35] Maxine Berg, *Luxury and Pleasure in Eighteenth-Century Britain* (New York, N.Y.: Oxford University Press, 2005), 1–15.
[36] Ibid., 229.
[37] Frangakis-Syrett, "Patras," 413.

The second half of the nineteenth century marks the period that Nikos Bakounakis calls the "age of pudding" in Victorian Britain.[38] Pudding consumption rose in Britain among the lower and middling classes, and dried fruits were an essential ingredient in these puddings.[39] The publication of Charles Dickens's *A Christmas Carol* in 1843 popularized the holiday ritual of serving Christmas pudding made with dried fruit and adorned with a sprig of holly. Christmas pudding became a mainstay of the season, and other puddings became popular as year-round favorites. The recipe for spotted dick, for example, which seems to date to an 1849 cookbook marketed to middle-class British housewives, calls for "Smyrna raisins" or sultanas to create the "spots."[40] Puddings became a sign of abundance and of the happiness of the bourgeois family—Greek currants became an essential ingredient in the aspirations of the upwardly mobile British population.[41] (Figure 3.4).

Pudding consumption rose in Britain among the lower and middle classes, and Greek currants benefitted from this general trend. During the period from 1846 to 1876, the consumption of sugar and currants rose dramatically. Annual sugar consumption in England was 14 lbs. per person in 1846, but it grew to 60 lbs. in 1876. Currant consumption rose to a similar degree: total currant consumption in England was 14,000 tons in 1844, and it rose to 46,000 tons in 1874. Moreover, as the demand for dried fruit increased, currants also captured a greater relative share of this market. Currants displaced other types of raisins in London and Liverpool. In the years 1831 to 1840, 48% of the raisins consumed in these cities were currants. This

[38] Bakounakis, *Πάτρα*, 17.
[39] Eugenia Bournova and George Progoulakis, "The World of Rural Greece, 1830-1912," *Ruralia. Sciences sociales et mondes ruraux contemporains* 8 (2001): 1–18.
[40] Alexis Soyer, *The Modern Housewife, or Ménagère* (London: Simpkin, Marshall, & Co., 1849).
[41] Bakounakis, *Πάτρα*, 17, 145.

number grew to 66% from 1860 to 1869.[42] In the 1870s, 55% to 75% of Greek currants were being exported to Britain to meet this growing demand.[43] As a French traveler to Greece wrote in the middle of the nineteenth century, "If Greece were to cease to produce these precious little black grains, there would be no more plum-puddings, nor plum-cakes, nor any of those dainties of which plums or currants are the foundation…. England would have been deprived of the purest of her pleasures, and Greece of the most certain of her revenues."[44]

The demand from Britain was also promoted by greater access to the currant trade in the Peloponnese in the nineteenth century. During this time, Patras rose in importance to become the main port of the Peloponnese and one of the three main ports in the Kingdom of Greece alongside Piraeus and Hermoupolis. In the eighteenth century, Patras was an important regional port that served as a "bulking" or collecting center for the Gulf of Corinth and Elis. Smaller ports such as Vostizza and Lepanto sent their cargoes to Patras to be collected before being sent on to European ports to the West. The other major ports on the Peloponnese—Navarino, Methoni, Coroni, and Nafplion—shared the rest of the peninsula's trade.[45] The French Revolution was a turning point for Patras, when the French lost their control over trade in the eastern Mediterranean. For the duration of the French Revolutionary period (1789–1815), Greek merchants dominated trade in the eastern Mediterranean more than any other group. As a result, the French ports such as Coroni declined. Moreover, with the implementation of the Continental System, the British turned to the Eastern Mediterranean for sources of commodities and for markets for their manufactured goods. Consequently, Patras enjoyed a greater relative share of the peninsula's trade and increasing trade with Britain. During the French Revolutionary period,

[42] Ibid., 17.
[43] Frangakis-Syrett, "Patras," 414.
[44] About, *Greece and the Greeks*, 77.
[45] Wagstaff and Frangakis-Syrett, "The Port of Patras," 79–82; Frangakis-Syrett, "Patras," 411.

Patras handled 30% of all Peloponnesian exports to Western Europe, and the rest was divided among the peninsula's other ports.[46] After the Napoleonic Wars, the English displaced the French in the Eastern Mediterranean. The Italian ports declined, but Patras continued to grow through closer connection to British ports in the Ionian Islands and Malta. From 1815 to 1820, Patras's relative share of the peninsula's trade with the West suddenly doubled from 30% to 60%. Due to the disruptions caused by the French Revolution, Patras emerged as the dominant Peloponnesian port for trade with Western Europe and the eastern Mediterranean.[47]

During the Greek War of Independence, Patras was completely destroyed, the population left, and the land was not cultivated. The war was a violent break with the past, but Patras and its vineyards were able to recover quickly. The destruction left Patras as a tabula rasa. Under the influence of British demand for currants, the city was remade into a port-city with its orientation shifted to the sea. Before the war, the center of Patras was perched on a hillside, and the city was oriented inward toward its hinterland. After the war was over, the old town on the hillside (Άνω Πάτρα) was rebuilt, but a new city was also built on the coast beside the old city on land that was previously occupied by vineyards (Κάτω Πάτρα).[48] The engineer Stamati Voulgaris who planned the reconstruction of the city moved the demographic and economic center of the city from the hills to the sea and made plans for a new port. Patras after the Greek Revolution was therefore a new city with a "double" landscape: the sea and the plains on the one hand, and the hills on the other.[49]

[46] Frangakis-Syrett, "Patras," 412.
[47] Wagstaff and Frangakis-Syrett, "The Port of Patras," 79–82; Frangakis-Syrett, "Patras," 411–412; Bakounakis, *Πάτρα*, 20.
[48] Bakounakis, *Πάτρα*, 21–22, 47–50; Wagstaff and Frangakis-Syrett, "The Port of Patras," 85.
[49] Bakounakis, *Πάτρα*, 31, 34–40.

The newly rebuilt Patras sent most of its exports to Britain and its territories in the eastern Mediterranean. Patras continued to ship to the Italian ports, but the percentage of total exports from Patras that were bound for London, the Ionian Islands, and Malta reached 73%.[50] Patras also began receiving imports directly from European ports. Before the revolution, Patras received European commodities after they had stopped first in a larger Ottoman port such as Smyrna. As a part of the newly independent Kingdom of Greece, Patras received cargoes of textiles sent from British ports in the Ionian Islands and Malta. Patras also imported other manufactured goods and food commodities such as sugar, coffee, and pepper.[51] By the 1830s, therefore, the currant trade and Greek trade with Britain were both concentrated in the port of Patras.

Technical Development

Technical improvements also promoted the intensification of currant cultivation in the nineteenth century. The technological innovations of the Second Industrial Revolution lowered the speed and costs of transit, promoting the continuing integration of Greek agricultural production with Western markets. Most significantly, improved steam ship transport in the second half of the nineteenth century meant that Patras no longer needed to trade with Britain through the ports in its Mediterranean colonies but could trade directly with British ports. By the middle of the century, merchants had opened steam ship lines to carry currants directly from Patras to London, Liverpool, Falmouth, Newcastle, and Southampton, and Patras also began importing directly from British ports. Patras continued to trade with Malta and the Ionian Islands,

[50] Vasilis Kremmydas, *Συγκυρία και εμπόριο στην προεπαναστατική Πελοπόννησο 1793–1821* (Athens, Greece: Themelio, 1980), 90–91; Bakounakis, *Πάτρα*, 20.
[51] Frangakis-Syrett, "Patras," 412–414.

but now there was a direct connection as well.[52] Steam ship transport also deepened the currant-growing region's connections to North America. The United States had begun importing Greek currants as early as 1835 due to the efforts of the Chian merchants Andreas and Pantellis Phakiris and their merchant house based in Patras.[53] London had a near monopoly on shipping currants to the US and Canada at first, but by the end of the nineteenth century, steam ships were leaving Patras bound directly for North American ports.[54] In fact, currants were the sole reason for trade between Greece and the US. Until the very end of the nineteenth century, currants made up 90–100% of Greek exports to the US.[55]

A technical innovation in the practice of currant cultivation in the Peloponnese may have also played a role in the spread of currant cultivation further to the west and the south in the second half of the nineteenth century. This was a technique called "girdling" or "ring-cutting" (χαραγή/χαράκωμα). Ring-cutting involved removing a thin strip of bark in a ring around the base of the vine, about 2–3 cm. wide. Ring-cutting was done in mid-May at the appearance of the first growth on the currant vines. Ring-cutting was strenuous work performed by skilled laborers called *harakotes*. If done right, ring-cutting caused the fruit to grow larger, but there was plenty of room for error, and the stakes were high. If the *faltseta,* or pruning knife, cut too deep, the vine would die, but if it did not cut deep enough, the cut would be ineffective. The *harakotis* also had to determine the appropriate width of the cut based on the quality of the soil and the age and strength of the vine. Weaker vines and less fertile soil required a narrower cut, and hardier vines and more fertile soil required a wider cut. Moreover, the task had to be completed within ten days, "as otherwise the ripening of grapes would not be uniform and problems would arise at

[52] Ibid., 413–414.
[53] Bakounakis, *Πάτρα*, 165.
[54] Frangakis-Syrett, "Patras," 414.
[55] Pizanias, *Οικονομική ιστορία*, 44–48.

harvest-time."[56] Because it was physically taxing, time consuming, and required special skill, ring-cutting was highly paid work.[57] Ring-cutting was introduced in the Peloponnese in 1848 when the technique was first applied by workers who came to the peninsula from Zakynthos. The technique spread quickly and soon became standard practice for currant cultivators.

Land Reform

State land reform efforts also encouraged the deepening of monoculture in the Peloponnese. Two land reform laws, one in 1835 and another in 1871, were passed at moments of swelling demand for currants and enabled investors to plant new vineyards. After the revolution, land that was owned by the Ottoman state—which was most land—was transferred to ownership by the Greek government. The intention was to sell this land quickly, but the assassination of Kapodistrias put these plans on hold. Called the "national estates," this land remained the property of the Greek state. Private cultivators were permitted to live on the national estates and work the land as their own, and instead of paying rent, they paid a tax to the Treasury called the "right of usufruct," which amounted to 15% of the total output of the land worked.[58]

[56] Franghiadis, "Peasant Agriculture," 213–215. For a contemporary description of the challenges of ring-cutting, see P. G. Gennadios, "Περὶ ψαλίδος πρὸς χάραξιν τῶν σταφιδαμπέλων," *Ελληνική Γεωργία*, April 1885.
[57] An account book from the early twentieth century, for example, shows that a worker in Filiatrá was paid a wage for ring-cutting which was nine times what he received for hoeing. Maria Velioti-Georgopoulou, "Καλλιεργώντας τη σταφίδα στη Δυτική Πελοπόννησο στα χρόνια του Α΄ Παγκόσμιου Πολέμου. Έμποροι, κτηματίες, καλλιεργητές," in *Μεσσηνία: σύμβολες στην ιστορία και στον πολιτισμό της*, ed. A.N. Doulaveras and I. K. Spiliopoulou (Athens, Greece: Ekdoseis Papazisi, 2012), 620–621.
[58] Franghiadis, "Peasant Agriculture," 77–87.

In 1835, the law "περί προικοδοτήσεως" was passed to sell the national estates to private cultivators through auction.[59] Very little land was sold through this law, however, and in most of the country, the 1835 law was a failure. Most of the land that was up for auction consisted of undeveloped plains that would have required a considerable investment to make productive, and at the time of the auction, just after the war, the capital and labor needed to do this were lacking. The exception was the currant-growing region. Over half the land that was successfully sold through the 1835 law was in currant regions, and most of that was around Patras. This was because currant cultivation essentially required private land.[60] Currant viticulture was a long-term, risky undertaking. It took ten to twelve years for a newly planted currant vine to reach full productive maturity, and six to seven years before it started bearing any fruit at all.[61] Greek farmers were hesitant to make such a long-term investment on land that they did not technically own, especially when it required going into debt.[62] Land ownership gave cultivators the security that was necessary to grow currants.

The 1835 land reform law also boosted currant cultivation by attracting capital investment. During the Greek Revolution of 1821–1832, the currant vineyards in the Peloponnese were destroyed. According to some accounts, the Ottoman and Egyptian armies targeted vineyards for destruction because they were a source of income for the Greek rebels.[63] Another likely cause for this destruction was that vineyards were all in the hinterlands of strategically important port cities—the city of Patras, for example, was totally destroyed during

[59] Bakounakis, *Πάτρα*, 126–129.
[60] Franghiadis, "Peasant Agriculture," 77–87.
[61] Grafts began growing fruit in four to five years, but in took longer on newly reclaimed land where grafting wasn't possible. Burlumi, *History of Currants*, 12; Franghiadis, "Peasant Agriculture," 123.
[62] Franghiadis, "Peasant Agriculture," 122.
[63] Pizanias, *Οικονομική ιστορία*, 32.

the war.[64] After the revolution, the vineyards in the traditional currant-growing core were able to recover with the help of land reform and foreign capital. In 1841, the Commercial Bank (Εμπορική Τράπεζα) was established in Patras, backed by British capital, to finance, among other things, the replanting of currant vineyards. The Commercial Bank was in operation from 1841 to 1847, and it caused a spike in the investment of capital in agriculture, thereby boosting production.[65] For the rest of the country, the national estates remained the property of the Greek government.

In 1871, a second law was passed to sell the national estates to private owners. People who had been living and working on the national estates were given the opportunity to purchase this land from the state. They were required to register their land, up to 80 stremmas or 19 acres per individual, and then they could pay for the land in 26 annual installments at a 2% interest. People could also register land that was unoccupied and purchase it the same way. In contrast to the 1836 attempt, the 1871 law was very effective. From 1878 to 1911, about 265,000 hectares of land were distributed through 357,217 cessions. Of the land purchased from 1879–1881, 58% was in currant-growing regions.[66] The 1871 land reform, therefore, boosted currant cultivation.

Phylloxera

In the last quarter of the nineteenth century, a crisis in Western Europe caused a sudden spike in demand for Greek currants. Around 1863, the North American insect *phylloxera vastatrix* arrived in France aboard a steam ship. American vines had evolved an immunity to the aphid over centuries of coexistence, but phylloxera proved fatal to European vines, which had

[64] Wagstaff and Frangakis-Syrett, "The Port of Patras," 85.
[65] Bakounakis, *Πάτρα*, 126–129.
[66] T A Burlumi, "The Overproduction of Currants: A Novel Experiment in Protection," *The Economic Journal* 9, no. 36 (1899): 634–635; Franghiadis, "Peasant Agriculture," 77–87.

never been exposed to it. In addition to the rise of greenhouses and amateur entomologists in France and the UK, the main cause that enabled phylloxera to travel from America to Europe was the advent of new steam ships. By 1860, steam ships had improved dramatically from earlier models and could now cross the Atlantic in ten days, which was a short enough time for the phylloxera aphid to survive the journey.[67]

As a result of uncertainty and misinformation, phylloxera was allowed to spread slowly but widely throughout France.[68] After the aphid was first positively identified in France in 1868, it spread throughout that country in the 1870s, devastating vineyards. Even though the aphid had been identified, there was no known treatment. Despite the efforts to stop the spread of phylloxera through the use of flooding and the application of carbon bisulphide, the aphid continued to spread and to cause destruction in France and beyond.[69] Phylloxera destroyed vineyards in sixty out of the seventy-five of the wine-growing provinces in France, and from 1869 to 1883, French wine production decreased by forty percent.[70] By 1881, phylloxera had also been identified in the wine regions of Germany, Italy, Spain, Portugal, and Algeria.[71]

Phylloxera did not make it to the vineyards of southern Greece, and Greek cultivation rose to fill the vacuum created by vineyard collapse in Europe—in addition to the foreign demand for Greek currants for British puddings, there was now a demand for Greek currants for the raisin wine they could be used to make. Phylloxera had reduced French wine production by

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[67] George Ordish, *The Great Wine Blight* (New York: Charles Scribner's Sons, 1972), 3–5.
[68] Diagnosis of the disease was made more difficult because of the memory of the Oidium outbreak of the 1850s. When phylloxera first appeared near Arles in 1863, it was mistaken for Oidium and treated with sulphur. Aphids detached long before damage to vines was visible, so phylloxera was misdiagnosed until 1868. Ibid., 35–45.
[69] Both treatments were successful in killing the aphid, but they also killed the vines. Ibid., 75–88.
[70] Pizanias, *Οικονομική ιστορία*, 71–73.
[71] Ordish, *The Great Wine Blight*, 170–178.

more than half, putting it well below the requirements of domestic demand, not to mention the requirements of the foreign demand for French wines. As a result, French consumers turned to making wine out of Greek currants, importing them cheaply from London since prices had fallen so low and making them into wine in the South of France.[72] The Société Corinthienne in Marseilles was established to import currants from Greece to be processed into raisin wines.[73] French currant imports continued to rise every year, and by 1889/1890, France imported more than 70,000 tons or about half of all of Greek currant production to convert into raisin wine for domestic consumption.[74]

Despite accounting for a minority of total land use, currants did account for the majority of the overall exports of Greece (Figure 3.5). Due to the increased relative profitability of currants, monoculture progressed and currant exports grew at the expense of other commodities. One scholar has called this period, from the 1860s to 1893, the "golden age" of the currant in Greece.[75] During this time, currants were the majority of the overall exports of Greece. From 1850 on, they accounted for around half of the overall value of Greek exports, and in some years over 75%.[76] In the last quarter of the century, currant exports soared from 50,000 tons to 170,000 tons by 1900.[77] While the rest of Europe was suffering the Great Depression of 1873–96, the Greek economy thrived.[78]

Despite the outsize role of currants in the Greek national economy, the state was not heavily involved in the currant industry. The state's role was limited to imposing a tax on

[72] Burlumi, "The Overproduction of Currants," 635.
[73] Ordish, *The Great Wine Blight*, 148–150.
[74] Burlumi, "The Overproduction of Currants," 635.
[75] Pizanias, *Οικονομική ιστορία*, 37.
[76] Ibid., 44.
[77] Frangakis-Syrett, "Patras," 421–422.
[78] Petmezas, "Export-Dependent Agriculture," 321–337.

currants, and it occasionally intervened to negotiate a lower tariff in importing countries. Currant taxes remained the same from year to year—a 10% land tax and a 6% export duty, both collected at the customs office. In 1858, these taxes were fixed. For every 1,000 Venetian liters, the land tax was 10.50 drachmas, and the export duty was 5 drachmas.[79] In Patras, the currant tax funded a wide array of projects, including public education, public welfare, public insurance, and university scholarships. Infrastructure in Patras, however, was not funded through taxes on currants, but through taxes on imports. Patras lacked a pier and a quay until 1840. These were constructed through a 0.5% tax on imports imposed in 1836, and from 1840–1869, these funds were used for repairs to the quay and to build wooden storage sheds.[80] Toward the end of the century, big projects like the Athens to Patras railway and the Isthmus Canal were underwritten by the future revenue to be collected through the currant tax.

The Extension of Vineyards in the Nineteenth Century

With the progression of monoculture in the nineteenth century, the agricultural output of Greece changed dramatically in a relatively short period of time. The amount of currants produced in Greece (including the Ionian Islands) grew from 52,000 tons in 1860 to 177,000 tons in 1895 (Figure 3.1). To accomplish this growth in production, the amount of land devoted to currant vineyards in Greece more than tripled, from 15,306 ha. in 1860 to 53,000 ha. in 1885 (Figures 3.2 and 3.6).

[79] Bakounakis, *Πάτρα*, 143–144.
[80] Ibid., 42.

Recovery in the Traditional Currant-Growing Core, 1828-1852

Over the course of the nineteenth century, from the end of the Greek Revolution until 1893, currant cultivation spread through Greece in three distinct phases, punctuated by dips at "crisis" moments (Figure 3.7). In the first phase of expansion, from 1828 until 1852, the currant vineyards recovered from their destruction during the war, fueled by the continuing strength of the demand for currants from Britain. It took ten to twelve years for a currant vine to reach full productive maturity, and five to seven years before it started bearing any fruit at all.[81] As a result, currant vineyards took a while to recover their pre-independence production. In 1828, because of the war, the Peloponnese was "a large stretch of uncultivated land." The replanting of currant vineyards in the eparchy of Patras began in 1828 and was finished in 1847.[82]

While currant vineyards were being planted in Patras, they were also being planted all along the north coast of the Peloponnese, from Patras east to Corinth. The continuing strength of the demand for currants in Britain made it more profitable to plant currants than it was to plant other crops. Tempted by higher prices and given the opportunity of a blank slate because of the destruction of the war, Greek peasants planted currants instead of food crops for household consumption. In 1829, the agronomist Christophoros Kontachis traveled the Peloponnese to teach peasants to grow potatoes. He wrote, "last February, while traveling the Peloponnese to teach potato cultivation, I saw many people in the region of Achaia planting currants, considering this plant more profitable than other products."[83] He observed that they were resistant to growing potatoes because it was much more profitable to grow currants.

[81] Newly planted shoots take six to seven years to bear fruit; grafts take only four to five years. Burlumi, *History of Currants*, 12; Franghiadis, "Peasant Agriculture," 123.
[82] Bakounakis, *Πάτρα*, 124.
[83] Ibid., 134.

Vine Sickness

This first phase ended with the outbreak of the "vine sickness" of the early 1850s. This was caused by a fungus known as *Uncinula necator,* or Odium. This fungus covered the leaves, fruits, and stems of grapevines with a powdery, white mildew. Odium was not just a problem for Greece—far from it. By 1852, the disease was endemic in vineyards all over Europe, Asia Minor, and North Africa. In Greece in 1852, the disease destroyed two thirds of the currant crop. From 1852 to 1855, currant production in Greece—and grape production in general in Greece and in many other countries—was effectively zero.[84] In Greece, the Oidium crisis was compounded by the British blockade of Patras and other ports during the Crimean War from 1851 to 1853 and a rise in the price of wheat. As a result, the economy of the currant zone was very depressed during the 1850s. An indication of the suffering in Patras can be seen in the establishment of a foundling home in the city, and the number of foundlings increased from seven in 1852 to 48 in 1859.[85]

This crisis was overcome within a few years when a French botanist at Versailles developed a treatment. He discovered that dusting crops with a sulphur spray killed the fungus and protected vines from becoming infected. At this point, it became common practice in Greece and elsewhere to walk through the vineyards with spray cans, applying a thin spray of sulphur to protect the vines from Oidium (Figure 3.8). By the end of the decade, all vineyards were being treated in this way, and the Oidium pandemic was fought back.[86]

[84] Ordish, *The Great Wine Blight*, 15; About, *Greece and the Greeks*, 211.
[85] Bakounakis, *Πάτρα*, 160–162.
[86] Ordish, *The Great Wine Blight*, 16; Franghiadis, "Peasant Agriculture," 21.

Expansion South, 1857 to 1878

With the recovery from Oidium, Greece entered a second phase of expansion, lasting roughly from 1857 to 1878. The main impetus for growth during this period was the change in consumption patterns in Britain described above. The application of ring-cutting in the Peloponnese around the middle of the nineteenth century also enabled the currant zone to expand further south in the peninsula. Without the application of this technique, it was not possible to grow currants in soil that was too fertile. Before ring-cutting, attempts to transplant currant vines to the fertile plains of Ilia had failed because, "the currant vine, as soon as it was transplanted to rich and humid soils, turned wild and gave no fruit at all."[87] With ring-cutting, Ilia, which had been a center of cereal production, replaced cereals with currant vines and became the "capital of currant production."[88] The currant zone thus expanded south, but the currants produced south of the traditional currant-growing zone in Achaea were of an inferior quality. The dryer soils of the northern Peloponnese produced sweeter fruit. Currants grown in Vostizza and Patras were classed as A' quality currants, and currants from other regions were B' or Γ' quality. Nevertheless, because of the fertility of the soil, the quantity of production was much greater in the south.[89]

In the middle of the nineteenth century, for the first time since the sixteenth century, the center of Greek currant cultivation shifted from the Ionian Islands back to the Peloponnese. From the sixteenth century to 1847, over half of total Greek currant production came from the Ionian Islands of Kephalonia, Zakynthos, and Ithaki. In 1848, the Peloponnese finally overtook the Ionian Islands, and the North and West coasts of the Peloponnese became the center of currant

[87] Franghiadis, "Peasant Agriculture," 213.
[88] Ibid., 23–24.
[89] Pizanias, *Οικονομική ιστορία*, 37–40; Franghiadis, "Peasant Agriculture," 26.

cultivation. By 1870, production in the Peloponnese was almost 80% of overall Greek production. This is not to say that currant production in the Ionian Islands decreased; on the contrary, it also grew. However, production in the Peloponnese grew faster and eclipsed the islands.[90] The final boost in the second phase of the extension of currant vineyards in the Peloponnese occurred after a political change that encouraged currant cultivation to spread even further south in the peninsula. After ring-cutting, the "age of pudding" in Britain, and improved steamship travel promoted the extension of vineyards south to Ilia, it was the land reform law of 1871, which sold the national estates to private land-owners, that allowed currant cultivation to spread south and for vineyards to colonize Messenia.

The second phase of expansion stalled with yet another crisis. Responding to an ever-increasing British demand for currants, Greek supply grew to the point that it outstripped demand, and Greece entered its first over-production crisis. This state of affairs was largely enabled by the land reform of 1871. In the years following the law, a large segment of the national estates in the Peloponnese were sold to private individuals and planted with currant vines. As mentioned above, it took six to seven years for new plantations to begin bearing fruit, so in 1877/1878, the market was overrun with a sudden flood of low-quality currants. Currant prices fell to all-time lows. In the spring of 1878, the price of currants on the London market barely covered the cost of shipping them from Greece. The Greek currant economy seemed to be on the verge of a crisis. Solutions were proposed by Greek ministers and currant merchants, including instituting a state monopoly on currants and restricting the planting of new vineyards.

[90] Pizanias, *Οικονομική ιστορία*, 33–35.

These plans received much opposition, and they were soon forgotten when rescue to the Greek crisis came from phylloxera and the sudden demand from France.[91]

The phylloxera crisis in Western Europe rescued Greece from the first over-production crisis. Under the influence of greatly increased global demand and the misfortune of their competitors, Greek currants in the Peloponnese became very profitable, and currant viticulture expanded in response. Greek peasants turned to vine monoculture, with most of the currant exports now destined for France as well as Britain. The phylloxera crisis in Europe ushered in a third phase of the extension of currant vineyards that lasted from 1878 to 1893. As global demand for Greek currants inflated to unprecedented levels, the monocultural currant-growing region in Greece extended further, well beyond the traditional currant region around the Gulf of Corinth. Currants spread south to the region of Messenia in the Southern Peloponnese, which had never been a currant region before, and by the end of the century, the southern coast of the peninsula had displaced the north as the primary currant-cultivating region. The French market that emerged after the Phylloxera epidemic preferred currants from the southern Peloponnese, because although they were lower quality, they were cheaper, and the lower quality was appropriate for the making of raisin wine.[92]

Thus, from the 1860s to the 1890s, the currant-growing region expanded and moved from a system of diversified agriculture to a state of vine monoculture. Nevertheless, currant specialization was geographically limited to the north and west coasts of the Peloponnese and the Ionian Islands of Kephalonia, Zakynthos, and Ithaki. The currant region did not expand to encompass the entire peninsula, much less the whole of Greece. In terms of the total area of the cultivated land of Greece, currant vineyards only occupied about 6% throughout the period of

[91] Burlumi, "The Overproduction of Currants," 634–638.
[92] Franghiadis, "Peasant Agriculture," 22, 25.

most intensive cultivation—keeping in mind that during this period, the Kingdom of Greece added the currant-growing Ionian Islands to its borders, but it also added Thessaly, which was not a currant region.[93] Despite its outsize role in the Greek export economy, it is important to note where, specifically, the choices were made to switch from diversified agriculture to monoculture, and to currant monoculture, specifically.

This is not to say, however, that commercial agriculture was limited to these places, and that the rest of the peninsula remained committed to traditional agricultural practice. Rather, agricultural activities became specialized, intensive, and commercial in various parts of the peninsula, but it took different forms in other regions. Some of these activities were adjacent or supplemental to "currant mania," such as the specialization in wine grapes, timber production in the mountainous inland regions of the peninsula, and the corresponding industrial activities, making timber into stakes and barrels, and making grapes into wine. Other regions specialized in different agricultural commodities, sometimes for export and consumption abroad, particularly olives and livestock. It is also worth noting that, while the currant zone was geographically limited, other varieties of vitis vinifera were ubiquitous. Unlike currants, the common grape vine is a very versatile crop, and it thrives in a variety of climates and soils.[94] At the same time the currant region was advancing toward currant monoculture, the Peloponnese as a whole was becoming more devoted to vine monoculture. In the currant region, the extension of currant vineyards was accompanied by the extension of other vineyards. In the deme of Patras, the percentage of cultivated land devoted to currants increased from 5% in 1833 to 43% in 1861. In the same period, the percentage of land devoted to other vines increased from 3% to 28%. Thus

[93] Pizanias, *Οικονομική ιστορία*, 31–32.
[94] Horden and Purcell, *Corrupting Sea*, 216.

in 1861, almost 71% of the cultivated land in the deme of Patras was growing vines.[95] The increase in wine production was part of the same trend toward intensification, specialization, and commercialization in Greek agriculture. Wine was primarily produced for household consumption, but wine was also one of the main exports of Greece. The others included olive oil, leather and hides, cocoons, acorns, and figs.[96] The production of these other commodities also increased along with currants.

The extension of vineyards and the move to vine monoculture also led to the creation of a small winemaking industry in Patras. After the emergence of the market for raisin wine in France, most winemaking was done in that country, with raw currants being exported to France to be made into wine there. In Paris in 1890, there were twenty factories for producing wine from currants.[97] However, a local winemaking industry did also develop in Patras. The first attempt to start a winemaking industry was in the recovery from the Oidium crisis. In 1858, Winemaking A.E. was founded, and operated 16 winemaking factories in Patras. Because of the uncertainty caused by dependence on foreign demand, Winemaking A.E. tried to create a domestic market for currants to be consumed as raisin wine.[98] However, with the recovery of the currant vineyards from Oidium, the imperative to protect the currant industry from the whims of foreign markets faded, and Winemaking A.E. failed. In the 1870s, however, Patras did become a winemaking center after British and German entrepreneurs invested in the local winemaking industry. In 1873, the German businessmen Gustav Klauss and Theodor Hamburger founded a joint-stock company called Achaia which manufactured spirits and red port wines from Greek

[95] Bakounakis, *Πάτρα*, 137.
[96] Pizanias, *Οικονομική ιστορία*, 48.
[97] Ordish, *The Great Wine Blight*, 148–150.
[98] Bakounakis, *Πάτρα*, 198–202.

grapes and currants. British companies also formed to make dry currant wine as a substitute for sherry. Three to four Greek companies also formed to manufacture wine.[99]

Conclusion: Crisis and Recovery

The currant economy turned out to be a bubble, and the bubble popped abruptly in the last decade of the nineteenth century due to the emergence of new competitors and the enacting of protectionist policies in France. The result was a crisis for Greece. The Greek economy had been realigned and the landscape had been transformed to sustain intensive, commercial agriculture. The Greek state and many individuals had invested deeply in the future profitability of Greek currants, and the consequences of the crisis were felt in Greece for decades.

Collapse of the Currant Economy

The currant economy collapsed due to the disappearance of French demand and the emergence of new competitors. First, the demand from France, which proved so crucial to sustaining the extension of currant vineyards in the 1880s, disappeared. French agronomists discovered that grafting European vines to North American roots made them immune to the phylloxera aphid. American vines had grown resistant to the aphid after centuries of co-existence and could thrive even with phylloxera living on their roots. Over the course of the 1880s, American roots spread to vineyards throughout France, and French production began to recover. The area of vineyards in France with American roots grew from 2,500 hectares in 1880 to 45,000 in 1885.[100] The recovery of the French wine industry was not immediate, however, as raisin wine made from Greek currants had found a loyal market in France. Currant wine was popular among

[99] Ibid.; Frangakis-Syrett, "Patras," 420.
[100] Ordish, *The Great Wine Blight*, 104–106.

lower-class, urban consumers who liked it for its sweet taste. It was also more affordable than domestically-grown French wines and was taxed at a lower rate. Working people could buy currants and make their own wine at home for 5 times less than the price of French-grown wine. Currant wine also kept better than regular wine. French vineyards were recovering, but they faced stiff competition from raisin wines and struggled to regain control of the market.[101]

When their vineyards were recovering but they were not able to sell their product, French vineyard-owners took to the streets and set up barricades to push for an import duty on raisin wines, and the French government responded with protectionist measures. In 1889, the Chamber of Deputies passed the Griffe Act, prohibiting raisin wine from being marketed as wine, and mandating that all wine made with currants be sold with a label prominently affixed that indicated it was "currant wine."[102] When this proved ineffective to curb the consumption of currant wine, the next year, the Chamber imposed a manufacturing duty on currant wine of 4s. 8d. per cwt. of currants. This was more effective, but currant wine consumption continued. From 1892 to 1896, the Chamber raised the import duty three times, from 2s. 4d. per cwt. to 6s., then to 10s., and finally to 19s. With the 1896 tariff, the French taxes on currant wine amounted to five times the cost of the product itself. In 1897, legislation was also passed to raise the tax on raisin wines to be equal with the tax on all other wines, but the market for currant wine was effectively dead in France by 1896.[103]

The Greek currant boom was built because of France's misfortune, and when France recovered, Greece suffered. The 1892 tariff was enough to cause a crisis in Greece. One newspaper in Ilia, one of the biggest currant-growing regions, began printing a column called

[101] Burlumi, "The Overproduction of Currants," 635.
[102] Ibid., 636.
[103] Ordish, *The Great Wine Blight*, 159–160; Burlumi, "The Overproduction of Currants," 636.

"From the Land of the Starving."[104] Yet the suffering from the crisis extended well beyond the currant region. As the Patras currant merchant Theodoros Vourloumis wrote in 1899,

> Even the classes that had no immediate connection with the production or the trade of currants shared the fate of those immediately concerned. The foreign gold brought into the country by the sale of currants was the life blood of almost every industry, and when this blood ceased to flow, almost every industry was paralysed. Wages, rents, professional incomes, fell by over 50 per cent.; and the depreciation of paper money, a natural concomitant of poverty and of want of credit, reduced the purchasing power of the curtailed incomes still further.[105]

On top of the loss of markets due to tariffs, at the end of the century, Greek currants encountered competition from alternate markets and from substitute goods. This was, in part, due to the rise of the fruit and nut industry in the US, particularly in California and Florida. Before 1880, California's horticultural output was negligible, and "the vast majority of citrus, dried fruits, and nuts entering the markets of Europe and North America originated from southern Europe."[106] For example, of the fruits and nuts consumed in the U.S., all lemons and oranges came from Sicily and southern Italy, figs came from Smyrna, and raisins came from Valencia, Málaga, and Smyrna. In the late nineteenth century, fruit and nut production across the Mediterranean—not just in Greece—was evolving into "highly specialized, capital-intensive, monoculture." Over the course of the next two decades, California's horticultural output increased dramatically, displacing the previously dominant Mediterranean countries. By the end of the century, the production of many Mediterranean dried fruits, citrus, and nuts in Florida and California rose to meet domestic demand and to even compete on the global market. Mediterranean fruits and nuts as a percentage of California's total agricultural output rose from 4% in 1879, to 20% in 1889, to

[104] Burlumi, "The Overproduction of Currants," 641.
[105] Ibid., 638.
[106] Critz, Olmstead, and Rhode, "Horn of Plenty," 316.

almost 80% in 1929.[107] As part of this process, California emerged as a global grape supplier. Currants or "Zante currants" were planted in the San Joaquin Valley near Fresno, as were sultanas, called Thompson seedless in the U.S.. California raisins met 90% of domestic demand by the mid-1890s. In the beginning of the twentieth century, currants were also successfully transplanted to southeastern Australia.[108]

As a result of tariffs and new competition, Greece entered a second over-production crisis, and there would be no aphids to rescue the country this time. The collapse of the currant economy was compounded by a debt crisis when the Greek government defaulted on foreign loans. In 1893, Trikoupis announced to the Greek Parliament, "Regretfully, we are broke." With these two events combined, Greece entered a long economic depression that lasted from 1893 to the 1910s.[109] The bottom fell out from the Greek economy, creating a large rural labor surplus. Financially ruined and unable to find work, many Greeks emigrated. This began a long period of massive Greek migration to the Americas. From 1873–1889, approximately 15,000 Greeks entered the United States—500 per year, on average. Between 1890 and 1917, approximately 450,000 Greeks entered the US, or about 25,000 per year.[110] U.S. immigration restrictions were imposed in the 1920s, and this, combined with the post-World War I population exchange, caused the Greek depression to persist from the 1890s until after the Second World War.[111]

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[107] Ibid., 317–319.
[108] Ibid., 316–319; Burlumi, *History of Currants*, 3.
[109] Petmezas, "Export-Dependent Agriculture," 331–336.
[110] Peter Moskos and Charles Moskos, *Greek Americans: Struggle and Success*, 3rd ed. (New Brunswick, NJ: Transaction Publishers, 2014), 156.
[111] Petmezas, "Export-Dependent Agriculture," 321–337; Alexis Franghiadis, "Land Tenure Systems, Peasant Agriculture and Bourgeois Ascendancy in Greece, 1830–1914," in *The Economic Development of Southeastern Europe in the 19th Century*, ed. Edhem Eldem and Socrates D. Petmezas (Athens: Alpha Bank, 2011), 133–135.

The Afterlife of Currants

Currants did not disappear from Greece after the collapse of the currant economy in the 1890s. They remained an important cash crop long after the currant crisis. In fact, in the immediate aftermath of the crisis, currant cultivation continued to grow. In the wake of the crisis, those involved in the currant industry, particularly in Patras, organized to call for state intervention. In 1895, the Greek Parliament passed a plan for state retention of surplus currant production. The state would retain the estimated excess production of currants based on the previous year's consumption, and these currants would be directed toward promoting the domestic winemaking industry. The law required currant exporters to deposit 15% of their inventory at a government storehouse to be sold domestically at reduced rates. In addition, the revenues from these sales would be deposited in a Currant Bank (Σταφιδική Τράπεζα), established in 1899, and the accumulated capital would be used to assist currant growers in the future.[112] At first, the retention act succeeded in promoting a domestic winemaking industry, and distilleries opened throughout the country. The act thus succeeded in the short term in creating a domestic demand for currants—something that had not existed in Greece before—but the act was amended to prohibit the use of retained currants for wine production. The goal was to compel producers to buy currants at market rates rather than reduced rates, but the additional cost constrained the growth of this new industry.[113] The retention act, moreover, did nothing address the problem of the overproduction of currants—if anything, it removed disincentives to grow—and currant production continued to rise.[114] The 1903 surplus was huge, and the National Bank of Greece, the Bank of Athens, and the Ionian Bank all had to lend to the Currant Bank. In 1904,

[112] Burlumi, "The Overproduction of Currants," 42; A. M. Andreades, "The Currant Crisis in Greece," *The Economic Journal* 16, no. 61 (1906): 42.
[113] Burlumi, "The Overproduction of Currants," 645–649.
[114] Ibid., 625–629; Andreades, "Currant Crisis," 42.

a bill was passed that taxed new currant plantations and substituted the export duty on currants with a 15% duty in kind, having the effect of increasing the amount of retained currants.[115]

Eventually, an equilibrium was found, and the migration of rural populations alleviated the rural labor surplus. Currant cultivation continued to be strong in the traditional currant-growing core—Zakynthos, Kephalonia, Patras, Vostizza, and Corinth—which produced high quality currants purchased by Britain for consumption in puddings. This market remained unaffected by the closing of the French market, which preferred lower quality currants from the southern Peloponnese to be made into wines.[116] The newer currant-growing provinces in the southern Peloponnese also continued to grow currants, but on a much smaller scale. Currants never regained the exalted status among Greek agricultural products that they enjoyed during the "golden age," and a greater segment of the landscape was devoted to other crops such as figs and olives, but currants continued to be a part of the regional economies in the Peloponnese throughout the twentieth century.[117]

This chapter has demonstrated that an increase in foreign demand, technical and technological innovations, and land reform policies operated together to deepen the integration of Greek currant production with Western markets and transform normative agricultural practice

[115] Andreades, "Currant Crisis," 47–48.
[116] Ibid., 43.
[117] One study of the letters and account books of a Nafplio-based lawyer helps to illustrate this point. The lawyer purchased a currant vineyard in his hometown of Filiatrá in 1891, no doubt seeking to profit from the currant boom which had recently spread to Messenia, and he contracted a merchant in Filiatrá to administer the vineyard and paid a local family to do the necessary labor. When the crisis hit, the lawyer kept the vineyard and actually deepened his commitments to the currant industry by investing in the local sulphur trade. He diversified his holdings in the early 1903 by purchasing a small olive grove, but the currant vineyard remained in operation for decades. Despite the crisis, currants long remained a sector for elite investment and a component of the livelihood of rural laborers. Velioti-Georgopoulou, "Καλλιεργώντας τη σταφίδα."

from micro-ecological specialization to regional monoculture. The next chapter moves on to examine the spatial and ecological dimensions of this monoculture in the Peloponnese, i.e. how landscapes and settlement patterns were transformed to sustain intensive currant cultivation.

Year	1860	1871	1878	1888	1895
Currants Produced	52,000	81,000	101,000	160,000	177,000

Figure 3.1: Amount of Currants Produced in Greece and the Ionian Islands, 1860–1895 (in tons). Source: Burlumi, T A. "The Overproduction of Currants: A Novel Experiment in Protection." *The Economic Journal* 9, no. 36 (1899): 634.

Year	1860	1871	1875	1881	1885
Currant Vineyard Extent	15,306 ha.	22,848 ha.	29,131 ha.	41,206 ha.	53,000 ha.

Figure 3.2: Amount of Land in the Peloponnese Devoted to Currants, 1860–1885 (in hectares). Source: Franghiadis, Alexis. "Peasant Agriculture and Export Trade: Currant Viticulture in Southern Greece, 1830–1893." PhD dissertation, European University Institute, 1990, 27.

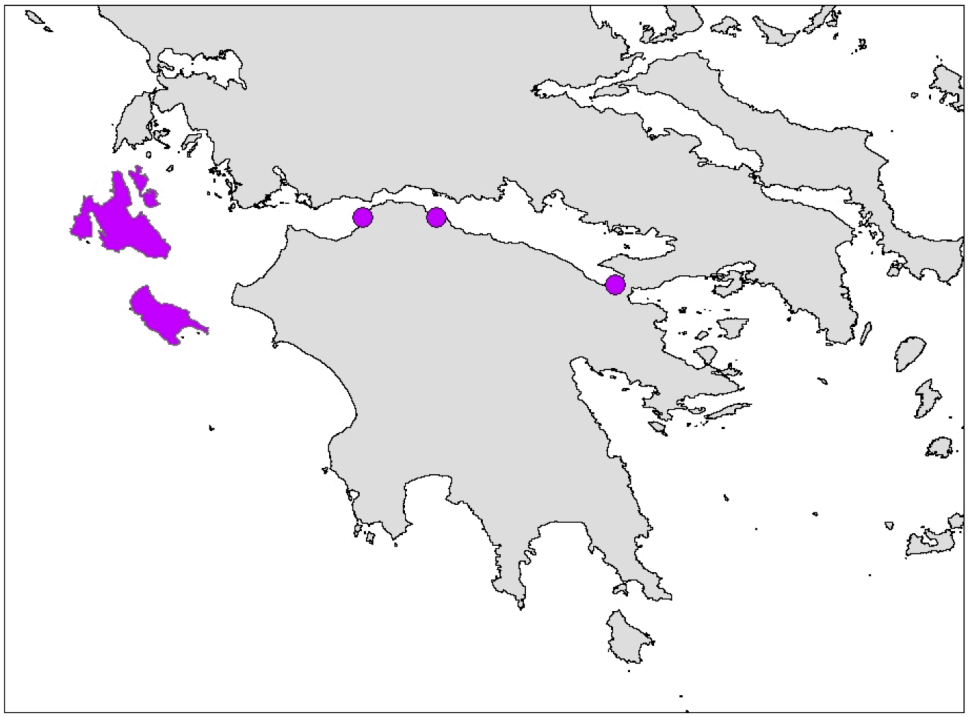

Figure 3.3: The Traditional Currant-Growing Core. The places most associated with currant cultivation before the nineteenth century were Corinth, Vostizza, Patras, and the Ionian Islands of Zakynthos and Kephalonia. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

Figure 3.4: Currant Cookbook. In the nineteenth century, Greek currants became an essential ingredient in the aspirations of the upwardly mobile, bourgeois, British family. Source: Senn, Charles Herman. *Currant Cookery. Simple Home Recipes*. London, 1911.

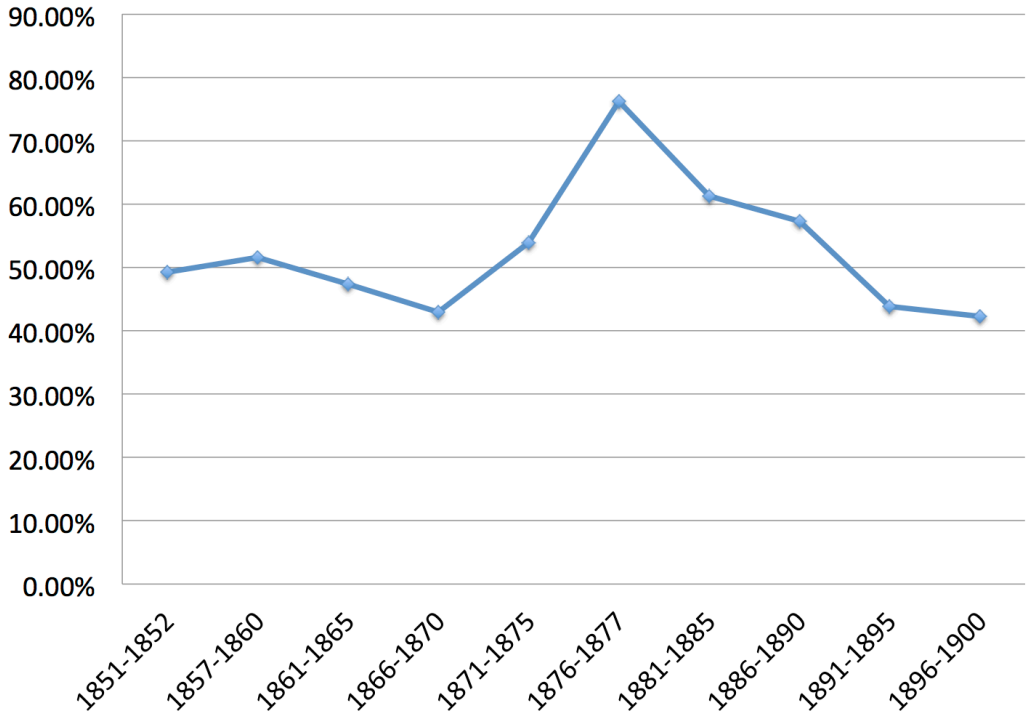

Figure 3.5: Value of Currants as a Percentage of Value of All Greek Exports, 1851–1900. Source: Pizanias, Petros. *Οικονομική ιστορία της Ελληνικής σταφίδας, 1851-1912*. Athens, Greece: Idryma Erevnas kai tis Paideias Emporiki Trapezas, 1988.

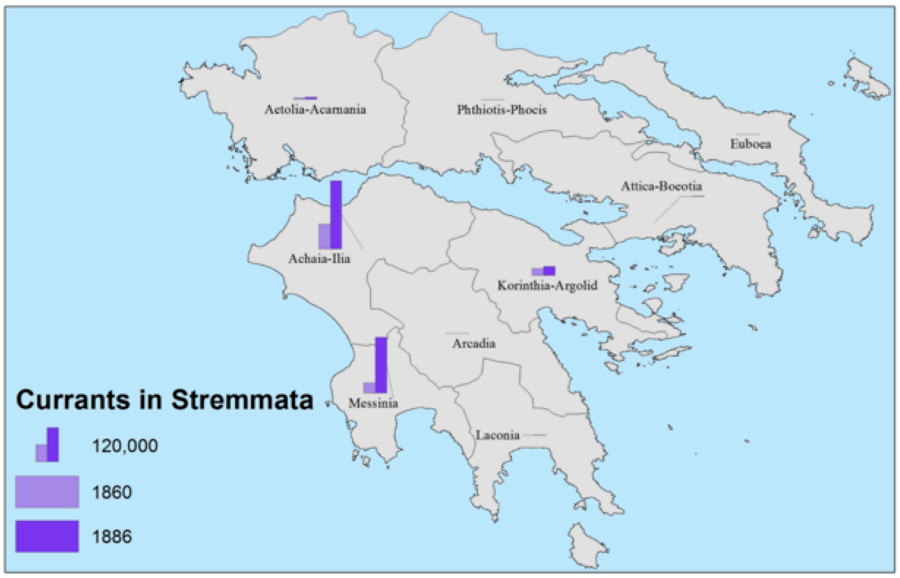

Figure 3.6: Currant Vineyards by Nomoi in Stremmas, 1860 to 1886. Data source: Franghiadis, Alexis. "Peasant Agriculture and Export Trade: Currant Viticulture in Southern Greece, 1830–1893." PhD dissertation, European University Institute, 1990, 27. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

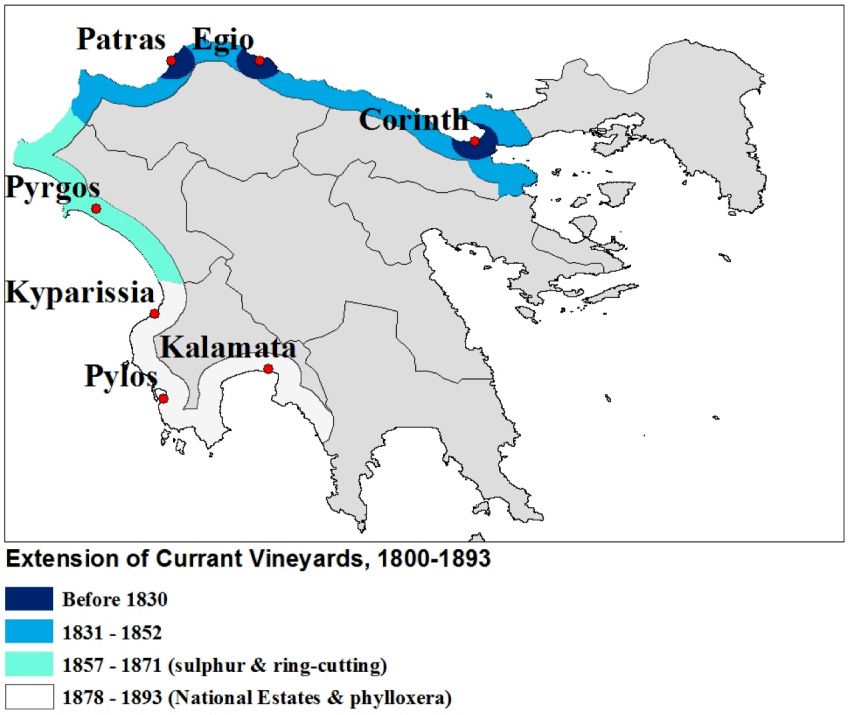

Figure 3.7: Extension of Currant Vineyards, 1800–1893. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

Figure 3.8: Sulphur Sprayers. Source: T. A. Burlumi, *History of Currants and of the Currant Vine*, (Patras, Greece: Independently published, 1909).

CHAPTER 4.
CURRANT COLONIZATION: SETTLEMENT, MIGRATION, AND LAND USE IN THE PELOPONNESE

This chapter examines the changes in land use that were made to sustain intensive currant cultivation in the Northern and Western Peloponnese in the second half of the nineteenth century. I argue that the expansion of the currant economy entailed changes in settlement and migration patterns as low-lying plains were opened for cultivation as well as a transformation of the physical landscape of the region as currant vineyards extended into areas that were previously uncultivated or used for other purposes. This chapter comprises three parts. First, I examine the way that settlement and migration patterns in the Northern and Western coasts of the Peloponnese changed in second half of the nineteenth century to accommodate intensive currant cultivation. Second, I survey the changes made to the landscape to sustain intensive currant cultivation and permanent lowland settlement. Third, I examine Messenia as a case study for the changes made to land use in Greece during this time.

Settlement in the Peloponnese

Many narratives have been proposed regarding when and for what reasons the lowlands of Greece were settled in the modern era. One narrative which has enjoyed a great deal of success, called the "retreat hypothesis," holds that when the Ottomans re-conquered the Peloponnese after a brief period of Venetian rule (1688–1715), Greeks in the peninsula retreated to higher ground, settling in upland villages to escape "Turkish despotism." According to this theory, throughout the second Ottoman period in the Peloponnese (1715–1821), Greeks lived in upland villages, and Turks lived in lowland garrison towns. Then, after Greek independence was won in 1832, the Greeks returned to settle the plains. According to some accounts, this occurred

immediately after the Ottomans left, whereas others date this to various points of the nineteenth century.[1]

The retreat hypothesis features prominently in nationalist historiography. Huddled together in close communities, untouched by their foreign occupiers, Greek-speaking Orthodox Christians are thought to have preserved a primordial Greek national identity during the years of the Ottoman "yoke." In alternative formulations, the mountains are where Balkan Christians cultivated modern national identities through resistance to their oppression and in opposition to their oppressors. Ulf Brunnbauer has summarized this tendency in Balkan historiography:

> In Serbia, Greece, Albania, Bulgaria, and even Romania, mountains were said to have been the "cradle" and "sanctuary" of the particular nation, where the natives fled the oppression of alien invaders and developed a warlike and freedom-loving spirit, never resigning to foreign rule. There, high up in mountain valleys where the long arm of the occupiers did not reach, refugees from the lowlands allegedly preserved the national culture and eventually brought it back to the plains once the oppressors had been expelled. Mountains thus began to symbolize the nation, and their harsh environment was said to have formed strong, brave, and pure people.[2]

[1] For criticism of the standard "retreat hypothesis" paradigm, see: Fariba Zarinebaf, John Bennet, and Jack Davis, "A Historical and Economic Geography of Ottoman Greece: The Southwestern Morea in the 18th Century," *Hesperia Supplement. The American School of Classical Studies at Athens* (2005): 211; Elena Frangakis and Malcolm Wagstaff, "Settlement Pattern Change in the Morea (Peloponnisos), c. A.D. 1700–1830," *Byzantine and Modern Greek Studies* 11, no. 1 (1987): 163–192; Elena Frangakis-Syrett and Malcolm Wagstaff, "Height Zonation of Population in the Morea c. 1830," *The Annual of the British School at Athens* 87 (1992): 439–446; John Bennet, Jack L. Davis, and Fariba Zarinebaf-Shahr, "Pylos Regional Archaeological Project, Part III: Sir William Gell's Itinerary in the Pylia and Regional Landscapes in the Morea in the Second Ottoman Period," *Hesperia* 69, no. 3 (2000): 374–377.

[2] Ulf Brunnbauer, "Environment, Markets, and the State: Human Adaptation in the Balkan Mountains, 19th and Early 20th Centuries," *Ethnologia Balkanica* 8 (2004): 130. Citing the work of Serbian cartographer Jovan Cvijic as a representative example of this sentiment, Brunnbauer and Robert Pichler argued that these ideas became popularized by nationalists in the nineteenth century and continue to inform the nationalist literature. Ulf Brunnbauer and Robert Pichler, "Mountains as 'Lieux de Mémoire.' Highland Values and Nation-Building in the Balkans," *Balkanologie* 6, no. 1–2 (2002): 81.

After the Greek War of Independence, the Greeks are supposed to have migrated en masse to the low-lying plains of the Peloponnese and established permanent settlements there.

This narrative has several deficiencies in explaining the historical demography of the nineteenth-century Peloponnese. First, in light of the scholarship that has problematized the simplistic "Greek versus Turk" conception of identity in the Ottoman Empire, it is difficult to accept any narrative that explains population movement in the Peloponnese based on proto-national groups and their aversion to living near one another. The retreat hypothesis also assumes that people were stationary—that settlements were concentrated in upland villages at the beginning of the nineteenth century and that they were concentrated in lowland villages at the end of the century. In actuality, populations were highly mobile. Notably, pastoralists were typically transhumant, spending half the year in the uplands and half the year in the lowlands (see below).

Another argument contends that permanent lowland settlement occurred later, in the second half of the nineteenth century, and commercial agriculture played the causal role. According to this argument, over the course of the nineteenth century, there was a general demographic movement from uplands to lowlands in the Peloponnese as the lowlands were colonized to better sustain intensive currant cultivation, and seasonal migration eventually gave way to permanent lowland settlement.[3] This argument is backed by empirical study of parts of the Peloponnese, but the study of historical demography in the rest of the Peloponnese has made it clear that the peninsula does not fit into a singular narrative. Despite the shared political experience of being united under Venetian and then Ottoman rule and then joined to the nascent Kingdom of Greece, there was not a shared demographic pattern in the whole peninsula. Other

[3] Stamatoyannopoulou, "Déplacement saisonnier."

factors, including ecology, topography, and economics, helped to create multiple demographic movements in the peninsula. Demographic movement in the Peloponnese in the nineteenth century cannot be reduced to a simple narrative of a movement from upland to lowland. Diversity of experience was the defining characteristic—not a universal movement downward.

Here, I argue that currant cultivation did create demographic movement in the second half of the nineteenth century, but not broadly from uplands to lowlands throughout the Peloponnese; rather, the movement was from non-currant-growing regions or currant-saturated regions into the parts of the currant zone where there was opportunity for growth. Some of this was from uplands to lowlands, but also from north to south and from the Ionian Islands to the West Peloponnese.

The Early Nineteenth-Century

In the first half of the nineteenth century, permanent settlement in the Peloponnese was generally concentrated in upland and mountain villages—with the Little Ice Age climate still in effect, low-lying plains were difficult to render fit for permanent settlement and cultivation. While permanent settlements were mostly concentrated in the hills and mountains, plains were used seasonally for grazing and farming. In the summer, when melting snow from the mountains made the lowlands waterlogged and malarial, pastoralists grazed their flocks in the hillsides and mountains. In the winter, when cold temperatures made upland pastures inhospitable, pastoralists descended to coastal hamlets and grazed their flocks in the lowland plains.[4] This seasonal migration was evident in all of Greece, and it is well summarized by an 1855 article from a Greek agricultural digest:

[4] Ibid.

> Greece is surrounded by lakes and swamps from all sides. Lakes and marshes cover an area of almost 230,000 ha, which favor the propagation of fevers and other diseases which torment the already scarce population of Greece. The lowlands suffer more. The swamp fevers are more injurious to those coming from the healthier climate of the mountains to the plains to pass the winter. That is the reason why entire populations live in a state of continuous migration, similar to herds of sheep, and cannot settle in the empty plains. Hunger and snow chased them away from the mountains during the whole winter; fevers drive them out of the plains back to the mountains for six months, as if they were in a state of siege. Those obliged to pass the summer in the plains, when they fall ill, instead of searching for another remedy, turned back to the Highlands; those who insist on staying, run the risk of catching chronic diseases due to swamp fevers.[5]

Many primary accounts from the first half of the nineteenth century devote ample space to describing the marshes, mosquitoes, and malaria to be found in the low elevations of Greece. Edmond About, residing in Greece in the 1850s, wrote that, "Of all the animals to be met with in the country, the most common are, without contradiction, those portable animals that Mahomet recommends should be allowed to feed in peace on our body."[6] Because of fevers, he continued, "In summer the children die off like flies; those that live, for the most part have shriveled legs and swollen stomachs till the age of thirteen or fourteen: the parents save what they can, and do not trouble themselves much about crying for the rest; they know that up to the age of thirteen their children's life is provisional."[7] In large part due to malaria, the life expectancy for a Greek peasant in 1861 was 35 years, and one in five children died before reaching twelve months of age.[8]

Many of the larger towns, such as Patras, were situated at lower elevations in order to be close to a harbor. Concentrated settlement and the presence of commercial agriculture helped to maintain drainage works, but this was not always successful. As described in the previous

[5] Franghiadis, "Peasant Agriculture," 76.
[6] About, *Greece and the Greeks*, 106.
[7] Ibid., 135–136.
[8] Bournova and Progoulakis, "World of Rural Greece."

chapter, Patras at the beginning of the nineteenth century was an important regional port, and the hinterland around the city specialized in currant cultivation for export to the West. During this time, however, Patras had a reputation for being an unhealthy town because of its marshes.[9] As Dodwell described the town in 1801,

> The air is unhealthy… About three miles from the town, towards Bostitza, is an extensive marsh, which is left in an uncultivated state, in order to afford pasture for cattle : this adds to the badness of the atmosphere. About forty years ago, the whole plain was nearly in the same uncultivated state, and the air was as bad as that of Corinth, where the human frame subsists with difficulty, continually exposed to fevers and putrid disorders! The greater part of the plain of Patras has since been planted with vines, currants, and olives, and adorned with gardens of figs, pomegranates, almonds, oranges, lemons, and citrons of a large and excellent quality ; the fields produce rich crops of corn, millet, cotton, and tobacco.[10]

Although the city had been drained with the growth of the port and of agriculture in its surrounding plains, the residents still suffered from malaria and other diseases. Due to the five small rivers that ran through the plains of Patras as well as its underground water, the lower city (Κάτω Πάτρα) was frequently inundated until late in the nineteenth century.[11] Occasionally, due to lack of drainage works in the lower city, sickness spread through the city and killed many people, as occurred in 1840.[12]

Under these conditions, settlement in the Peloponnese in the first half of the nineteenth century generally took the form of permanent settlements in upland and mountainous areas with segments of the population seasonally inhabiting low-lying plains in temporary dwellings to make use of the land for grazing and farming. Large towns, particularly port cities, were an exception to this trend, and their residents often suffered from sicknesses during the summer.

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[9] Frangakis-Syrett and Wagstaff, "Height Zonation," 86.
[10] Edward Dodwell, *A Classical and Topographical Tour Through Greece: During the Years 1801, 1805, and 1806* (London: Rodwell and Martin, 1819), 116.
[11] Bakounakis, *Πάτρα*, 31.
[12] Ibid., 52.

Transformation of Settlement in the Peloponnese

In the middle of the nineteenth century, the spread of currant cultivation in the coastal plains of the Peloponnese transformed the regional economy and changed this pattern of settlement and migration, redefining the relationship between high villages and coastal hamlets. First, currant cultivation provided the impetus for lowland colonization. During the Little Ice Age climate, land reclamation was difficult and dangerous work.[13] Under these conditions, there had to be a compelling reason to marshal the necessary labor and capital to drain lowland plains. The profitability of currants on the global market in the nineteenth century provided just such an incentive. The spike in foreign demand for Greek currants created the imperative and produced the means to undertake land reclamation and colonize lowland plains in the coastal Peloponnese in order to devote more land to currant cultivation. Moreover, around the middle of the nineteenth century, the Little Ice Age came to an end in the Mediterranean, making the reclamation of land from wetlands much easier (see chapter 2).[14] As a result, as Tabak argues, "During the course of the nineteenth century, but mostly gaining velocity from the 1850s, the low landscapes of the Inner Sea were steadily yet inexorably re-colonized."[15] In the late nineteenth century, there were "massive drainage projects" to turn lowland wetlands into arable land.[16] The further incorporation of Greek agricultural production into global markets combined with a warming of the Mediterranean climate to permit large-scale, permanent colonization of the lowland plains. The dispersed, mountain settlement that characterized the seventeenth and eighteenth centuries in the Peloponnese gave way to large-scale, aggregated lowland settlements by the end of the nineteenth century.

[13] Braudel, *The Mediterranean*, 63–66.
[14] Tabak, *Waning of the Mediterranean*, 22.
[15] Ibid., 241.
[16] Ibid., 284–285.

During this time, there were two corresponding kinds of migration: migration by laborers and would-be landowners to existing currant-growing regions, and migration by colonists to undeveloped land and non-currant growing regions. With these two types of migration taken together, it is evident that, in the currant growing region of the Peloponnese, there was a general shift in the population from upland and mountain villages to lowland, coastal plains. Not only was the currant zone of Greece expanding to encompass more land, but more people from other parts of Greece were moving into the currant zone to settle inside. Alexis Franghiadis writes that population growth in the currant-growing parts of the Peloponnese indicates "the continuous resettlement of families from the arid and overpopulated highlands of the Peloponnese to the previously desert and marshy northern, western, and southern coastal plains."[17]

Lowland settlement in previously uncultivated parts of the Peloponnese was achieved through a form of regional chain migration. In the first half of the nineteenth century, transhumant pastoralists built temporary dwellings, called *exospitia*, in the coastal plains of the Peloponnese. These were not considered separate settlements at this time because they were small and temporary. Then, the intensification of currant cultivation in the nineteenth century caused these temporary settlements to spread and expand. In census records, some of them began to be designated as the "winter capital" of their respective municipalities, with the older, upland settlements designated as the "summer capital." Toward the end of the century, as currant cultivation continued to spread due to increased global demand, these temporary settlements grew into permanent settlements in their own right. Pastures disappeared from the coasts as they were replaced by vineyards, and transhumant pastoralism declined in the region as it was

[17] Franghiadis, "Peasant Agriculture," 31–32.

replaced by permanent lowland settlement.[18] The lowland plains of the coastal Peloponnese were colonized through this process.

This transformative process had a greater effect in parts of the peninsula where currant cultivation was not already strong. This can be seen by comparing municipalities along the northern coast of the Peloponnese. In some of these places, especially in the hinterlands of the currant-exporting port cities, currant cultivation was already strong in the eighteenth century. In others, currant cultivation was not prevalent until the second half of the nineteenth century. Aigialeia, in the North Peloponnese, was well-populated at the beginning of the nineteenth century, and lowland settlement was already present. Its capital, Aigio (or Vostizza), was part of the traditional currant-growing core and was thought to produce the highest quality currants. Looking at population movement from 1879 to 1896, the trend is one of *general* demographic growth in the hills as well as in the coastal plain. The capital, Aigio, is the largest settlement during this period and also grows the most. Yet new settlements emerge on hills and plains alike, and they all seem to have been growing (Figures 4.5, 4.6, and 4.7).

Moving east along the northern coast of the Peloponnese, however, an examination of the same census records shows how lowland colonization advanced. An analysis of census records for the municipality of Krathis, near the middle of the Northern coast of the Peloponnese, illustrates how this worked. In the early nineteenth century, the only settlements listed in censuses for the municipality of Krathis were all located at higher elevations. A Venetian census from 1700, a French census from 1829, and a Greek census from 1836 all omitted any mention of lowland settlements in this municipality. These censuses recorded only five permanent settlements in this municipality, and all of them were located above 700 meters above sea level

[18] Stamatoyannopoulou, "Déplacement saisonnier."

(MSL). Then, in the middle of the century, censuses began to list lowland settlements. A Greek census from 1845 mentioned nine settlements in this municipality: the five upland villages as well as four new settlements in the currant-growing region of the coastal plains. These new settlements, however, were not categorized as autonomous villages—they were listed as annexes of the original villages. They were bracketed together with the older settlements, and their populations were counted together, indicating that the new lowland settlements were considered colonies of these original villages. By the end of the nineteenth century, the brackets disappeared and the new settlements each got their own line in the census, designating these as autonomous settlements.[19]

A similar pattern is visible in the deme of Voura, which neighbors Krathis to the West (Figures 4.2, 4.2, and 4.4). The 1700 Venetian census lists four main neighborhoods ("Mahalade cioè Contrade") located "at some distance from one another" that comprised Villa Diacoftò and its belongings ("appartinenze"). These were Chierniza, Vrostena, Piscopi, and Castro (Κερνίτσα, Βρόστενα, Επισκοπή, and Κάστρο).[20] In the 1879 Greek census, there were only two settlements with population counts listed in the deme of Voura. These were Diakopto and Stavria. Despite only providing two population counts, the 1879 census also showed that these settlements were themselves subdivided. Kirinitsa, Vrosthena, Kalyviti, Katholikon, and Pera Machalas were bracketed together in the census, together constituting the settlement of Diakopto. Each of these subdivisions were upland or mountainous, located between 477 MSL and 1,525 MSL. The second settlement listed in the 1879 Greek census, Stavria, was also an upland settlement, located at 512 MSL, but it was bracketed in the census with a coastal, lowland settlement named

[19] Ibid.
[20] Konstantinos Ntokos, *Το Βενετικό Κτηματολόγιο της Βοστίτσας* (Athens: Agricultural Bank of Greece, 1993), 36–37.

Tripiá. Ten years later, in the 1889 census, there is evidence that the process of lowland colonization had advanced. First, the five upland Diakopto settlements have divided into separate villages, each listed in the census with its own line and its own population count. Second, there were three new lowland settlements. Diakoptitika has emerged in the coastal plain, and it was labeled in the census as the "winter capital" of the deme; Kirinitsa was the "summer capital." The fact that the census lists a "summer capital" and a "winter capital" supports Stamatoyannopoulou's argument about seasonal migration during this period. Finally, in the 1896 census, we see that the lowland settlements grew, and a new one, Trapeza, also emerged. These examples from the Northern Peloponnese show the experience in the traditional currant-growing core. Later in this chapter, a case study of Messenia in the Southwest Peloponnese shows the experience of a place where currant cultivation only began late in the nineteenth century.

Tracking settlements in these municipalities, we see settlements concentrated in upland and mountain settings, then lowland settlements emerged as colonies for seasonal migration, and then they became permanent settlements. But was this because of the advance of currant cultivation? While this is hard to prove definitively, there is good reason to believe it was. First, we know from production figures that currant output was growing in this part of Greece—it makes sense that this was accomplished through the search for more agricultural land. And second, population growth was greater in the currant-growing zone than in the other parts of the Peloponnese.[21] From 1856 to 1889, the population grew by at least half in the currant-growing

[21] From 1861 to 1888, regions that did not produce currants had lower population growth than even the slowest-growing currant-producing region. On average, the population in currant-producing regions in the Peloponnese grew at an annual rate of 1.87%, while the non-currant-producing regions grew at an annual rate of 0.9%. See: Franghiadis, "Peasant Agriculture," 31–32.

provinces of Korinthia, Achaia, Ilia, and Messenia (Figure 4.1). Population grew by a smaller percentage in the parts of the peninsula outside of the currant growing zone. It is also interesting to note that that population actually shrank in the eparchy of Kalavryta. This is compelling because Kalavryta is a mountainous region just adjacent to the currant-growing region in several places, as it abuts Korinthia, Aigialeia, Patras, and Ilia. This seems to indicate that people were moving from the mountains of Kalavryta to settle in the currant zone. In sum, in this part of Greece, there is evidence of demographic movement from uplands to lowlands, and population growth was greater in regions that were most suitable to currant viticulture.

Upland and Mountain Villages

The narrative of lowland colonization in the Peloponnese due to the extension of currant vineyards needs to be qualified to avoid simplistic generalizations about upland and mountainous parts of the peninsula. It might be assumed that mountain villages in the Peloponnese and elsewhere in Greece became stagnant backwaters. If demographic growth was greater in the plains than in the mountains, does it necessarily follow that inland mountain communities disappeared or declined? It bears emphasizing that this was a regional phenomenon, mainly applicable to the northern and western coasts of the Peninsula. Different patterns were evident in other parts of the Peloponnese and elsewhere in Greece. This is not to suggest that, before this time, everyone in Greece lived in the mountains, then they all moved down. There was much more regional diversity than that, and upland villages remained populated and economically important.

Doubtless, some inland mountain settlements did decline or disappear as their residents resettled in low-lying plains to grow currants. Nevertheless, Greek mountain villages on the

whole did not become stagnant, "closed," backwards, or isolated because of the demographic growth in the currant-growing zone of the coastal Peloponnese. On the contrary, mountains assumed important new roles in the changing economy. Some mountain villages became intensive agricultural producers in their own right, growing cash crops such as figs and olives, sometimes through the use of extensive terracing. Other mountain villages thrived because they provided useful resources to support the currant industry, such as timber. The currant industry required materials made from wood, such as wooden stakes used to support the vines and crates and barrels to transport currants.[22] The expansion of the currant industry entailed a greater demand for these commodities as well, and they were likely made from locally-grown timber. Wood was manufactured into commodities that sustained the currant industry in Patras. Steam-driven saw mills opened in that city in the second half of the nineteenth century to cut wood to be made into currant crates.[23] In 1858, there were also 100 barrel factories in that city.[24] The construction of railroads in Greece in the second half of the nineteenth century also created more demand for timber. Moreover, these railroads, as elsewhere in the Mediterranean, facilitated further timber extraction when they were completed.[25]

Mountain villages also served as important centers for industrial production. Mountains had long been useful in this role because of their water resources which were useful for activities such as tanning and textile production. Water flowing down sharp drops in elevation was used to power water wheels in mills. In the currant economy, mountain industry gained greater significance because of the timber extraction mentioned above. In addition to being sent to Patras to be processed at steam-powered saw mills, lumber was also locally processed at the place of

[22] Gallant, *Edinburgh History*, 259.
[23] Frangakis-Syrett, "Patras," 432.
[24] Bakounakis, *Πάτρα*, 198–202.
[25] Horden and Purcell, *Corrupting Sea*, 336.

extraction through the use of water-powered saw mills. These mills were established in forested mountain areas where there was access to moving water to power the saws. Logs were rolled down shoots to the mill, cut into planks, and carried by mules to be sold in cities.[26]

It is wrong to assume that all mountain villages generally declined during this period. Ulf Brunnbauer makes a useful distinction between "open" and "closed" mountain communities. If closed communities were isolated and economically backwards, open communities were integrated into larger social, cultural, and economic systems. They often specialized in crafts, relying on the surrounding plains for agricultural subsistence.[27] Closed mountain communities may have declined during the golden age of currants, but open mountain communities remained viable. Like the plains, they were transformed in ways that supported commercial agriculture.

Transformation of the Landscape

From 1860 to 1885, the amount of land devoted to currants more than tripled (see Figure 3.2). This expansion entailed changes to the landscape as currant vineyards extended into new areas. On land that was already planted, cultivators uprooted existing crops and replaced them with currant vines. Motivated by a spike in the price of currants on the global market, growers in the Peloponnese moved from diversified cultivation and subsistence agriculture to the cultivation of currants. The expansion of the currant economy entailed a transformation of the physical landscape of the region as currant vineyards extended into areas that were previously uncultivated or used for other purposes. The profitability of currant production prompted

[26] Gallant, *Edinburgh History*, 259. For a description and image of a water-powered saw mill in a mountain village in Northern Greece in the early twentieth century, see: A. J. B. Wace and M. S. Thompson, *The Nomads of the Balkans, an Account of Life and Customs Among the Vlachs of Northern Pindus* (London: Methuen & Co. Ltd., 1914), 74–76, 84.
[27] Brunnbauer, "Environment, Markets, and State."

cultivators to clear orchards of centuries-old olive trees, mulberries, valonia oaks, and others to make space for new vineyards.[28] Consul Thomas Wood wrote in 1892 that, "the olive oil crop in the Morea is likely to show an annual decrease, as many fine olive groves are being ruthlessly cut down to make way for currant and grape vineyards, which the peasants find more remunerative."[29] Cultivators also converted marginal land into year-round agricultural land—this sometimes involved the draining of wetlands, the clearing of woodlands, and the terracing of hillsides.

Draining Wetlands

In addition to adjusting the proportional devotion of land on their own plots to vineyards, cultivators in the Peloponnese also sought to create new space for the cultivation of currants in the lowlands of Greece by draining wetlands and converting them into arable land. An example comes from the travel account of Sir Thomas Wyse, who traveled to Euboea in the mid-nineteenth century. There, he visited Edward Noel, a British philhellene and cousin to Lady Byron who spent most of his life in Greece. After the Greek Revolution, Noel bought an estate in Greece and acted as landlord to Greek tenant farmers. Noel described how the land on his estate was improved for cultivation:

> Annually, bands of Mohammedan Albanians come into this district, who perform their operations faithfully and skillfully…. A band comes, numbering from thirty to forty, with their captain; the captain makes the contract for them with the proprietor…. Almost all the drainage of the place is done by them, and then handed over by Mr. Noel to the Greeks.[30]

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[28] Franghiadis, "Peasant Agriculture"; Frangakis-Syrett, "Patras"; Maria-Christina Chatziioannou, "Από την κορινθιακή σταφίδα στις ελιές Καλαμών: προϊόντα της Μεσογείου με τοπική διάσταση," in *«Ο δε τόπος... ελαιοφόρος» Η παρουσία της ελιάς στην Πελοπόννησο*, ed. Elena Beneki (Athens, Greece: Politistiko Idryma Omilou Peiraios, 2007), 132–145.
[29] Franghiadis, "Peasant Agriculture," 54.
[30] Thomas Wyse, *Impressions of Greece* (London: Hurst and Blackett, 1871), 224–225.

Traveling to the village of Souli, on the East coast of Attica near Athens, Wyse encountered an old Frankish building "standing on a rocky projection a short distance from the plain, the marsh coming up to its very base." The owner of this property, Colonel Scarlatos Soutzos, was "endeavoring to drain and improve it, which explains the canals and trenches seen from time to time through the high reeds on the lower ground." Wyse observed that the Soutsos's own house was "suffocating, with the close malaria atmosphere of the marsh, of which the ladies complained, not without reason, and the mosquitoes abounded even at this season. It must be dreadfully unhealthy in summer and autumn." Soutsos "seemed to study the drainage scientifically. On the drawing-room table lay a French work on the subject."[31]

Clearing Woodlands

Another form of land improvement that may have altered the landscape of the Peloponnese during this time was deforestation. Contemporary accounts by European travelers provide anecdotal evidence for deforestation in the Peloponnese. In 1855, Edmond About observed that Greece had such an abundance of trees that it "ought to export timber." However, Greece imported timber instead. About blamed the lack of roads and the fact that peasants and shepherds burned down entire forests to clear land for grazing and for growing currants.[32] The practice of "fire farming," or burning forests to clear land for agriculture, was not unique to Greece, however—it was prevalent throughout Europe and the Mediterranean in the nineteenth

[31] Ibid., 49–50. In 1878, Soutsos, then a Lt. General, participated in a failed attempt to drain Lake Kopais, described in chapter 6. See also: Apostolos Papadopoulos, "The Drainage and Exploitation of Lake Copais (1908–1938): Socio-Economic Implications of the Exploitation of Lake Copais, Greece" (PhD diss., University of Bradford, 1993), 108.
[32] About, *Greece and the Greeks*, 86–87.

century, as were state efforts to quash it.[33] Occupational burning is also often necessary for shepherds, as it clears plants that animals cannot graze, and it promotes the growth of plants that they can. Moreover, Mediterranean vegetation is highly adapted to fire, and some Mediterranean plants require fire in order to germinate.[34] In addition to clearing forests to make new land, it is also possible that deforestation was tied to the expansion of the currant economy in other ways. The increased cultivation of currants created a greater need for wooden commodities such as stakes to support the vines and crates and barrels to transport cargo. If these came from locally grown timber, deforestation would have been linked to currant cultivation in this way, as well. The degree of deforestation is a difficult thing to measure. To determine the degree and scale of deforestation, more research would need to be done to reconstruct the historical landscapes of the Peloponnese. Grove and Rackham caution against the supposition by scholars that deforestation occurred based only on evidence that trees were being cut down. It must also be proved that trees were being cut down faster than they were replaced.[35]

Terracing

The nineteenth-century boom in Mediterranean commercial agriculture was not just a phenomenon of low-lying plains. Cultivators throughout Greece also transformed hills and mountainous landscapes through the construction of terraces in order to sustain intensive, commercial agriculture. Terraces were built on the slopes of hills to create more surface area on which crops could be grown, and they also retained moisture in the soil which made arid climates more suitable for cultivation. The terraced landscape expanded dramatically in the later

[33] Blackbourn, *The Conquest of Nature*, 45.
[34] Grove and Rackham, *Nature of Mediterranean Europe*, 217–240.
[35] Ibid., 19, 187.

nineteenth century. Most of the terraces seen in Greece today were constructed during this time to suit the needs of export agriculture.[36] On the Ottoman Aegean islands, for example, terracing expanded during this time to sustain intensive, commercial olive cultivation. As olive oil and the soap it was used to make became the main exports of the island of Lesvos, olive production intensified and terraces reached up into the mountains.[37] In the western Peloponnese, terraces were sometimes used to plant currant vineyards along hillsides, as booming demand from France and the UK made this seem like a sound investment. In Messenia in the southern Peloponnese, they were also constructed to plant tree crops, especially figs.[38]

Planting Agreements: Migrant Labor and Elite Investment

Where the extension of vineyards was constrained by a lack of arable land, local elites (e.g. merchants, lawyers, and other professionals) bought up uncultivated plots, consolidated large estates, and contracted tenant farmers to clear and plow the land and plant vineyards.[39] If uncultivated land was marshy, as was often the case in the low-lying plains of the Peloponnese, landowners contracted workers to drain the land and dig ditches for irrigation.[40] We can see how this worked in Ilia after the 1871 land reform act. Local elites took advantage of the land reform act to consolidate large estates. However, much of the land was not ready for cultivation, so these

[36] Horden and Purcell, *Corrupting Sea*, 236.
[37] Evridiki Sifneos, "On Entrepreneurs and Entrepreneurship of the Olive-Oil Economy in the Aegean: The Case of Lesvos Island," *The Historical Review/La Revue Historique* 1 (2004): 245–273; Thanasis Kizos and Maria Koulouri, "Agricultural Landscape Dynamics in the Mediterranean: Lesvos (Greece) Case Study Using Evidence from the Last Three Centuries," *Environmental Science & Policy* 9, no. 4 (2006): 330–342.
[38] Gallant, *Edinburgh History*, 257; Franghiadis, "Peasant Agriculture," 164–165; Stanley Aschenbrenner, *Life in a Changing Greek Village: Karpofora and Its Reluctant Farmers* (Dubuque, Iowa: Kendall/Hunt, 1986), 12.
[39] Franghiadis, "Peasant Agriculture," 180–195.
[40] Gallant, *Edinburgh History*, 257–258.

elites entered into planting agreements with peasant farmers. Planting agreements allowed peasant farmers to live rent-free on the landlord's land for an agreed-upon amount of time, provided that they drained it and planted vineyards. At the end of the contract, having colonized and planted all of the landlord's plot, the peasant farmers would then be given a segment of that land.[41]

Two cases from Pirgos, as elaborated by Alexis Franghiadis, help to illustrate how this worked. After the 1871 land reform law, Th. Palailiou, a lawyer from Pirgos, purchased 240 contiguous stremmas. He then entered into a planting agreement with three peasant families from the mountainous regions of Mantineia and Kalavrita. Palailiou ceded 181 stremmas of this estate to these peasant families and offered them interest-free loans for five years. During this time, as Franghiadis writes, "They were obliged to plant the land with currant vines and to construct the threshing-floors necessary for the drying of the currants." After five years, these families would pay back the loans, they would get to keep half of the land and threshing floors, and they would return the other half to Palailiou.[42] Similar arrangements were made by A. Dalianis, mayor of Pirgos. He ceded 130 stremmas to peasant families from Mantinea. These peasants added to the value of their owners' land through their labor. As a result, they received land of their own, but they would have had to seek other sources of credit and sell some land in order to subsist for the years they were working to make land suitable for currant cultivation.[43]

[41] Franghiadis, "Peasant Agriculture," 178–179.
[42] Ibid., 180.
[43] Ibid., 195.

Southwest Peloponnese—Messenia

Messenia comprises the southwestern corner of the Peloponnesian peninsula, bordered by the Taygetos Mountains in the east, the Alfeios River in the north, the Messenian Gulf in the south, and the Ionian Sea in the west. Messenia is an interesting case study for the effects of commercial agriculture on the landscape of Greece because, over the years, Messenia has been associated with several different commodities. In and around the city of Kalamata, silk was an important export commodity throughout the nineteenth century and well into the twentieth century. Raw silk was mostly sent to France, but a large amount was also processed locally. The French demand for silk grew in the second half of the nineteenth century, and in the 1850s, silk production in Kalamata relocated from households to factories. In 1853, a French company, Fournaire & Cie., opened the first mechanical silk factory in Kalamata. In 1859, a British company, Fels & Co., which also operated a winery in Patras, opened the second silk factory in Kalamata, and beginning in 1870 it was powered by a steam engine.[44] By the 1870s, Kalamata was the main producer of silk in Greece. There were six silk spinneries in the city employing 400 Greek workers—mainly women and children working 10-hour days for 1 drachma per day—and together they produced 1.5 million drachmas worth of silk annually.[45] Demand for silk declined after World War I, and Kalamata's last silk factory closed in 1930.[46]

In the latter half of the nineteenth century and the beginning of the twentieth century, Messenia was also well known for its figs. Figs have been an important crop in the Mediterranean for centuries, long valued for their versatility. Fig trees are easy to grow, they

[44] Bakounakis, *Πάτρα*, 72–77.
[45] John M. Francis, "Greece," in *Annual Report on the Commercial Relations between the United States and Foreign Nations*, ed. United States Department of State (Washington, D.C.: U.S. Government Printing Office, 1874), 677.
[46] Chatziioannou, "Από την κορινθιακή σταφίδα," 133.

grow on land where other crops will not—hills, mountains, plains, and all types of soil—and they mix well with other crops, such as vines and olives. They are high in caloric content, are useful as a sweetener, and are much less land-intensive than sugar cane. Fig leaves are useful as animal fodder, and they were collected every autumn to be used for this purpose. Figs became an important export crop in Messenia beginning around 1860. Messenian figs were dried and exported to Austria-Hungary, Russia, Germany, and others, where in addition to being consumed in pastries and deserts, they were roasted and used to make fig coffee—a coffee substitute or additive that was particularly popular in Central Europe in the nineteenth century—or they could be macerated into spirits. By 1916, almost half of the 2 million fig trees in the Kingdom of Greece were located in the plains of Messenia, mostly in the demes of Pamisou and Oixalía, in the hinterland of Kalamata.[47]

At the end of the nineteenth century, for a very short period of time, Messenia also became a very important currant-growing region. In the first half of the nineteenth century, currants were primarily grown around the Gulf of Corinth and on the Ionian Islands to meet the British demand for dried fruits for their puddings. Currant cultivation spread to Messenia in the 1870s and 1880s during the *phylloxera* crisis in Europe (see chapter 3). During this time, Messenia, which had not been a currant-growing region before, became the primary producer of low-quality currant raisins to be exported to France and made into raisin wine. By the end of the century, the southern coast of the Peloponnese had displaced the northern coast as the primary currant-cultivating region. From 1860 to 1887, the extent of currant vineyards in Messenia quintupled. Replicating the ascent of Patras in the first half of the nineteenth century, Kalamata grew at the end of the nineteenth century into a major currant-exporting port. In addition to silk,

[47] Krimbas, *Η φθορά της Σύκης*, 2; Horden and Purcell, *Corrupting Sea*, 210.

Kalamata became a major exporter of figs, currants, and eventually olives. In the 1880s, Kalamata joined Patras, Aigio, and Pirgos as one of the main currant-exporting ports in Greece.[48]

Finally, after World War I, as silk, currants, and figs declined in Messenia, the region switched to commercial oleiculture. Olives, of course, are a Mediterranean crop with a very long history. They grow all over the Mediterranean basin and, like figs, are very versatile, but only certain regions become specialist producers of olives. Messenia first specialized in olives in the fifteenth century, when the ports of Methoni and Koroni—and later Navarino—exported olive oil to French and Italian ports. In the nineteenth century, the Messenian olive oil trade relocated to Kalamata. It is unknown when the *kalamon* cultivar—now marketed as the Kalamata olive—was first cultivated, but the port of Kalamata grew with its growing popularity.[49] During the so-called Second Industrial Revolution of 1870–1914, there was an increase in global demand for olives and olive oil to be used as industrial lubricant, in addition to their long-standing uses in soap manufacturing and as a food product. This growing demand caused olive cultivation to intensify in parts of Greece and the Ottoman Empire that already specialized on oleiculture, such as the islands of Crete and Lesvos. Messenia also felt the pull of this demand. In the last quarter of the nineteenth century, olive cultivation intensified in Messenia, but it was not until after the First World War that olive exports from Kalamata surpassed the export of figs and currants.

In addition to its historical association with these four different commodities, Messenia is also interesting for the degree and the alacrity of the transformation of its landscape in the later nineteenth century. Messenia at the beginning of the nineteenth century was known for being a wilderness. With its narrow mountain passes and heavy vegetation, the landscape of Messenia

[48] Franghiadis, "Peasant Agriculture," 22–27; Chatziioannou, "Από την κορινθιακή σταφίδα," 139, 142; Petmezas, *Η ελληνική αγροτική οικονομία*, 237–244.
[49] Chatziioannou, "Από την κορινθιακή σταφίδα," 139.

also provided cover for outlaws, and as a result, the region was also notorious for banditry. In nineteenth-century travelogues, as the travelers are leaving Megalopolis, local officials warn them about the dangerous road south and tell them that they must travel with guards.[50] Messenia is certainly not alone in this distinction, but it is notable.

The climate and geology that made Messenia a good place for bandits to prey upon travelers also made the Messenian plain a difficult place for permanent settlement and year-round agriculture, despite its fertile soil. Notably, the Messenian plain is extremely wet. Located on the windward side of high mountains, it is in a rain excess zone, receiving 800–1000 mm annually. Messenia also has a geology that favors the formation of springs at lower elevations.[51] Moreover, it was wetter in the recent past. From the middle of the sixteenth century to the middle of the nineteenth century, the Little Ice Age made the climate of Mediterranean Europe as a whole wetter overall.[52]

Instead of permanent settlement in the lowlands, Messenia was characterized by upland settlement and seasonal transhumance. Henry Baird, traveling through a mountain pass on his way from Megalopolis to Messene in the 1850s, describes encountering a band of transhumant pastoralists. About halfway down the mountain, he writes,

> our progress was impeded by a procession, or what seemed to be such, coming up the mountain in the opposite direction. Women and children were generally huddled together on the backs of mules, which were besides overloaded with quantities of clothes, cooking utensils, fire-arms, and, in short, with every thing necessary to furnish the hut of a Moreote *tsimpanes*. It turned out that we had met one of those yearly migrations of the nomadic shepherds, who in the spring forsake their villages in the plain to pasture their flocks or cultivate the higher lands. On inquiry, we found that the caravan was composed of as many as fifty-

[50] Dodwell, *Tour Through Greece*, 2:354.
[51] William G. Loy and H.E. Wright, Jr., "The Physical Setting," in *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment*, ed. William A. McDonald and George R. Rapp, Jr. (Minneapolis: The University of Minnesota Press, 1972), 36–46.
[52] Tabak, *Waning of the Mediterranean*, 16–17.

> six families, and that the next day was to be their great annual feast in honor of St. George, who may be considered their patron saint. These migrations take place more or less generally in all parts of the country; even the husbandmen leaving their villages in the spring, and spending a few days or weeks in ploughing and sowing their arable lands on the mountains. This done, they descend to the plains, and perhaps have no farther occasion to return until their fields are ready for harvesting. For their accommodation, they usually erect a summer village—a rude collection of stone hovels, given up more than three fourths of the year to the vermin, which, from the slovenly habits of the people, are sufficiently numerous to form a large, if not respectable, population.[53]

The market shifts that made Messenia at different points a producer of silk, figs, currants, and olives also impacted land use in the region, and this, in turn, affected the landscape. In the second half of the nineteenth century, agricultural practice in parts of Messenia transformed from a system of diversified subsistence agriculture and transhumant pastoralism to one characterized by the intensive production of cash crops for export. To accommodate this shift, the landscape of the region changed dramatically in a short period of time. Lowland wetlands were drained and hills were terraced to make the landscape better suited to the intensive production of export crops, particularly figs and currant raisins. The widespread commercialization of agriculture in the Mediterranean in the second half of the nineteenth century was a sharp departure from the past. Long-held agricultural practices changed rapidly to accommodate the more intensive cultivation of these products, and the Greek landscape was transformed to meet the demands of foreign tastes.

This transformation is most evident in the cultivation of currants. In the 1880s, the spike in global demand for currants caused the landscape of Messenia to be transformed swiftly and dramatically. Messenia had large stretches of fertile plains, and much of this was uncultivated. The 1871 land reform law that sold the national estates to private cultivators, combined with

[53] Henry M. Baird, *Modern Greece: A Narrative of a Residence and Travels in That Country* (New York: Harper & Brothers, 1856), 194–195.

growing international demand for currants in the same decade, led to intensive planting of currant vines on uncultivated land along with the replacement of other crops, such as olives, with currant vines.[54] During the 1871 land reform, the average price of land was higher in Kalamata than anywhere else in the Kingdom of Greece.[55] The profitability of currant production prompted cultivators to clear orchards of centuries-old olive trees, mulberries, valonia oaks, and others to make space for new vineyards.[56]

The profitability of currants also caused many people to relocate to Messenia from mountainous villages in nearby regions, particularly Arcadia.[57] In the second half of the nineteenth century, many people from Arcadia settled in the eparchy of Triphylia in Messenia because of currant cultivation.[58] Currant-cultivation was the main draw for migrants from mountain villages.[59] Filiatrá was one of the main producers of second-quality currants. Currants were then exported from the nearby ports of Agrili, 5km away, and Agia Kyriaki, 4km away. Both ports were constructed between 1860 and 1870.[60] The village of Karpofora, just east of Kalamata along the Messenian Gulf, was also settled by migrants from "more mountainous and far less fertile regions in Messenia and Arcadia" between 1830 and 1850.[61]

As in Ilia, when the extension of vineyards was constrained by a lack of arable land, local elites consolidated estates and entered into planting agreements with these migrants from

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[54] Chatziioannou, "Από την κορινθιακή σταφίδα," 142; Petmezas, *Η ελληνική αγροτική οικονομία*, 83–84.
[55] Chatziioannou, "Από την κορινθιακή σταφίδα," 141.
[56] Franghiadis, "Peasant Agriculture," 54; Frangakis-Syrett, "Patras," 421; Chatziioannou, "Από την κορινθιακή σταφίδα," 142–143.
[57] Psychogios, *Προίκες, φόροι*, 193; Christina Agriantoni, *Οι απαρχές της εκβιομηχάνισης στην Ελλάδα τον 19ο αιώνα* (Athens, Greece: Commercial Bank of Greece—Historical Archive, 1986), 63.
[58] Psychogios, *Προίκες, φόροι*, 193.
[59] Agriantoni, *Απαρχές της εκβιομηχάνισης*, 63.
[60] Velioti-Georgopoulou, "Καλλιεργώντας τη σταφίδα," 600.
[61] Aschenbrenner, *Karpofora*, 10–14.

mountainous regions to make the land ready for cultivation. Terraces were also used to plant currant vineyards as well as fig trees along hillsides.[62] The landscape of orchards, pastures, swamps, uncultivated land, and diversified subsistence farms began to assume the appearance of an extension of vineyards. In the loan applications that residents of Messenia made at the National Bank from 1847–1900, we can see the sudden mass turn toward currant cultivation due to planting of currants in what had been uncultivated land as well as the systematic uprooting of previous cultivations, particularly olive trees. The trend was more pronounced in the last quarter of the nineteenth century, and it declined after the currant crisis in 1893.[63]

However, this shift toward monoculture exposed the region to the vicissitudes of international markets. When demand for these products abated due to the emergence of competitors and the implementation of tariffs in importing countries, the region was forced through a painful realignment, and agricultural practice was shocked back to an earlier mode. Figs also began to be grown on a commercial scale in California. Smyrna figs were transplanted to California at the end of the nineteenth century and were marketed internationally as Calimyrna figs. After a heady decade uprooting crops and planting currants, these developments caused Messenia to quickly about-face.

The village of Karpofora, in the hinterland of Kalamata, is a good case study for these developments. Until 1860, the economy was mostly based on subsistence agriculture. Fig trees were first planted in the valleys of this district around 1860, and they were first planted on terraced hillsides and in the upland parts of the district in the 1870s and 1880s. Currants were first planted in Karpofora around 1880, and currant cultivation "was rather quickly taken up by

[62] Gallant, *Edinburgh History*, 257; Franghiadis, "Peasant Agriculture," 164–165; Aschenbrenner, *Karpofora*, 12.
[63] Chatziioannou, "Από την κορινθιακή σταφίδα," 142–143.

many households." After the onset of the "currant crisis" in 1893, the villagers uprooted the currant vineyards they had planted just a few years earlier and planted fig orchards in their place.[64] The market for Messenian figs, however, was also beginning a steep decline. By the time of the First World War, figs trees were abandoned and allowed to die, or they were uprooted replaced with the rising star of Messenian cash crops—the olive.[65] The rural labor surplus resulted in a wave of migration to Athens and to the Americas that began in the 1890s.

Conclusion

In the space of a few decades, foreign demand for currant raisins transformed the low-lying plains of the western coast of the Peloponnese. The landscape of orchards, marshes, pastures, uncultivated land, and diversified subsistence farms gave way to a vast extension of vineyards. The evidence from Greece's nineteenth century argues for the transformative effects on the environment of incorporation into the world economy. The end of the Little Ice Age is not enough to explain swamp draining and lowland settlement in Greece. Without high global demand for Greek currants, permanent lowland settlement may not have occurred in Greece when it did, as there would have been no incentive to colonize the plains. Moreover, it must be taken into account that the process of lowland colonization for currant cultivation began before the end of the Little Ice Age because of demand from Britain. In addition, after the collapse of the currant economy in 1893, the process of lowland colonization was reversed, despite the more temperate climate.

[64] Aschenbrenner, *Karpofora*, 12.
[65] Krimbas, *Η φθορά της Σύκης*, 3.

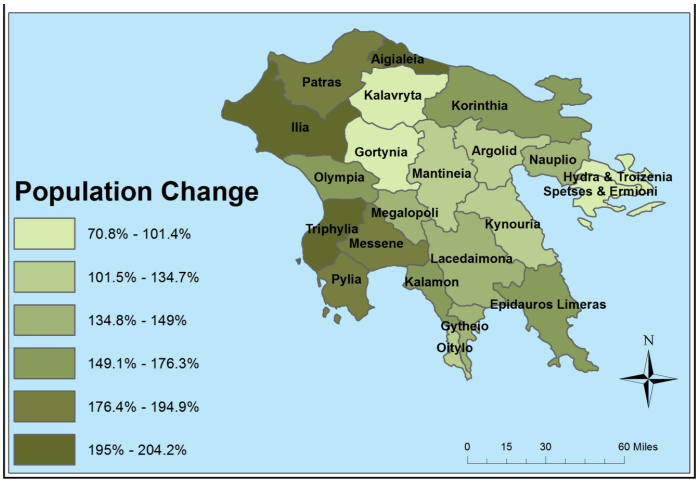

Figure 4.1: Population Change in Southern Greece, 1856–1889. Sources: Giannis Baphounis, Ed. *Στατιστική της Ελλάδος. Πληθυσμός του Έτους 1861*. Athens: Cultural Technological Institute ETVA, (1862) 1991; Interior Ministry of Greece. *Στατιστική της Ελλάδος. Πληθυσμός. Απογραφή της 15–16 Απριλίου 1889*. Athens, Greece: National Press, 1890. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

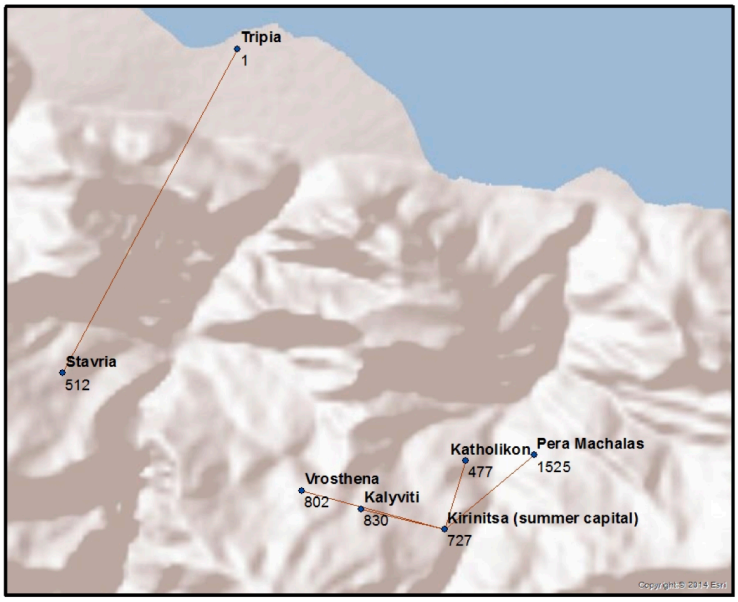

Figure 4.2: Voura Deme Settlements, 1879. Source: Interior Ministry of Greece. *Στατιστική της Ελλάδος. Πληθυσμός 1879*. Athens, Greece: National Press, 1881. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

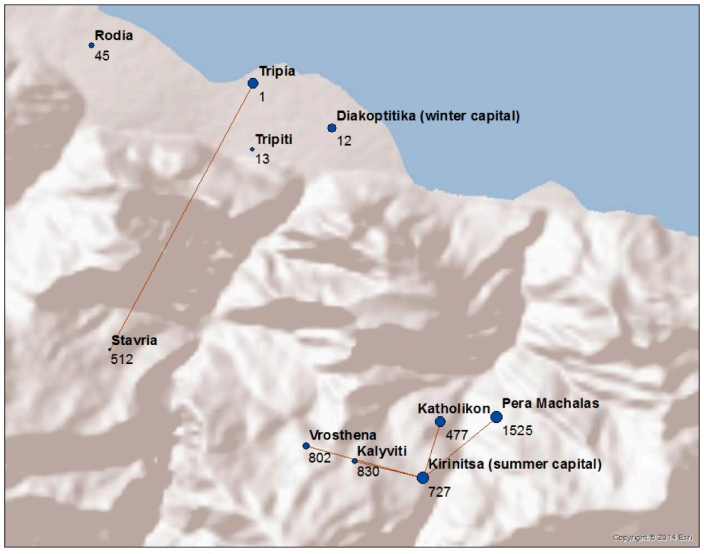

Figure 4.3: Voura Deme Settlements, 1889. Source: Interior Ministry of Greece. *Στατιστική της Ελλάδος. Πληθυσμός. Απογραφή της 15–16 Απριλίου 1889*. Athens, Greece: National Press, 1890. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

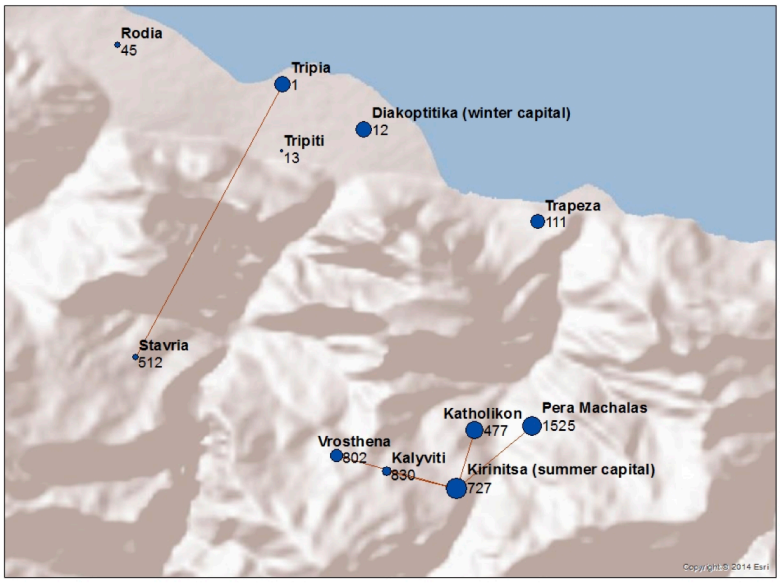

Figure 4.4: Voura Deme Settlements, 1896. Source: Interior Ministry of Greece. *Στατιστικά αποτελέσματα της απογραφής του πληθησμού κατά την 5-6 Οκτωβρίου 1896*. Athens, Greece: National Press, 1897. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

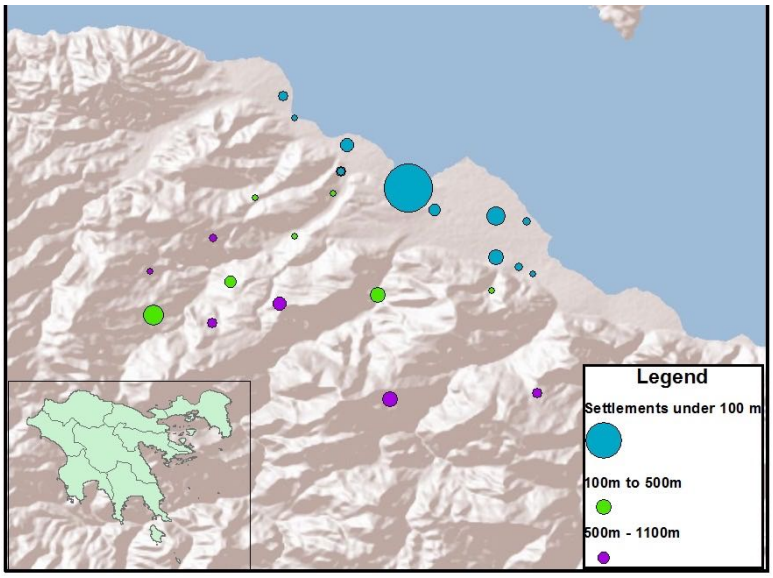

Figure 4.5: Aigio Deme Settlements, 1879. Source: Interior Ministry of Greece. *Στατιστική της Ελλάδος. Πληθυσμός 1879*. Athens, Greece: National Press, 1881. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

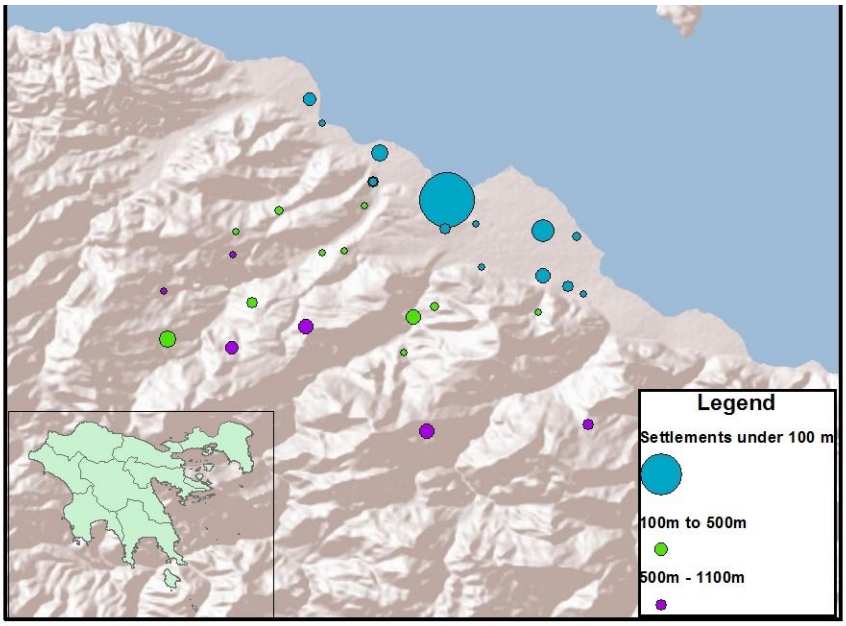

Figure 4.6: Aigio Deme Settlements, 1889. Source: Interior Ministry of Greece. *Στατιστική της Ελλάδος. Πληθυσμός. Απογραφή της 15–16 Απριλίου 1889*. Athens, Greece: National Press, 1890. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

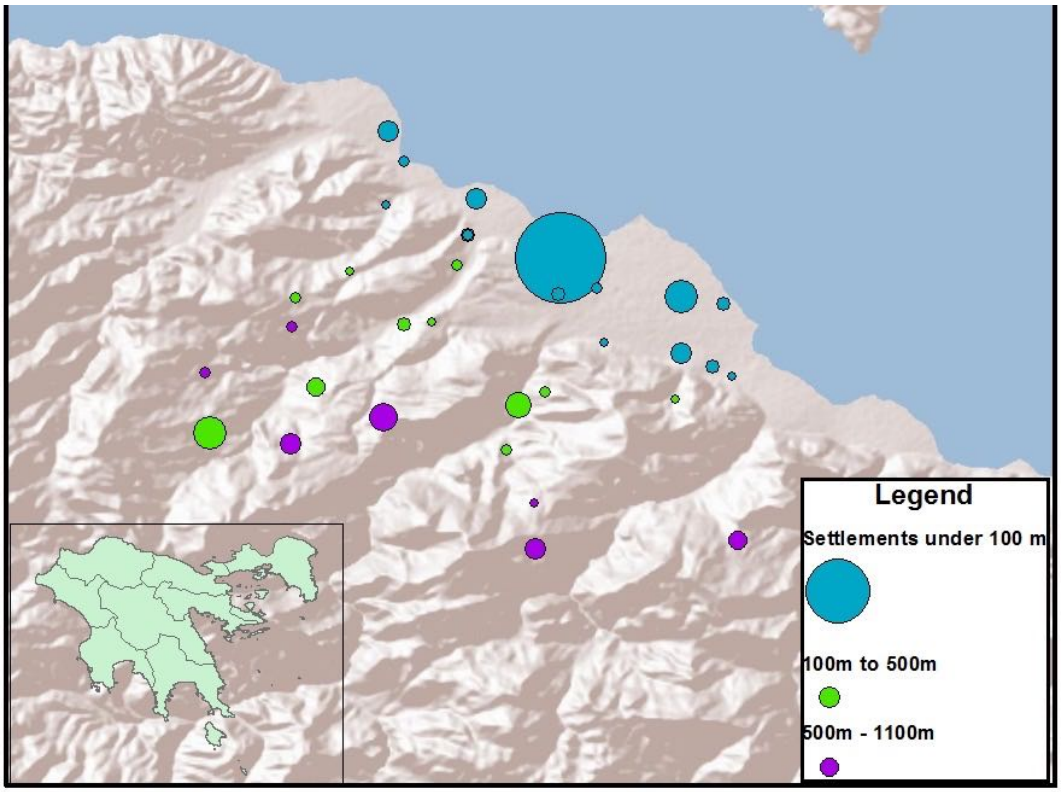

Figure 4.7: Aigio Deme Settlements, 1896. Source: Interior Ministry of Greece. *Στατιστικά αποτελέσματα της απογραφής του πληθησμού κατά την 5-6 Οκτωβρίου 1896*. Athens, Greece: National Press, 1897. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

CHAPTER 5.
THE "PEACEFUL CONQUEST" OF A PROVINCE: THE MODERN DRAINING OF LAKE KOPAIS

Until recent times, a natural body of water called Lake Kopaïs occupied a large part of the region of Boeotia in Central Greece (Figure 5.1). At its largest extent, Lake Kopaïs covered a surface area of 240,000 to 250,000 stremmas or about 100 square miles, but the lake would recede in the dry season by as much as 100,000 stremmas (and even more during a drought) and leave behind a boggy, reed-covered wetland (Figure 5.2). Bronze Age occupants of the region drained the lake so they could cultivate the land beneath it, but the drainage works were eventually abandoned, the lake reformed, and it remained a fixture of the Boeotian landscape until the modern era. After Greece became an independent kingdom in the early nineteenth century, the memory of this ancient feat captured the imaginations of modernizers in Athens and abroad who sought to remedy the country's shortage of cultivable plains. From the 1840s to the 1870s, there were many false starts and failed attempts to drain the lake. Finally, in the 1880s, a joint-stock company was formed in Paris for the sole purpose of draining Lake Kopaïs. This company, La Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs (hereafter: the French company) succeeded in raising the necessary capital, obtained a concession from the Greek government, and drained the lake by canalizing its tributary rivers and diverting their flow so they would empty into the sea. Another company, the Lake Copais Co. Ltd., was then formed in London to purchase the Kopaïs estate from the French company, divide it into plots, and sell contracts to tenant-farmers to cultivate the reclaimed land and make it profitable.

The draining of Lake Kopaïs was an ambitious undertaking for its time, motivated by the attitude that James C. Scott has called "high-modernist ideology," that is, the "uncritical,

unskeptical, and thus unscientifically optimistic" belief in the ability of modern science to rationalize the natural world, neutralize its power to harm, and fully redirect its existence toward the satisfaction of human needs.[66] This ideology was dominant in Western Europe and North America from the middle of the nineteenth century well into the twentieth century. Nature was seen as a force to be tamed in the name of progress through the use of modern technology, applied science, and capital investment.[67] Among the natural features that attracted high-modernist scorn, wetlands were perhaps the most reviled. In addition to being open to the same critiques leveled at rivers and lakes (see chapter 2), wetlands also drew the ire of modernizers for aesthetic reasons. High-modernist ideology called for the landscape to be remade to appear rational—meaning ordered and segregated—and wetlands combined wet and dry in a way that was an affront to this aesthetic. In addition, wetlands were thought to adversely affect the health of a region by emitting "miasmas" that caused illness. For these reasons, throughout the nineteenth century, wetlands all over Western Europe were targeted for destruction.

Alongside the dredging of the Corinth Canal and the construction of railroads that traversed the Greek kingdom, the Kopaïs project ushered in the age of high modernism shaping the Greek landscape. As with similar projects in other parts of the world, these projects were framed in militarized language. Léon Pochet, the Chief Engineer of the French company, embodied this attitude in a speech he gave at the inauguration of the initial drainage works in June of 1886:

> To work and to produce to the extreme limit: this is the law of our century. Nature herself is attacked to improve the conditions of transport and production. Isthmuses are pierced, straits are bridged over, forests are cut down, waste

[66] James C Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, CT: Yale University Press, 1998), 4–5.
[67] Kaika, *City of Flows*, 6–10.

> grounds are rendered fertile, marshes are dried up. In short, humanity is advancing towards complete victory over its inheritance.[68]

He went on in this speech to echo Frederick the Great: by draining Kopaïs, Pochet claimed, "one could say that Greece will have peacefully conquered one of her most beautiful provinces."[69]

The draining of Kopaïs also marked the beginning of modern water management in Greece, commencing an era of wetland drainage, dam construction, river rectification, pumping, and piping that lasted until the 1970s. At the same time Kopaïs was being drained, works were underway to repair Hadrian's Aqueduct to bring water into Athens, and proposals were being studied to pipe water in from Lake Stymphalia.[70] These were followed by projects in the twentieth-century to drain wetlands in Macedonia and construct dams such as the Marathon Dam, built by the U.S. firm Ulen & Co..[71] The draining of Lake Kopaïs differed from these subsequent water management projects as it marked a brief stage of foreign investment in Greek agriculture. Because of a global boom in Mediterranean agricultural products in the late nineteenth century, Greek agriculture was deemed profitable and worthy of foreign investment.

The draining of Lake Kopaïs fundamentally altered the region of Boeotia: it rerouted rivers, turned islands into hills, cleared thickets of reeds, and transformed a waterlogged landscape into an open plain of tilled plots. The project's backers claimed that draining Kopaïs would improve the region's economy as it created possibilities for irrigation works, for infrastructure projects, and for the cultivation of new crops. Yet the project also had many unforeseen consequences. Draining the lake destroyed the habitats of fish, fowl, and a variety of

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[68] "Lake Copais," *Levant Herald and Eastern Express*, June 14/26, 1886.
[69] Demetrius Georgiades, "Les travaux publics en Grèce et les ingénieurs Français," *L'Économiste Français*, October 9, 1886, 442.
[70] Kaika, *City of Flows*, 100–104, 113–118.
[71] Ibid., 121–130; Betsey A. Robinson, "Hydraulic Euergetism: American Archaeology and Waterworks in Early 20th-Century Greece," *Hesperia* 82, no. 1 (2013): 101–130.

other wildlife; it also eliminated vital resources and created conflicts between different groups that sought to use the land for competing purposes. Much has been written on the management of Lake Kopaïs in the Bronze Age and on the ancient settlements of Boeotia and the Kopaic basin,[72] but the lake's ultimate demise in the modern era has received little scholarly attention.

Here I examine the draining of Lake Kopaïs as a large-scale project to alter the landscape to promote the intensification and specialization of certain commercial crops and as part of the history of high-modernist water management in Greece. I argue that the lake was drained and the physical landscape of the region remade to serve the values of outside groups. This serves as a case study of how foreign demand for Greek agricultural products prompted a change in the relationship between Greeks and their environment. Commercial agriculture was the impetus for this change, and it was also boosted by this change. This chapter will be divided into three parts. First, I examine the history of the idea to drain Kopaïs, exploring how the high-modernist attitude of the age, when applied to Kopaïs, cast the lake as wasted land and an obstacle to modernization. This section also examines the commodities that motivated landscape change in Central Greece, especially cotton and cereals. Next, using historical ecology as a theoretical lens, I argue that Lake Kopaïs was a marginal landscape that offered the residents of surrounding villages vital resources, and the draining of the lake deprived them of these resources. Finally, I describe the actual draining of the lake from the early attempts of the 1840s to the drainage

[72] Jost Knauss, "Arkadian and Boiotian Orchomenos, Centres of Mycenaean Hydraulic Engineering," *Irrigation and Drainage Systems* 5, no. 4 (1991): 363–381; Spyros Iakovidis, *Gla and the Kopais in the 13th Century B.C.* (Athens: Archaeological Society at Athens, 2001); Emeri Farinetti, "Fluctuating Landscapes: The Case of the Copais Basin in Ancient Boeotia," *Annuario della Scuola archeologica di Atene e delle Missioni italiane in Oriente* 3, no. 8 (2008): 115–138; N. Mamassis, S. Moustakas, and N. Zarkadoulas, "The Operation of Ancient Reclamation Works at Lake Copais in Greece," *Water History* 7, no. 3 (2015): 271–287.

scheme undertaken by the French company in the 1880s. The chapter concludes with the bankruptcy of the French company in 1886.

Visions of Kopaïs

The idea to drain Kopaïs captured the imaginations of modernizers in Athens and others observing from abroad. They argued for the merits of such a project throughout the 1830s and 1840s and up until the lake was finally drained in the 1880s. Their discussion of Kopaïs reveals a common set of goals and assumptions. Their aspirations for economic modernization were combined with visions of recreating the modern Greek landscape in the image of an imagined ancient Greek one. The land beneath Lake Kopaïs was seen as the key to Greece's development, and the lake itself was cast as an agent of backwardness.

Agricultural Land

Proponents of the plan to drain Kopaïs touted the many ways removing the lake would bring economic modernization to Greece. One of these—and one of the most often cited—was that draining the lake would produce arable land for agriculture. In the various proposals to drain the lake that were submitted from the 1830s to the 1880s, in the newspaper and magazine articles about Kopaïs, and in the sections in popular travelers' accounts that described the project, this was frequently offered as the main way Greece would benefit from Kopaïs's demise. Before the 1880s, fertile flatlands were scarce, making it difficult to grow certain crops. Among the most important of these was cotton. The Industrial Revolution in Britain created an insatiable hunger for cotton to feed its textile mills, and when the U.S. Civil War removed the American South

from the global market, Britain relied more on alternative markets in the Mediterranean, particularly Egypt.[73]

With its close trading ties to Britain, Greece also felt the pull of this demand. Rising demand for cotton helps to explain the environmental transformations witnessed in the region of Boeotia in Central Greece. To grow cotton, Greece would need plains and irrigation. Throughout the Mediterranean, rising demand for grain and cotton in the second half of the nineteenth century motivated landowners and entrepreneurs to undertake land improvement projects in low-lying plains. [74] Greece was no different. Henri Belle, a French diplomat residing in Greece in the 1860s and 1870s, wrote in his account of his time there that the lake should be drained and the basin planted with cotton to allow Greece to profit from the removal of U.S. cotton from global markets: "where the social difficulties in which the U.S. finds itself engaged have ruined the plantations of the South and stopped commerce, Greece could find there a fertile element of fortune."[75] Other observers in the Greek government had reached a similar conclusion. Central Greece was one of the few places in the kingdom where these crops could be grown in large stretches, and when the drainage of Kopaïs was being proposed, the neighboring districts of Livadeia and Thebes in the region of Boeotia were already the largest producers of cotton in Greece.[76] In 1868, E. Maniatakis, Director of Public Works in the Greek Ministry of the Interior, held up the plains of Livadeia as a model for what the whole region could become, noting that

[73] Roger Owen, *The Middle East in the World Economy, 1800–1914* (London; New York: IB Tauris, 1993), 135–136.
[74] Tabak, *Waning of the Mediterranean*, 174.
[75] Belle, *Trois années en Grèce*, 139.
[76] Gallant, *Edinburgh History*, 261–264; Belle, *Trois années en Grèce*, 139.

the cotton grown around the lake was already being exported and sold "in the principal markets of Europe" under the name "coton de Lévadie."[77]

Kopaïs was also seen as an ideal place to grow cereals, especially wheat and corn. Unlike currants and cotton, the demand for cereals was not for international trade, but to meet the food requirements of the growing population of Greece—particularly Athens, which grew in the second half of the century from a small, provincial town into a large city. Throughout the nineteenth century, Greece could not grow enough grain to meet domestic demand. The stretches of plains necessary to grow these crops on a commercial scale were extremely rare in the Kingdom of Greece. Before the 1880s, only 20 percent of Greek land was arable, and grains accounted for just 7 percent of the land under cultivation.[78] As more Greek cultivators shifted to export-oriented agriculture, the need for commercial cereal production became more acute. Greece was unable to feed itself and was therefore dependent on grain imports to meet the needs of its own population.[79] As an official of the French company who later became an agent of the British company wrote in 1890, "The Kingdom of Greece imports annually Cereals (especially Corn), Cattle, and Cotton," and the amounts imported were increasing every year. The search for arable land to grow grains was particularly important because of the growing population of Greece in general and of Athens in particular: "the population doubles itself in forty-five years," and "the town of Athens becomes every day more and more a city of pleasure, i.e. an important

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[77] E. Manitaky, "Avant-propos de la deuxième édition," in *Project de dessèchement du Lac Copaïs: Mémoire à l'appui*, authored by Clément Sauvage, 2nd ed. (Athens, Greece: Imprimerie Nationale, 1868), 1–2.

[78] In the period from 1880–1911, grain acreage accounted for two-thirds of the total acreage under cultivation—up from 7 percent. This was largely made possible by the addition of Thessaly to the Kingdom of Greece in 1881. See: Lampe and Jackson, *Balkan Economic History*, 166–168.

[79] Nikolaos Melios and Apostolos Papadopoulos, "Το Κωπαϊδικό Ζήτημα στο 19ο και 20ο αιώνα: μια πρώτη ιστορική προσέγγιση," *Επετηρίς της Εταιρείας Βοιωτικών Μελετών* 1, no. 2 (1988): 1159–1160.

centre of consumption."[80] Draining and cultivating Kopaïs was seen as a way to address this growing deficit.

Infrastructure

In addition to producing arable land to grow crops, proponents of the drainage of Kopaïs argued that draining the lake would also promote economic modernization by allowing for improved infrastructure. Léon Pochet, the Director of the French company, included plans for roads traversing the basin and connecting the villages of Kopaïda more directly to nearby towns and to the sea. He proposed the construction of "a paved road of 15 kilometers along Lake Kopaïs, linking Karditza to the national road from Thebes to Levadia; a road from Moriki to Hungara, another from Moriki to the sea, [and] a fourth from Karditza to Lake [Yliki]..."[81] Pochet also counted the construction of the proposed Athens to Salonica railway among the many benefits that would be made possible by the drainage of Kopaïs. Draining the lake, he argued, would clear a path for the tracks and cut the distance of the journey. At the inauguration of the initial drainage works in 1886, he announced that "the future Athens to Salonica railway, the route of which will necessarily cut through Kopaïs, will find there serious elements of traffic"; as a result, "the whole country will profit," and "public wealth will grow."[82]

The engineers of the French company also intended to use the drainage works to construct a hydroelectric power plant. The plan they devised to drain Kopaïs included a 55-meter drop along the water's course to the sea, and the company's engineers estimated that this drop

[80] Stephanos Skouloudis (Σκουλίδης Στέφανος), Papers, Gennadius Library Archives, American School of Classical Studies at Athens, Greece, Box 41, Folder 3, E. de Chirico, *Report on the Development and Cultivation of the Lake Copais Estate*, May 5, 1890.
[81] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Renseignement sur la situation actuelle des travaux (mai 1884)* (Paris: Imprimerie Chaix, 1884), 6.
[82] Georgiades, "Les travaux publics," 442.

could be used to generate the same amount of energy annually as that produced by burning 200,000 tons of coal—enough to power "a large industrial city, and Greece, which lacks coal, and in all likelihood will never find it in its ground, will thus be able to compensate for this precious fuel."[83] This period marked the height of enthusiasm for hydroelectric power. Called "white coal," it was seen by many as the energy source of the future and an answer to the uneven geographical distribution of coal deposits.[84] The French company also planned to use the drainage works for irrigation purposes. In 1879, the French engineer A. Moulle devised the plan that was eventually used to drain Kopaïs. Instead of simply draining the water into the sea, Moulle proposed diverting it to empty first into Lake Yliki so that this smaller lake could be used as a reservoir.[85] The lake was deep enough that it could act as a repository for water during the wet seasons, and it could also be employed for irrigation purposes during the summer.[86]

Classical Inspirations

Perceptions of Kopaïs were also shaped by Western observers' contempt for the state of modern Greece and their own preference for reviving the ancient landscape as they imagined it. One of the first proposals to drain the lake in independent Greece came from Friedrich Thiersch, a Bavarian classical scholar who was invited to Greece as an adviser to the Bavarian regency that

[83] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire sur le dernier projet de dessèchement approuvé par le gouvernement Hellénique, et sur l'état actuel des travaux* (Paris: Imprimerie Chaix, 1884), 6–7.
[84] For discussion of hydroelectric power and a contemporary comparison of trying to achieve energy independence in South Germany, see: Blackbourn, *The Conquest of Nature*, 216–219.
[85] A. Moulle, *Rapport à l'appui du projet de dessèchement et de la mise en culture du lac Copaïs* (Paris: Lahure, 1879).
[86] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 5.

ruled the country in the 1830s.[87] Thiersch traveled to Greece in 1832, and in the following year he published a two-volume assessment of the current state of Greece, including his many recommendations for its improvement. In his comments about the landscape, Thiersch contrasted the Greece he saw in 1832 to the Greece he knew from his study of antiquity, and he found the modern environment to be much debased by neglect: "the countrysides which once fed the populations of Megalopolis, Tegea, Mantinea, Orchomenos in Arcadia, Stymphalia, Feneos, as well as the twelve cities that circled Lake Kopaïs, are largely changed into swamp."[88] One of his recommendations for restoring the Greek landscape to its ancient glory was to drain Kopaïs—an endeavor, he argued, which would more than pay for itself when the land was settled and made productive: "there is no doubt that at least a half million inhabitants could settle around this beautiful plain and live comfortably from the products of that miraculous soil."[89]

Similarly, Henry Baird, while passing through Boeotia in the 1850s, commented on the lack of cultivation in that region and in Greece as a whole compared with what he knew of the ancient past. He wrote, "a very large portion of Greece is not cultivated at all, and of that portion reduced to some kind of cultivation there is little that is cared for as it should be." He observed that, with help from grain imported from Egypt and the Black Sea littoral, "in Hellenic times… Greece may have contained at least five or six million souls, exclusive of Thessaly or Epirus!" In modern times, "There is not the slightest doubt that a much greater population could be sustained."[90]

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[87] John Petropulos, *Politics and Statecraft in the Kingdom of Greece* (Princeton, N.J.: Princeton University Press, 1968), 193–194.
[88] Friedrich Thiersch, *L'état actuel de la Grèce et des moyens d'arriver à sa restauration* (Leipzig: F.A. Brockhaus, 1833), 2:16.
[89] Ibid., 2:24.
[90] Baird, *Modern Greece*, 242–243.

The idea that draining Kopaïs would return the landscape to a former state worked alongside ideas about draining the lake to promote Greece's economic modernization. As in other conversations underway at the same time about how the new Greek nation-state should develop, models from antiquity were frequently referenced to chart a path to the future. When facing the problem of bringing water into Athens, local authorities decided to repair Hadrian's Aqueduct. In part, this was a way to attract funding which was otherwise scarce for infrastructure projects by appealing to the desire to unearth the city's ancient past.[91] Similarly, those involved in the dredging of the Corinth Canal appealed to funders by emphasizing the fact that this was a project begun in antiquity.[92] Draining Kopaïs was just another way that modern Greeks, with help from the French, were completing the work of the ancients.

Wasteland and the Landscape of the Orient

The many commentaries on how Greece might benefit if Kopaïs were removed were rooted in the assumption that the region was not being productively used. Aside from the search for arable land to grow profitable crops and other proposals for economic modernization, there was a larger idea at work. At the core of the plan to drain Lake Kopaïs was an understanding that wetlands are wastelands. The advocates of draining Kopaïs did not see this as a plan to turn one type of productive land into another type of productive land. Instead they thought that by attacking nature they were producing new agricultural land out of nothing. Two years into the initial drainage works, the French company's chief engineer, Léon Pochet, summarized this position in an update on the state of the works sent to the company's shareholders. Pochet wrote that "the time is not far off when Lake Kopaïs will be nothing but the *cultivated domain of*

[91] Kaika, *City of Flows*, 100–104.
[92] Schönhärl, "Behavioural Finance," 301–305.

Kopaïs. On that day, a whole province subjected to malarial fevers will be made healthy, and the French concessionaire company will have the right to enjoy an irrigated domain of 240,000 stremmas, laboriously conquered from nature, and of a fertility unequalled in Greece."[93] To the French company, Lake Kopaïs was nothing but a pernicious physical obstacle preventing the cultivation of the virgin land beneath it. The plain of Kopaïs was the largest, most fertile plain in Greece, presently underwater, and only waiting to be uncovered again.

As a corollary, Lake Kopaïs acted on the landscape as symbol of Greece's backwardness. This sentiment is pervasive in Western travelers' accounts and contemporary periodicals. The fact that the land remained uncultivated or inundated was attributed to a general laziness of the Greeks and to the negligence of the Greek government. Sir Thomas Wyse, an Irish diplomat living in Greece in the 1850s, wrote that the drainage of Kopaïs "would reward any expenditure, any capital; many thousand stremata, or acres, would be gained for cultivation, which are now only a source of loss. Not only is the ground covered by its waters, but the contiguous land rendered unfit for use. The Greek Government does nothing, nor intends to do anything."[94] The French diplomat Henri Belle had much to say about Lake Kopaïs. On the possibility of draining the lake for cultivation, he wrote, "although the Greeks love to make money without making any effort, the benefits that this cultivation would procure would be considerable enough to vanquish their laziness."[95] The mere continued existence of Lake Kopaïs was deployed in these accounts as evidence of Greece's backwardness alongside criticism of Greek workers and their work ethic, comments lamenting the Marathon murders and the widespread existence of banditry in the country, observations of how much the Greek language had been supposedly corrupted, and

[93] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Renseignement sur la situation*, 6.
[94] Wyse, *Impressions of Greece*, 97–98.
[95] Belle, *Trois années en Grèce*, 136.

comments on the poor state of the roads and infrastructure. Kopaïs thereby played into popular discourses on Modern Greeks that were used, among other reasons, to justify intervention by Western powers in Greek affairs.[96]

To many Western observers—and to many Greeks as well—Lake Kopaïs was not just an eyesore; it was a monument to how far Greece had sunk and a testament to the forces in the country that kept it down. It was an Oriental part of the landscape that needed to be purged before Greece could attain modernity. The rhetoric on Kopaïs was also part of a larger nationalist and Orientalist discourse on purity and pollution. Early developments in the Greek nation-state formation process involved an attempt to purge the nascent Greek Kingdom of the remnants of barbarism that had accumulated over centuries of foreign occupation. Perhaps the most prominent strand of this discourse involves language and the late eighteenth- and early nineteenth-century movement to create a purified Greek language called Katharevousa, purged of all foreign words. This discourse on purity and pollution also extended to the Greek landscape. Hamilakis has written about the efforts in independent Greece to make the Greek landscape into a "national monumental landscape." This entailed removing from the landscape any elements of "barbarism," i.e. any artifacts or edifices not associated with the golden age of classical antiquity.[97] Before independence, the Acropolis of Athens was "a palimpsest of human activity," including, for example, an Ottoman-era mosque built inside the Parthenon, functional military buildings used in the war of independence, and medieval-era buildings. After 1832, most

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[96] Gallant, *Experiencing Dominion*, 15–55; Rodanthi Tzanelli, "Haunted by the 'Enemy' Within: Brigandage, Vlachian/Albanian Greekness, Turkish 'Contamination,' and Narratives of Greek Nationhood in the Dilessi/Marathon Affair (1870)," *Journal of Modern Greek Studies* 20, no. 1 (2002): 47–74; Rodanthi Tzanelli, "Unclaimed Colonies: Anglo-Greek Identities Through the Prism of the Dilessi/Marathon Murders (1870)," *Journal of Historical Sociology* 15, no. 2 (2002): 169–191.

[97] Hamilakis, *Nation and Its Ruins*, 85–98.

of these buildings were destroyed. As Hamilakis writes, "the post-classical monuments were seen as polluting, matter out of place that was challenging the purity of the classical monuments and thus had to be erased."[98] The draining of Kopais was like this—it was seen as a restoration of the Greek landscape to its state when Greece was in its golden age. Draining Kopaïs was part of this project to make Greece less Oriental. It was part of a larger movement to "purify" the Greek nation of foreign elements.

The impulse to purge the Greek landscape of its oriental vestiges can also be seen in the "war against dust" waged in the city of Athens in the nineteenth century. After Athens was made the capital of Greece in 1834, local authorities sought to cleanse the city of the traces its oriental, Ottoman past—Ottoman-era buildings, Turkish inscriptions, and also its dust. It was thought that dust made a city more oriental—Western art often depicted non-Western cities as if emerging from a cloud of dust. Removing the dust would cleanse the city of its oriental character, making it more Western. It was also thought that removing the dust by sprinkling water on the city would cause decaying organic matter to be evaporated away with the water, making the city sanitary. To carry out this task, the municipality purchased special carriages to sprinkle water on the city's roads. The roads, however, were not paved, so the sprinkling of water did not do anything to get rid of dust until the city's first paved roads in 1905.[99] The idea that wetlands are oriental also survives in the historiography. McGrew, for example, blames Ottoman neglect for the "backwards" state of the agricultural landscape in the nineteenth century, and he sees "swamps and marshes" as "perhaps the most lamentable results of environmental disregard."[100]

[98] Ibid., 89.
[99] Kaika, *City of Flows*, 95–97.
[100] McGrew, *Land and Revolution*, 8.

This Orientalist discourse on Kopaïs bore many similarities to the contemporary "French colonial declentionist environmental narrative," which blamed native populations for environmental degradation in North Africa. As Diana K. Davis argues, this narrative was used "to justify and enable the appropriation of land and resources" and to facilitate "social control of local populations" and the "transformation of subsistence production into market-integrated production."[101] Similar arguments were used to justify British colonial rule on Cyprus in the nineteenth century.[102] The "ruined landscape" myth became enshrined in scientific knowledge of the Mediterranean region in the nineteenth century, creating an impossible standard based on an exaggerated ancient past.[103] North Africa was depicted as the "granary of Rome," and although it was still a grain-exporting region, it did not look like what the French colonial authorities expected. They therefore assumed that it must have produced more grain in the Roman period, and it had been turned into desert by traditional agricultural practices.[104] Similarly, places like Kopaïs, where the modern landscape did not measure up to the imagined fertility of the past, were said to have suffered a decline. This narrative maintained that the ancients had done better, and the French and British, who like the Greeks saw themselves as the heirs of Ancient Greece, had a duty to return these lands to their former productive glory. There was contempt for local knowledge and traditional techniques in part because it was assumed that these were what had destroyed the environment; only enlightened intervention could hope to bring it back.

Some observers also drew a causal relationship between Kopaïs and the supposed laziness of the Greeks. The link was malaria, which was rampant in the region due to stagnant

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[101] Diana K. Davis, *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa* (Athens, OH: Ohio University Press, 2007), xii.
[102] Grove and Rackham, *Nature of Mediterranean Europe*, 10.
[103] Ibid., 8.
[104] Davis, *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa*; Grove and Rackham, *Nature of Mediterranean Europe*, 141–142.

water. To these observers, Kopaïs was not just an obstacle—it was a public health hazard and a drain on worker productivity. Belle's account makes this connection most explicitly:

> The fever, which is epidemic in all of Greece, exercises its ravages in particular in the vicinity of swamps and lakes. All around Lake Kopaïs… it decimates the population. Out of four children, three die of fever, and those that remain lead a miserable and sickly life. One sees them warming their spindly limbs in the sun, the sunken eyes, the leaden complexion, the stomach swollen and the nails blue from poisoning. The most beautiful provinces of the kingdom are thus rendered uninhabitable by the miasmas that emanate from uncultivated or flooded lands. Nature seems to want to punish the men for the disdain they profess for the sacred law of work. If the Greeks did not so despise agriculture and applied their activity and their intelligence, if the government were more concerned for the general well-being and national prosperity, in ten years the average life would be augmented by a third, and public wealth would triple.[105]

At the time, malaria was thought to be caused by "miasmas" or vapors emitted by decaying vegetable matter left to rot in stagnant water, on uncultivated land, or in heavily wooded areas. Alexander Hill Gray, visiting Kopaïda in 1863, describing the sanitary conditions of the region and their impact on the health of the population, wrote that, "The jaundiced appearance of the few miserable people in this vicinity showed plainly enough the result of perpetually breathing an atmosphere vitiated by decayed vegetation, bogs, and pestilential gases."[106] One of the many proposed benefits of draining Lake Kopaïs therefore was that the people of the region would be made healthier—and thus more productive—because a marshy, malarial region would be tamed.

Wetland or Wasteland?

There is certainly truth in the assessment of Kopaïs as a nuisance and a missed agricultural opportunity, but this assessment was simplistic. In fact, Kopaïs was being used by inhabitants of the region in a variety of ways, and high-modernist visions of Kopaïs ran counter

[105] Belle, *Trois années en Grèce*, 136–137.
[106] A. H. Gray, *Sixty Years Ago: Wanderings of a Stonyhurst Boy in Many Lands* (London: John Murray, 1925); Papadopoulos, "The Drainage and Exploitation," 93–94.

to the way the residents of Boeotia had adapted to their environment. By seeing Lake Kopaïs as an unmitigated evil, the French company and other modernizers failed to account for the ways that draining the lake would have negative effects on the livelihoods of the inhabitants of Boeotia and make them more vulnerable.

First, the administrators of the French company were wrong to claim that their actions would create agricultural land out of wasteland. The land in the Kopaic basin was already being used for agriculture long before the French arrived. This can be explained, in part, by the lake's annual ebb and flow. Because of its specific geological and climatic factors, the lake would increase in size and extent in the winter and then slowly recede during the summer. The region has a climate of hot, dry summers and mild winters. Annual rainfall is moderate, but it occurs mostly in the winter, and there is almost no rainfall in the summer.[107] Before the land reclamation projects of the 1880s, the lake was fed by five rivers that flowed into the basin from the west—the primary sources were the Kifisos River and the Melas River. During the winter months, the lake was fed by increased precipitation and more water flowing into the basin from the rivers. As a result, every year around November, the water level would begin to rise.[108]

Because of the geology of the basin, the rising water was prevented from flowing overland into the Euboean Gulf. The geological formation of the Kopaic basin was karstic, that is, made up of porous limestone. Over time, the water had formed large fissures in the limestone

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[107] Oliver Rackham, "Observations on the Historical Ecology of Boeotia," *The Annual of the British School at Athens* 78 (1983): 295–296.

[108] The climate, geological formation, and seasonal behavior of Kopaïs are described in great detail in many of the engineering reports produced by the various companies formed to drain the lake. See, for example: Clément Sauvage, *Project de dessèchement du Lac Copaïs: Mémoire à l'appui*, 2nd ed. (Athens, Greece: Imprimerie Nationale, 1868); A. J. Dean, "The Lake Copais, Boeotia, Greece: Its Drainage and Development," *Journal of the Institution of Civil Engineers* 5, no. 5 (1937): 287; Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 3–4.

beneath the surface of the lake bed on the eastern side of the basin. These fissures, called *katavothras*, are characteristic of karstic geological formations (Figure 5.3). Water drains into the fissures, flows through underground caverns, and emerges sometimes miles away in the form of a natural spring. The katavothras of the Kopaic basin eventually emptied in the North Euboean Gulf at different points. As water seeped into the katavothras, the water level was prevented from rising high enough to form a natural outlet over land, and the lake would grow in size. In the spring, the lake would get another boost as melting snow in the nearby mountains flowed into Kopaïs from its tributary rivers. In May, Lake Kopaïs would reach its largest extent—covering a surface area of approximately 100 square miles—and then the water level would begin to recede again. From May to November, since more water drained into the *katavothras* on the eastern portion of the basin and was lost to evaporation than was fed into the basin from the rivers, the water level fell, and the western portion of the lake receded, leaving behind an expansive wetland. This ebb and flow and the retreat of water into sinkholes are common characteristics of lakes in karstic landscapes in Greece and elsewhere.[109]

As the lake shrank, land that was underwater in the winter would be exposed. This land was very fertile and useful for farming and for grazing flocks, and the people who lived in the villages surrounding the lake would exploit this land when it was exposed. As Henri Belle described,

> On the dried land, penetrated by humidity and heat, there develops a luxuriant vegetation of rushes, reeds, and other aquatic plants, which the shepherds burn so their flocks can graze on the young shoots which appear after the fire. Often the more enterprising peasants clear some hectares of that black earth. In two months the corn stalks grow there thick as arms; in three months tobacco gives a harvest there double in weight and superior in quality.[110]

[109] Grove and Rackham, *Nature of Mediterranean Europe*, 323–327.
[110] Belle, *Trois années en Grèce*, 138–139.

Shepherds and farmers chased the lake as it receded from May to November, taking advantage of the rich soil it left behind. Even though it was underwater for half the year, the Kopaïs residents still understood this to be land that they could use. Many had titles to Kopaïs floodplains. Others did not have a title but had used the land for generations without challenge and saw it as theirs to use.[111] The fact that Kopaïs was being used in this way was certainly known by the French company; in fact, it was one of the motivations for draining the lake. Yet because these plains were covered by water for half the year, this seemed to justify their view of this land as wasteland.

Second, as a marginal landscape, Kopaïs was beneficial for risk-buffering, offering the rural population of Boeotia the benefits of diversification. Like other Mediterranean wetlands, the resources that Kopaïs provided could be crucial for survival in years that other more traditional sources of peasant livelihood under-performed. For example, in a bad harvest, resources that the lake provided could be turned to for food.[112] The lake provided a habitat for fish, fowl, and game such as wild boar.[113] Any surpluses not consumed locally could also be exchanged for other commodities. Edward Dodwell, an Irish traveler in Greece in the early nineteenth century, described the lake's famous eel: "The eels of this lake are as much celebrated at present as they were in the time of the ancients; they grow to a very large size, and after being salted and pickled, are sent as delicacies to various parts of Greece."[114] Belle also describes the "quantity of fish" to be found in the lake, "above all the monstrous eels, large as young boas, but

[111] Apostolos Papadopoulos, "The Socio-Economic Effects of the Drainage of Lake Copais," in *Recent Developments in the History and Archaeology of Central Greece: Proceedings of the 6th International Boeotian Conference*, ed. John Bintliff (Oxford, UK: Hadrian Books, 1997), 370.
[112] Gallant, *Risk and Survival*, 34–59, 113–142.
[113] Grove and Rackham, *Nature of Mediterranean Europe*, 184.
[114] Dodwell, *Tour Through Greece*, 1:237.

of an exquisite taste."[115] In the middle of the century, the French traveler Edmond About noted of the waterfowl to be found at the lake that, "the passage of the wild ducks gives fine opportunities to those in the neighbourhood of Lake Copaïs. I have seen cartloads of these aquatic birds brought in to the market of Athens."[116] For these and other food resources it provided, Kopaïs was not a burden; it was an asset. Like other Mediterranean wetlands, it was an "insurance policy against the risks of Mediterranean production."[117]

The lake also provided resources that were useful to the Boeotian peasants or could be exchanged for food or other necessary commodities, such as the reeds that grew in and around the lake bed. Belle described the "thick reeds" that covered the lake and were "big as bamboo."[118] (Figure 5.4). If the vegetation of smaller lakes near Kopaïs that survive today are an indication, the reeds grew to be up to three to four meters high.[119] To Belle, they were a nuisance, "forming a tight vegetation that gives one all the trouble in the world to clear a passage."[120] Wyse described the Kopaïs floodplain and its reeds in a tone of foreboding. He saw "a lurid, mephitic-looking, steamy plain, dotted with swampy, turfy patches, the drying rather than dry bed of the Copais… and now and then gigantic reeds… and hundreds of wiry treacherous-looking, watery plants, offspring of the same crouching unwholesome parent, the sinister Copais."[121] In fact, the reeds of Kopaïs were used by the residents of the surrounding countryside. In ancient times, the reeds of Kopaïs were used to make *auloi*—woodwind instruments similar to the flute. At the time

[115] Henri Belle, "Voyage En Grèce," *Le Tour du Monde: Nouveau Journal des Voyages* 33 (1877): 81–160.
[116] About, *Greece and the Greeks*, 104.
[117] Horden and Purcell, *Corrupting Sea*, 186–190, 249.
[118] Belle, *Trois années en Grèce*, 137.
[119] Rackham, "Historical Ecology of Boeotia," 314.
[120] Belle, *Trois années en Grèce*, 137.
[121] Wyse, *Impressions of Greece*, 305.

Kopaïs was drained, the reeds were still being used to make *kalamokalyves* or reed huts.[122] As elsewhere in Greece, transhumant shepherds in Kopaïda lived in temporary dwellings as they traveled with their flocks to graze in the most temperate places according to the season. As McGrew writes, "The requirements of their animals for snow-free winter pasture compelled shepherds to maintain a link with the plains, camping there in *kalyves*, makeshift huts, for four or five months each year. This was the season when life was harshest at high altitudes, whereas cool temperatures and rains in the lowlands reduced the danger of disease and also produced rich vegetation for fodder."[123] The reeds of Kopaïs may have inspired horror in Western travelers to the region, but to people who lived there, reeds meant shelter for four to five months out of the year.

Lake Kopaïs was also teeming with *Hirudo verbana*, a species of leech that was useful for medicinal blood-letting. Residents of Kopaïs collected the leeches that thrived in the lake and sold them to traders. Using their own bodies as bait, men waded into the lake and then returned to land to remove and collect the leeches that had attached to their legs (Figure 5.5).[124] When visiting the region, Belle recorded his observations of leech fishermen from the village of Skripou at work:

> On the edge of the lake, eight or ten human beings, gaunt and ragged, seemed to be engaged in a bizarre exercise which we could not understand. They entered into the water up to the knee, stood still like herons watching prey, then, coming up to sit on a rock, they scratched their legs with a most particular care which, at a distance, seemed to us smudged with black spots like the skin of a leopard. "These are the leech fishermen," the steward of M.S. told us. While we jumped from rock to rock to approach these curious workers in the savage and sinister-looking mire it inspired in us some small sympathy. Dressed in dirty rags, they passed their days in the swamps, stirring the water with a stick. The leeches, which lived between the stalks of the reeds, arrived in an innumerable quantity

[122] Takis Lappas, *Η Κωπαϊδα* (Athens, Greece: privately printed, 1984), 17.
[123] McGrew, *Land and Revolution*, 13–14.
[124] Belle, "Voyage En Grèce," 109–111; Papadopoulos, "The Drainage and Exploitation," 91.

> and attached to their legs. When they were covered, they tore them off and placed them in barrels drilled with holes and filled with wet rushes.[125]

Leech-fishing was a gruesome activity for the men who chose to do it as well as for their horses, which were also used for bait. Nevertheless, leech fishing was an opportunity for landless and land-poor rural families to earn extra income doing seasonal work that required no capital investment, and it was actually quite lucrative. An 1858 article in a local Greek newspaper reported that leeches were sold for 40 to 50 drachmas per oka (one oka was about 1.33 liters), and hundreds of villagers from Moulki made their living this way.[126] Belle wrote that leech fishermen could earn 20 francs per day, it is "not rare… to see some of these fishermen amass a decent sum" during the two- to three-month-long leech-fishing season.[127] By comparison, a worker on the Kopaïs estate in the 1890s, after the lake was drained, earned 3.20 drachmas per day—about 900 drachmas per year.[128]

To modern readers, leech fishing may seem quaint or trivial, but it was an important economic activity at the time. Medicinal leeches were in high demand in Western Europe, especially in France and Britain, driving a lucrative international trade in this commodity.[129] The use of leeches for medicinal purposes had depleted the lakes and ponds of these countries, and by the end of the eighteenth century they were forced to import leeches from Portugal. By the 1830s, leech sources were exhausted in Portugal as well, and importers turned to Morocco, Eastern Europe, the Eastern Mediterranean, and India to meet domestic demand as well as

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[125] Belle, "Voyage En Grèce," 110.
[126] Papadopoulos, "The Drainage and Exploitation," 91.
[127] Belle, "Voyage En Grèce," 110–111.
[128] George Horton, "Drainage of Lake Copais," in *Consular Reports. Commerce, Manufactures, Etc. Vol. 49* (Washington, D.C.: U.S. Government Printing Office, 1895), 80–83; Skouloudis Papers, Box 41, Folder 4: D. Steele, *Agricultural Estimates*, October 27, 1892.
[129] Roy T. Sawyer, "The Trade in Medicinal Leeches in the Southern Indian Ocean in the Nineteenth Century," *Medical History* 43 (1999): 241.

demand in their colonies.[130] "Leech mania" also spread to the U.S. and Brazil in the early nineteenth century. American leeches were not useful for bloodletting, so these countries also imported Moroccan leeches from Spain and Portugal.[131] In the second half of the nineteenth century, with the advent of steam travel, the trans-Atlantic leech trade grew, with the ports of Hamburg, Bordeaux, and Southampton becoming the main hubs.[132]

The profitability of the leech business in the Eastern Mediterranean can be see through the career of Jackie Abbott—a Greek Orthodox British national whose family had been established in the city of Salonica since the late eighteenth century. His grandfather, B. E. Abbott, was considered the Father of the Levant Company in that city.[133] Jackie Abbott built his family's fortune through the leech trade, amassing a wealth that allowed him to become one of Salonika's leading *sarrafs*, or private money-lenders. By the 1850s, Sadik Pasha (the governor of Salonika), the majority of Salonika's advisory council, and the Metropolitan of Salonika were all deeply indebted to Abbott. Because of the origins of his wealth—and how he used it to become a powerful money-lender—Abbott was known as the "King of the Leeches."[134]

At the time Kopaïs was being drained in the 1880s, the germ theory of disease was gaining ground in Western medicine, and the use of medicinal leeches would soon decline. Nevertheless, at the time, leeches were still widely used for medicinal purposes—one need look no further than the abundant references to the "miasmas" of Kopaïs to see the enduring relevance

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[130] Roy T. Sawyer, "The Portuguese Leech Trade in the 19th Century: The First Trans-Atlantic Commerce in Medicinal Leeches," *Annuario do Centro de Estudos de História do Atlântico* 7 (2015): 294–297.
[131] Ibid., 297–298, 309.
[132] Ibid., 310, 317.
[133] Despina Vlami, "Entrepreneurship and Relational Capital in a Levantine Context: Bartholomew Edward Abbott, the 'Father of the Levant Company' in Thessaloniki (Eighteenth–Nineteenth Centuries)," *The Historical Review/La Revue Historique* 6 (2009): 129–164.
[134] Mark Mazower, *Salonica: City of Ghosts. Christians, Muslims and Jews 1430–1950* (New York, N.Y.: Vintage Books, 2004), 145–149.

of older medical theories. As long as healers in Western Europe and the Americas used leeches, they needed to be imported. The destruction of Kopaïs deprived local residents of an internationally-traded commodity that was still in high demand. An 1886 French periodical reported that the leech fishermen of Kopaïs regarded the draining of the lake as a "national disaster."[135] The rest of the report, however, provides some insight into how those on the outside underestimated this loss. The report went on to note that this loss was a blessing in disguise for the leech fishermen because, "instead of giving their blood to obtain a meager harvest, they will yield to the divine law of work: they will take the hoe, and Heaven will reward their efforts with rich harvests."[136] Outsiders saw leech-fishing as primitive and uncivilized, and the Greeks would be made better through regular agricultural work. Yet their actions also destroyed a commonly-held source of wealth and replaced it with private capital.

To give a final example, the lake also provided a unique energy resource used in the peasant household. As the lake receded in the dry seasons, it left behind a layer of peat which could be cut, dried, and used for fuel.[137] When the French company drained the lake, they eliminated these and other resources. In doing this, they removed the Boeotian peasants' means of risk-buffering through diversification as well as a source of cash income, and they did away with a social safety net that could be turned to in times of hunger. In its place, the company created a homogenous ecology which was riskier and which made the Boeotians more vulnerable to the caprices of the Mediterranean climate.

Finally, the company's claim that malaria would decline merits investigation. This particular claim was based on the miasma theory of contagion; however, as was discovered in

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[135] B. Bailly, "Le Lac Copais," *Cosmos: Revue des sciences et de leur applications* 94 (1886): 436.
[136] Ibid.
[137] Grove and Rackham, *Nature of Mediterranean Europe*, 184.

1898, malaria is not caused by miasmas but by the anopheles mosquitoes that thrive in stagnant water. Kopaïs therefore did play a role in promoting malaria in the region, but not in the way nineteenth-century observers thought, and it is not at all clear that draining Kopaïs caused malaria to decline. In fact, it may have done the opposite, as digging irrigation canals often has the effect of creating exactly the kind of stagnant, shallow waters where anopheles mosquitoes thrive.[138] Regardless, even after the lake was drained, Kopaïs remained a malaria zone. The malariologist Ronald Ross, who visited Greece in the early twentieth century, wrote that the extent of malaria infection in Greece was comparable only to what he had seen in sub-Saharan Africa.[139] When he visited Kopaïda in 1906—*after* the lake was drained—he found that malaria was "very prevalent, and of a very severe type, especially among the children."[140] Malaria was not finally eradicated from Greece until after World War II. This was achieved through the widespread application of DDT—wetland drainage played no role in eradicating malaria from Greece.[141]

Draining the Lake, 1832–1886

I conclude this chapter with a summary of the drainage of the lake in the nineteenth century as thought was translated into action—discourse was deployed to remake the landscape. I begin by describing the efforts undertaken in the early Greek kingdom. From the 1830s to the

[138] Randall M Packard, *The Making of a Tropical Disease: A Short History of Malaria* (Baltimore, MD: Johns Hopkins University Press, 2007), 1–18.
[139] Katerina Gardikas, "History of Malaria in Modern Greece," *Research Reports from the Rockefeller Archive Center* (2004): 15.
[140] W.H.S. Jones, *Malaria: A Neglected Factor in the History of Greece and Rome* (Cambridge: MacMillan and Bowes, 1907), 95.
[141] Grove and Rackham, *Nature of Mediterranean Europe*, 79; Gardikas, "History of Malaria"; Katerina Gardikas, "Relief Work and Malaria in Greece, 1943–1947," *Journal of Contemporary History* 43, no. 3 (2008): 492–508.

1870s, there were several attempts to drain Kopaïs. While these attempts did not ultimately come to fruition, they were important in laying the groundwork for the draining of the lake and in determining the method by which it would be drained from 1882–1886.

Early Proposals Submitted to the Bavarian Regency

In 1832, prince Otto, son of King Ludwig of Bavaria, arrived in Greece to assume the throne as the first king of the newly independent Kingdom of Greece. Otto arrived with three advisers from his father's court who would rule on his behalf from 1833 to 1835. In addition to creating a central state administrative and legal apparatus, the regents were tasked with guiding Greece out of its dire economic situation after a destructive war of independence. At least three proposals to drain Lake Kopaïs were submitted to the regents in this period by individuals assigned to study the question of how to make the land of Greece productive again. One came from Bavarian classicist Friedrich Thiersch (see above). Another Bavarian classical scholar, Peter Wilhelm Forchhammer, also submitted a proposal to drain Kopaïs to the regents in 1834. In this short proposal, he stated his belief, based on classical scholarship and folkloric accounts from the region, that the Kephissos River used to empty naturally into the sea at Skroponeri, but the outlet had been artificially blocked in the Bronze Age, thereby forming the lake. Forchhammer proposed draining the lake by clearing and enlarging this outlet. He also thought that drainage works undertaken near Kephalari in the age of Alexander the Great should be resumed to provide an additional outlet.[142] Forchhammer submitted his proposal to the regents, but no action was taken.[143] Thiersch's proposal similarly led to no action.

[142] M. Sauvage, "Traduction d'un mémoire allemand présenté a S.M. le Roi Othon par M. Forchamer en 1834," in *Projet de Dessèchement du Lac Copaïs. Mémoire à l'appui* (Athens, Greece: Imprimerie Nationale, 1868), 77–80.

The third proposal submitted during this time would prove much more influential in the long run. In 1832, Interior Minister Ioannis Kolettis invited Gustave d'Eichthal to Greece to advise the regents on how to distribute the national estates and make the land of Greece productive. D'Eichthal was a French banker of Bavarian Jewish descent and, as a Saint-Simonian, he was an ardent believer in the power of public works projects to improve the moral character of a nation.[144] D'Eichthal, along with Alexandre Roujoux and Nikolao Poniropoulos, formed The Bureau of Public Economy (Γραφείο Δημοσίας Οικονομίας) to study the topography of Greece, conduct an agricultural census, and devise a plan for the regeneration of Greece's land. The agricultural census would take several more decades to come to fruition,[145] but based on its preliminary study, the Bureau was able to make some recommendations. For example, the Bureau proposed distributing the national estates to war veterans and encouraging immigration from Europe to repopulate regions in the Peloponnese, such as Ilia and Messenia. Among these recommendations was a proposal to drain Lake Kopaïs and convert the reclaimed land into agriculture land.[146]

The recommendations of the Bureau of Public Economy were not implemented, however, as a change in the political climate caused d'Eichthal to lose favor with the regency. When his past as a Saint-Simonian came to light in Greece in 1834, d'Eichthal's proposals were rejected, he was dismissed from the Bureau, and he returned to France.[147] Despite this, d'Eichthal

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[143] Papadopoulos, "The Drainage and Exploitation," 96.
[144] Barrie M. Ratcliffe and W. H. Chaloner, *A French Sociologist Looks at Britain: Gustave d'Eichthal and British Society in 1828* (Manchester, UK: University of Manchester Press, 1977), 109–162.
[145] Petmezas, *Η ελληνική αγροτική οικονομία*, 11–16.
[146] Ratcliffe and Chaloner, *Gustave d'Eichthal*, 144–145.
[147] Papadopoulos, "The Drainage and Exploitation," 94–95; Ratcliffe and Chaloner, *Gustave d'Eichthal*.

continued to advocate for public works projects and economic development in Greece, and his proposals continued to influence powerful people in Greece.[148]

The Sauvage Plan and Attempts to Form a Company

A decade after his dismissal from Greece, d'Eichthal was invited by Kolettis—then Prime Minister—to help revive the Kopaïs project. The next year, at his own expense, d'Eichthal commissioned an accomplished French geologist and engineer of mines, François Clément Sauvage, to travel to Greece with a staff of workers to study the possibility of draining Kopaïs and to develop a plan for how this could be accomplished.[149] In 1849, Sauvage submitted a detailed report including his findings from his study of the lake region, his recommendation for the way this could be accomplished, his assessment of the land, his estimate of the cost, and his reservations about the project. The Sauvage Plan entailed more complicated drainage works on a larger scale and would therefore be much more expensive than the proposals submitted in the 1830s. Instead of simply clearing and widening the lake's *katavothras*, Sauvage believed that the most effective way to permanently drain Kopaïs would be to dredge two long canals rectifying the Kephissos and Melas rivers and collect their flow into a single artery stretching from Topolia to Larymna. He would then empty this canal into the North Euboean Gulf near Larymna by digging a tunnel through the base of Mount Ptóon, which separated the Kopaïc basin from the sea. He estimated that draining the lake in this way would put 21,045 hectares of land into

[148] As an ardent philhellene, d'Eichthal continued to be interested in Greece even after his dismissal from Greek bureaucratic service. Upon leaving Greece, he pushed to make Modern Greek the official language of the Austrian Empire and the international language of diplomacy. Ratcliffe and Chaloner, *Gustave d'Eichthal*.
[149] Manitaky, "Avant-propos," iii.

permanent cultivation, but it would cost 5–6 million francs.[150] After Sauvage submitted his report, Kolettis promoted the plan in Athens while d'Eichthal sought financial backers among bankers and members of the Greek diaspora in France in order to implement the drainage works. Their efforts, however, were unsuccessful, and d'Eichthal gifted the Sauvage plan to the Greek government, hoping others would take up the cause and the funding might be found at a later date.[151]

Over the next few decades, certain events would seem to make the drainage of the lake more practicable, but the efforts all ended in failure or never even got off the ground. In the summer of 1856, a severe drought caused Lake Kopaïs to be drained down to the lake bed, presenting the Greek government with a seemingly perfect opportunity to permanently drain the lake without having to implement the expensive and complicated Sauvage plan. Prime Minister Dimitrios Voulgaris dispatched an engineer, D. K. Papageorgiou, to clear the katavothras and make the drainage permanent. Papageorgiou hired 200 local men to work on the katavothras, but they were not able to finish in time. When the rainy season arrived, the lake reformed, and the chance was lost.[152]

Another opportunity presented itself with the outbreak of the U.S. Civil War in 1861. The Northern blockade of Southern ports removed American cotton from the world market, causing cotton prices to rise. Largely in response to this development, the Greek government published the Sauvage report in an attempt to attract foreign investors. In his introduction to the published report, E, Maniatakis, Director of Public Works for the Greek Ministry of the Interior, emphasized the way that rising cotton prices made the Sauvage drainage plan more practicable—

[150] Sauvage, *Projet de dessèchement*, 71–72.
[151] Melios and Papadopoulos, "Το Κωπαϊδικό Ζήτημα," 1163.
[152] Papadopoulos, "The Drainage and Exploitation," 98–99.

when the basin was planted with cotton, the drainage works would pay for themselves in a matter of years.[153]

For the first time, investors were interested. On August 3, 1865, the Greek government entered into a contract with the French-Italian banker Charles Gustave Gonzague Sarrazin de Montferrier, himself representing a group of French investors, to drain Lake Kopaïs according to the Sauvage plan. The concession was approved by the Greek Parliament through law ΡΟΓ' (173), passed January 24, 1867. De Montferrier formed a company to carry out the drainage works, but he was unable to make progress, as he was unable to find the necessary funding to begin the project.[154] In 1869, de Montferrier entered into an agreement with another French banker, Henri Bonnaire, to share the concession. In the revised agreement with Bonnaire, the French company received 80,000 stremmas in absolute ownership and concession of the remainder of the land for a period of 99 years. The company was required to complete all drainage works within ten years.[155] Like de Monteferrier, Bonnaire was unable to find the necessary funding. The French company was never able to begin the drainage works, and the Greek Parliament rescinded the concession 1873.[156]

Another attempt to form a company to drain Kopaïs was launched in 1876 by a group of Greek bankers. M. Renieris, Governor of the National Bank of Greece, was joined by M. Melas and J. Doumas of the General Credit Bank, P. Theologos of the Bank of Industrial Credit, L.

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[153] Ibid., 101.
[154] "Συμβασις μεταξύ τῆς Ἑλληνικῆς Κυβερνήσεως καὶ τοῦ Σαρραζίνου Μομφερριέρου. Περὶ ἀποξηράνσεως καὶ καλλιεργείας τῆς Κωπαϊδος λίμνης. 22 July / 3 August 1865," in *Εγγραφα περί της Κωπαϊδος Λίμνης Κατατεθέντα εις την Βουλήν, υπό του Υπουργού των Εσωτερικών* (Athens, Greece: Ethniko Typographeio, 1893).
[155] Papadopoulos, "The Drainage and Exploitation," 106–107.
[156] George Vassiades, "Stephanos Skouloudis (1838–1928) and Boeotia," *Επετηρίς της Εταιρείας Βοιωτικών Μελετών* 2, no. 2 (1995): 1190; Melios and Papadopoulos, "Το Κωπαϊδικό Ζήτημα," 1160–1164.

Mertakis of the Ionian Bank, and Scarlatos Soutsos. Together they formed a company to drain Lake Kopaïs under the conditions set forth in the 1867 law. The Greek bankers invited a French engineer, S. Revol, to study the area, appraise the cost of draining Kopaïs, and devise a plan. After conducting a study of the region, Revol concurred with Sauvage's conclusions and endorsed the Sauvage plan. There was disagreement among the bankers, however, due to extent and the 5–6 million-franc cost of the Sauvage plan. Soutsos believed that if the katavothras were drained, only one canal would be sufficient, and it would not be necessary to drill through Mt. Ptóon. Unable to agree on a drainage scheme, the bankers withdrew from the project in 1878, and the project was abandoned once again.[157]

The Moulle Plan

From the time it was first submitted in the 1840s, the main obstacle to executing the Sauvage plan was its hefty 5–6 million-franc cost. It is surprising, then, that when the French engineer A. Moulle published a revision to the Sauvage plan in 1879, his version was even more expensive and more complex, and it is even more surprising that it was a version of this plan that was finally implemented. Moulle kept most of the elements from Sauvage's plan—he would still canalize the basin's tributary rivers and collect them into a single artery—but instead of draining the canal directly into the Euboean Gulf at Larymna, Moulle proposed digging a tunnel connecting this canal to nearby Lake Yliki and using this smaller lake as a reservoir. Moulle then proposed digging a canal connecting Lake Yliki to another even smaller lake, Paralimni. To

[157] Papadopoulos, "The Drainage and Exploitation," 108–111.

prevent flooding, a final canal and a tunnel would receive Paralimni's overflow and empty it into the Euboean Gulf at Anthidona.[158]

The Moulle plan called for more canals, longer canals, and more tunnels whereas the Sauvage plan only called for one tunnel through Mount Ptóon, but in order to connect the canals to the smaller lakes and then to the sea, it would be necessary to tunnel through the cols of Karditsa, Moriki, and Anthidona. All this would therefore require more time, more labor, and more money—Moulle estimated 7 million francs. Despite this, the Moulle plan had the added benefit of conserving water drained from the basin instead of dumping it in the sea. Kopaïda received most of its rainfall in the winter and virtually no rainfall in the summer. By using Lake Yliki as a reservoir, winter accumulation could be stored and then employed by cultivators for irrigation during the dry summer months.[159] The Moulle plan also proposed digging irrigation trenches so water could be distributed throughout the Kopaïs estate. Moulle estimated that with irrigated land being more productive than non-irrigated land the 20,000 hectares produced through his plan would generate an annual revenue of 10 million francs.[160] The drainage works would thus pay for themselves in less than a year.[161]

The Second French Company

In 1880, a second French company was formed to drain Kopaïs. Jean D. Vouro (AKA Ioannis Vouros), a Greek banker of Chian origin based in France, obtained a concession from the

[158] Moulle, *Rapport à l'appui*; G. Richou, "Dessèchement du Lac Copais," *La Nature*, October 4, 1886.
[159] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 5.
[160] Richou, "Dessèchement du Lac Copais," 375.
[161] This proved to be highly optimistic. Due to unforeseen technical troubles, the irrigation works had to wait until well into the twentieth century. See: Dean, "Lake Copais," 289.

Greek government to drain Kopaïs on behalf of a group of bankers, mostly French, including some diaspora Greeks living in France. One member of the group was the Greek deputy for Syros, Stephanos Skouloudis. Skouloudis was a Constantinopolitan Greek businessman who had founded the Bank of Constantinople in 1871 along with Andreas Syngros, Georgios Koronios, and Antonios Vlastos. Skouloudis had recently relocated to Greece—part of the flight of capital from the Ottoman Empire during the tumultuous 1876–1878 period. In Greece, Skouloudis had turned to a political career. He was elected to Parliament in 1879 as a member of the party of Charilaos Trikoupis.[162] Skouloudis and Vouro formed a French anonymous society to raise the capital to drain Kopaïs, and Vouro ceded the right to drain Kopaïs to this company.

La compagnie Française pour la dessèchement et l'exploitation du Lac Copais ("The French company") was constituted by a general assembly on October 14, 1880 at a capital value of 15 million francs, divided into 30,000 shares of 500 francs each. Each shareholder in the company was a "subscriber," meaning they paid at least 250 francs per share up front, and then they would be called upon to make payments toward the remaining value of their shares as the company needed capital, no more frequently than every six months.[163] Despite its name, the French company was not entirely French. In addition to Skouloudis and Vouro, many other prominent Greeks acted as investors and administrators in the company. The chairman of the company, for example, was M. Renieris, Chairman of the National Bank of Greece and one of the Greek bankers involved in the 1876 attempt to drain the lake.[164] The company chose an

[162] Vassiades, "Stephanos Skouloudis," 1188–1190.
[163] Ibid., 1190–1192; Richou, "Dessèchement du Lac Copais," 373–375; Alfred Durand-Claye, *Rapport sur le desséchement du Lac Copaïs (Grèce)* (Paris: Imprimerie Nationale, 1888), 12; Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Statuts* (Paris: Imprimerie centrale des chemins de fer, 1880), 6.
[164] Papadopoulos, "The Drainage and Exploitation," 115–116.

accomplished French engineer of bridges and roadways, M. Tarratte, as its Director and Chief Engineer.

After forming a company and obtaining a concession, the next step was decide which plan to use to drain the lake—the Sauvage plan or the Moulle plan. The Sauvage plan was less expensive and less complicated, but the Moulle plan offered the added benefit of irrigation. If the goal was to convert Kopaïs into profitable agricultural land, irrigation promised higher yields and a greater variety of crops that could be grown. Irrigation could also be crucial for crops to survive in Boeotia's hot, dry summers.[165] Local politics also played a role in the debate. Cultivators near Thebes in Livadeia preferred the Moulle plan because their land could be irrigated through this scheme as well. Meanwhile, cultivators on the eastern portion of the basin preferred the Sauvage plan. Under the Moulle plan, the water level of Lakes Yliki and Paralimni would rise, detracting somewhat from the amount of arable land surrounding those lakes. If the original Sauvage plan were followed, with water being emptied through Mt. Ptóon at Larymna, Lakes Yliki and Paralimni would be drained in the process, adding 30,000 stremmas of arable land to the plains of Akraifnio for local cultivators to use.[166] In addition to this, the concession made to the French company was the same one offered to de Montferrier in 1867, made possible by law ΡΟΓ' which dictated that the lake was to be drained according to the Sauvage plan. If the Moulle plan were to be used instead, it would require an additional act of parliament.

In the end, Tarratte chose to implement a modified version of the Moulle plan, draining Kopaïs through Yliki and Paralimni and using these smaller lakes as reservoirs.[167] Tarratte died

[165] Dean, "Lake Copais," 289.
[166] Papadopoulos, "The Drainage and Exploitation," 12; Papadopoulos, "Socio-Economic Effects," 366–367.
[167] The Lake Copais Co. Ltd., *Short Review of the History and Work of the Lake Copais Co. Ltd.* (Athens, Greece: privately printed, 1951), 5.

prematurely in 1881, and Léon Pochet, another accomplished French engineer, took over as the company's new Director and Chief Engineer.[168] The Greek government approved the Tarratte/Pochet drainage plan on May 31, 1883.[169] In total, the Greek government ceded approximately 60,000 acres to the French company. In exchange for draining the lake, the French company received freehold over one-third of the area drained, and they were given a lease over the remaining two-thirds of the drained area for a period of 99 years.[170]

The Drainage Works, 1882–1886

The first series of projects, referred to as the Interior Drainage Works, entailed draining Lake Kopaïs into Lake Yliki. To accomplish this, the French company dug four canals between 1882 and 1886. In total, the length of these canals was 80 km.[171] Three of these canals involved canalizing and diverting existing rivers in the Kopaic basin. The first canal was called the *Grand Canal de Ceinture*, also referred to simply as the Grand Canal or the "girdle canal." This canal was 33 km long, and it essentially involved "rectifying" the Kifisos River, the river that fed the most water into Kopais, by absorbing other smaller tributaries and diverting it to the south of the lake. This canal began near Orchomenos, and it linked up with the Kephissos River between Scripou and Romeiko. It then descended to Vranezi, Rháchi, Petra, and Moulki, and then in a straight line to Karditsa.[172] The second canal, called the Melas Canal, rectified the Melas River,

[168] Durand-Claye, *Rapport sur le desséchement*, 12; Dean, "Lake Copais," 289.
[169] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 11.
[170] The Lake Copais Co. Ltd., *Short Review*, 5.
[171] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 7–8.
[172] Ibid.; Dean, "Lake Copais," 289. Many of these settlements have since changed names. Scripou is now Athámas; Vranezi is Agios Spyridon; Moulki is Aliartos; and Karditsa is Akraifnio. Lake Yliki was referred to as Likeri or Hylicus.

the second-largest tributary river that fed Kopaïs. This canal ran from the source of the Melas on the northeast slope of Mt. Akontio, to Pyrgos, Stroviki, and then to Karditsa.[173] The third canal was called the Interior Canal because it ran from East to West in between the Grand Canal and the Melas Canal, and it was designed to collect rainfall in the plain between the other two canals.

These three canals—the Grand Canal, the Melas Canal, and the Interior Canal—all met at Karditsa and were joined into a single artery called the *Grand Canal Émissaire de Karditza*, or the Emissary Canal (Figure 5.6). The Emissary Canal was 2,760 meters long, and it was dug to carry the water that flowed from the three main canals from Karditsa toward the hills on its way to Lake Yliki. This canal was deep, and it was revetted with stone.[174] Finally, a tunnel was built, called the Karditsa Tunnel, to carry the water from the Emissary Canal to Lake Yliki. Cut through the col of Karditsa, this tunnel was 672.5 meters long, 9.5 meters high, and 6.5 m wide.[175] The Karditsa Tunnel was one of the more ambitious aspects of the drainage works. Drilling such a tunnel through a mountain would not have been possible a generation earlier. This was only possible due to recent advances in engineering and technology. After receiving the basin's water via the Emissary Canal, the Karditsa Tunnel would empty into Lake Yliki, where water could be stored for irrigation purposes.

The second series of projects, called the Exterior Drainage Works, entailed digging canals to connect Lake Yliki to Paralimni and to connect Paralimni to the North Euboea Gulf. This was done to prevent Yliki from flooding during the rainy season by allowing overflowing water to drain into the sea. The canal connecting Yliki to Paralimni started at the northeast corner of Yliki and then went to the village of Moriki, where a spillway would be built—le Déversoir de Moriki.

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[173] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 7–8.
[174] Dean, "Lake Copais," 289.
[175] Ibid.

The Tarratte/Pochet plan also included provisions to construct a hydroelectric plant at this spillway. Finally, an 860-meter-long tunnel, called the Anthedon Tunnel, would connect Paralimni to the North Euboean Gulf at Anthidona.

Labor for digging the canals and constructing dams and tunnels was mostly local, coming from the villages of Karditsa and Kokkino. The French company also sought workers who were experienced in this kind of work, so they brought in experienced canal diggers from Italy, some of whom had worked on the drainage of Lake Fucino.[176] Italian workmen were exclusively employed to operate the company's dredging machines, working for six months out of the year and then returning to Italy during the hottest summer months when work was impossible due to the dangers of malaria.[177] The initial works presented many problems because of the climate and the lack of resources and shelter. This work involved cutting paths through the reeds aboard small skiffs, sometimes spending the night out on the water. During the initial drainage works, many people involved in the project contracted malaria and were forced to return to France.[178] The French company completed its preliminary drainage works in 1886. By this date, the Emissary Canal, the Karditsa Tunnel, and the Anthedon Tunnel were completed; the Moriki Spillway was almost completed; and work had commenced on the Grand Canal.[179]

A Fatal Flaw

As discussed above, the French company underestimated the resources that Lake Kopaïs provided to the residents of the surrounding region. This oversight resulted in the failure of the

[176] Papadopoulos, "The Drainage and Exploitation," 131.
[177] Skouloudis Papers, Box 35, Folder 4: P. A. Fraser, *Report on the Drainage of Lake Copaïs*, November 1, 1886, 5.
[178] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Note sommaire*, 11.
[179] Three-hundred meters of the proposed 980 meter Hungara Tunnel were also completed, although this project was later abandoned. See: Dean, "Lake Copais," 289.

drainage works and the collapse of the French company. Specifically, by neglecting the peat found in the lake region, the French company's engineers made a critical error. The French company's engineers did not know about the peat, and they failed to account for the fact that a large portion of the lake bed was covered in it. In places, the peat layer was four meters deep, meaning that the actual lake bed was four meters lower than what had been accounted for in their diagrams. The French engineers did not learn of their mistake until 1886, just after the lake was drained, when the exposed peat caught fire. It took several years for the peat to burn away, preventing the company from renting much of the land. To make matters worse, as the peat burned away, it lowered the lake bed by four meters, putting it at a level that was lower than the Karditsa tunnel, i.e. lower than the channel that had been drilled through a mountain in order to drain the lake. This meant that water pooled at the lowest point of the lake bed, and a new, smaller lake formed at the center of the basin where the peat layer had been.[180] The Exterior Drainage works were basically sound, but due to the failure to account for the peat layer, the Interior Drainage works were botched and would require more work and more capital to remedy. The French company was unable to rent the land until new works were completed, and they had already exhausted their resources. Believing they had been misled, shareholders also withheld their installment payments.[181] As a result, the French company was forced to declare bankruptcy in late 1886, just a few months after the inauguration of the Karditsa Canal.

[180] Ibid., 293–294; The Lake Copais Co. Ltd., *Short Review*, 5–6; Giannis Lampros, *Η λίμνη της Κωπαΐδας: Αφετηρία αγροτικής ανάπτυξης* (Athens, Greece: Agricultural Bank of Greece, 2000), 46.
[181] Papadopoulos, "The Drainage and Exploitation," 132–133.

Conclusion

In the end, nothing was as simple as the French company had hoped. This can be explained, in part, by the set of biases with which the drainers had approached the project. Together, the discourses of Orientalism, nationalism, and high modernism motivated the drainage of the lake and shaped the thinking of the drainers. The French engineers were operating within the confines of a discursive framework established by observers who envisioned the drainage of the lake earlier in the nineteenth century. At the center of the project to drain Lake Kopaïs was contempt: for the way the region was already being used, for local knowledge, and for the existence of common land. The French company's administrators and advocates saw the lake as an eyesore, a public health menace, and an obstacle to the prosperity of the region and of Greece as a whole. Their actions, however, did not create new arable land out of nothing. By draining the lake, they inserted themselves into an existing symbiosis and took resources that local populations relied on for their livelihoods. The next chapter examines the results of this project. The lake region was remade to benefit outside groups, and the consequences of this transformation were felt for almost seventy years.

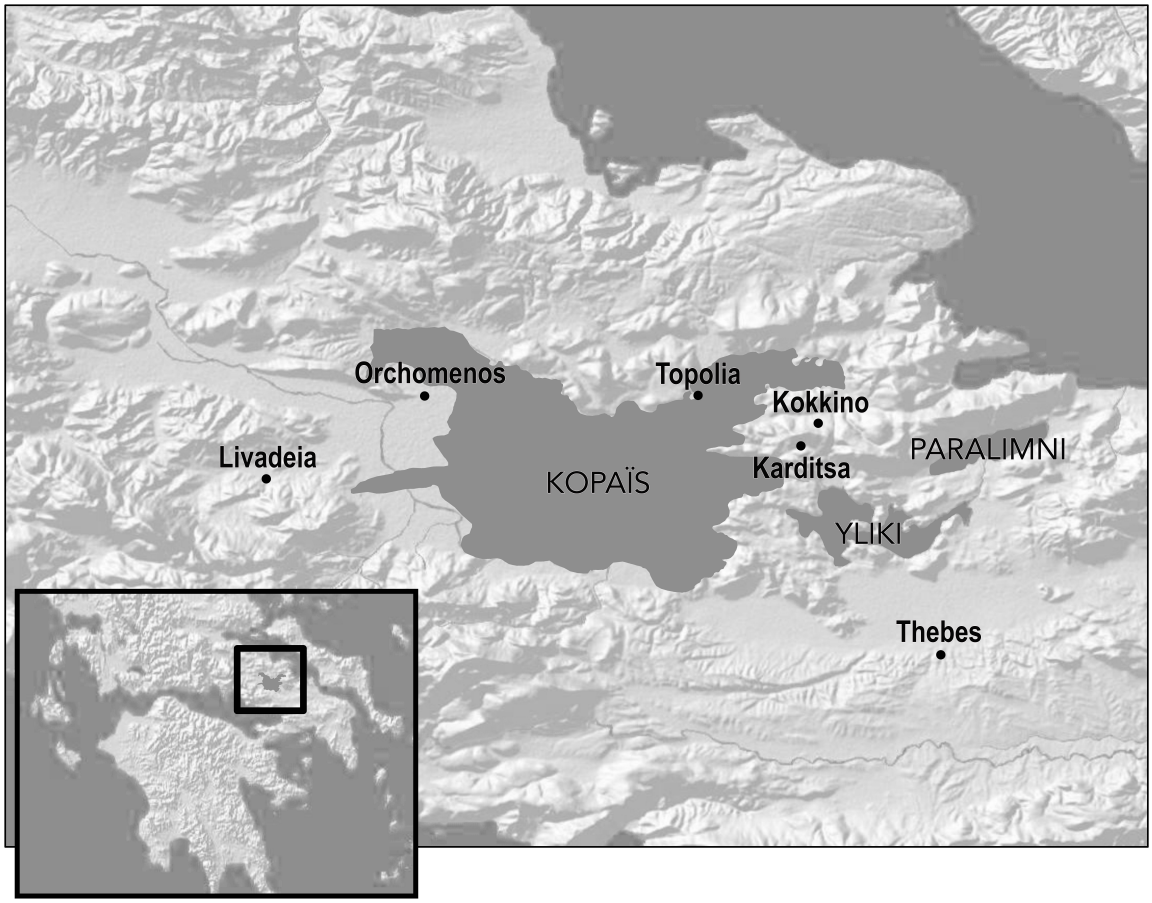

Figure 5.1: Map of Lake Kopaïs, 1881. Source: Skouloudis Papers, Box 39, Folder 4, Διάγραμμα Κωπαΐδος Λίμνης [Diagram of Lake Kopaïs], 1881. Revised and annotated by author. (This map was created using ArcGIS® software by Esri. ArcGIS® and ArcMap are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.)

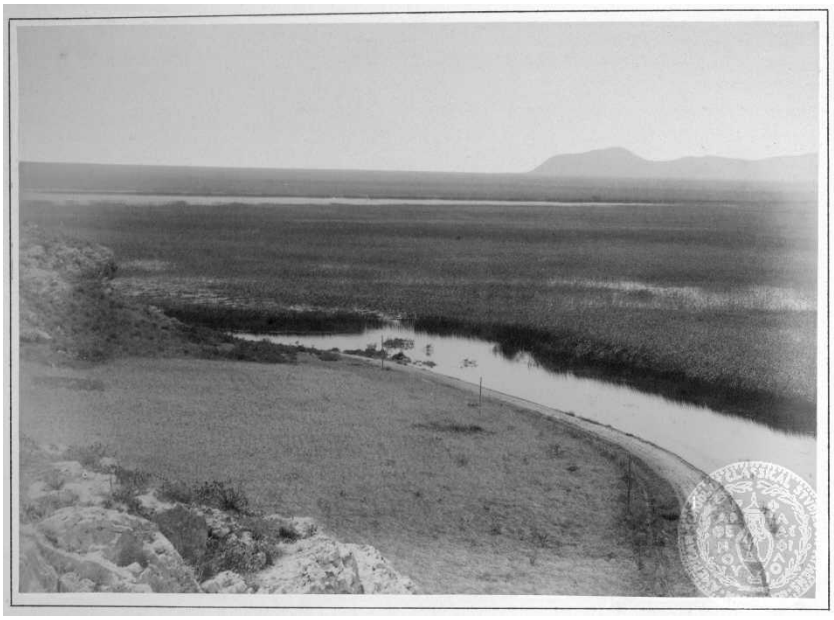

Figure 5.2: Photograph of the plain of Lake Kopaïs, 1886. Source: "Vue du lac Copais prise des chantiers de Karditza." June 1886. Photographic Collections, Gennadius Library Historical Archives, Athens, Greece. https://www.ascsa.edu.gr/resources-landing/details?source=dc&id=Disjecta:Image:2366

Figure 5.3: "A Katabathra of Lake Copais." Source: Dodwell, Edward. *A Classical and Topographical Tour Through Greece: During the Years 1801, 1805, and 1806*. London: Rodwell and Martin, 1819.

Figure 5.4: "Chasse dans les roseaux." Sketch by Henri Belle. Source: Belle, Henri. "Voyage En Grèce." *Le Tour du Monde: Nouveau Journal des Voyages* 33 (1877): 107.

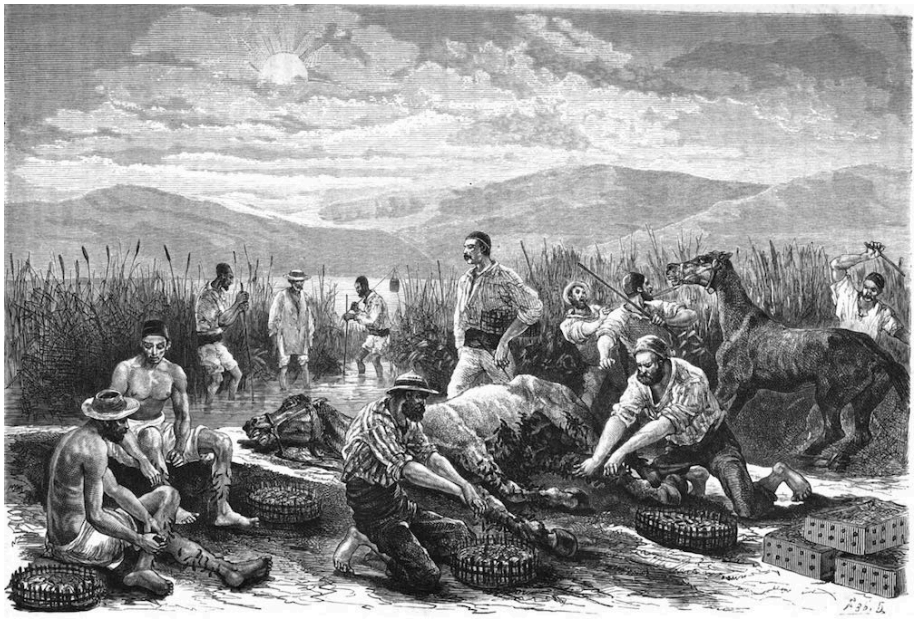

Figure 5.5: "Pêche des sangsues." Sketch by Henri Belle. Source: Belle, Henri. "Voyage En Grèce." *Le Tour du Monde: Nouveau Journal des Voyages* 33 (1877): 109.

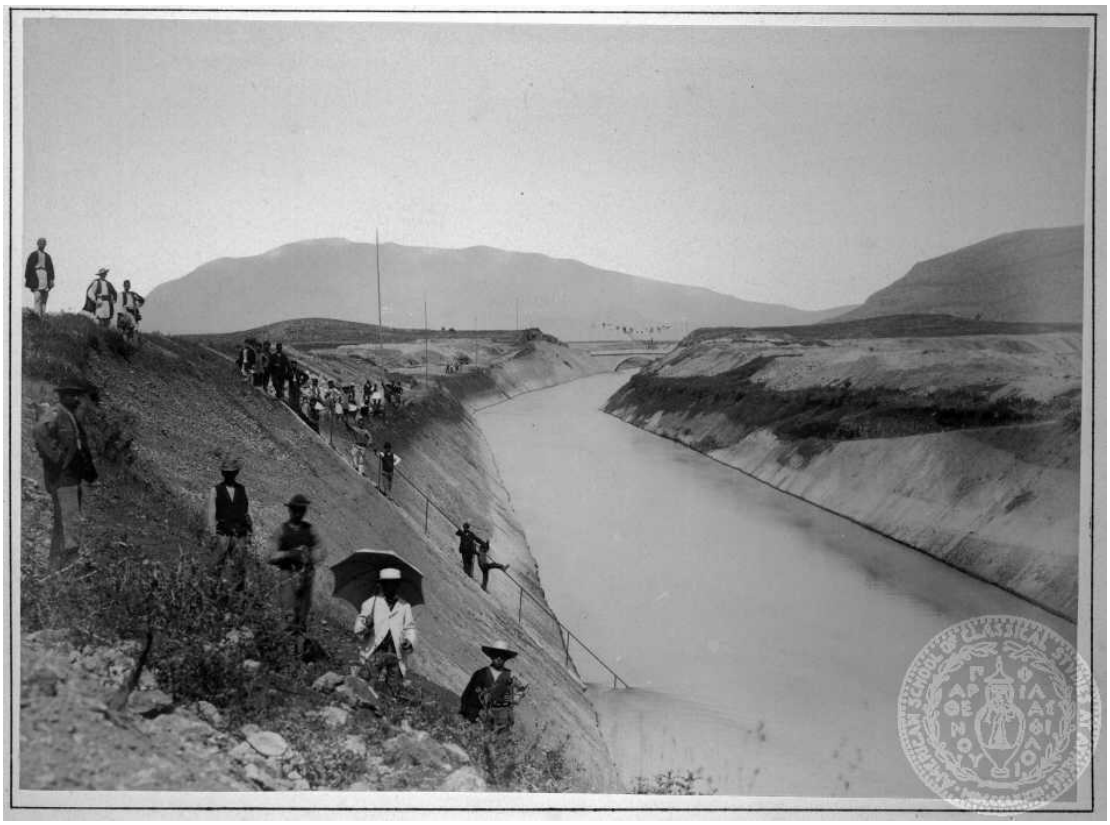

Figure 5.6: Photograph of the Emissary Canal, 1886. Source: "Canal Emissaire de Karditza, vue prise du tunnel." June 1886. Photographic Collections, Gennadius Library Historical Archives, Athens, Greece. https://www.ascsa.edu.gr/resources-landing/details?source=dc&id=Disjecta:Image:2367

CHAPTER 6.
FROM WETLAND TO COMPANY LAND:
THE BRITISH LAKE COPAIS CO. LTD.

In 1887, a British company, the Lake Copais Co. Ltd., purchased the Compagnie Française and assumed control of the Kopaïs estate. The British company intended to raise additional capital to complete the unfinished drainage projects and modify the faulty drainage works so the Kopaïs estate could be divided into parcels, rented, cultivated, and finally be made profitable for investors. A decade later, however, the drainage works were still unfinished, the estate was still not profitable, and the situation was dire enough that the directors of the British company wrote to the British Prime Minister to request intervention. Chas Cheston, Manager of the Lake Copais Co. Ltd., wrote to Lord Salisbury that the company's failure to produce a profit was a consequence of the treatment the company had received by the Greeks: "Outrages have systematically and with complete impunity been perpetrated on the Company's property, tenants, and agents ; and although the Copais Estate has through the Company's outlay become the most fertile province in Greece, the Company has never received the slightest benefit, but has not been able even to pay the interest on its Debenture Bonds since December, 1892."[1] Why was the British company unable to make the Kopaïs estate profitable? Were the Greek government and the inhabitants of Kopaïda to blame?

In this chapter, I examine the early years of the operations of the Lake Copais Co. Ltd.; the "outrages" perpetrated against it by the Greek government, the courts, and the inhabitants of the region surrounding the lake; and the resulting conflicts that took place on the Kopaïs estate. As seen in the previous chapter, the project to drain Lake Kopaïs neglected the ways the lake and

[1] Stephanos Skouloudis (Σκουλίδης Στέφανος), Papers, Gennadius Library Archives, American School of Classical Studies at Athens, Greece, Box 41, Folder 9: Cheston to Marquess of Salisbury, August 1898, 13–14.

its surrounding region were being used by local populations. For decades after the lake was drained, the rural residents of Kopaïda clashed with the administrators of the Lake Copais Co. Ltd.. I argue that the so-called Kopaïs Question was part of the modern history of top-down efforts to modernize Greece. Draining Lake Kopaïs was part of a larger effort led by Greek state officials and foreign business interests to transform the land of Greece, as discussed in the previous chapter, but it was also part of a related effort to transform the peasantry. Yet the land and the peasantry both resisted transformation. In reforming the region according to a profit motive, the British, like the French before them, neglected local knowledge, fundamentally misunderstood the region, and the inhabitants of the region were compelled to resist the company in order to defend their own livelihoods. As a result, the company faced continuous legal battles, political organization, and even violent opposition.

The Lake Copais Co. Ltd.

Much of the blame for the so-called Kopaïs Affair was directed at one of the French company's founding members, Stefanos Skouloudis. Skouloudis had been a member of the Greek parliament representing Syros when he helped to form the French company. He was serving as Greek ambassador to Spain in the mid-1880s while the lake was being drained, and in 1887, he was once again a member of parliament.[2] As a representative of the Greek government overseeing the project, when the French company was forced to declare bankruptcy, many looked to Skouloudis to make the situation right. He was also the largest shareholder in the

[2] Vassiades, "Stephanos Skouloudis," 1188–1190.

French company, and he stood to lose a large amount of money if the project failed. After the collapse of the French company, therefore, the task of finding new capital fell to him.[3]

Once it became clear that additional drainage works would be necessary, Skouloudis sought the assistance of an English businessman, John Cockburn Francis Lee, to form a new company and find investors in order to buy out the French company, resume the drainage works, and to lease and manage the Kopaïs estate. After finding seven British investors, Lee incorporated The Lake Copais Co. Ltd. in London on 11 June 1887, and this new company assumed all of the concessions and conventions previously associated with the French company—the 1865 de Montferrier convention, the 1867 law ΡΟΓ' approving and modifying this convention, the 1880 convention between the Greek government and Jean D. Vouro, etc.. The capital of the company was established at £1,000,000, divided into 100,000 shares of £10 each.[4]

Despite Skouloudis's preference that Pochet stay on as chief engineer, the British bondholders insisted on a British chief engineer. They chose Henry Ree to be the new chief engineer, even though he did not reside in Greece, and Pochet became a consulting engineer.[5] Over time, the British bondholders lost confidence in Pochet altogether. In 1895, T.H. Wickes was made chief engineer. Wickes had been the head of the Irrigation Department in Bengal, so the British Company thought he would be a good pick to assess the feasibility of installing irrigation works.[6]

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[3] Papadopoulos, "The Drainage and Exploitation," 148.
[4] Skouloudis Papers, Box 41, Folder 1: The Lake Copais Co. Ltd., *Memorandum and Articles of Association, and Agreements, &c.* (London: Cheston and Sons, 1887), 5–35.
[5] Papadopoulos, "The Drainage and Exploitation," 157–158.
[6] Skouloudis Papers, Box 37, Folder 8: Cheston to Scouloudis, June 24, 1895.

The British company's administrators fought a long battle to make the Kopaïs estate profitable. In 1891, less that 9,000 stremmas were being rented. In 1893, this number grew to 32,400 stremmas, producing 170,000 drachmas in rent.[7] It soon became apparent that the millions of francs in rent predicted by Moulle would not materialize. In the summer of 1895, one of the managing administrators of the Lake Copais Co. Ltd., Chas. Cheston, lamented that income from rent was not even sufficient to cover the regular operating expenses of the estate. He attributed this to "the fact that the crops in Greece last year were comparatively speaking a failure, not producing more than one-half what was anticipated, and secondly, by a fall in the price of all agricultural products."[8] As he wrote to Skouloudis the next month, "Some way of turning this property into profit must be found."[9] In 1900, almost half of the Kopaïs estate remained undeveloped.[10]

For the first decade of its operation, the British company also struggled to find enough labor to work the estate. Even with a smaller amount of cultivable land than predicted, there were still not enough hands to work it all. In the 1890s, the company's representatives were in conversations about a plan to resettle Greeks from the Caucasus to work on the Kopaïs estate.[11]

Fire and Flood

One of the main challenges faced by the Lake Copais Co. Ltd. was in overcoming the technical errors of their French counterparts. The Interior Drainage Works, or the canals and tunnels intended to drain Kopaïs into Lake Yliki, were essentially botched and required much

[7] Skouloudis Papers, Box 41, Folder 5: Letter to Shareholders, November 23, 1893.
[8] Skouloudis Papers, Box 41, Folder 7: Cheston to the Debenture-Holders of the Lake Copais Company, Limited, May 16, 1895, 2.
[9] Skouloudis Papers, Box 37, Folder 8: Cheston to Skouloudis, June 21, 1895.
[10] Papadopoulos, "The Drainage and Exploitation," 226–227.
[11] Skouloudis Papers, Box 37, Folder 7: Cheston to Trikoupis, 1894.

additional work in order to be made functional. The first problem was that the estate was plagued by peat fires. As described in the previous chapter, the lake bed was covered by a layer of peat that was, in places, several meters deep. The peat was highly flammable and, when ignited, could be quite destructive. While inspecting the Interior Works in 1899, Wickes observed of a portion of the estate that "The soil is very inflammable, and a light thrown on a patch of dry vegetation is liable to ignite the soil, which then cracks, fissures form, and the fire rapidly extends underground in all directions, the fissures acting as flues."[12] Wickes wrote that "the Copais soil is useless for cultivation purposes until the surface has been burnt off to a depth varying from 1 to 2 1/2 feet." Some burning was required, therefore, in order to cultivate the land, but "excessive burning is disastrous, and there are places in which the soil has been burnt to the bone (to use a metaphor), that is to the clay bed underlying the deposit of decayed reeds and earth."[13]

The reeds of Kopaïs also proved to be more tenacious than predicted. Reeds needed to be cleared before land could be rented to cultivators. Burning was an effective method, but it had to be done in such a way that it did not ignite the peat as well. When brought on as Chief Engineer of the Lake Copais Co. Ltd. in 1895, Wickes conducted an inspection of the estate, and he noted that the reeds in the vicinity of the Interior Canal "were a metre above the head of a man on horseback."[14]

The main challenge, however, was that as the peat oxidized away, it lowered the lake bed below the level of the Karditsa Tunnel, rendering the drainage works ineffective. As Wickes summarized the situation in 1899,

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[12] Skouloudis Papers, Box 41, Folder 10: "Copy of the Report by Mr. T. H. Wickes on the Condition of the Company's Works," 1899, 6.
[13] Skouloudis Papers, Box 41, Folder 10: Ibid., 1.
[14] Skouloudis Papers, Box 41, Folder 8: Cheston to the Debenture Holders of the Lake Copais Company, Limited, January 1, 1896, 6.

> Whereas M. Pochet showed the average surface level to be about 194.50 and designed his works accordingly, it is now about 193.00 and we must be prepared for its eventually becoming 192.50. In other words the bed of the Emissary Canal and the floor of the Karditza Tunnel are nearly 2 metres too high for effective interior drainage…. subsidence and fires have... lowered the surface by 1 1/2 metres, and may yet reduce it further, and this does not appear to have been foreseen and provided for.[15]

As the peat burned away, a new, smaller lake formed at the center of the basin, and the low points of the lake bed were prone to annual flooding. Thus, when the Kopaïs estate was not plagued by fires, it was struggling against inundation.

The Interior Drainage Works were also incapable of handling the water flowing into the basin, which also caused flooding. The British engineers completed the Grand Canal in 1892, and they also finished a new extension to this canal, the Marsh Canal, the same year. The Melas Canal and the Interior Canal were completed in 1895. However, these canals as well as the Emissary Canal proved to be too low in capacity, so the banks of these canals would break and there was frequent flooding.[16] The Kopaïs estate experienced major floods in 1893, 1895, 1896, 1897, 1898, 1904, and 1905. These floods washed away crops and reduced the amount of land that was able to be rented. After the 1896–1897 floods, "nearly 100,000 stremmas of land were under water."[17]

It often took a year or more for flooded land to be made productive again. Not only did the land itself need to be drained and replanted, but the cultivators needed time to recover from the economic hit of their plantations being ruined, and they needed to wait until they could be sure flood would not strike in the same region again. As the company's manager, Cheston, observed, in 1896, "The loss caused by floods is not only the rent which would have been

[15] Skouloudis Papers, Box 41, Folder 10: "Wickes Report."
[16] Dean, "Lake Copais," 291–292.
[17] Skouloudis Papers, Box 41, Folder 9: "Cheston to the Debenture-Holders of the Lake Copais Company, Limited," June 3, 1898, 6.

received from the lands which could not be cultivated; the peasants are afraid to cultivate the central portion of the Estate for fear of flood ; and it is not until they are assured that there is no risk of destruction of their crops from this cause that confidence will be established."[18] He elaborated on this point in a letter to debenture holders of the Lake Copais Co. Ltd. In 1898:

> The worst effect of the floods which occurred in December, 1896, was that they induced a feeling of insecurity among the tenants, who hesitated to spend money in cultivating lands in the Copais for fear of the recurrence of a similar disaster. Instead of the amount of land under cultivation increasing, there was a serious diminution in the area… A large quantity of land could not be ploughed, as six or seven weeks of the ploughing season was lost ; indeed, it is surprising that so large an area as 73,538 stremmas was cultivated last year, considering that in January, 1897, a third of the whole Estate was covered with water.[19]

The company's administrators, moreover, were unsympathetic to the peasants who were hired to work the land who suffered from the flooding, and occasionally they blamed the damage on the peasants themselves. After the 1893 flood, Cheston wrote to Skouloudis that "The heart was rather taken out of me by the late floods, but I find that there is not much damage done, and that what damage is done outside is due to the infernal stupidity and greed of the peasants." He went on to write that, "On the whole so far as I can judge the works stand the strain well, and if the peasants choose by their own negligence to get their land flooded, we can't help it."[20] Sometimes, the flooding caused additional damage to the drainage works and required expensive repairs. The still-unfinished Interior Canal, for example, was damaged by the 1893 floods, and no sooner had repair works been completed than the Interior Canal was damaged by flooding again in 1895.

During the first decade of the Lake Copais Co. Ltd., the estate also suffered the effects of other normal aspects of the Mediterranean ecology. In April of 1894, "several severe

[18] Skouloudis Papers, Box 41, Folder 8: "Cheston to Debenture-Holders," 5.
[19] Skouloudis Papers, Box 41, Folder 9: "Cheston to Debenture-Holders," 7.
[20] Skouloudis Papers, Box 37, Folder 6: "Cheston to Skouloudis," February 24, 1893.

earthquakes" struck the Kopaïs estate. Cheston wrote that "Thebes was half destroyed, and some of the villages where the Company's tenants principally reside were practically destroyed ; in one village more than 100 people were killed…." Cheston observed that while the earthquakes did not do any damage to the drainage works, "The agricultural development of the Estate undoubtedly suffered much by this disaster…"[21] Three years later, the estate suffered from a barrage of pests. Cheston wrote that "Apart from the floods, the year 1897 was in every way disastrous. A large part of the estate was visited by migratory locusts, and considerable injury was caused…. The cotton worm also did much damage, and the wet, unseasonable weather caused the cotton plants to run entirely to wood, and the cotton crop was a complete failure."[22] Fires, floods, earthquakes, and locusts—regular occurrences in the Mediterranean ecology that the British, like their French predecessors, had neglected to take into account.

Finally, the British engineers soon discovered that the soil of Kopaïs was not as fertile as imagined by boosters of the Kopaïs project throughout the nineteenth century. Wickes relayed to bondholders in 1898 the "disturbing opinion" given by Steele that "a large area of the new central black land recovered from the lake will never come up to the expectations formed of it by those who reported on it before it had been actually tried for cultivation," and that other parts of the estate were "wanting in some of the physical conditions and chemical constituents required for a fertile soil."[23] The supposed fertility of the soil of Kopaïs had been one of the main reasons for draining the lake. The discovery that the soil of Kopaïda was not as fertile as the lake's drainers had thought marked a major disappointment.

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[21] Skouloudis Papers, Box 41, Folder 7: "Cheston to Debenture-Holders," 2.
[22] Skouloudis Papers, Box 41, Folder 9: "Cheston to Debenture-Holders."
[23] Skouloudis Papers, Box 41, Folder 9: Steele to Wickes, "Report on the Results Obtained by the Company's Estate Department with the Farming and Cultivation of the Lake Copais Property During the Year 1897," April 12, 1898, 2.

It took the British engineers decades to solve the problems of the Interior Drainage Works. Early on, they began trying to pump the water out of the lowest points of the basin where it pooled.[24] At first, the British engineers constructed a temporary pumping station using coal-powered Gwynnes pumps.[25] In 1902, they replaced this temporary station with a permanent hydroelectric pump. The hydroelectric plant, finished in 1902, was powered by the 8–9 meter drop from the Karditsa Tunnel to Lake Yliki. The plant did not produce enough energy to power a "large industrial city"[26] as the French engineers predicted, but it did power the pump as well as the lights on the Kopaïs estate.[27] This new pump, however, proved inadequate to handle floods in 1904 and 1905. Additional works were then undertaken, including raising the heights of the embankments of The Grand Canal and the Marsh Canal, improving dams, creating flood overflows and new inlets, clearing the canals of silt, widening and deepening the Interior Canal, and installing automatic doors.[28] Even when these works were completed, the Emissary Canal still could not handle heavy precipitation. A new pumping station was built in 1913, but flooding still occurred on the Kopaïs estate, causing significant damage to cultivated land almost every year.[29] The flooding problem was not finally solved until 1923 when the British company deepened the canals.[30]

The Exterior Drainage works, meanwhile, or the canals intended to drain Lake Yliki into Lake Paralimni and then into the North Euboean Gulf, underwent a substantial scaling-back

[24] Dean, "Lake Copais," 290.
[25] "Power Transmission in Greece," *The Electrical Review* 52, no. 1,328 (May 8, 1903): 785–787.
[26] Skouloudis Papers, Box 34, Folder 6: "Summary Note on the Last Drying Project (Approved by the Greek Government, and on the Current State of the Work)," 1884, 6–7.
[27] "Power Transmission in Greece."
[28] Dean, "Lake Copais," 291–292.
[29] Papadopoulos, "The Drainage and Exploitation," 165–166.
[30] The Lake Copais Co. Ltd., *Short Review*, 6.

when the British took over. Due to the expense of correcting the botched Interior Drainage Works, the British company was forced to abandon some of the French company's intentions for the Exterior Drainage Works. Most notably, the British company deemed the Hungara tunnel, connecting Lake Yliki to Paralimni, to be too expensive, and this project was scrapped. The irrigation works were also judged to be impracticable, and this project was abandoned as well.[31]

From Wetland to Company Land

In addition to these technical problems, the Lake Copais Co. Ltd. also had to deal with a much bigger challenge in order to make the Kopaïs estate profitable: the peasantry. The British company had to turn Boeotians away from transhumant pastoralism and diversified subsistence agriculture and make them into settled, intensive monoculturalists. The British Company also clashed with the Boeotians over their different views of land and who had the right to use it. This conflict was fought in the courtroom, in the Parliament, and occasionally in the countryside with violence between Boeotian villagers and the field guards of the Kopaïs estate.

In the initial agreement between the French company and the Greek government signed in 1882, the extent of the Kopaïs estate after draining the lake was determined to be 210,000 stremmas. Of this, the French company was granted outright ownership over 80,000 stremmas and right of usufruct over the remaining land for a term of 99 years.[32] This concession included not only the area covered permanently by the lake but also most of the Kopaïs floodplains. With this concession, the understanding that wetlands are wastelands was enshrined in law. Even though the land and the lake were being used, this concession deemed such usage illegitimate.

[31] Dean, "Lake Copais," 290.
[32] Melios and Papadopoulos, "Το Κωπαϊδικό Ζήτημα," 1163–1165.

In fact, half of the land granted to the French Company by this concession was already claimed by other parties. A government investigation in 1881 found that of the land being granted to the French, 112,000 stremmas was already claimed by Kopaïs villagers. Claimants to 22,000 stremmas of this possessed legal titles—some Ottoman, some notarial—and the rest were claimed by declaration made according to the 1871 land reform law intended to sell the so-called national estates to private land-owners. The lake being perennial, it was unclear how much of the land that was flooded for only part of the year was exempt from the 1871 law. A Royal Decree issued in 1875 made it explicit that the lake and its floodplains were not eligible for sale, but this did not stop Kopaïs villagers from making declarations on land that they used and saw as rightfully theirs.[33] As soon as negotiations began in 1881, there was resistance from the villagers who saw their land being taken away.[34]

To delay finding a permanent solution to this problem, the French company agreed to cede 15,000 stremmas (approx. 3,750 acres) of the estate to the Greek government as part of the 1882 settlement. In this way, if the villagers sued the government and won, there would be land to give them, even though the Kopaïs floodplains were considerably larger than 15,000 stremmas, and the 1881 commission found 22,000 stremmas already claimed by legal title.[35] The exact location of the 15,000 stremmas, moreover, was never specified in the agreement; instead, this issue was left to be resolved at a later date. The agreement refers to this land simply as, "such of the lands comprised within the circumference of the ordinary inundations of the waters of Copais, as have been declared the property of third parties."[36] Due to the lake's shifting

[33] Papadopoulos, "The Drainage and Exploitation," 120–122.
[34] Ibid., 120, 169–170.
[35] Papadopoulos, "Socio-Economic Effects," 370.
[36] The Lake Copais Co. Ltd., *Memorandum and Articles*, 58.

boundaries from year to year, "the circumference of the ordinary inundations" was quite vague and potentially vast.

The ambiguity of the French company's concession created problems during the draining of the lake. In 1884, the company's workers encountered resistance from the residents of Karditza. As the British Company administrator Robert Castle recounted two years later, "during the last twenty years, the planting and cultivation of Vineyards has been much extended round the margin of the Lake."[37] In March of 1884, "M. Darfour, agent of the enterprise, asked M. Proszynski to employ workers between boundary 200 and the lake, which is to say precisely *in the vines*." The peasants came to stop this work, which would have destroyed their vineyards.[38] As this example illustrates, it was evident from the beginning that it was unclear to the French company and the Kopaïs peasants alike where the land ceded to the French company began and where it ended.

In this very uncertain legal situation, the French company "completed" its works and then promptly declared bankruptcy. The residents of the surrounding villages had to adapt to the new reality that much of their lake had vanished forever and that land that they had used seasonally for farmland and pastureland and relied on for other resources had been converted into year-round agricultural land. In response, they moved into the newly drained land and claimed it as their own. When the Lake Copais Co. Ltd. assumed the operation of the Kopaïs estate, it began attempting to make the land productive and profitable. The villagers in the newly-drained Kopaic basin faced the reality that land that they had previously used for free now required the payment

[37] Skouloudis Box 35 Folder 4: "Robert Castle to Frank Lee, Report as to the General Circumstances, Present State and Condition … of Lake Copais…," October 1886, 15.
[38] Compagnie Française pour le dessèchement et l'exploitation du Lac Copaïs, *Renseignements sur la marche des travaux du Lac Copaïs* (Paris: Imprimerie et Librairie Centrales des Chemins de Fer, 1884), 25.

of fees.[39] Many of the villagers felt their traditional land use rights were being violated, and they resisted this new development. They challenged the notion that the British company was entitled to the land, they did not recognize its authority to collect rents, and they refused to pay.

The Lake Copais Co. Ltd. faced much resistance from the local population over the course of its operations. In 1888, the company sent a representative to the villages of Kopaïda to inform them of the company's rights. The representative reported success in the villages of Scripou and Petromagoula (i.e. Orchomenos), but elsewhere, villagers resisted. In November of 1888, villagers in Karia and Agios Dimitrios drove the company's tenants off of grazing lands and occupied the land, and soon, residents from Petra, Larymna, and Akraifnio did the same. In response, the Greek government sent 25 soldiers to break the occupation and support the British company's claims. By January of 1889, the British company reported that relations with the peasants were better, but hostilities broke out again in May of 1889.[40] Cheston wrote that, "From 1888 to 1890 the position of matters in the Copais district almost amounted to a state of civil war. Fights were of frequent occurrence, and it is not too much to say that the lives of the Company's agents were in constant danger."[41]

In October of 1890, Trikoupis and his New Party were voted out of office and replaced by the Nationalist Party of Deliyannis. Opposition candidates had gained support in Kopaïda by promising the villagers that, if they won, the Lake Copais Co. Ltd. would be expropriated and the land would be returned to them. When the change in government was announced, villagers from Agios Dimitrios, Petromagoula, Scripou, Larymna, and others destroyed the Lake Copais Co.'s

[39] Cliff Slaughter and Charalambos Kasimis, "Some Social-Anthropological Aspects of Boeotian Rural Society: A Field-Report," *Byzantine and Modern Greek Studies* 10 (1986): 122; Papadopoulos, "The Drainage and Exploitation," 169.
[40] Papadopoulos, "Socio-Economic Effects," 171.
[41] Skouloudis Papers, Box 41, Folder 9: "Cheston to Salisbury," 5.

boundary posts and tried to drive its field keepers and tenants from the estate.[42] In December of 1890, Sir Edward Monson, Britain's Foreign Minister in Athens, wrote to London that "In the latter part of the year 1890 the Company's keepers and tenants were attacked by armed peasants ; the crops grown on the Company's land were destroyed ; the agricultural implements of the Company were also destroyed, and Mr. Steele, the Company's Chief Agent, was threatened with death if he attempted to cultivate any part of the Copais lands." Monson described a "state of semi-warfare" that continued until the end of the year.[43] The Lake Copais Co. Ltd. appealed to the Greek government to support their claim to the drained land against the villagers surrounding the Kopaïs estate, but the government was slow to respond to this uprising. Eventually, the Nationalist Party government decided to intervene. In November 1890, Deliyannis sent the military into Kopaïda, and the villagers were driven from the estate.[44]

The Deliyannis government, however, did not want to appear to be allied with the Lake Copais Co. Ltd. against the villagers, and so in June of 1891, Deliyannis imposed a 1.5 million-drachma fine on the company for failing to complete the drainage works in a timely manner. When Trikoupis returned to power in June of 1892, however, he cancelled the fine imposed by the Deliyannis government. Skouloudis, then the deputy for Thebes, was made a member of Trikoupis's cabinet.[45] Gendarmes were ordered to patrol the villages of Topolia, Kokkino, Karditsa, and others, and order was restored by force in most villages of Kopaïda.[46]

For their part, to protect their interests in the land and oppose the claims of the company, villagers in the region continued to occupy and lay legal claim to company land. In September of

[42] Papadopoulos, "The Drainage and Exploitation," 173.
[43] Skouloudis Papers, Box 41, Folder 9: "Cheston to Salisbury," 6.
[44] Papadopoulos, "The Drainage and Exploitation," 176.
[45] Ibid., 184; Vassiades, "Stephanos Skouloudis," 1189–1190.
[46] Papadopoulos, "The Drainage and Exploitation," 184–185.

1892, for example, Cheston reported that villagers from Martino laid claim to 7,000 stremmas of company land, intending to divide it among the families in the village.[47] In all, landowners in the villages surrounding the Kopaïs occupied and laid legal claim to 7,000 acres of the Kopaïs estate, or about 28,000 stremmas.[48] This was considerably larger than the 15,000 stremmas set aside for this purpose.

In 1893, the Trikoupis government established a special commission led by Col. Metaxas to define the boundaries of the 80,000 stremmas held by the company and the 15,000 stremmas to be ceded to the government.[49] All individuals claiming land in the Kopaïs estate were directed to submit their titles to the Assessor of Taxes in Levadia for later review by the Metaxas commission. The flooding of 1893 prevented the commission from visiting Kopaïda until September 1894.[50] The Commission submitted its report late in 1894 recommending where the 15,000 stremmas should be expropriated. Trikoupis, however, resigned in early 1895 as a result of the fallout of the Greek debt crisis, and his government never published the report.[51] Subsequent Nationalist Party governments also refused to publish the report. Fearing popular unrest in response to the report's recommendations, the Deliyannis government refused to publish the report and even claimed it had been lost. Finally, in 1899, the Zaimis government published part of the report.[52]

Meanwhile, the Kopaïs Question remained unanswered. In 1895, violence once again broke out between the British company and the villagers of Kopaïs. In Kokkino, located just five

[47] Skouloudis Papers, Box 37, Folder 5: "Cheston to Skouloudis," September 19, 1892.
[48] The Lake Copais Co. Ltd., *Short Review*, 6; Slaughter and Kasimis, "Boeotian Rural Society," 121.
[49] Skouloudis Papers, Box 41, Folder 9: "Cheston to Salisbury," 7–8.
[50] Skouloudis Papers, Box 41, Folder 5: "Castelli to Skouloudis," May 9, 1893.
[51] Skouloudis Papers, Box 41, Folder 7: "Cheston to Debenture-Holders."
[52] Papadopoulos, "The Drainage and Exploitation," 194–197.

kilometers northeast of Karditsa, on the slopes of Mt. Ptóon, the residents were particularly hostile to the British claims. Before the lake was drained, the shepherds of Kokkino had adopted annual migration patterns in sync with the ebb and flow of the lake. Each summer when the lake receded, the land surrounding Kokkino and Karditsa became uncovered. The shepherds spent the winters grazing their sheep around Kokkino, and they descended every summer to graze their flocks on the exposed plains around Kokkino and Karditsa. Perhaps for generations, the villagers of Kokkino spent much of the year in these plains, grazing without charge, and they viewed this land as theirs to use. In the early 1890s, the British company tried to charge the shepherds from Kokkino and other villages grazing fees for using this land. The shepherds from Topolia and Karditsa resisted at first, but they eventually acquiesced to the company's claims and paid them rent to use the grazing lands, although their payments often fell short. The villagers of Kokkino, however, continued to refuse to pay. They did not recognize the authority of the British to charge rent to use this land, and they organized politically to resist the company. In the beginning of 1895, when the Trikoupis government fell and Deliyannis returned to power, the villagers of Kokkino elected a Demarch named Karayiannes who supported their claims against the British company. After his victory in the 1895 elections, company administrators believed that he had "roused the people to oppose the Company by force, and to shoot any of their representatives who interfered with them."[53]

In May of 1895, there were violent clashes between the Kokkino shepherds and the company's field guards when the latter began seizing animals that were being grazed without the proper fees being paid. One day in May of 1895, a British official, accompanied by some of the estate's field keepers, was riding between Topolia and Karditsa when he encountered a Kokkino

[53] Skouloudis Papers, Box 37, Folder 8, Steele to Cheston, 20 May 1895.

shepherd grazing a flock of 200 sheep. The official attempted to charge the shepherd for grazing, but the shepherd refused to pay, so the field keepers seized the sheep and took them to Karditsa. The shepherd then also went to Karditsa to retrieve his sheep, and he arrived accompanied by 20 other men. The field guards were outnumbered and had to return the sheep. Two days later, the event was repeated at a larger scale. A group of shepherds from Kokkino entered the Kopaïs estate with 1,000 sheep and 100 horses, and they refused to pay grazing fees when accosted by the field guards. The field guards then seized these animals as well and took them to Topolia. When the shepherds arrived in Topolia later in the day to claim their animals, the field guards let them in, thinking they had come to negotiate. Instead, the shepherds attacked the field guards with sticks, stones, and revolvers. The field guards returned fire and one of the shepherds was killed.[54] Residents of other villages also clashed with the British company. In 1896, villagers from Martino fought against the company's field guards, and it was reported that 100 shots were fired.[55]

From 1894 to 1918, there were continuous legal battles fought between the company and the residents of villages surrounding the Kopaïs estate. By 1900, there were 41 legal actions pending against the Company.[56] Decisions in favor of the British were ignored, however, and the matter was not finally settled until 1925. The Lake Copais Co. Ltd. and the Greek government eventually reached an agreement in which the government agreed to pay the company a £60,000 indemnity, and the company agreed to relinquish its claim to over 30,000 stremmas of seized land.[57]

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[54] Skouloudis Papers, Box 37, Folder 8: "Steele to Cheston," May 20, 1895.
[55] Papadopoulos, "The Drainage and Exploitation," 185.
[56] Ibid., 197.
[57] The Lake Copais Co. Ltd., *Short Review*, 7; Papadopoulos, "The Drainage and Exploitation," 320–345.

Risk and Resistance

How do we understand this resistance encountered by the Lake Copais Co. Ltd.? Are we to accept the British company's interpretation of events—that opportunistic peasants tried to steal land that rightfully belonged to the British company? Were the problems encountered on the Kopaïs estate really the result of "the infernal stupidity and greed of the peasants"?[58] I contend that the actions of the villagers of Kopaïda can be better understood through reference to risk. The French and British companies and their backers in Athens fundamentally transformed the region of Kopaïda and in so doing forced the inhabitants of the region to assume a greater risk that they would fail to meet their own subsistence needs. The villagers responded by laying claim to the land they needed—and which they had previously used freely—in order to guarantee their ability to feed themselves and their families.

As elsewhere in the developing and colonized world, the conquest of nature in the late nineteenth century in Greece went hand-in-hand with the top-down effort to reform agricultural practices according to a profit motive and to reform the peasantry into rent-paying, market-oriented citizen-farmers. For entrepreneurial elites in Athens, Paris, and London to see a return on their investments, the land and the peasantry of Greece had to be transformed. In this way, development in Greece resembled a colonial encounter. It is no coincidence, after all, that before joining the Kopaïs project many of the French and British businessmen, engineers, and administrators involved in draining and operating the Kopaïs estate had gained their experience in the colonies. Wickes, for example, the British company's Chief Engineer from 1895–1899, was brought to Kopaïs because of his experience with irrigation canals in India.

[58] Skouloudis Papers, Box 37, Folder 6: Cheston to Skouloudis, 24 Feb. 1893.

To outside reformers—whether Saint-Simonians like d'Eichthal, Western European finance capitalists like de Montferrier or John C. F. Lee, or New Party modernizers like Trikoupis and Skouloudis—the way the peasants of Kopaïs were using their land was wrong, and the way they were working was not truly labor. This attitude can be seen in a phrase that is occasionally used in French accounts of the draining of Kopaïs: "la loi divine du travail," or "the divine law of work." A characteristic example comes from an 1886 issue of the French popular science periodical *Cosmos*, in which the author wrote that, once Kopaïs was drained, the peasants of the region would "bend to the divine law of work: they will take the hoe, and heaven will reward their efforts with rich harvests."[59] The French traveler Henri Belle also used this phrase to describe the miasmas that he thought emanated from wetlands and their effect on the work ethic of the inhabitants of the region. He wrote that "The most beautiful provinces of the kingdom are thus rendered uninhabitable by the miasmas emitted by the uncultivated or inundated lands. Nature seems to want to punish the men for the contempt that they profess for the sacred law of labor. If the Greeks had less scorn for agriculture and applied there their activity and their intelligence, if the government took more concern for the general well-being and national prosperity, in ten years the average life would be augmented by a third and the public wealth would triple."[60] Making the peasants of Kopaïda into tenant-farmers was not just an economic pursuit—it was presented as a way to improve the moral character of the Greeks.

The British and French companies and their supporters in Athens approached the Kopaïs project with a capitalist logic in which the main motivation was to increase profits. In pursuing this goal, they were willing to assume a greater risk. As we have seen, however, the British and French company administrators did not fathom the amount of risk they themselves were

[59] Bailly, "Le Lac Copais."
[60] Belle, *Trois années en Grèce*, 136.

undertaking in trying to transform the region; had they sought to account for the additional risk they were imposing on the villagers of Kopaïda, the evidence suggests the French or British company administrators would not have been able to accurately assess this either. The French company records in particular embody the boundless optimism of the age—nowhere do they consider the dangers of fire, floods, droughts, locusts, crop failures, or earthquakes. The records from the formation of the British company and its purchase of the French company similarly neglect these dangers.

For the villagers of Kopaïs, their region was changed forever upon the completion of the French company's works. They were suddenly being forced to assume much more risk than they had before, and it was not even clear how or if they would partake in the company's profits. The villagers of Kopaïda had lost resources, their subsistence was threatened, and they took actions to minimize their risk of substance failure. In Kopaïda, as in other peasant societies, subsistence was the main goal. As James C. Scott has written, in peasant societies, "the cultivator prefers to minimize the probability of having a disaster rather than maximizing his average return."[61] This does not mean that peasants did not take risks, but they did so only once their own subsistence was assured. As Gallant has written, "If, for example, the previous harvest has been bountiful and the weather signs were favorable, peasants readily implement different, more risky, production strategies than they would if the last harvest had been lean, if the storage bins were running low, or if the portends predicted drought. Production decisions are thus contextually sensitive and contingent on a number of factors."[62] When the villagers of Kopaïda were burdened

[61] James C. Scott, *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia* (New Haven, CT: Yale University Press, 1976), 18.
[62] Gallant, *Risk and Survival*, 8.

with additional risk, they took action to balance the scales—to guarantee that the subsistence needs of their families were met.

Conclusion

The Kopaic basin at the end of the nineteenth century became an arena for a conflict between two different forms of agriculture. The first was the system of agriculture that had pertained in Kopaïs before the arrival of French engineers. This was the traditional Mediterranean system, developed in concert with the region's capricious climate and characterized by diversified subsistence agriculture and transhumant pastoralism. The function of this system was to make full use of the micro-ecologies of the region and minimize the risk of subsistence failure. The second form of agriculture was one imposed upon the region in opposition to its climate and ecology. Characterized by settled agriculture and monoculture, it was high risk and driven by the desire to maximize profits. These competing perspectives were brought into conflict when the lake was gone and the British company attempted to assert its ownership over the Kopaïs estate. To borrow again from James C. Scott, the conflicts in Kopaïs can be understood as a struggle between high-modernist ideology and "metis," or local knowledge.

At the same time, as seen in the previous chapter, the project to drain Kopaïs was inspired by a desire to restore the Greek landscape to its ancient state. Many of the boosters of the Kopaïs project were inspired by their belief in the superiority of the Greek landscape in ancient times when the lake was drained. Boggy Kopaïs represented a decline from the imagined fertility of the region in antiquity. When the lake was drained, however, it was discovered that the soil was not as fertile as imagined. Draining the lake was not a correction of a flawed natural resource; rather,

it marked an attempt to reshape the region according to the ideology of outsiders and in opposition to the normal characteristics of the Mediterranean ecology.

The British company fought for decades to make the Kopaïs estate profitable—through lawsuits, popular resistance, the Great Depression, the Nazi Occupation, and the Greek Civil War. The experiment finally ended in 1953 when the long-suffering Lake Copais Co. Ltd. sold the Kopaïs domain to the Greek government, which distributed the land in parcels to private owners.[63] As a late realization of Pochet's vision, Kopaïda is now among the most productive agricultural regions in Greece—albeit too late for any French or British shareholders to benefit. Along the way, however, a rich ecosystem was destroyed. Not long after Kopaïs was transferred to Greek ownership, states across Europe and North America turned away from large-scale, top-down water management projects as the unintended consequences of such projects were coming into view. Wetlands went from being seen as an enemy to be conquered to a vital resource to be preserved, valued for their role in promoting biodiversity and for acting as the "kidneys" of the world's river systems. There is a historiographical tendency to regard wetland reclamation with the same heroic tones adopted by the projects' boosters. Miasma theory has even been given a second life. A more measured approach is merited here informed by what has been learned about ecology since the nineteenth century. Although certainly not on the timescale of the optimistic projections of the French company, it is true that much was gained by the draining of Kopaïs. It must also be remembered that just as much was lost.

[63] The Lake Copais Co. Ltd., *Short Review*; Slaughter and Kasimis, "Boeotian Rural Society," 122–126; Papadopoulos, "The Drainage and Exploitation."

CHAPTER 7.
CONCLUSION

In the second half of the nineteenth century, Greek agricultural products became profitable export commodities. To satisfy foreign demand, primarily from Western Europe, for olives, raisins, cotton, figs, and other products, Greeks made immense changes to their environment. In the plains along the northern and western coasts of the Peloponnesian peninsula, British and French demand for currant raisins caused low-lying wetlands to be drained and hills to be terraced to make the landscape better suited to intensive, specialized currant viticulture. In the region of Boeotia in Central Greece, foreign demand for cotton as well as domestic demand for cereals created the imperative to drain Lake Kopaïs and convert the land into an irrigated estate for the intensive cultivation of cash crops.

At the close of the nineteenth century, the boom times for Greek export agriculture came to an abrupt end. A solution to the phylloxera crisis was discovered, and France implemented tariffs in the 1890s to protect its recovering wine industry. This alone halved the global demand for Greek currants. Simultaneously, raisins began to be grown on a commercial scale in California, further eroding the market for currants grown in Greece. After the Greek government had gone deeply into debt to fund a development strategy based on the continuing profitability of currants—and after many Greek cultivators had gone into debt to plant their fields with currant vines based on the same assumption—the market for Greek currants evaporated. The collapse of the Greek currant economy was part of a larger blow to Greek export agriculture as a whole. At the same time currant cultivators in Messenia, Ilia, and Achaia were organizing to promote a government retention scheme to alleviate the currant overproduction crisis, the London-based Lake Copais Co. Ltd. was embarking on a mission to make the newly-drained Kopaic basin produce a profit for its shareholders. The French company that had formed to drain the lake in

the early 1880s believed that Greek agriculture would be a profitable market long into the future. After the French company went bankrupt, the same belief would motivate its British successor company on its decades-long struggle with the topography, peasantry, and government of Greece.

The story of Greek export agriculture from boom to bust bears a striking resemblance to many other national and regional experiences along the Mediterranean basin in the late nineteenth and early twentieth centuries. After 1860, demand for Mediterranean agricultural products rose due to a general demographic growth in importing countries combined with the growing prosperity of the middle class in Western Europe. As a result, agricultural practice throughout the Mediterranean region departed from subsistence-oriented, risk-averse production, and it became more market-oriented, intensive, and regionally specialized. The path of the Egyptian economy during this period, for example, was very similar to the Greek experience. The Nile Delta became specialized in the production of cotton for export in the early nineteenth century. During the rule of Ismail Paşa, Khedive from 1863 to 1879, the state promoted more intensive cotton cultivation by investing, for example, in irrigation canals, ginning factories, railways, and steam ships. Like Greece, Egypt also benefited from the removal of American cotton from the global market due to the Union blockade during the U.S. Civil War. As a result of these developments, Egypt experienced a boom period for cotton. Cotton production quadrupled from 1850 to the mid-1860s, and the Delta turned to virtual cotton monoculture. The cotton boom in Egypt helped to fund state building and infrastructure, educational reforms, and other modernization projects. By the 1880s, cotton from the American South returned to the global market, and Egypt's fortunes were swiftly reversed. The state's resulting inability to repay

European loans was one of the reasons Egypt became a British protectorate in 1882.[64] The Bursa silk industry provides another example. In the early nineteenth century, the silk industry in France began to mechanize. More efficient production led to increased demand for raw silk, and when domestic silk production was no longer able to meet France's industrial silk-spinning capacity, raw silk production in Bursa thrived, as it did in Messenia. The silk boom in Bursa ended with the First World War. In Bursa, the boom and subsequent collapse of the silk industry followed a very similar trajectory to that of the Greek currant industry.[65]

Many Aegean islands under Ottoman rule also experienced a similar monocultural boom and bust during the long nineteenth century. From 1850 on, the Aegean islands in general and Lesvos in particular became regional suppliers of olives and olive-based commodities such as oil for lighting, industrial lubricant, and olive-based soap.[66] The olive export economy allowed Lesvos to rely on international trade to meet its subsistence needs and to import manufactured goods from Europe.[67] Unlike the Peloponnesian currant economy, however, the primary destination of Aegean olives was not Western Europe, but Russia, Romania, Bulgaria, and the Ottoman Empire—Lesvos supplied olives and olive-based products to consumers throughout the Asia Minor hinterland.[68] To support the increasing demand for olives, cultivators transformed the landscape of the island by replacing forests and other land uses and by stretching terraces up into the hills and mountains in order to exploit land that otherwise would not be suitable for

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[64] Owen, *Middle East*, 122–152; William L Cleveland and Martin P Bunton, *A History of the Modern Middle East*, 5th ed. (Boulder, CO: Westview Press, 2017), 75–95.
[65] Donald Quataert, "The Silk Industry of Bursa, 1880–1914," in *The Ottoman Empire and the World Economy*, ed. Huri Islamoğlu-Inan (Cambridge: Cambridge University Press, 1987), 284–299; Murat Çizakça, "A Short History of the Bursa Silk Industry (1500–1900)," *Journal of the Economic and Social History of the Orient* 23 (1980): 142–152.
[66] Kizos and Koulouri, "Agricultural Landscape Dynamics"; Sifneos, "On Entrepreneurs."
[67] Sifneos, "On Entrepreneurs," 252.
[68] Sifneos, "On Entrepreneurs"; Kizos and Koulouri, "Agricultural Landscape Dynamics."

agriculture.[69] In 1912, Lesvos was annexed to the Kingdom of Greece. This disrupted the island's trade with the Ottoman Empire, the olive trade on the island stagnated, industry declined, and Lesvos's economy entered a recession.[70] A similar trajectory is seen with citrus fruits in Sicily, raisins in Smyrna and Málaga, and prunes in Serbia.[71]

Foreign demand for Mediterranean agricultural products disappeared at the end of the nineteenth century, and Greece entered an economic crisis. Through great investment of labor and capital, the Greek landscape had been dramatically altered to suit the needs of a market that was no longer there. These changes to the landscape made the experience of the crisis worse. In the old rural economy, peasant cultivators could rely on diversified agricultural production and fragmented landholdings to manage during a crisis. In many regions, however, this diversification had been supplanted by homogenous, capitalist agricultural landscapes that promised higher yields and higher profits, but only if foreign demand grew steadily and weather conditions remained optimal. Landscape transformation in the late nineteenth century also eliminated vital resources which had helped in the past to make up for failed harvests and to relieve rural labor surpluses. Woodlands in the mountains of Greece and wetlands in the low-lying plains, such as the Lake Kopaïs region and the marshy coasts of the Peloponnese, supplied peasant families with food, fuel, building materials, and commodities for exchange. As these landscapes were converted into single-use agricultural land, the resources they once provided were eliminated as well. Permanent settlement had also become more concentrated in places where cash crops could be grown. Much of this was in low-lying plains where drainage works required constant maintenance to prevent flooding. With diversification curtailed, marginal

[69] Kizos and Koulouri, "Agricultural Landscape of Lesvos," 186.
[70] Sifneos, "On Entrepreneurs"; Kizos and Koulouri, "Agricultural Landscape Dynamics."
[71] Critz, Olmstead, and Rhode, "Horn of Plenty."

resources gone, and new settlement patterns adopted, the crisis was more acutely felt by peasant cultivators, and Greece's economic recovery was delayed.

These changes, moreover, were not easy to undo. In many cases, rural populations were too deeply in debt to replace their crops. Often, the only option remaining was to abandon their land and emigrate abroad. The late nineteenth century marked the beginning of the great migration of Greeks to the Americas in search of better opportunities. In Greece, the resulting labor shortages and landscape abandonment would become defining characteristics of the Greek countryside. As a result, the Greek rural economy remained impaired throughout the twentieth century.

Because of the reversals at the end of the nineteenth century, the transformations made to the Greek landscape in the second half of the nineteenth century have receded from view, as have the technological changes and industrial development that accompanied these transformations and helped to sustain them. It is often assumed in the historical literature that Greece and other places in Mediterranean Europe were late modernizers—that agricultural advances, technological change, and industrial development were completely new in these places after the Second World War. In fact, these post-1945 developments marked the renewal of a process that began much earlier. Before the slump and stagnation in the early twentieth century, Mediterranean Europe experienced a "wave of technology" similar to the advances seen in Northern Europe at the same time.[72] Mediterranean Europe did participate in the Second Industrial Revolution; but unlike Northern Europe, the path of progress was interrupted. The legacy of this period survives in the present-day landscape of Greece, including vast stretches of

[72] Grove and Rackham, *Nature of Mediterranean Europe*, 80.

abandoned terraces and hundreds of deserted villages.[73] These remnants of another time are a reminder that the trajectory of development is not always linear. The Greek rural economy was at its apex in the 1880s, and it would take another century for the Greek countryside to attain these heights again.

[73] Gallant, *Edinburgh History*, 267.

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