PLANTING POLITICS:
PASTORALISTS AND FRENCH ENVIRONMENTAL ADMINISTRATION
IN THE NINETEENTH-CENTURY MEDITERRANEAN

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This study uses the lens of forest administration to examine the transformation of Mediterranean pastoralism over the course of the nineteenth century. Drawing extensively on archival research, it focuses on case studies in Provence, southwestern Anatolia, and northern Algeria. For thousands of years, mobile pastoralists, agriculturalists, and forests coexisted in the Mediterranean region. In the nineteenth century, French forestry became a global model for scientific forest management. Its influence extended across the Mediterranean into French colonial Algeria and Anatolia, where France established a forestry mission in collaboration with the Ottoman state. The appearance, implementation, and international spread of French scientific forestry coincided with the retreat and marginalization of Mediterranean mobile pastoralists, both within and beyond the borders of France.

These two developments exhibit striking and underappreciated connections. First, concerns over Mediterranean pastoralism were central to the formulation of French scientific forestry. In the late eighteenth and early nineteenth centuries, the French intellectual elite promoted environmental as well as socio-political justifications for opposing pastoralism, and Mediterranean mobile pastoralism in particular. French foresters led the way in these accusations. Their training and experience taught them to champion forests and vilify pastoralists. Yet the legislation and practices of the nineteenth-century French forest regime were
in many ways harmful to both. Secondly, the vehicle of scientific forestry provided moral justification for sedentarization efforts in hard and soft colonial contexts. From the French perspective, Ottoman sedentarization efforts in the nineteenth century supported the idea of progress, environmental conservation, and the *mission civilisatrice*. In Algeria, French colonists used claims of environmental destruction to portray nomadic pastoralists as less culturally advanced than settled agriculturalists. This narrative motivated efforts to sedentarize, and thereby civilize, indigenous tribes. Even within continental France, scientific forestry helped the central government to reign in its periphery by restricting the practice of mobile pastoralism in Provence. Finally, this study reveals the active roles that Mediterranean pastoralists played in the application and evolution of French scientific forestry. Over the course of the nineteenth century, they fought forest legislation in a variety of ways, forcing foresters to compromise and temper their goals. The relationship between French forestry and pastoralism prompted major changes in both forest administration and the Mediterranean pastoral industry.

The appearance of common themes and even characters in seemingly disparate parts of the Mediterranean affirms the value of a transnational approach to this subject, and indeed, its significance extends beyond Provence, Algeria, and Anatolia. It is representative of the nineteenth-century evolution of agro-sylvo-pastoral societies throughout the Mediterranean region. It is also a global story, illuminating the connections and conflicts between subaltern groups and the state. This dissertation presents new perspectives on the relationship among politics, societies, and the environment around the Mediterranean and around the world.
To Bobe, for sharing with me a passion for Mediterranean history.
# Table of Contents

Introduction: The Nomad and the Sea ................................................................. 1

Part I: Land, Society, and Ideology ................................................................. 29
     Defining Pastoralism ................................................................................. 31
     The Lay of the Land ............................................................................... 42
     Pastoral Traditions around the Mediterranean ........................................... 58
     Pastoralism and the Mediterranean Economy ............................................ 87

  2. Black Sheep: The Intellectual Roots of French Pastoral Politics ......................... 95
     Early Modern Perceptions .................................................................... 97
     The Birth of Conservationism ................................................................ 109
     Nineteenth-Century Declensionist Narratives ......................................... 123
     Reframing the Desert and the Sown ....................................................... 142

Part II: The Seeds of Sedentarization ............................................................... 166
  3. Counting Sheep: Mediterranean Mobile Pastoralism
     in the Construction of French Scientific Forestry, 1760-1860 ....................... 167
     Early Modern Forest Legislation in the Mediterranean ............................ 169
     The Development of French Scientific Forestry ....................................... 178
     The French Forest Code of 1827 ............................................................. 185

     of Land Laws and Property in Provence, Algeria, and Anatolia .................. 229
     Revolution, Property, and Pastoralism in France .................................... 233
     Land, Production, and Displacement in French Colonial Algeria ................. 249
     Landholding, Resettlement, and Sedentarization in Anatolia ....................... 271

Part III: Growth and Transformation .............................................................. 289
  5. Baptism by Fire: Mobile Pastoralism and Natural Disasters
     in the Nineteenth-Century Mediterranean .............................................. 290
     A Disastrous Century ............................................................................. 294
     Pastoralists Under Fire ......................................................................... 322

  6. The Forest for the Trees: Pastoralists and Foresters
     under the French forest regime, 1827-1903 ............................................. 355
     Consolidation and Compromise in French Forestry, 1827-1870 .................. 357
     Foresters Strike Back: Reforestation and Repression, 1860-1903 ................. 377
     Mediterranean Forests and Pastoralists at the Turn of the Twentieth Century .... 405

Conclusion: Sheep to the Slaughter? .................................................................. 426
Bibliography ..................................................................................................... 439
ILLUSTRATIONS

Figure A: Mean High Temperatures in Marseille, Antalya, and Constantine ....................... 8
Figure B: Mean Number of Days with Precipitation and Total Precipitation (mm) by Month in Marseille, Antalya, and Constantine ................................................................. 9
Figure C: Provence, Northern Algeria, and Southern Anatolia in the Mediterranean World ..... 15
Figure 1.1: Provence, Northern Algeria, and Southern Anatolia in the Mediterranean World .... 43
Figure 1.2: Map of the Bouches-du-Rhône Department, 1841 ........................................... 44
Figure 1.3: Topographic Map of Northern Algeria Showing Kabylia .................................... 54
Figure 1.4: Anatolia, Showing the Boundaries of Modern Turkey ........................................ 57
Figure 1.5: The Merino ............................................................................................................. 61
Figure 1.6: Merino Sheep Grazing in Riez .............................................................................. 62
Figure 1.7: Postcard: “Return of the Herd, Excerpt from Mireille [Mirèio]” ....................... 71
Figure 1.8: Mirèio, Canto IV: The Suitors ............................................................................. 74
Figure 2.1: Nicolas Poussin, Landscape with the Gathering of the Ashes of Phocion, 1648 ..... 125
Figure 3.1: Students at the École nationale des eaux et forêts à Nancy (c. 1861) ............... 191
Figure 3.2: Tourists Arrive in the Forest of Sainte-Baume .................................................... 198
Figure 3.3: Postcard of a Nomadic Tahtacı Tribe Near Izmir ............................................... 217
Figure 4.1: Communal Pasture Use in Roquefort-la-Bédoule, 1809-1885 ......................... 246
Figure 4.2: Sheep Grazing in the Bouches-du-Rhône, 1779-1865 ........................................ 248
Figure 4.3: The Population of French Colonial Algeria, 1856-1861 .................................... 261
Figure 5.1: The Incidence and Expense of Algerian Wildfires, 1876-1899 .......................... 330
Figure 5.2: Annual Number of Fires Reported in Algeria, 1876-1912 ............................... 346
Figure 6.1: Changing Prices of French Wool, 1850-1910 ................................................... 391
Figure 6.2: The Crau in the 1930s ......................................................................................... 392
ABBREVIATIONS

ANOM: Archives nationales d’Outre Mer, Aix-en-Provence

BNA: British National Archives

BDR: Archives nationales des Bouches-du-Rhône

BOA: Başbakanlık Osmanlı Arşivleri

CADN: Centre des Archives diplomatiques, Nantes

CARAN: Centre d’accueil et de recherche des Archives nationales, Paris
INTRODUCTION: THE NOMAD AND THE SEA

It is not part of a true culture to tame tigers, any more than it is to make sheep ferocious.

- Henry David Thoreau

In my sophomore year as an undergraduate at Princeton University, I decided, on what can only be called a whim, to attend a study abroad program based in the Mediterranean resort town of Alanya, Turkey. At that point, my academic interests were unfocused, though I had tentatively chosen an Art and Archeology major. I suspected that the Mediterranean coast might provide a nice change of scene from New Jersey’s vistas of strip malls, factories and urban run-off, though I had never visited Turkey and knew very little about the region. I was even less aware of the role that my semester abroad would play in my future academic career. Over ten years after returning from this first visit to Turkey, I am still pursuing its traces through questions connected to my experience.

The program included a two-week trip through Syria. My knowledge of that country was even more limited, though my ignorance saved me from sharing any of the apprehensions of my savvier fellow students. We traveled from southwestern Anatolia to Syria in a tortuous bus ride that took us up and down endless curves over innumerable passes through the rocky peaks and foothills of the Taurus Range, which frames the southern Mediterranean coast of Anatolia. In many places, the ‘road,’ which was actually a rough dirt track, was barely wider than our coach bus, and I remember being able to look straight down hundreds of feet onto swollen torrents

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1 Henry David Thoreau, Walking (Rockville, MD: Arc Manor LLC, 2007), 37.
rushing toward the sea. At the time, I wondered whether it was a local thirst for adventure-driving or a shortage of funds that made these roads so narrow and hair-raising. Later, I understood: many of the roads we took were updated versions of ancient tracks. They followed some of the onlypregnable paths through the Central Taurus Range. Long before the arrival of automobiles, they had been used by pilgrims, traders, officials, and nomadic tribes.

The most significant of these ancient passages is the Gülek Pass, better known in the West as the Cilician Gates, which link Anatolia’s central plateau to the coastal plains of Cilicia, near Adana, through a maze of rocky peaks. This pass has played a prominent role in history. Negotiating it proved a severe test for the forces of Alexander the Great and, later, for the Crusaders. Well into the twentieth century, it remained a challenging obstacle to transportation between Anatolia and the Levant. We stopped for lunch near the pass, and our program director, Dr. Scott Redford, used the opportunity to lecture on its strategic importance. Then, just as we were leaving, we noticed a cluster of people and animals lounging under the shade of hastily-constructed tents near the roadside. Dr. Redford stopped to chat with them, but we students were more interested in the group’s camels, which I had never seen outside of a zoo. When Dr. Redford returned he was beaming. “You are witnessing history,” he said. “These are the last of the nomads; in a few years, there will be no more.”

These words have stayed with me ever since. As I discovered then, the Cilician Gates, and the Taurus Range in general, were important landmarks not only for the people who sought to penetrate them, but also for the mountain dwellers who depended on them for vital resources, shelter, and protection. For centuries, nomads used the ancient route through the Gülek Pass to
lead great herds of sheep and goats between high pastures in the Taurus Mountains and sparsely populated plains along the coast of the eastern Mediterranean. Indeed, in the not-too-distant past, the leaders of nomadic tribes doubled as de facto rulers of these remote regions, while other members of their clan tended livestock and wove rich woolen carpets. Those who passed this way often did so with the help of these pastoralists, for many tribes raised and drove camels, the main form of transportation in the Anatolian peninsula through the late nineteenth century. Yet, by the time I arrived in the region at the turn of the twenty-first century, the nomads had all but disappeared, and those who remained were hardly representative of the powerful pastoral tribes that had long resisted central authority. Instead, they had been reduced to a rag-tag bunch of modest souls with a few scraggly camels.

This story is not unique. Around the world, mobile pastoralists and other peripatetic peoples have witnessed the demise of their traditional lifestyle over the course of the past two hundred years. This global trend raises a number of questions: What connections exist among the histories of mobile pastoral groups, and how are their stories distinct? What factors led to the decline and transformation of mobile pastoralism? What role did this development play in the evolution of the modern state? Was it the inevitable product of modernity? In what ways was it actively encouraged by human initiatives and policies? Why did these parties oppose mobile pastoralism, and how did they rationalize their views? What methods did they use to fight it, and how successful were they? Finally, what does this development tell us about the cultures, politics, societies, and environments of the peoples involved? Together, these questions form the heart of my inquiry. In this study, I attempt to address all of them and to answer some of them. Although
my investigation is limited to three specific cases in the Mediterranean, many of my conclusions are applicable to the history of mobile groups at large.

**Defining Mediterranean**

“The Turkish Mediterranean lived and breathed with the same rhythms as the Christian, [and] the whole sea shared a common destiny,” wrote Fernand Braudel in the Preface to the 1972 English edition of *The Mediterranean and the Mediterranean World in the Age of Philip II*.\(^2\) Since its publication in 1949, Braudel’s masterwork has done much to define the field of Mediterranean history and to promote geographical, transnational, and environmental approaches to history. Yet this work has not weathered the sixty-odd years since its appearance without controversy, and the Mediterranean world that historians contemplate today looks quite different from Braudel’s original conceptualization.

The contemporary scholarly community remains divided over the suitability of the term ‘Mediterranean’ to describe the environmental features of societies surrounding this inner sea. While many continue to acknowledge the presence of unifying environmental characteristics, some have begun to problematize traditional environmental representations of the region.\(^3\) In this vein, *The Corrupting Sea*, Peregrine Horden and Nicholas Purcell’s brilliant study of Mediterranean history and historiography, emphasizes the region’s “pronounced local

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irregularity” rather than its “common rhythms.” These and other scholars have systematically attacked and dismantled many of the features that seemed to define and unite the Mediterranean region. Over the same period, scholarship has produced a proliferation of ‘Mediterraneans’, microclimates and ecosystems within the Mediterranean region, as well as ‘Mediterraneanoids’, or pseudo-Mediterranean systems around the world. These iterations have served to further dampen and obscure whatever meaning ‘Mediterranean’ once held.

Others regard the Mediterranean model warily due to its association with colonial-era thought and other anachronistic ideologies. During the colonial era, members of the European elite promoted this concept based on their reading of classical authors and on their own limited, subjective interpretations of the Mediterranean region. In North Africa, French entrepreneurs encouraged colonization by emphasizing North Africa’s likeness to southern France, while intellectuals and officials used environmental metaphors to cast France’s Mediterranean empire as a successor to Rome. By the twentieth century, the presentation of the Mediterranean region as a single environmental unit had become so entrenched in European thought that it persevered long after the era of decolonization. It figured centrally in the philosophy of Fernand Braudel and other pioneers of Mediterranean history and human geography, and it continues to shape both scholarly and popular perceptions of the region today. Given its history, some view the idea of the Mediterranean as a discourse limiting and obstructing intellectual inquiry. The anthropologist João de Pina-Cabral, in a particularly sharp critique, claims that “the notion of the Mediterranean

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4 Horden and Purcell, 13.
6 For perceptions of the Mediterranean Sea and its role in surrounding societies during the classical era, see Horden and Purcell, 10-12. See also Chapter Two.
7 For an excellent survey of the historiography of the Mediterranean, see Horden and Purcell, 26-45.
Introduction: The Nomad and the Sea

Basin as a ‘culture area’ is more useful as a means of distancing Anglo-American scholars from the populations they study than as a way of making sense of the cultural homogeneities and differences that characterize the region.”8

Despite its weaknesses, the idea of a Mediterranean-type environment has obvious merit. Indeed, even the harshest critics of the term ‘Mediterranean’ tend to employ it extensively, implying that, as problematic as this concept may be, it is far from obsolete. It provides a convenient label, allowing and encouraging transnational investigations of the region. This term is particularly useful for environmental studies because it oversteps the often arbitrary political divisions of states, replacing them with broad limit-zones that are more representative of geographical and ecological issues. Moreover, the ‘Mediterranean’ concept reveals legitimate and illuminating environmental connections; the challenge for scholarship is to remain mindful of such connections as well as of the region’s microecologies, the subtle or sometimes dramatic variations from place to place.

The Mediterranean environment undoubtedly represents the most vivid bond among the pastoral industries that surround this inner sea. Whether in Greece or Spain, Italy or Algeria, flocks of sheep traipse through similarly sun-burnt shrublands each spring to reach the greener mountain pastures beyond and above them. Visitors to far-flung parts of the Mediterranean world return with like impressions of vineyards, olive trees and orchards, craggy limestone outcrops, and hot, dry summers. Yet the ecological differences within and among Mediterranean states, though perhaps less perceptible and certainly less prominent in popular accounts, are just as significant.

8 Pina-Cabral, 399.
The Mediterranean environment is typically represented through its climate. Characterizations of the region’s warm, dry summers and cool, wet winters are so ubiquitous in literature on the subject that they appear clichéd. Nonetheless, there are irrefutable scientific reasons behind the climatic continuities of the Mediterranean region. The sea lies in a mid-latitude position, which makes it susceptible to multiple meteorological systems. In the winter, westerly wind belts descending from northern latitudes bring precipitation along with relatively mild temperatures. In the summer, the arrival of subtropical high pressure systems from the south creates a hot, dry climate. The Mediterranean Sea acts to extend the influence of these climatic features far inland into a broader Mediterranean zone. The convergence of multiple weather systems in this region also leads to the appearance of occasional high-speed local winds.

The Mediterranean climate, however, is far from uniform. The dramatic topography of the region, with its coastal mountain ranges, connection to multiple continents, and proximity to the Atlantic Ocean, promotes the formation of significant regional variations. Rainfall often forms in the lee of mountain ranges, which are nearly always visible along the Mediterranean coast. These high-elevation landforms can capture the precipitation of moisture-laden weather systems from the north and west, making Mediterranean mountains particularly humid. The sea also contributes to the appearance of diverse microclimates within its surrounding states. Thus the average annual rainfall (501 millimeters) in Marseille is considerably lower than the 584

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10 Ibid., 69.
11 Ibid., 77-78.
12 McNeill 1992, 12. McNeill notes that if one travels along the Mediterranean coast, except along the lowlands between Tunisia and Sinai, one is almost always in sight of both mountains and sea.
millimeters received on average by its northern neighbor Aix-en-Provence, just 20 miles uphill.\textsuperscript{14} There are also regional differences. Landforms closer to the Atlantic tend to benefit from less extreme temperatures, while much of the eastern Mediterranean, under the continental influences of Central Europe and Asia, hosts a drier climate that is hotter in summer and colder in winter.\textsuperscript{15} Finally, temperatures rise gradually from north to south, so that the sea’s southern coast is in general warmer than its northern one. The average annual temperature ranges for major cities in Provence, southwestern Anatolia, and northern Algeria, shown in Figure A below, reflect these variations.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure-a}
\caption{Mean High Temperatures in Marseille, Antalya, and Constantine.} \textsuperscript{16}
\end{figure}

The three regions also display comparable but distinct patterns of rainfall, as seen in Figure B, which shows the average number of wet days per month as well as the monthly mean precipitation in millimeters (shaded) for Marseille, Antalya, and Constantine. Under the

\textsuperscript{14} “Monthly Averages for Aix-en-Provence,” The Weather Channel. Web: http://www.weather.com/weather/climatology/monthly/FRXX0001?x=0\&y=0 (accessed 6 July 2013). Averages based on 20-year record. See also Figure B below.

\textsuperscript{15} Harding, Palutikif, and Holt, 69.

influence of nearby coastal mountain ranges, Antalya receives nearly twice as much annual precipitation as either of the other two cities. Most of it falls in mid-winter, from December to February. Antalya’s summers are also the sunniest and driest. Marseille, by contrast, experiences the fewest wet winter days and receives its heaviest precipitation in the fall. The mistral, a local wind that brings cold, higher-density air from the Massif Central and the Alps to the southern coast of France, maintains dry, cold, sunny conditions in Marseille on many of its winter days.\(^{17}\) Constantine’s wettest months are in the winter, but its summer range mirrors that of Marseille, with only a marginally higher average number of rainy summer days. Over the course of a year, Constantine experiences close to double the number of rainy days of Marseille and one third more than Antalya, but with significantly less accumulation, so that its total annual rainfall remains slightly lower than that of Marseille.

<table>
<thead>
<tr>
<th>Month</th>
<th>Marseille</th>
<th>Antalya</th>
<th>Constantine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>6.1</td>
<td>53.6</td>
<td>12.6</td>
</tr>
<tr>
<td>Feb</td>
<td>5.1</td>
<td>43.5</td>
<td>10.8</td>
</tr>
<tr>
<td>Mar</td>
<td>4.8</td>
<td>40.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Apr</td>
<td>6.3</td>
<td>57.9</td>
<td>6.4</td>
</tr>
<tr>
<td>May</td>
<td>4.9</td>
<td>41.2</td>
<td>5.3</td>
</tr>
<tr>
<td>Jun</td>
<td>3.5</td>
<td>25.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Jul</td>
<td>1.4</td>
<td>12.6</td>
<td>0.6</td>
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<td>Aug</td>
<td>3.1</td>
<td>31.4</td>
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<td>4.1</td>
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<td>5.6</td>
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</tr>
<tr>
<td>Total</td>
<td>56.4</td>
<td>554.6</td>
<td>75.4</td>
</tr>
</tbody>
</table>

**Figure B** Mean Number of Days with Precipitation and Total Precipitation (mm) by Month in Marseille, Antalya, and Constantine.\(^{18}\)

\(^{17}\) Ibid., 77.

The amount of rainfall in the Mediterranean region varies substantially each year. To measure this statistic, scientists use the coefficient of annual rainfall variability (CV). In general, Provence, southwestern Anatolia, and northern Algeria all fall within the same range of 15 to 25 percent, placing them on scale with most of North America and Europe. These figures, however, hide the substantial degree of local variability that exists within each of these regions. In much of the Mediterranean region, rainfall is less consistent. Spain and Syria share a CV of 35 percent, and annual rainfall variability reaches over 45 percent in parts of the Levant and the North African coast. This variability is just as significant a factor in the development of vegetation systems as is rainfall itself. In the drylands and regions of high rainfall variability that characterize much of the Mediterranean world, unirrigated agriculture becomes a risky venture with poor returns. In such systems, mobile pastoralism offers a somewhat more reliable way for inhabitants to weather climatic ‘disturbances’, including droughts, floods, and frosts, by making use of more extensive territory. Thus, inhabitants may choose this practice as a replacement or a supplement for agricultural production.

The Mediterranean climate is mutable in another way; it has changed with time, and these changes also have played a vital role in the development and transformation of Mediterranean ecosystems. For the purposes of this study, the most significant temporal shift in climate...
Introduction: The Nomad and the Sea

occurred during the Little Ice Age (c. 1450-1850). In the fifteenth century, the onset of the Little Ice Age brought cooler, wetter conditions to the Mediterranean region. Further north, glaciers advanced, which led to increased flooding in many places in the eighteenth and nineteenth centuries, as the Little Ice Age retreated. The Little Ice Age and its environmental effects contributed to significant depopulation in the Mediterranean world during the early modern era. This process created large expanses of uncultivated land that mobile pastoralists gradually converted to pasture. As environmental conditions improved in the mid- to late nineteenth century, Mediterranean populations increased, as did conflicts between mobile pastoralists and sedentary groups over access to land and resources. Just as mobile pastoralism may offer one of the few viable practices in sparsely populated areas with a relatively harsh climate, it tends to become impractical and impracticable in regions of high population density.

Climatic factors have always exercised a major impact on the quality and quantity of flora in Mediterranean ecosystems. Rainfall patterns determine the types of plant communities that can survive without irrigation. Mediterranean vegetation therefore tends to be well adapted to the hot, dry summers and cool, wet winters that characterize the region. Climate systems also affect the formation and distribution of soils. The diverse range of climatic influences in the Mediterranean region has led to the formation of wide soil variability. The northern basin boasts a higher percentage of soils classified as nutrient rich: 16 percent compared to just 1.3

24 Macklin and Woodward, 344. See also Chapter Five.
Introduction: The Nomad and the Sea

percent in the south. Yet, throughout the Mediterranean world, soils tend to be thin, making them susceptible to runoff and erosion, as well as nutrient poor, limiting the types of flora – and thus fauna – that the region can support.

Mediterranean vegetation has also adapted to the habitual presence of drought and fire. Indeed, most scientists agree that fire is an essential part of the life-cycle of plants regarded as typically Mediterranean. Maquis shrublands are the most widespread form of vegetation in the region. They are ubiquitous along the Mediterranean coastline and frequently appear inland as well. Maquis communities are resistant to high temperatures, drought, and fire. They can survive under a wide range of precipitation regimes, temperature extremes, and soil types. Although some vegetation is locally distributed, many of the same species dot shrublands around the Mediterranean. Common plant species include the olive tree, holm oak, kermes oak, cork oak, juniper, and Aleppo pine, as well as aromatic taxa such as rosemary, lavender, and thyme.

The Mediterranean basin has long been subject to extensive human settlement and its attendant environmental effects. Indeed, the mark of human habitation is so deeply-rooted and widespread that ecologists no longer speak of a ‘natural’ Mediterranean environment. Through long-term human interaction, the Mediterranean environment has adapted to human practices. Much of the

27 Wainwright, 179.
29 Allen, 203. See also Wainwright, 173; and Davis 2007, 184.
30 Allen, 204.
31 Ibid., 205-206. Maquis communities are found in regions of annual precipitation ranging from 200 mm to 1500 mm per year and where the lowest monthly average temperature is not below 32˚ F.
32 Ibid., 206.
region is thus covered with vegetation that is resistant to or even dependent on grazing.\(^{34}\) Since the introduction of domesticated sheep and goats some ten thousand years ago, grazing has helped to prevent the invasion of open vegetation communities by trees and other woody species, preserving species diversity and tempering wildfires.\(^{35}\) In addition, traditional agro-pastoral practices facilitated the return of nutrients to the earth, which provided fertilization and prevented soil degradation.\(^{36}\) Today, most scientific scholars consider undergrazing to be just as great a threat to the Mediterranean environment as overgrazing, if not greater.\(^{37}\)

When considered together, the histories of Provence, southwestern Anatolia, and northern Algeria reveal illuminating patterns, many of which are due to their common Mediterranean heritage. This work thus aims to redeem certain aspects of Braudel’s vision by demonstrating the value of a trans-Mediterranean perspective. As I show in the chapters that follow, the pursuit of pastoralism throughout the Mediterranean provides a powerful connecting theme within the history of the region. For thousands of years, the inhabitants of disparate points around this inner sea pursued forms of pastoralism that were both alike and distinct from pastoral industries in other parts of the globe. Nonetheless, as the cases of Provence, southwestern Anatolia, and northern Algeria attest, Mediterranean practices and the environments that supported them were not the same. The theme of pastoralism exposes ways in which these three systems were both united and unique, and this work endeavors to acknowledge and explore the differences as well.

\(^{35}\) Allen, 220. For the history of sheep domestication, see Chapter One.
\(^{36}\) Wainwright, 179.
as the similarities among my three case studies. Their pastoral industries, moreover, followed dramatically different trajectories during the course of the nineteenth century. The reasons behind this divergence are just as significant to historical understanding as are the common threads that long bound these three places together.

**Of Forests, Fields, and Pasture**

In this study, I use the lens of French scientific forestry to explore the transformation of Mediterranean mobile pastoralism over the course of the nineteenth century. During this period, perceptions of environmental decline among the French elite contributed to the demonization and ultimately to the transformation of mobile pastoralism in Provence, Algeria, and Anatolia (see Figure C below). Historians prefer dynamic subjects, and my focus is no exception. Prior to the nineteenth century, much of the land surrounding the Mediterranean Sea was the stomping ground of small livestock. White flurries of flocks of sheep covered coastal plains and hillsides. By the early twentieth century, however, travelers to the region were more likely to notice expansive vineyards, olive trees, and sunny beaches, or the proliferation of casinos. In the three Mediterranean contexts of my study, mobile pastoralism entered the nineteenth century as a thriving, lucrative, and dominant enterprise with a deeply-rooted past. By the century’s end, it had faded into a marginal, archaic custom, an evanescent vestige of its former self.
Any investigation of mobile pastoralism requires a transnational approach, since this practice everywhere has been shaped as much or more by environmental features than by national borders. Nowhere is a transnational perspective more valuable than in the Mediterranean region, one of the few places where agriculturalists and mobile pastoralists have shared space for thousands of years. The pastoral heritage of Provence, Algeria, and Anatolia represents a unifying factor that oversteps their political and cultural distinctions. Yet these three Mediterranean regions are connected not only through their climate, geological and ecological features, and traditional agro-pastoral economies. Their histories also reveal the common

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experience of French scientific forestry, which in all three cases proved instrumental in the
nineteenth-century transformation of their mobile pastoral industries.

The French scholar Georges Bertrand once remarked, “Historians are really only interested in
forests […] once they are cleared.”39 In a way, my study confirms this statement. It involves both
forest clearance and disappearance, and it uses the statistics and chronology of deforestation to
examine the ways in which environmental perceptions of this trend shaped nineteenth-century
practices. Nevertheless, for Mediterranean forests as well as pastoralists, mine is ultimately a
story not of destruction, but of transformation and survival against significant odds. Bertrand’s
comment, however, certainly holds true for the inhabitants of the nineteenth-century
Mediterranean region. Not until they were convinced of the dire fate of their woodlands did they
take effective action to save them.

It is no coincidence that the decline of Mediterranean pastoralism occurred in a period haunted
by the specter of deforestation. Nor is it surprising that in Anatolia, as well as Provence, Algeria,
and other Mediterranean contexts, the main forces behind forest administration were French.
Although German forestry may have enjoyed slightly greater international renown in the early
nineteenth century, France was the unofficial leader in Mediterranean scientific forestry. France
also had a rich history of association with the Ottoman Empire, solidified through common
enemies and their shared ‘border’, the Mediterranean Sea. At the same time, France was also
home to some of the age’s harshest and most vocal critics of Mediterranean pastoralism. Their

39 “Les historiens ne se sont vraiment intéressés à la forêt […] que lorsqu’elle était défrichée.” Georges Bertrand, “Le
et perspectives,” Les Cahiers du Centre de Recherches Historiques. Archives 6 (1990), Online at:
http://ccrh.revues.org/2860 (accessed 5 Jan. 2013). This and all other translations mine unless otherwise noted.
view of this practice was directly influenced by gloomy prognostications about the state of the Mediterranean environment. In the early nineteenth century, a growing number of French scientists, scholars, officials, and intellectuals began to sound the alarm that the forests of France had reached a desperate state of degradation. They regarded the sparse, open woodlands of the Midi with particular concern, and many linked the evolution of this landscape to the ubiquitous presence of sheep and goats. From this angle, Mediterranean pastoralism appeared inefficient, environmentally destructive, unsustainable, and a threat to the region’s vital remaining forest resources. As the century advanced, French arguments against Mediterranean pastoralism came to be increasingly based on developing ideas of environmental conservation and sustainability. At the same time, such ideas became evermore widespread, entrenched, and effective in promoting anti-pastoral policies throughout the Mediterranean region.

The French forest regime’s anxiety over deforestation, its deeply-rooted aversion toward pastoralism, and its devotion to the cause of reforestation led it to exact harsh terms on the inhabitants of Provence. In the name of forest protection, the French forest administration fought transhumant pastoralism in Provence in four principal ways: by depriving communities of its profits, by redefining the forest and protected spaces to limit or prevent pastoral use, by shrinking pastureland through afforestation and agricultural expansion, and finally, by stepping up surveillance and law enforcement. In the process, French foresters encountered significant and persistent local resistance. The encounters between foresters and pastoralists in Provence played out in a variety of forms, ranging from sometimes violent conflict to compromise and accommodation.
Foresters were not the only forces in the battle against mobile pastoralism. Indeed, they often benefited from the support of powerful allies who were not necessarily concerned about environmental conservation. These figures ranged from policy makers to industrialists, entrepreneurs, and agriculturalists. For them, transhumant pastoralism was either a nuisance or a threat, presenting obstacles and limitations to their private interests. The influence of such individuals and groups, while not inconsiderable in Provence, had even greater implications beyond the borders of France.

The nineteenth-century forest administration’s treatment of Provence was unique within the context of France. In other parts of the country, foresters’ concerns about the impact of livestock took a distant second to concerns about the impact of local peasants themselves. In contrast to the relative indifference toward – or at most mild rebuke of – pastoral practices in northern and central France and the Northern Alps, the French forest regime pursued transhumant pastoralists in southern France with marked zeal. Nonetheless, to present Provence as a unique case would be a severe misrepresentation. Indeed, this example clearly shows the limitations of a national perspective. Once we shift our gaze to the Mediterranean region, striking patterns begin to appear. While pastoralists in Provence were fighting the French forest regime, mobile pastoralists in other parts of the Mediterranean region were facing similar challenges. More remarkably, their enemy was often the same: French foresters.

The French conquest of Algeria that began in 1830 provided a new mine for valuable resources and an outlet for settlement, but it also created new tensions and struggles for control of colonization and resources. Within this conflict, indigenous pastoralists became a convenient
scapegoat, as the colonial community quickly learned to enrich itself and settle disputes by dispossessing nomads, justifying these actions through charges of environmental destruction. By the mid-nineteenth century, an extensive narrative had evolved blaming Arab nomads for degradation of the Algerian landscape over the course of centuries. This narrative provided legitimization for various colonial policies, including the expropriation of native lands, the introduction of extensive agricultural reforms, land management techniques, and ambitious reforestation initiatives, as well as the overall oppression and subjugation of native populations.

At the same time, the Ottoman state began to take note of the development of scientific forestry in other parts the world. In the wake of its defeat by Russia in the Crimean War (which earned the empire its unsolicited distinction as the ‘sick man of Europe’), and as a result of the spirit of reform characteristic of the Tanzimat era, the Ottoman state was anxious to dispel growing accusations of rampant deforestation throughout the empire. Hence, in 1857, the sultan invited French forest experts to Istanbul to institute and oversee Ottoman forest administration. These forest engineers were well aware of the similarities between Anatolia and Provence in terms of their environment, economy, and population. Indeed, some of them had personal experience in both contexts. They largely modeled their construction of Ottoman forestry on the example of France. In the process, French foresters also gained insight from the Ottoman case. In particular, they noted the presence of nomadic tribes within the empire and their relationship with Ottoman forests, forestry, and administration. Thus, ideas born through the development of scientific forestry in Anatolia began to trickle back into France as well as to its prize colony, Algeria, fueling forest initiatives across the Mediterranean.
The success of French scientific forestry varied significantly among these three locations. French foresters proved much more successful in renovating the rural landscape in France than they did in Algeria, while their environmental impact on Anatolia was virtually nonexistent. Likewise, the hand of nineteenth-century forest legislation in the transformation of pastoralism differed in each case. In Provence and Northern Algeria, it was significant, but, in Southwestern Anatolia, forest administration ultimately had little impact on the lives and livelihoods of local mobile pastoral tribes. Nevertheless, the land and inhabitants of these three regions all shared in a common history during this period. They all witnessed the dramatic decline – and in some places the total disappearance – of their immemorial mobile pastoral tradition.

Over the course of the nineteenth century, the French forest regime contributed to dramatic changes in pastoralism, but these changes were shaped also by the will and needs of local populations. In Provence and across the Mediterranean in Algeria and Anatolia, the pastoral industry emerged at the turn of the century as the product of negotiation and compromise among forest agents, communities, and the environment. Throughout these regions, sedentary sheep farming had largely replaced mobile pastoralism, and both locals and outsiders had come to view this age-old practice as a parochial folk tradition rather than a respected, legitimate occupation. Yet it is not clear which side ‘won’ this battle, and it is even less clear which side was in the right.

The words and deeds of forest officials demonstrate that they truly believed in their cause and assumed that their efforts would serve both the environment and the common good. History and the benefit of hindsight, however, reveal a more complex picture. Beginning in the mid-
nineteenth century, alongside the often noisier and more publicized concerns over deforestation, a small but growing body of research developed challenging mainstream perspectives on environmental decline. A few decades later, some scientists began to reject the paradigm of pastoralism as a more primitive form of society and to redeem and defend its Mediterranean application. Modern scholarship draws on both of these revisionist trends. Most now consider the early nineteenth-century hysteria over deforestation to have been greatly premature, and they classify the generalized, undistinguishing demonization of sheep and goats by early foresters and conservationists as unjustifiable and overblown. Scientists now consider ovine transhumance, when effectively regulated, an efficient and sustainable use of land in certain environments, including much of the Mediterranean region. Others have credited goats with the ability to limit the danger of wildfires in Mediterranean forests. This shift in perspective puts the marginalization of Mediterranean mobile pastoralism, as well as its legitimization by nineteenth-century administrators, in a significantly different, more ambiguous light.

**On the Lamb: The Current State of Scholarship**

In this study, I aim to reevaluate the past environmental impact of Mediterranean pastoralism by bringing the focus back to the land. I examine how this environment shaped – and was shaped by – the perspectives, prejudices, and preconceptions of those who inhabited and influenced the Mediterranean world. Much contemporary literature on pastoralism still retains the vestiges of these past prejudices. Scholars still falsely attribute Spain’s economic and political decline in the

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40 See for example Grove and Rackham; Michael Williams, *Deforesting the Earth from Prehistory to Global Crisis* (Chicago: University of Chicago Press, 2003); and J. Donald Hughes, *The Mediterranean: An Environmental History* (Santa Barbara, CA: ABC-CLIO, 2005).
41 Seigue, 315-330; Thorens 2009, 575-577.
42 Francisco Lloret, Josep Piñol, and Marc Castellnou, “Wildfires,” in *The Physical Geography of the Mediterranean*, 553; Grove and Rackham, 227, 240.
nineteenth century to its extensive tradition of transhumance. Similar misconceptions persist in French historiography, where the subject of pastoralism remains sorely neglected and misrepresented. As the historian Jean-Marc Moriceau recently observed, “French rural historians have shown little interest in animal husbandry [l’élevage] – as its absence from scholarly works attests – and, until the beginning of the twentieth century at least, considered it the ‘necessary evil’ of an agricultural industry focused on the production of grain.” A handful of scholars, including Moriceau himself, have worked to improve this situation, though much remains to be done. Other works present the history of French pastoralism primarily from geographical or anthropological perspectives, often with limited historical analysis or contextualization, and even these studies are severely outdated. Most of the literature on transhumance in Provence appears in the form of polished coffee-table books, which treat the subject as a romanticized bygone tradition through glossy full-page photographs but little textual substance.

46 See for example the works of Lucien-Albert Fabre, Philippe Arbos, René Baehrel, and Xavier de Planhol. For more recent examples, see Yves Nedonsel, Contribution à l’étude de l’élevage ovin transhumant dans les Bouches-du-Rhône (PhD Diss, Université de Provence, 1976); Jean-Claude Duclos, L’homme et le mouton dans l’espace de la transhumance (Grenoble: Glénat, 1994); and Pierre-Yves Laffont, ed., Transhumance et estivage en Occident des origines aux enjeux actuels (Toulouse: Presses Universitaires du Mirail, 2006).
The historiography of French forestry has seen more development, but it too remains limited.\textsuperscript{48} A number of studies have treated various aspects of French forestry and its relationship with the provincial population, but many of these works either accept traditional assessments of deforestation and forest misuse, or they focus primarily on challenging such perspectives.\textsuperscript{49} Very few French historians have drawn connections between forestry and pastoralism.\textsuperscript{50} No one has undertaken a comprehensive investigation of the relationship between the nineteenth-century forest regime and pastoralism in Provence, let alone one that takes into account broader connections across the Mediterranean.

Beyond the borders of France, the coverage of Mediterranean mobile pastoralism and forestry is limited and unequally distributed. A substantial body of scholarship treats the history and traditions of Anatolian nomads, but few of its contributors consider such groups in the context of

\textsuperscript{48} The development of this field owes much to Andrée Corvol, who has made a number of contributions in addition to her classic study \textit{L'homme aux bois: Histoire des relations de l’homme et de la forêt, XVIIe-XXe siècle} (Paris: Fayard, 1987).


\textsuperscript{50} Jacqueline Dumoulin is of the few scholars to have studied the impact of the nineteenth-century French forest regime on pastoralists in Provence, but she too adopts a monolithic view of the state and ignores many of the complexities of the relationship between officials, foresters, peasants, and pastoralists. See Jacqueline Dumoulin, \textit{La forêt provençale au XIXe siècle: Histoire des communaux boisés soumis au régime forestier} (Salon de Provence: Ixalog, 2002); and ibid., \textit{“Communes et pâturages forestiers en Provence au XIXe siècle: Le témoignage des comptabilités communales,” Provence Historique} 183 (1996): 57-96. Available in Archives départementales des Bouches-du-Rhône (hereafter BDR), KSI 2736.
forest administration. The history of Ottoman forestry, by contrast, is quite limited. Until recently, the extant literature on this subject comprised a variety of officially sponsored, nationalist histories, a few compilations of archival documents, and a handful of articles. In 2007, the appearance of Selçuk Dursun’s doctoral dissertation, “Forest and the State: History of Forestry and forest administration in the Ottoman Empire,” significantly enriched this field. Yet, as the title suggests, Dursun’s study remains focused squarely on the Ottoman state apparatus. He accords little space to the role of the wider Turkish population, and nomadic groups in particular, in the development and implementation of Ottoman scientific forestry.

The connection between forest administration and Mediterranean mobile pastoralism is perhaps best represented in the Algerian case, but that is largely due to Diana K. Davis’s pioneering

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52 Halil Kutluk published a useful compilation of documents in his edited volume *Türkiye Ormancılığı ile İlgili Tarihi Vesikalara, 893-1339* (1487-1923) (İstanbul: Osmanbey Matbaası, 1948). This source was supplemented in 1999 with the publication of *Osmanlı Ormancılığı ile İlgili Belgeler [Documents on Ottoman Forestry]*, edited by Eftal Batmaz and Bekir Koç (Ankara: T. C. Orman Bakanlığı [The Republic of Turkey Ministry of Forestry], 1999). Kutluk also wrote a couple of articles on the subject of Ottoman forestry, but from a purely administrative perspective. The more current works of Mustafa Konukçu have a similar focus. Another very broad study is provided by Yücel Çağlar, *Türkiye Ormanları ve Ormancılık* (İstanbul: İletişim Yayınları, 1992). A few recent additions to this literature, also with limited attention to the practical effects and application of forest legislation, include Metin Özdoğan and Abdi Ekizoğlu, “Tanzimat ve Meşrutiyet Dönemleri Ormancılığında Katkılari Olan Yabancı Uzmanlar,” *Yayın Komisyonuna Sunulduğu Tarih* (1996): 57-68; Özkan Keskin, “Osmanlı Ormancılığının Gelişiminde Fransız Uzmanların Rolü,” *Tarih Dergisi* 44 (2006): 123-142; and the articles of Bekir Koç.
In this work, Davis traces the development of a narrative blaming Algerian natives for perceived environmental decline. During the colonial era, this narrative contributed to the French administration’s appropriation of native land and resources, subjugation of the indigenous population, and transformation of agriculture. My investigation attempts to complement the findings of Davis and other scholars of French colonial environmental history by approaching this subject in new ways. First, I focus specifically on the vehicle of forest administration and its interaction with a single indigenous group: mobile sheep pastoralists. Second, through the extensive use of archival sources, I attempt to problematize the perspectives of colonists, foresters, indigenous Algerians, and colonial and central administrations, as well as the relations within and among these groups. Finally, I place this story in a broader Mediterranean context, revealing important connections with the development and transformation of forestry and pastoralism in continental France as well as in Ottoman Anatolia.

One obvious problem, to which any researcher will readily attest, helps to explain the paucity of scholarship on Mediterranean transhumant pastoralism: sources. In contrast to most popular historical subjects, pastoralists left little trace. As a rule, they did not write letters or diaries, and even when they did, these documents fail to provide a clear picture of their movements. Tracking

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54 Davis 2007, 166.
down the path of a single herd through a maze of property rights and usage agreements, complex migration routes, and administrative bureaucracies, can be maddening work, when it is even possible. The magnitude of this challenge is substantiated by one of the few successful studies of early modern Mediterranean pastoralism, *Spain’s Golden Fleece*. According to their own testimony, the authors spent two full decades researching and composing this work, which focuses on the relatively well-documented wool economy of Spain.\(^55\) In my experience, research for this subject has been challenging and often frustrating, and it has sometimes felt more like a wild goose chase than an academic pursuit. It has led me deep into regional, national, and diplomatic archives in Turkey, France, and Britain, and onto the hills, tracks, and pastures once frequented by migrant herds. This study is based on a diverse range of archival sources, including court cases, official investigations and reports, correspondence, legislation, and statistics. In addition, I have drawn on studies of social, cultural, intellectual, political, transnational, colonial, and environmental history, as well as the history of science and the history of ideas. I am in debt to a variety of other fields, from geography and earth sciences to anthropology, archeology, and history. My study uses these sources to weigh the role of forest administration against other ecological, political and socio-cultural factors in the transformation of Mediterranean pastoralism over the course of the nineteenth century. It represents my best effort to engage this subject given the shortage of available material.

Although existing scholarship provides essential background for my investigation, I also attempt to address some of its weaknesses and lacunae. By elucidating the connection between French scientific forestry and Mediterranean pastoralism, my study aims to explain why French foresters were employed in global contexts where mobile pastoralists and settled agriculturalists shared

\(^{55}\) Phillips and Phillips, ix.
space. In addition, it presents new perspectives and insight on the story of Mediterranean pastoral decline. More broadly, it serves as a case study in the global history of relations between mobile and sedentary society and of the administration of the subaltern groups. Finally, it reveals complex and underappreciated links between environmental policy and networks of power. As I show, the transformation of Mediterranean mobile pastoralism occurred largely on environmental terms, and it involved the active participation and interplay of local and state officials, proto-conservationists, entrepreneurs and agriculturalists, as well as pastoralists themselves.

**Planting Politics: Organization of this Study**

This investigation is organized into three parts. Part I, “Land, Society, and Ideology,” establishes the roots of nineteenth-century pastoral politics. The first chapter describes the traditional pastoral practices of Provence, Anatolia, and Algeria by tracing their history in the context of a wider agro-pastoral economy. As my presentation reveals, these systems share many features and represent a common type of ‘Mediterranean pastoralism’. In the second chapter, I explore the ways in which members of the French intellectual elite viewed Mediterranean pastoral traditions, and how and why their views evolved from the seventeenth to early nineteenth centuries. I maintain that, during this period, French perceptions of pastoralism were shaped by the idea of progress and new environmental perspectives, both products of the Enlightenment. Together, these intellectual forces contributed to the condemnation of mobile pastoralism in Provence, Algeria, and Anatolia in the nineteenth century.

Building on this foundation, Part II, “Sowing the Seeds of Sedentarization,” examines the development of environmental legislation that would ultimately contribute to the transformation
of Mediterranean pastoralism in the nineteenth century and the decline of the region’s mobile pastoral tradition. Chapter Three explores the role of Mediterranean pastoralism in the genesis of French scientific forestry by chronicling its progress from the mid-eighteenth to the mid-nineteenth century. In Chapter Four, I examine the influence of land laws on the evolution of mobile pastoralism. My presentation demonstrates that changing interpretations and designations of landed property in the nineteenth century were important factors in both the application of French forest legislation and the transformation of Mediterranean pastoralism.

Finally, Part III of my study, “Growth and Transformation,” explores the fruits of these developments and their implications for Mediterranean pastoralists as well as for the environment. Chapter Five addresses the ways in which pastoralists were involved directly and indirectly in the incidence of natural disasters around the Mediterranean. I argue that the rhetoric of French scientific forestry as well as social and political factors influenced the extent to which mobile pastoralists were held accountable for environmental catastrophes in Provence, Anatolia, and Algeria in the mid- to late nineteenth century. The last chapter returns to the institution of French scientific forestry, following its development to the turn of the twentieth century. My study shows that French scientific forestry proved a powerful force against mobile pastoralism in Provence, Algeria, and Anatolia, but it also reveals that in all three cases forest administration was ultimately the product of negotiation in which pastoralists, foresters, as well as other interested parties all played active and decisive roles. Throughout this work, I strive to show that, while nineteenth-century French foresters were busy cultivating trees, they also were planting the politics that would in turn compel mobile pastoral peoples to set down roots.
PART I: LAND, SOCIETY, AND IDEOLOGY
Visit Aix-en-Provence today, and you are very unlikely to encounter a single sheep. Instead, you will find the squares and serpentine streets of its ancient centre-ville crammed with tourists and designer stores. Yet, flash back a few hundred years to late spring, and these same places would be literally overflowing with fuzzy, bleating beasts. Provence’s pastoral industry flourished throughout the medieval and early modern periods. It gained a special honor in the late fifteenth century, when the region’s beloved King René maintained a herd of four thousand sheep. In May of each year, these sheep were herded into the Place des Prêcheurs in the center of Aix to be sheared, a task performed swiftly and adroitly by the skilled hands of some fifty shepherds. A few days later, these shepherds would depart with their newly-shorn charges on the long, seasonal commute to the Alps of Haute-Provence.

The Roi René is still commemorated in Aix-en-Provence through business names and a prominent statue dominating the town’s central boulevard, Cours Mirabeau, but his royal flock has been long forgotten. Still, if you visit the Place des Prêcheurs today, or one of dozens of other central squares, you might notice the prevalence of fountains. Indeed, Aix has been celebrated for its thermal springs since Roman times, when it was called “Aquae Sextiae,” and it

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1 “Cette vie pastorale, qui nous paroit si singuliere, a pour eux tant de charmes, qu’il est infiniment rare de la leur voir abandonner.” Villeneuve, *Voyage dans la vallée de Barcelonette* (Agen, 1815), 75.
3 Ibid.
is often referred to as “the city of a thousand fountains.” Today, these fountains serve a purely decorative function, but many date to the medieval era, long before Aix became a tourist destination. Some, such as the one in the Place des Prêcheurs, have low basins ideal for watering sheep, which was once their primary purpose. Thus, pastoralism is literally chiseled into Provence’s past. Such traces confirm that, though the pastoral industry has all but vanished from Provence, it was once a central part of the region’s thriving economy.

In much the same way, the traces of the rich mobile pastoral traditions of southwestern Anatolia and northern Algeria must be sought largely in history. How did this once flourishing practice fade from these three corners of the Mediterranean? In order to address the nature and scale of the nineteenth-century changes that led to its retreat and transformation, a comprehensive understanding of the tradition of Mediterranean pastoralism is necessary. This chapter provides that foundation. In addition, it challenges claims of both nineteenth-century critics and modern scholars regarding pastoralism, while revealing important connections and commonalities among the Mediterranean pastoral economies of Provence, Anatolia, and Algeria in the early modern era.

**DEFINING PASTORALISM**

For thousands of years, mobile pastoralism has been practiced around the world, from India to Iran and Mongolia to South Africa. There is no shortage of literature on this subject, but contemporary scholars are still struggling to identify, codify, and explore the various forms of

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this practice, and the available scholarship suffers from several major weaknesses.\(^5\) The first problem is its limited perspective. The bulk of research on mobile pastoralists has been conducted in the fields of anthropology, ethnography, and human geography. It generally approaches the issue by contrasting pastoralists with their assumed rivals, settled agriculturalists. Until recently, scholars tended to present these two lifestyles as separate and distinct, and many still view them in this light. Titles such as *The Desert and the Sown, Nomads and the Outside World*, and *Mongols, Turks, and Others: Eurasian Nomads and the Sedentary World*, all prominent works on this subject, are enough to prove the point.\(^6\)

Even studies that acknowledge the interdependence of pastoralists and agriculturalists in various contexts still generally distinguish mobile and sedentary groups economically, culturally, and physically. Many studies relegate them to geographically separate spheres, a division that occurs on a regional and global scale. Thus, the Middle East, Central Asia, and parts of Africa are associated with mobile pastoralism, while settled agriculture supposedly dominates the rest of the world.\(^7\) Richard Tapper, author of the classic study *Pasture and Politics: Economics,\(^5\)

\(^5\) There is a wealth of literature on mobile pastoralism around the world, but some regions have received much more attention than others. As discussed in the Introduction, the Mediterranean region has seen relatively little coverage. The regions with the most scholarship are, not surprisingly, those associated with a tradition of nomadism, such as central Asia and the Middle East.

\(^6\) Cynthia Nelson, *The Desert and the Sown: Nomads in the Wider Society* (Berkeley: Institute of International Studies, University of California, 1973); Anatoly Khazanov, *Nomads and the Outside World* (Cambridge: Cambridge University Press, 1984); Anatoly Khazanov, *Nomads in the Sedentary World* (Richmond: Curzon, 2001); and Reuven Amitai, *Mongols, Turks, and Others: Eurasian Nomads and the Sedentary World* (Leiden & Boston: Brill, 2005). “Desert and sown” is a particularly common phrase in works on this subject. Modern usage is largely in debt – consciously or not – to Gertrude Bell’s popular narrative of her travels in the Middle East, first published in 1907, which she titled *The Desert and the Sown*. Consider, for example, Brian Spooner, “Desert and Sown: A New Look at an Old Relationship,” in *Studies in 18th-Century Islamic History*, edited by T. Naff. and R. Owen, 1977. Some of these works focus on the contrast between sedentary and mobile populations, while others acknowledge or even emphasize ties between them. Yet, in both cases, these scholars assume that mobile and sedentary lifestyles are separate and distinct, while the reality in the Mediterranean region is much more complex. For perceptive critical analysis on this dichotomy between pastoralists and agriculturalists, see Horden and Purcell, Chapter 3 and 200-201.

\(^7\) There is not enough space here to list all of the works that follow this pattern, but it is sufficient to consider that most studies of mobile pastoralism of any form focus on nomadism in the Middle East and/or Central Asia. It is in
Conflict, and Ritual Among Shahsevan Nomads of Northwestern Iran, published in 1979, has rightly criticized the scholarly community for its over-association of nomadism with tribalism in the Middle East. Yet, regional scholarship on Africa, Asia, and the Middle East that does not fall prey to this stereotype often adopts the dichotomy of the ‘desert and the sown’. It implies that throughout this vast, politically, culturally, economically and environmentally diverse region, fertile plains were exploited for agriculture, while nomadic pastoralists roamed further afield, driving their herds across remote grasslands, deserts, and seemingly barren steppes.

Often, such notions depend on outmoded scientific models. M. L. Ryder’s massive survey of pastoral history, Sheep and Man, draws on the mid-twentieth century work of American anthropologist Carleton Stevens Coon, who remains best known for his controversial racial theories. Coon divided the Middle East into three geographical categories: “lands suitable for sedentary village and town life; areas completely unfit from human occupation; and intermediate areas which could support nomadic life that moved seasonally or followed the rain.” Following Coon, Ryder limits the latter zone to deserts, mountains, and steppes. In broader terms, this geographical perspective argues that nomadism thrived where agriculture failed, in isolated regions with a dry climate and unproductive soil, making farming either impractical or

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9 Coon’s best-known publications on this subject include: The Races of Europe (1939) and The Origin of Races (1962). Coon gained notoriety for his theories of racial difference, including the idea that different groups of humans had evolved at different times, which he used to explain why some groups, such as the Caucasians, were more culturally advanced than others. “Coon, Carleton Stevens,” The Columbia Encyclopedia, 6th ed. (2012), Encyclopedia.com, http://www.encyclopedia.com (accessed 17 November 2012).

10 M. L. Ryder, Sheep and Men (London: Duckworth, 1983), 198. Ryder cites Carleton Stevens Coon, Caravan: The Story of the Middle East (London: Cape, 1952), 191. Although little of Coon’s pseudo-science is evident in Caravan, written to introduce a popular audience to the peoples of the Middle East, Ryder’s reliance on this source shows the limits of available research.
impracticable. Likewise, B. C. Yağcı’s 1986 publication *Sheep and Goats in Turkey* claims, “Availability of forages, seasonality of vegetation and topographical and climatic conditions determine the type of production system to be used in different localities and regions.”¹¹ Anatoly Khazanov comes closer to the truth when, acknowledging that farmers and nomads sometimes inhabited the same zones, he states, “Only where agriculture was a possible alternative, particularly where it had an economic advantage over pastoral nomadism, did real sedentarization take place.”¹² A number of other scholars have begun to challenge this picture, but it remains strikingly prevalent and problematic.¹³

The academic effort to segregate pastoral and agricultural industries geographically implies that they developed exclusively according to environmental factors. This suggestion is a myth of environmental determinism, itself in many ways a relic of the Enlightenment and nineteenth-century Western science. As such, this idea carries with it – if unintentionally – the vestiges of racism and orientalism. It is no coincidence that settled forms of pastoralism are associated with regions that nineteenth-century European intellectuals considered to be more advanced, while nomads are relegated to the developing world. This categorization, which dates at least to the classical era, perpetuates the biases of those who crafted it.¹⁴ It presents history as the progression from a mobile society to a sedentary one, a narrative that implicitly champions Western civilizations.¹⁵

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¹² Khazanov 1984, 83.
¹³ Notably, Horden and Purcell address many of the weaknesses in literature on Mediterranean pastoralism in their study.
¹⁵ I examine the history, development, and implications of this discourse more closely in my discussion of Ibn Khaldun and the “Manipulation of the History of Pastoralism” in Chapter Two.
While the environment was a major factor in pastoral life, it was not the only one.\textsuperscript{16} In the case of Anatolia, mobility offered nomads relative freedom from central administration, which was probably as important a selling point for this lifestyle as was the prospect of extensive pasture use. For centuries, the Ottoman state encouraged this arrangement by giving tribal chieftains official roles in frontier zones.\textsuperscript{17} In Algeria, the Bedouin flourished in the absence of strong central administration and even became de facto rulers themselves, using their mobility to expand their domain and provide essential services for settled groups, such as security, transportation, and trade. They also distinguished themselves from their sedentary neighbors on cultural and societal terms.\textsuperscript{18} In Provence, transhumant shepherds depended on access to seasonal pastures and migration routes. When such prospects began to disappear, so did the shepherds. In all three of these cases, moreover, mobile pastoralists faced increasing competition from sedentary sheep farmers in the modern era, a circumstance that demonstrates the potential of the environment to support both industries.

As these examples illustrate, the Mediterranean landscape could be turned to either pastoralism or agriculture (or both), and non-environmental circumstances influenced the development and diversification of pastoral systems, from minor coincidences and obstacles to major cultural, social, and political norms. Regardless of the suitability of dividing the realm of ‘the desert and the sown’ in other parts of the world, this model provides a very poor fit for the Mediterranean case. Indeed, it is only in Mediterranean and Mediterraneanoid environments that both mobile pastoralism and agriculture flourished, side-by-side, for so long.

\textsuperscript{16} For a description of some of the political factors that motivated transhumance, as distinct from settled pastoralism, see Horden and Purcell, Chapter 3, especially p. 64.
\textsuperscript{17} Ira M. Lapidus, “Tribes and State Formation in Islamic History,” in Tribes and State Formation in the Middle East, 43. See also below and subsequent chapters.
\textsuperscript{18} See Chapter Two.
Another major limitation of scholarship on pastoralism is its terminology. In the early twentieth century, French geographers developed an extensive vocabulary to describe various types of pastoralism. It is still used today with little modification. Pastoral systems are initially classified as either sedentary or mobile. Mobile pastoralism is often further characterized as arid or semi-arid, regular or inverse, and nomadic, semi-nomadic, or transhumant. As Anatoli Khazanov notes in *Nomads and the Outside World*, there is “no generally accepted classification of the different forms.”19 Scholars of pastoralism in the past and present have employed, manipulated, and supplemented these terms according to their particular interests and points of focus.20 For example, Philippe Arbos, a pioneer of French human geography, identified three distinct forms of pastoral migrations in his classic 1922 work, *La vie pastorale dans les Alpes françaises*: mountain pastoralism, transhumance, and nomadism.21 Yet, others have excluded the ‘mountain pastoral’ type because it describes only the limited periodic movements of free-range livestock grazing on mountain pastures and is not universally applicable (because it assumes the existence of mountains, or at least significant variations in elevation). They have also added particular sub-categories and designations, such as “herdsman husbandry” and “yaylag” (*yayla*) pastoralism.22

Within the extensive lexicon of mobile pastoralism, nomadism and transhumance are widely accepted as dominant and distinct forms. In his study, Khazanov devotes significant space to the presentation, explanation and distinction of various types of pastoralism, providing standard definitions of most major terms associated with this subject. He posits four main identifiers of a

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19 Khazanov 1984, 17.
20 Ibid., 18.
21 *Transhumance et estivage en Occident*, 16. Arbos’s original French terms are “la vie pastorale de montagne,” “la transhumance,” and “le nomadisme.”
pastoral nomadic system: its association with extensive pastoralism, the absence of permanent shelters, its long range, and the active participation of all members of a family, clan or society.\textsuperscript{23} As Khazanov acknowledges, this practice may be combined with rudimentary agriculture or with another economic activity, in which cases it is labeled ‘semi-nomadism’. Semi-nomadism is often considered a stable sub-category of nomadism, but may also describe a transitional stage as nomadism breaks down or transforms into semi-nomadism over the \textit{longue durée}. Some scholars also identify a shift toward semi-nomadism when there is a reduction in the migration range.\textsuperscript{24}

Like nomadism, transhumance describes a type of mobile pastoralism in which herds migrate seasonally in search of pasture and a hospitable climate. The term is based on the Latin \textit{trans} (across) + \textit{humus} (ground).\textsuperscript{25} P. Bonnet, in a study of transhumance in Provence, characterizes this type broadly as “a system of livestock farming which rests on the utilization of pastoral resources in complementary zones which, by themselves, can only support livestock for part of the year,” a definition current among French scholars.\textsuperscript{26} In most cases, transhumant herds winter in the lowlands or plains and spend their summer in the mountains, though this seasonal migration is not always vertical; it requires only a marked climatic change. Pierre-Yves Laffont, in his introduction to \textit{Transhumance et estivage en occident} (“transhumance and summer pasturing in the West”), cites an early French definition of transhumance as “periodic migration

\textsuperscript{23} Khazanov 1984, 16. This definition and many others within the lexicon of pastoralism owe much to Fernand Braudel. See for example Braudel’s description of nomadism: Braudel, I: 88.

\textsuperscript{24} Khazanov 1984, 21.


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of livestock of the plains, who change pasture in the summer and reside in the mountains.”\textsuperscript{27} M. C. Cleary explains further, “It implies the altitudinal displacement of animals to and from an established settlement which is regarded as the permanent base […] in the French context, only when migrant flocks cross national or departmental boundaries are they recorded as transhumant.”\textsuperscript{28} Transhumance is often further broken down into ‘normal’ and ‘inverse’ forms. The latter describes cases where livestock are associated primarily with the mountains, and are seen as migrating seasonally toward the plains, rather than vice versa.\textsuperscript{29} Like nomadism, transhumance has a deep history and has been practiced around the world, from Scotland to Spain and South America to Sudan.\textsuperscript{30} Considered together, the available definitions of transhumance provide an accurate representation of this traditional practice in France and other Mediterranean sites, but they do not clearly distinguish it from nomadism.\textsuperscript{31} The question remains: how are these two practices distinct; indeed, are they distinct?

Although most scholars agree in distinguishing nomadism from transhumance, their methods of differentiating these two terms vary considerably, leaving the answer to this question obscure. Some scholars classify mobile pastoralism as ‘transhumant’ when the shepherds involved have a permanent home. Ryder explains, “In transhumance there is successive occupation of summer and winter grazing areas by people with their animals. […] One area is the home area, with

\begin{flushleft}
\textsuperscript{27} “Migration périodique du bétail de la plaine, qui change de pacage en été et s’établit en montagne.”
\textsuperscript{29} Cleary, 107.
\textsuperscript{30} Ryder, 210. Ryder describes the historic practice of “marine transhumance” in Scotland, where sheep summered on small islands off the west coast.
\textsuperscript{31} Horden and Purcell represent an important exception. In their pan-Mediterranean history, they avoid the problem of regional terminology by describing all mobile pastoralism as transhumance, which they define broadly as “the seasonal movement of animals from lowland to adjacent upland and back; but in many places the distances travelled are far greater” (Horden and Purcell, 63).
\end{flushleft}
permanent settlements, and here some cultivation may be carried out.”\textsuperscript{32} Similarly, another study claims the main difference to be that transhumant shepherds have a home somewhere, while nomads do not have “any base village nor any form of shelter,” living instead in portable tents.\textsuperscript{33} Other works ignore this point, instead arguing that nomads always travel in tribes, with their entire family and kin, while transhumant shepherds travel and live alone.\textsuperscript{34} A further distinction is that, while nomadism is generally associated with Africa and Asia, transhumance is often claimed by Europe, especially its broad Mediterranean region.

It is in this last region, however, that such definitions really begin to break down. Scholars are aware of the problem. In “La transhumance dans les pays de la Méditerranée antique,” Mirielle Corbier acknowledges that, because the Southeastern Mediterranean lies “at the limit of the temperate and desert zones, the frontier between nomadism and transhumance may be difficult to identify.”\textsuperscript{35} Likewise, Ryder has observed, “Some truly nomadic tribes exist in Turkey, but since even these have seasonal migrations they are often difficult to distinguish from transhumants in published descriptions.”\textsuperscript{36} On the other hand, John R. McNeill characterizes the mobile pastoralists of southern Anatolia as “seminomadic or transhumant,” arguing, “No true nomads roamed the Mediterranean mountains, except perhaps in the eastern Taurus.”\textsuperscript{37} Douglas Johnson, in his study of the nomads of Anatolia, recognizes that both the terms ‘nomadism’ and ‘transhumance’ have been applied indiscriminately to this case, and attempts to clarify the distinction between these two systems:

\begin{itemize}
\item \textsuperscript{32} Ryder, 210.
\item \textsuperscript{33} Yalçın, 12.
\item \textsuperscript{34} See for example Mirielle Corbier, “La Transhumance dans les Pays de la Méditerranée Antique,” \textit{Transhumance et estivage en Occident}, 67. See also Khazanov’s definition of nomadism above.
\item \textsuperscript{35} “…aux confins de la zone tempérée et de la zone désertique, la frontière entre nomadisme et transhumance risque d’être difficile à identifier.” Corbier, in \textit{Transhumance et estivage en Occident}, 69.
\item \textsuperscript{36} Ryder, 212.
\item \textsuperscript{37} McNeill 1992, 112.
\end{itemize}
Nearly every nomadic group that utilizes altitudinal variations in pasture availability has been called a practitioner of transhumance, when, in fact, the use of the tent and the major dependence on animals such as is found among the Qashqai, Yuruk, and Arbaa contradict the common connotations of the term. In every sense these tribes and others like them are nomads who simply happen to operate in mountainous areas and herd sheep and goats rather than camels.\(^{38}\)

According to Johnson’s definition, transhumant pastoralists are really farmers who keep livestock. They live year-round in a permanent village, practice agriculture, and migrate only on a small scale, within a single “valley system.”\(^{39}\) This description hardly fits the case of Provence. Indeed, from this perspective, mobile pastoralists in this and other parts of Mediterranean Europe actually seem better classified as nomads, though that clearly is not Johnson’s intent.

Such conflicting definitions reveal scholars’ struggles to explain away problems and inconsistencies presented by the application of standard models of pastoralism to the Mediterranean case. While mobile pastoralism in the Mediterranean region belongs to this broader history, it also has a distinct identity. The terminology of pastoralism is still useful, and I employ it extensively in this work, but we should not think of these cases as separate and distinct. Throughout the early modern era and into the nineteenth century, when French scientific forestry began to target mobile pastoral groups, the differences among nomadism, transhumance, agro-pastoralism and even sedentary pastoralism were blurred all around the Mediterranean. In seeking to elucidate this region’s history, such generic distinctions are often less important than the political, historical, societal, and cultural forces that bound Mediterranean pastoralists together.


\(^{39}\) Ibid., 18-19.
Among the myriad terms used to describe pastoralism, there is no accepted ‘Mediterranean’ type, but there should be.\(^{40}\) Few contemporary studies have investigated the connections that existed and continue to exist among pastoral systems around the Mediterranean.\(^{41}\) In nineteenth-century France and through most of Western Europe, by contrast, the idea of a specific type of pastoralism particular to the Mediterranean was commonly accepted in principle, if not in name. This can be confirmed by the readiness of policymakers, foresters, and other officials and experts to draw comparisons across Mediterranean regions. Mediterranean pastoralism is indeed one of the few geographical delimitations within the field of pastoralism that actually makes sense. This classification provides a constructive way of looking into the relations of people, states, and economies around this inner sea, and it facilitates investigations of their pastoral systems.

Most of the available literature describes the mobile pastoral economies of Provence, Anatolia, and Algeria as transhumant, semi-nomadic, and nomadic, respectively. Yet, these three practices were alike in many ways. Indeed, while pastoral traditions certainly varied significantly around the Mediterranean, there were also important and illuminating patterns, as the cases of Provence, southwestern Anatolia, and northern Algeria reveal. These common features include a shared environment, a deeply-rooted tradition of mobile pastoralism, and a predominant agro-pastoral economy. Given such connections, the comparison of Provence, Anatolia, and Algeria can be

\(^{40}\) Horden and Purcell suggest this idea when they describe a “distinctively Mediterranean form of transhumance” (Horden and Purcell, 85).

\(^{41}\) The European Mediterranean has received the least attention, as the majority of scholarship on mobile pastoralism focuses on the Near East and Central Asia. A classic counterexample is Braudel. Braudel’s representation of Mediterranean pastoralism, however, has its own set of problems. It is extremely broad, and his work retains and perpetuates many of the inherent biases of other scholarship on the subject, especially the degradation narrative, which will be discussed in Chapter Two. John McNeill’s study, The Mountains of the Mediterranean World, based on five case studies around the Mediterranean, focuses on mountain peasant life and considers pastoralism peripherally. The French human geographer Xavier de Planhol has studied pastoralism in Antalya (De la plaine pamphylienne aux lacs pisidiens), and he has compared this case with Algeria (“Caractères généraux de la vie montagnarde dans le Proche-Orient et dans l’Afrique du Nord”), but he has not pursued a pan-Mediterranean perspective. The same can be said for Douglas Johnson (see Bibliography). Currently, the best treatment of pastoral systems around the Mediterranean Sea is found in Horden and Purcell.
used to highlight divergences produced by historical, social, cultural, and political pressures. In addition, this transnational perspective promises to shed light on the history and practice of pastoralism worldwide and offers new approaches to the investigation of this subject. The history of Mediterranean mobile pastoralism has not been satisfactorily told. Through this work, I attempt to provide at least an introduction.

THE LAY OF THE LAND

‘Provence’ is a term with historical, cultural, and geographical significance. It describes an administrative province of France in existence prior to the creation of the department system during the French Revolution. The region is roughly equivalent to the current administrative unit Provence-Alpes-Cote-d’Azur, which encompasses six departments. Provence extends from the Rhône River in the west to the Var department in the southeast, from the Mediterranean Sea in the south across the Durance River to the Luberon range and the Central Massif in the north, and northeast to the Southern Alps, covering a total of about 12,000 square miles (over three million hectares). The low, coastal region of southwestern Provence is often referred to as ‘Basse-Provence’, while ‘Haute-Provence’ designates the higher zone to the north and west, marked by foothills and mountains (see Figure 1.1 below).
Figure 1.1 Map Showing Haute-Provence and Basse-Provence, 1764.⁴²

This study is based primarily on archives from the Bouches-du-Rhône, a department in Basse-Provence that includes Marseille, Aix-en-Provence, and the surrounding region south of the Durance River (see Figure 1.2 below).

⁴² BDR 1 Fi 2010: “Carte du Comté et du gouvernement de Provence avec les terres adjacentes” (1764).
Figure 1.2 Map of the Bouches-du-Rhône Department, 1841.43

Provence has been described as a land dominated by nature rather than man, resisting domestication through its rocky hillsides and extensive wastelands.44 The Provençal environment poses special challenges to cultivation, but that has not prevented the region from accommodating extensive human habitation for millennia. On the contrary, human inhabitants have contributed greatly to its environmental development. The Bouches-du-Rhône department, and Basse-Provence in general, is characterized by a typically Mediterranean climate with occasional visits of the *mistral*, a violent, bitter wind.45 Toward the mountains in the north and

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43 BDR 1 Fi 3046: Messieurs Donnet, Frémin et Levasseur, “Planche de l’atlas des départements de la France de la région sud (n°12): les Bouches-du-Rhône avec une vue du port de Marseille” (1841).
45 See Figures A and B in the Introduction.
northeast, Provence’s climate shifts to pre-alpine and alpine. Rainfall increases, and temperatures drop. Winters in Haute-Provence are cold and snowy, and the landscape is generally greener.

Basse-Provence is divided among three broad environmental types: garrigue / maquis, Mediterranean forest, and plain and steppe. These elements, and the connections among them, will be central to this story. Much of the landscape is covered by garrigue or maquis: dense, treeless brush vegetation. These two terms are often used interchangeably, though there are subtle differences between them. Garrigue refers to the sparse vegetation of rocky limestone soils, which support only a few hardy plants. It can also describe a form of degraded maquis. Maquis is more vegetated; it describes a dense brushland covered in shrubs and small trees such as kermes oak. Coastal cliffs girding the Mediterranean Sea rise abruptly into rolling hills of these spiny shrubs and fragrant herbs. Beyond this coastline, valleys, streams, and open forests diversify the view, though dry, brush-covered hills still prevail.

The woodlands of Basse-Provence are generally open forests characterized by white and holly oak (chêne vert), kermes oak, and pine trees, as well as brush vegetation that blends into the surrounding shrubland. By contrast, the forests of Provence’s higher zone, Haute-Provence, can become quite dense, though much of the current forest cover is ‘artificial,’ the result of extensive

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47 Allen, 212.

48 Some scholars cite a difference in altitude in differentiating garrigue from maquis, but both terms are commonly used to describe Mediterranean coastal vegetation. Marcelin provides a precise definition of each, after reviewing various others (Marcelin, 45-46). Grove and Rackham define maquis broadly as “shrub vegetation of any height and on any substrate” (Grove and Rackham 2001, 46). See Allen for a detailed description and distinction of the two types of vegetation communities.
mountain reforestation efforts the 1860s.\textsuperscript{49} Indeed, evidence of these reforestation efforts exists throughout Provence, and even Basse-Provence now sports its share of dense, monoculture woods.

Provence is home to France’s last remaining ‘steppe’, the Crau, a large, level, arid plain covered in flat, round pebbles called \textit{galets}. This feature once covered over 150 square miles and stretched from the Alpille mountains to the north, to the Rhône River in the west and the sea in the south. The Crau has been used as pasture since antiquity, and probably longer.\textsuperscript{50} To this day, it contains the best pastures of Provence, locally called \textit{coussous} or \textit{coussous}, and produces hay of such value that it is regulated by an \textit{Appellation d’Origine Contrôlée} (AOC), a French quality standard normally associated with fine wine.\textsuperscript{51} The Camargue, a marshy region just south of the Crau, also provided an important source of pasture in the past. Together, the Crau and the Camargue once supported the flourishing pastoral industry of nearby Arles.

Algeria lies less than 500 miles due south of Provence. Its greatest port, Algiers, is as close to Marseille as the latter is to Paris. Perhaps even more importantly, Provence and Algeria have long been linked environmentally, commercially, and even culturally via this inner sea. France remained Algeria’s greatest trade partner throughout most of the early modern era. Ironically, the

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\textsuperscript{49} See Chapter Six.  
\textsuperscript{50} \textit{Le mouton en Provence : 6000 ans d’histoire} (Sauvegarde Crau, 2007).  
conflict that sparked France’s 1830 invasion arose through debts incurred as a result of this trade.\textsuperscript{52} Given this history, the similarities between these two regions should come as no surprise. Like ‘Provence’, ‘Algeria’ is a complex term with cultural and historical significance, though it dates to a much more recent time. Prior to the French conquest, ‘Algeria’ technically did not exist. This region was an integral part of the broader North African zone known as the Maghreb, nominally under Ottoman control.\textsuperscript{53} Algeria got its name from the port city Algiers, which has formed its central hub since the early modern era.\textsuperscript{54} During the period of Ottoman rule, this city and the surrounding state were together called the ‘Regency of Algiers,’ though the region had various other names, such as the ‘Kingdom of Algiers’ (Royaume d’Alger), ‘Barbary’, ‘El Djezair’, and ‘Numidia’.\textsuperscript{55} French officials in the early years of the occupation referred to their new prize unimaginatively as “French possessions in North Africa” (Possessions françaises dans le Nord de l’Afrique), an annoyingly longwinded and bland but descriptive title. It was not until 1838 that the name was officially changed by Royal Ordinance to ‘Algeria’ (Algérie).\textsuperscript{56}

Yet, by the early nineteenth century, this territory already had a distinct meaning. Algerian identity matured during the sixteenth through eighteenth centuries, as Ottoman control over this distant province receded and power shifted into the hands of local Janissaries, wealthy merchants, and tribal confederations. Although the Janissary corps was an Ottoman military institution, these ‘slave’ soldiers gradually gained independence from Ottoman administration


\textsuperscript{53} Maghreb is technically an Anglicization of the Arabic word for ‘the west’, literally ‘the setting sun’, used to describe Islam’s westernmost provinces, مغرب or al-Maghrib.

\textsuperscript{54} Ruedy, 34.


\textsuperscript{56} Ruedy, 54. Hirtz gives credit for the name to French Military General Schneider in 1839, but the earlier date is almost certainly correct (Hirtz, 19).
even as they remained self-consciously aloof from the native Algerian population. Their power was moderated, however, by the wealthy merchants who controlled the state’s greatest financial asset: overseas trade. Together, these two institutions established a relatively stable local government. The Ottoman era also provided a precedent for French administrative divisions within Algeria. There were three districts or beyliks: the Beylik of the West, which included Tlemcen and Oran; the Beylik of Titteri, the smallest district but which contained the principal city Algiers; and the Beylik of the East, which included Constantine and the region known as Kabylia. The French kept these zones virtually intact, but renamed them Oran, Algiers, and Constantine, respectively, after their largest commercial centers.

When the French arrived in 1830, Algeria already had been defined in practice if not in name, as a relatively coherent political and economic body. It is a misrepresentation to suggest, as has anthropologist Georges Hirtz, an apologist for the French Empire, that France “invented Algeria,” but the French colonial era certainly contributed to the consolidation of this state and the rise of Algerian nationalism. It is also important to note that the extent of France’s control was still extremely limited in this region at the time of its modern baptism. The French may well have hoped that christening this vast geographical space would give them some sort of claim to it, but at the time, this was hardly the case. It was only as France continued to consolidate and expand its control in North Africa that the term ‘Algeria’ spread and eventually stuck.

57 Ruedy, 17-19. Ruedy cites in particular the taifa al rais, a powerful organization of ship captains (19).
58 Ibid., 18.
59 Hirtz argues further, “C’est la France qui ‘inventa’ l’Algérie. C’est elle qui, la première, pensa et réalisa l’ensemble algérien et lui donna une consistance effective. C’est elle qui créa le terme même d’Algérie, lequel n’existait pas avant 1830” (Hirtz, 18).
60 Ruedy argues that the Algerian nation came into being between 1871 and 1920 as a direct result of French administration. See page 4 of his text for an introduction to this argument.
In the mid-nineteenth century, Algeria became France’s largest and most valued colonial possession. The country encompasses 919,595 square miles, making it over four times the size of France.\(^{61}\) It lies in the center of the Maghreb, a strip of North Africa unique for its northerly latitude and extended areas of high elevation.\(^{62}\) Due to these features and to its relative proximity to the Atlantic Ocean, the northern Maghreb receives greater annual precipitation than other parts of the North African coast. Although Algeria comprises the largest country within this territory, over seven-eighths of the country is occupied by the Sahara Desert.\(^{63}\) In environmental terms, Algeria can be divided into four topographical zones: the Tell Atlas, the Hauts-Plateaux (High Plateaus), the Sahara Atlas, and the Sahara.

The Tell is a small mountain range originating along the Moroccan border in the northwest and stretching along the Mediterranean coast to comprise an area of around 54,000 square miles (14 million hectares). The Algerian coast itself is dominated by cliffs broken only occasionally by bays, none of which forms an ideal natural harbor.\(^{64}\) Near the middle of this coastline, in northwestern Constantine, lies the hilly region of Great Kabylia, one of the last coastal parts of Algeria to resist French control (see Figure 1.3). Farther inland from the coast, the Algerian landscape is adorned with layers of hills, also known as the Tell. These hills enclose the most fertile and richly cultivated plains of Algeria, sometimes called the Sahel d’Alger, not to be confused with the transitional zone in the southern Sahara also known as the Sahel. It is in this

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\(^{61}\) “Algeria – Location, size, and extent,” *Encyclopedia of the Nations*, Web: [http://www.nationsencyclopedia.com](http://www.nationsencyclopedia.com) (accessed 20 November 2012); Ruedy, 5. The majority of this territory is occupied by the Sahara Desert, which the French was never able to exploit effectively and over which it never truly gained control. Still, the vast size of Algeria gave France significant bragging rights in the Age of Imperialism, and particularly in its rivalry with Britain, even though this colony was never really profitable.

\(^{62}\) Davis 2007, 177.

\(^{63}\) Ruedy, 5.

region that indigenous pastoralists once enjoyed the greatest prosperity and have since faced the greatest persecution. The Tell region benefits from a relatively mild climate. The summers are dry and warm. Temperatures usually peak in the high 80s Fahrenheit, though *sirocco* desert winds occasionally bring hot, dry desert air, and can increase this figure significantly. Winters are generally cold, with a rainy season usually beginning in late September and ending by May.\(^{65}\)

When the forester Theodore Woolsey visited Algeria in the early twentieth century, he estimated the annual precipitation along the coast at 1000-1200 millimeters, while the region surrounding Algiers, Kabylia, and the northwestern part of the province of Constantine received about 800 millimeters on average.\(^{66}\)

The Hauts-Plateaux are elevated steppe regions south of the Tell covering a total area of 42,500 square miles (1.1 million hectares). They enjoy very little rainfall – no more than 200 millimeters annually – and are dominated by saline and gypseous soils of poor productivity. Traditionally, these steppes were used for little other than sheep and goat grazing, and even pastoralism could succeed only when practiced sparsely and on an extensive scale.\(^{67}\) For most of the nineteenth century, the unyielding soil, extremely dry climate, and remoteness of these areas thwarted colonists’ efforts at cultivation, but these features did not prevent some from condemning indigenous pastoralism in even these regions.

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\(^{65}\) Woolsey, 47; Ruedy, 7. Ruedy dates the beginning of the rainy season to October, ending in April.

\(^{66}\) Woolsey, 47.

\(^{67}\) Ibid., 47-48.
Farther south, the Saharan Atlas acts as a natural barrier between northern Algeria and the Sahara desert. It is partially wooded and its peaks reach nearly 8,000 feet. Until the late nineteenth century, these southern regions of Algeria, or Territoires du Sud, were governed by the French military through the Bureaux Arabes (Arab Bureaus), a network of offices created to handle relations with indigenous Algerian populations. Although parts of the Sahara were eventually incorporated into French Algeria, this region was never considered suitable for French colonization, and it continued to be populated almost exclusively by nomadic tribes. Colonial observers typically overlooked the climactic variations within these southern regions, choosing to characterize Algeria as either Mediterranean or desert.

As in other Mediterranean contexts, the definition of “forest” is elusive in Algeria. Much of Algeria is covered with vegetation similar to that found around the Mediterranean, which can be (and has been) variously described as wasteland, maquis, brushland, scrubland, woodland, and open forest. This thick underbrush is comprised principally of cistus, lentisk, heather, myrtle, arbutus, and, as in Provence, kermes oak. Algeria also produces some taller species, including the Aleppo pine, maritime pine, cedar, thuya, juniper, cork oak (chêne-liège), and various other types of oak. Of these, the Aleppo pine is the most widespread, spanning from sea to desert and growing even on poor, arid soils.

Because of the fluidity with which the qualities and boundaries of forest land were defined, historic estimates of forest cover in Algeria varied widely. The picture is further complicated by

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68 This elevation is the summit of Mount Chélia, Algeria’s highest point, though farther west, in Morocco, the Atlas range is dominated by Mount Toubkal, which, at 13,665 feet, is the highest point in North Africa.
69 Woolsey, 48. The Bureaux Arabes are discussed in Chapter Two. Their administration was dissolved in 1871.
70 Woolsey describes the forest flora as “similar to that of Spain, Italy, and extreme southern France” (Woolsey, 54).
71 Ibid., 55.
72 Ibid., 54.
the French colonial administration’s deliberate classification of non-forest lands as forests in order to keep them in the hands of the state.\textsuperscript{73} In addition, the process of surveying was tedious and dangerous work, and much of the Algerian landscape remained unclassified throughout the nineteenth century. As late as 1889, one optimistic source estimated Algeria’s total forest cover at 12,500 square miles (3.2 million hectares), while another reduced this figure to no more than 9,600 square miles (2.5 million hectares).\textsuperscript{74} The earliest reliable statistics on Algerian forest cover come from the early twentieth century. In 1917, Theodore Woolsey estimated Algeria’s total wooded area to be about 10,800 square miles (2.8 million hectares), including 6750 square miles of national forests and 270 square miles of communal forests.\textsuperscript{75}

The province of Constantine boasts the greatest forest cover. In 1911, Constantine contained about 3400 square miles of national forest land (880,000 hectares), over half of the total for Algeria’s three provinces combined.\textsuperscript{76} Yet, according to many colonial era observers, this was the province most affected by past forest abuse and most at risk of the ill-effects of deforestation. The French scientific mission to Algeria in the years 1840-1842, which represented France’s first serious attempt to survey its new colony, contrasted the deforestation of Constantine with relatively abundant forests in other regions.\textsuperscript{77} Part of this apparent discrepancy is due to Constantine’s environmental diversity. While the northern zone provides some of the most fertile soils and lush vegetation of all Algeria, southern Constantine’s soils are considerably less productive. These features, combined with its drier climate led Woolsey to remark in 1917 that,

\textsuperscript{73} I discuss this phenomenon in subsequent chapters.
\textsuperscript{74} See Archives Nationales d’Outre Mer (hereafter ANOM) ALG/GGA/P1: Code forestier de l’Algérie, 1842-1890, “Note sur les forêts de l’Algérie” and “Réponse” (c. 1889).
\textsuperscript{75} Woolsey, 56.
\textsuperscript{76} Statistique Général de l’Algérie (June 30, 1911), 296-300. Cited in Woolsey, 57.
in this region, “the damage has been so great that there is real danger of the forests disappearing.”78 Another reason for the special concern for the health of Constantine’s forests was their commercial potential. In Algeria, the natural habitat of the cork oak was limited almost exclusively to the coastal regions of Constantine, which was also used as pastureland for sheep.79

The first reliable demographic statistics on Algeria date only from the mid-nineteenth century, when France began to undertake a regular census. Earlier figures varied widely, and it is possible that French officials deliberately underestimated the Algerian population on the eve of the French invasion to downplay the destructive nature of this conquest.80 Through careful calculation of various factors and counting back from later years, Xavier Yacono has produced what is probably the most reliable estimate, which places the population of Algeria in 1830 at around three million people.81

Constantine is Algeria’s easternmost province. At the turn of the nineteenth century, the province of Constantine alone was home to nearly half of Algeria’s inhabitants.82 Yet, French colonists were initially less attracted to this part of Algeria due to its relative inaccessibility and lack of commercial centers. The vast majority of its inhabitants either lived in or traveled around the countryside and practiced agriculture, pastoralism, or both.

78 Woolsey, 56.
79 Ibid., 54. All of the commercial forests along the coast were in the province of Constantine. For a map showing the distribution of commercial forests in Algeria, see H. Marc, Notes sur les forêts de l’Algérie (Paris: Larose, 1930), appendix. For one perspective on grazing in these zones, see Woolsey, 88.
80 Ruedy, 20. As examples of this “disconcerting” inaccuracy, Ruedy cites population estimates of contemporary observers ranging between 400,000 to 14,500,000.
82 Ruedy, 21. According to Ruedy, only 5-6 percent of Algerians lived in cities in the early nineteenth century, though he acknowledges that cities were both commercial centers as well as the source of regional political power.
At the eastern end of the Mediterranean Sea, roughly equidistant from both Provence and Algeria, sits Anatolia. The Turkish poet Nazim Hikmet once likened this land to:

The head of a mare  
Coming full gallop from far off Asia  
To stretch into the Mediterranean.

Also called Asia Minor, this landmass straddles Europe and Asia and comprises most of the territory of modern Turkey. It describes a broad rectangle stretching over two thousand miles from east to west and over six hundred miles north to south. Anatolia borders the Mediterranean Sea in the west and southwest, Europe and the Black Sea in the north, and stretches into the Central Asian Steppe in the east.

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Throughout the modern era, Anatolia represented the heart of the Ottoman Empire and the chief source of its power, but it also contained some of the empire’s most inaccessible frontiers. It is characterized by an extensive plateau that is bounded by mountain ranges in the north, south, and southwest, and rising elevation in the east.\textsuperscript{85} The Taurus Range lining the Mediterranean coast in southwestern Anatolia is particularly pronounced. In some places, mountains rise precipitously from coastal plains to heights over 10,000 feet (see Figure 1.4).\textsuperscript{86} Before the development of the railroad and other advances in transportation and communication, these ranges disrupted connections to the central plateau, and the regions beyond them remained isolated and sparsely populated.

Scholars have likened Anatolia to the Iberian Peninsula and to Northern Algeria.\textsuperscript{87} Like Algeria, the Mediterranean coast of Southwestern Anatolia is characterized by rocky coastlines and coastal ranges. In some places along the coast, cliffs rise directly out of the sea, but in others, the protective wall of the Taurus encloses coastal plains. The vegetation and environmental features of Southwestern Anatolia are also similar to those of Provence. Much of this land is either marshy or characterized by karstic soil, making cultivation difficult.\textsuperscript{88} While there are pockets of deep, rich soils, they are often found on hilly, uneven territory. As in Provence, persistent farmers bent this region to the plow through terracing and, more recently, irrigation and the

\textsuperscript{86} Ibid., 23-4.
\textsuperscript{88} Dewdney, 25.
draining of marshes. Southwestern Anatolia also shares with Northern Algeria and Provence its Mediterranean climate.\(^{89}\)

Anatolia’s southern Mediterranean coast is bounded by Antalya, near the southwestern corner of Anatolia, and Adana, in the western-most corner of the Mediterranean, where Anatolia meets the Levant (see Figure 1.4). Antalya (Adalia / Satalie) was once an Ottoman administrative district, and it remains a province of modern Turkey. It is also the name of the largest city in this province. This region extends from the Gulf of Antalya in southwestern Anatolia to the Western Taurus Mountains in the north and east. The mountains surrounding Antalya Province traditionally made transportation and communication between it and the inner Anatolian plateau slow, difficult and dangerous.\(^{90}\) The Western Taurus Range also forms a “climatic frontier” between Mediterranean and continental zones.\(^{91}\) Weather is less predictable in these mountains. Annual precipitation is significantly higher, and rainfall occurs in the late spring as well as in winter.\(^{92}\)

Several hundred miles to Antalya’s east, on the other side of the Cilician Gates, lies Adana. The nearby Cilician or ‘Çukurova’ Plain is now celebrated for its agricultural productivity.\(^{93}\) In the early modern era and well into the nineteenth century, however, much of this land was covered

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\(^{91}\) Ibid., 20.

\(^{92}\) Ibid. For statistics, see Dewdney, 36.

by sultry swamps that became a breeding ground for Anopheles mosquitos every summer.\textsuperscript{94}

Most of the settled population avoided the region for fear of malaria. This concern emptied the land of cultivation, opening it up to seasonal use by nomads, who avoided its hazards by visiting the plains in the winter and retreating into the nearby Taurus Mountains in the summer.

\textbf{Figure 1.4} Anatolia, Showing the Boundaries of Modern Turkey.\textsuperscript{95}

Together, Provence, northern Algeria, and southwestern Anatolia represent the regional environmental variations that typify the the Mediterranean world. Provence’s lower temperatures, smaller annual range, and moderate rainfall comprise a relatively temperate Mediterranean climate. Northern Algeria, with the greatest range in temperature and the least rainfall, is the most extreme. Antalya, with higher temperatures than Marseille, less range than northern Algeria, and nearly twice the annual rainfall of either, represents a third climatic type.


Nonetheless, the climates, vegetation, and topography of these three regions display patterns common to various places throughout the Mediterranean world. As the environmental features of Provence, northern Algeria, and southwestern Anatolia suggest, the Mediterranean model might be best considered as a range. These three locations, then, lie at different points on the Mediterranean environmental spectrum. As we will see, this model also holds true for their economies.

**PASTORAL TRADITIONS AROUND THE MEDITERRANEAN**

French writers have often described pastoralism in Provence, with a romantic flair, as an “immemorial” tradition. This descriptor shows how deeply rooted the practice was in Provence, and the same could easily be said for other examples of pastoralism around the Mediterranean. The exact origins of mobile pastoralism in this region may be impossible to pinpoint, but it is clearly very old indeed. The human inhabitants of Provence, Algeria and Southwestern Anatolia have engaged in various forms of pastoralism for the past two millennia, if not longer. One need only glance at the Old Testament to confirm the importance of sheep in Eastern Mediterranean society in ancient times. The Israelites were themselves semi-nomadic pastoralists, said to have roamed the desert-like Middle East before finally settling in Palestine, “the land flowing with milk and honey,” according to the Bible. In ancient times, a range of

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96 For a discussion of this usage, see below and Chapter Two.
97 Indeed, some anthropologists cite the eastern Mediterranean as the location of the earliest domestication of sheep, and thus the birthplace of pastoralism, though this is debated. For a discussion of the domestication of sheep, including this debate, see Ryder, 18-27.
98 See below for my discussion of dating the origins of mobile pastoralism in each of my three case studies. See also Roger Cribb, *Nomads in Archaeology* (Cambridge; New York: Cambridge University Press, 1991).
100 See J. F. Guthrie, *A World History of Sheep and Wool* (Australia, 1957), 4-6; Ryder, 117-122. Ryder has counted “nearly three hundred references to sheep or lambs in the Old Testament” (Ryder 119).
101 Ryder, 118.
cultures used wool in fashioning their standard attire. In the first century C.E., Pliny the Younger remarked, “Sheep are likewise in great request, both in regard they serve as sacrifices to appease the gods, and also by reason of their fleece yielding so profitable a use.”102 Sheep were also valued for mutton, milk, and cheese, but their wool was their greatest asset, their ‘golden fleece’.

This long, rich history is just one of the features shared by pastoral traditions throughout the Mediterranean world. Prior to the nineteenth century, pastoralists in Provence, Algeria, and Southwestern Anatolia generally raised sheep primarily for their wool, though meat and dairy were appreciated as well. The hierarchy of wool, meat, and dairy varied with the breed of sheep, however, and all three societies raised multiple types of sheep destined for different uses. Moreover, mobile pastoralism was standard in all three places, and it took on surprisingly similar forms. Finally, these and other mobile pastoral industries around the Mediterranean enjoyed the unusual quality of living side-by-side with settled agriculturalists in a symbiotic agro-pastoral society. When one oversteps the standardized, historiographical frontiers between transhumance and nomadism, as well as the geographical divisions of Europe, North Africa, and Asia, the image of a common life emerges. It is this picture, characterized by shared environmental features, seasonal mobility, similar practices and traditions, a comparable economic role, and the presence of agriculture, that defines Mediterranean pastoralism.103

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103 The connections among the lifestyles of pastoralists in Provence, southwestern Anatolia, and northern Algeria will be illuminated in greater detail below and in subsequent chapters.
A Sheep’s Eye View

The world boasts innumerable breeds of sheep, many of which are found in the Mediterranean. For our purposes, however, it is only necessary to describe two distinct types. The first is the fat-tailed sheep, distinguished primarily by its broad, fatty tail. Fat-tailed sheep are raised for their coat, milk, and meat. They are hardy sheep whose coarse wool is used in traditional carpet weaving. They are often most prized, however, for their tail. The fat of their tail remains a culinary staple in some Middle Eastern and Central Asian cultures, and in the past it was even used for lighting. Herodotus claimed that the tails of some of these sheep were once so large that they had to be furnished with carts to prevent them from dragging on the ground.

The other type that deserves mention is the Merino (see Figures 1.5 & 1.6). Today, this breed reigns as one of the most renowned worldwide for the superior quality of its wool, thanks largely to its success in Spain and, more recently, Australia. The Merino breed was first developed in Spain. The word ‘Merino’ has been translated variously as meaning ‘thick, curly hair’ or to imply movement (transhumance). Shepherding dominated Spain’s economy throughout the medieval and early modern era, and Spanish shepherds wielded significant political power through a pastoral alliance known as “The Honored Council of the Shepherds’ Conclave of Castile” or ‘Mesta’. They migrated long distances between summer and winter pastures with vast flocks of Merino sheep, benefiting from grazing rights and other privileges. Pastoralism in Provence followed a similar pattern, but on a smaller scale. Indeed, the Spanish term for

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104 Guthrie, 9.
105 Ryder, 120, 222. See also the amusing illustration Ryder provides on pp. 229-230. For this detail, Ryder cites Herodotus, but he notes that there is no evidence of the existence of any such sheep (Ryder, 229).
106 Guthrie, 13.
108 Guthrie, 13; Phillips and Phillips.
‘flock’ is ‘cabana’, which may well be the origin of the Provençal word for the shepherd’s summer mountain hut, or cabane. The origins of the Merino breed are unknown, and it has been suggested that the ancient ancestors of these sheep might have been imported from the western Maghreb. Indeed, the fine-woolled breeds of modern Algeria share many features with those of Spain, but this similarity is due in part to the introduction of Merinos during the French colonial period.

Figure 1.5 The Merino.

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109 Guthrie, 14.
110 Ryder, 250-251.
111 Orange and Alambert, Le Merinos d’Arles (F. Genre & Cie, 1924).
Merino sheep began to be exported to other countries in large numbers in the eighteenth century. Denmark and Sweden both used Spanish Merinos to improve their domestic wool industry. Likewise, France began actively importing Merinos in the late eighteenth century, though Merinos probably first arrived in France earlier by crossing the Pyrenees. In France, the importation of Merinos was initially plagued by a few false starts and debate, but by the mid-nineteenth century, Merinos had become Provence’s dominant breed.

Figure 1.6 Merino Sheep Grazing in Riez.  

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112 Author’s photo. Riez is a small village in the Alpes-de-Haute-Provence department that lies on traditional migration routes and was once a provincial Roman town. Note that the sheep in the left background is wearing a bell, still required today.
Both types of sheep have long been present in the Mediterranean region. Fat-tailed sheep are further divided into numerous breeds found extensively throughout the Middle East and North Africa. They currently comprise 80 percent of Turkey’s total sheep population. In the Ottoman Empire, they shared space with other breeds. In Provence, domestic sheep were gradually improved until, in the early nineteenth century, Spanish Merinos were introduced in large numbers and bred with local sheep for the purpose of improving their wool. Algeria represents a crossroads of these two traditions. Prior to the French invasion, both fat and thin-tailed sheep inhabited the Maghreb, but the latter were of a very different breed than that of Southern France, as French settlers were keen to remark. The introduction of Merinos in the French colonial era would lead to competition as well as amelioration of these two breeds, leaving a significant impact on the Algerian sheep industry. Today, the sheep of Morocco and Algeria generally exhibit thin-tails and coarse wool, but fat-tailed sheep continue to dominate the rest of North Africa, including Tunisia, Libya, and Egypt.

Provençe

In France, sheepherding is based in the southern, Mediterranean regions. Provence’s pastoral industry has long provided its inhabitants with wool, meat, fertilizer, milk, and cheese. Until the late nineteenth century, however, wool production was by far the most significant and lucrative product of ovine (sheep) pastoralism in Provence. While sheep traditionally dominated

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113 For the presence of Merinos among Central Asian tribes, see Carel van Leeuwen, ed., Nomads in Central Asia: Animal Husbandry and Culture in Transition (19th-20th century) (Amsterdam: Royal Tropical Institute, 1994), 27.
114 Ryder, 222. Ryder estimates this population at 23 million heads.
115 Ibid., 250.
116 In contrast to northern France, where cattle were traditionally raised partly for the fabrication of butter, the traditional fat in Provence is olive oil, provided in abundance by olive trees grown locally for thousands of years. Andrée Corvol, “Région Rhône, Alpes, Provence et Côte d’Azur,” in Les sources de l’histoire de l’environnement: Le XIXe siècle (Paris: L’Harmattan, 1999), 305. The cultivation of the olive tree has gained such association with Mediterranean lands that its limits are often used to define the edges of the Mediterranean climatic zone. See Hughes, xviii. Ancient olive presses can still be seen in the ruins of the Oppidum d’Entremont, a pre-Roman settlement just north of Aix-en-Provence.
the pastoral industry, goats were also common, and many agriculturalists also raised smaller numbers of pigs and beasts of burden.\textsuperscript{118}

As in other Mediterranean contexts, the Little Ice Age brought cooler, wetter conditions to Provence and formed a lasting impact on its economy. From the mid-fifteenth to the mid-nineteenth century, the Rhône River froze over with relative frequency, allowing inhabitants to walk – or skate – from bank to bank. Local records indicate the occurrence of thirteen freezes in the eighteenth century alone, including three consecutive freezes in the years 1766, 1767, and 1768.\textsuperscript{119} Flooding was also common. During the periods 1651 to 1720 and 1751-1860, the community of Arles was hit by an unparalleled number of intense floods.\textsuperscript{120} These and other climate-related factors contributed to the outbreak of major famines throughout the Midi in the late seventeenth and early eighteenth centuries.\textsuperscript{121} A particularly devastating famine in 1693 cost the lives of an estimated 25 percent of the regional population, and many survivors left Provence in search of better weather or at least better government assistance.\textsuperscript{122} In this way, inclement and variable weather encouraged the expansion of Provence’s pastoral industry by contributing to

\textsuperscript{118} According to Roger Livet, pigs were kept primarily for their value as fertilizer. Roger Livet, \textit{Habitat Rural et Structures Agraires en Basse-Provence} (Gap, 1962), 86.

\textsuperscript{119} Maurice Jorda and Jean-Christophe Roditis, “Les épisodes de gel du Rhône depuis l’an mil: Périodisation, fréquence, interprétation paléoclimatique,” \textit{Méditerranée} 78.3 (1993): 21. These statistics, based on official and unofficial observations, are indicative only. Because the freezing of the Rhône was a relatively common phenomenon during the Little Ice Age, it is quite likely that inhabitants did not always consider such events worth recording, so the actual figures from that period may be considerably higher. By contrast, Jorda and Roditis documented only three episodes of freezing during the entire twentieth century (1900-1993), in the years 1929, 1956, and 1963 (Ibid.).

\textsuperscript{120} Macklin and Woodward, 344. See also Chapter Five.


\textsuperscript{122} Ibid., 207. See also James B. Collins, \textit{The State in Early Modern France} (Cambridge: Cambridge University Press, 1995), 150.
depopulation and by making mobile pastoralism a more feasible, adaptable alternative to settled agriculture.¹²³

Throughout the modern era, the French practiced both sedentary and mobile forms of ovine pastoralism. In Dauphiné, a mountainous region northeast of Provence, most shepherds were local villagers who owned and cared for only their own herd. They did not migrate seasonally.¹²⁴ Even in Provence, a small minority of sheep stayed in one place year round. In higher regions, these sheep were stabled in the winter to protect them from inclement weather, while in the lowlands, they spent the summer grazing on the remaining stubble left untouched by transhumant sheep. These parochial beasts were the exception, however, and most were spared migration only because their owners lacked the necessary resources. Connoisseurs derided their wool and meat as inferior, while agriculturalists and intellectuals blamed them for environmental destruction, since their constant exploitation left lowland meadows no time to recover or regenerate.¹²⁵

“Since time immemorial”: these words are ubiquitous in past and present literature describing the history of transhumant pastoralism in Provence, showing the pride of place and near mystic authority given to this tradition.¹²⁶ This phrase also conveniently avoids the difficulty of tracing

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¹²⁵ For opposition to sedentary pastoralism in Provence, see Chapter Two. In some ways, the French have maintained this bias to the present day. Many consider the meat of transhumant sheep to be superior to that of stabled, sedentary sheep, and this preference has helped to keep the ancient practice of transhumance alive. See Chapter Six and Conclusion.

¹²⁶ The works using this phrase are too numerous to count. See for example Jean Charles François Ladoucette, Histoire, topographie, antiquités, usages, dialectes des Hautes-Alpes: Avec un atlas et des notes (Gide, 1848), 544; and Amphoux de Belleva, “Réflexions sur la transhumance des troupeaux en Provence,” Annales Provençales
the roots of a practice that, despite millennia of peregrinations, left few footprints. The discovery of the remains of ancient bergeries (sheep pens) on the Crau affirms that pastoralism existed prior to the Roman era, and evidence for pastoral exploitation of the Alps exists from preliterate times. Considered together, these discoveries suggest that mountain shepherds began to bring their herds to the plains for the winter in ancient times, but there is no way to prove that these shepherds were mobile, or that the herds of the mountains and plains were the same. It is indeed much easier to trace the origins of pastoralism than the origins of transhumance, or mobile pastoralism, in Provence. Yet, as early as the Roman era, observers described transhumance in Provence as an ancient tradition. In his Natural History, Pliny the Elder wrote, “Today, as we know, the rocky plains in the province of Narbonensis [southern France] are filled with thyme; it is nearly their only revenue, and thousands of sheep come from distant regions to graze on it.” This and other references suggest that its roots run much deeper.

By the late medieval period, the practice of transhumant pastoralism was firmly entrenched in Provence, and the rituals and traditions of transhumant pastoralism in Provence continued with

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128 Archeological evidence exists from the Neolithic, Iron, Bronze Ages.

129 “Thymo quidem nunc etiam Lapideos Campos in provincia Narbonensi refertos scimus, hoc paene solo reeditu, e longinquis regionibus peculum milibus conveniuntibus ut thymo vescentur” (Pliny XXXI, 57). Quoted in and translated by Leveau, Transhumance et estivage en Occident, 93. ‘Gallia Narbonensis’ was the Roman name for the regions of southern France currently known as Languedoc and Provence.
little change into the modern era. From late fall to late spring, Basse-Provence was annually
flooded with sheep, spread out over a wide variety of territory. Not all shepherds had access to
the *coussous* of the Crau and the Camargue, and these choice winter pastures were not used all
the time. Instead, many shepherds grazed their sheep and goats on *terres vagues et vaines*. These
were *garrigues, maquis,* and *landes,* open lands left uncultivated and/or considered unsuitable
for agriculture. They also, by definition, lacked any high forest cover.¹³⁰ *Terres gastes* furnished
another, similar destination for Provence’s herds. The word ‘*gastes*’ comes from an Old French
term meaning uncultivated, fallow, and wild.¹³¹ *Terres gastes* were designated wastelands
generally submitted to communal use. They may have contained bushes and shrubs suitable for
kindling, but their vegetation was devoid of commercial value.¹³² Finally, both sheep and goats
grazed in public and private woodlands, especially when no other pasture was available. Beyond
these zones, the livestock of Provence found sustenance wherever possible, on fields, forests,
parks, and roadsides. During the winter months, moreover, most herds practiced micro-
migrations, moving for example from fallow fields in the fall to the prairies of the Crau and
surrounding areas in the spring.

In the past, most of the sheep in Provence migrated seasonally between coastal regions and the
alpine pastures of Haute-Provence. This tradition is called *la Grande Transhumance* in French to
distinguish it from pastoral migration on a smaller scale.¹³³ From an environmental perspective,
the practice of transhumance allowed inhabitants to exploit the dry landscape of Basse-Provence,
which could not support significant year-round grazing, as well as to relieve pressure on the

¹³¹ “*Terre en friche, lieu inculte et sauvage.*” “*Gâtine / Gastine,*” *Dictionnaire du Moyen Français (1330-1500),*
¹³² Villeneuve 1829, 4: 87.
¹³³ Leveau, 90.
mountain pastures of Haute-Provence.

During their winter on the low plains, shepherds typically lived together with their families and others of their trade in tiny cabins constructed on the land grazed by their communal herd. If these structures were somewhat more permanent than the tents of nomadic tribes, they were not necessarily more comfortable. Christophe, Comte de Villeneuve-Bargemont, who witnessed transhumant pastoralism in an 1802 tour of the Alps, described the shepherd’s winter abode as a “rustic […] sort of cottage,” where the entire family shared a single bed of straw.\textsuperscript{134} He also claimed that shepherds wore their characteristic capes constantly in order to “brave the season’s bad weather.”\textsuperscript{135} All members of the family participated in the domestic division of labor. According to Villeneuve, “The women’s work consists of preparing soup for the shepherds, twice per day and […] they make cheeses and go to sell them as well as milk in the neighboring villages.”\textsuperscript{136} Shepherding, like many occupations, was traditionally passed down through generations, from father to son.\textsuperscript{137} In addition, large families often sent children as young as nine or ten to help herd sheep during seasonal transhumance.\textsuperscript{138} These young shepherds learned the trade and frequently pursued it.\textsuperscript{139} The most respected shepherds, however, came from the Alps. The farmers of Basse-Provence highly valued the experience and competence of these mountain

\textsuperscript{134} “Les femmes, les enfants et les vieillards, habitant une espèce de chaumière place au centre du terrain destiné à chaque troupeau; deux pièces composent cette rustique habitation: l’une est destinée a contenir les bagages, les ustensiles de ménage, les provisions et un peu de paille sur laquelle un matelas est étendu pour servir de lit commun à toute la famille; l’autre pièce est une étable, dans laquelle on renferme les ânes et les bestiaux qui tombent malades.” Villeneuve 1815, 67-68.
\textsuperscript{135} Ibid.
\textsuperscript{136} “Les occupations des femmes consistent à faire, deux fois par jour, la soupe aux bergers […] en outre, elles font les fromages et vont les vendre, ainsi que le lait, dans les villes ou villages les plus voisins.” Villeneuve 1815, 67-68.
\textsuperscript{137} Cedric Tolley, “Qui sont les bergers?,” Bergers, 75.
\textsuperscript{138} Villeneuve 1815, 72. Villeneuve notes that most children began undertaking the voyage on foot when they were ten years old and in this way “began their careers and rendered themselves useful to their fathers and grandfathers.”
\textsuperscript{139} Alain Archiloque, “D’hier à aujourd’hui, la passion d’être berger,” in Bergers, 97-98.
dwellers.\textsuperscript{140}

Often, the shepherds who guided herds of sheep through seasonal migration were not the beasts’ owners. Most shepherds began their career as hired laborers – working with someone else’s livestock. Many shepherds gradually acquired at least a part of the herd, but they still faced significant obstacles and expenses associated with owning and maintaining a herd, including finding and renting pasture, and paying various tolls, fees and local taxes.\textsuperscript{141} Few shepherds could support themselves on their sheep alone, so most continued to work for agriculturists, adding other sheep to their herd to help meet the costs of transhumant herding.\textsuperscript{142}

In the early nineteenth century, the large transhumant herds of Provence were administered by a hierarchy of men: the head shepherd or bayle, who oversaw accounting and logistics and directed the others, his assistant, and an additional shepherd for approximately every 300 sheep.\textsuperscript{143} Since some herds numbered in the thousands, the bayle’s job could be quite demanding. Prior to the herd’s departure, he had to arrange for access to pasture along the designated migration route by negotiating and settling up with landowners at each point of rest. This detail also required the careful choice of a route, and large herds were often split up to allow for sufficient pasture land. In order to prevent overcrowding, each herd followed a distinct path, and the entire trip was organized and reserved in advance. The route as well as all of the nightly stops had to be predetermined, so shepherds could pay ahead for the use of intermittent pastures and fields.\textsuperscript{144} The bayle also had to provide for the herd’s human travelers, who included not just the shepherds

\begin{itemize}
\item \textsuperscript{140} Tolley, 75.
\item \textsuperscript{141} Archiloque, 100. For a description of these taxes, tolls and fines, see Chapter Three.
\item \textsuperscript{142} The use of hired labor was not limited to transhumant systems; it was a common practice in agricultural communities throughout France.
\item \textsuperscript{143} Villeneuve 1815, 68-69.
\item \textsuperscript{144} Royer, 17. Villeneuve describes various routes in use during his time (Villeneuve 1815, 70).
\end{itemize}
themselves but their families – women and children – as well.\textsuperscript{145} Because everything had to be planned beforehand, a single unforeseen obstacle, such as a sick beast, bad weather, a broken bridge, or a river too high to cross, could spell disaster for these pastoralists and their herd.\textsuperscript{146}

In addition to lambs, rams, and ewes, the migratory herd typically included goats, dogs, and mules, each assigned a specific task. Goats, recognized as being cleverer and more individualistic than sheep, helped to direct the flock, keeping them together and on the path. Originally, dogs were required to ward off wolves, and they were often fierce breeds armed with spiked collars suitable to this purpose,\textsuperscript{147} but this role became less important following the large-scale, systematic extermination of wolves throughout France in the nineteenth century.\textsuperscript{148} Later shepherds showed a preference for smarter but less aggressive breeds, which began to replace goats as guides. Finally, these migrants were accompanied by mules, preferred over horses as alpine pack animals to carry provisions as well as any animals too sick to walk. Some of the best imagery of this motley mammalian crew comes from Mirèio, the famous mid-nineteenth-century epic poem by Provence’s most beloved muse, Frederick Mistral. Describing the mules’ burden, Mistral lists:

\textsuperscript{145} Villeneuve 1815, 69-70. For another account of shepherds traveling with their families, see Ladoucette 1848, 545. For a contemporary account, see Archiloque, 100. The inclusion of women and children on this seasonal migration is a detail that is often ignored in scholarship as well as in romantic portrayals of the lonely alpine shepherd, but it was in fact commonplace. These details show a likeness to the practice of nomadism in Algeria and Anatolia, in which shepherds also migrated together with their family, clan, and / or tribe.
\textsuperscript{146} For example, the herd of the Roi René experienced considerable hardship because their bridge over the Durance River had recently been destroyed in a flood. This forced them to take a significant detour where they had no accommodation or pasture. Royer, 16.
\textsuperscript{147} Royer, 19.
\textsuperscript{148} For an extensive discussion of this campaign and its impact, see Jean-Marc Moriceau, \textit{Histoire du Mechant Loup} (Fayard, 2007), 13.
Food for the shepherd-folk, and flasks of wine,  
And the still bleeding hides of slaughtered kine;  
And folded garments whereon oft there lay  
Some weakly lamb, a-weary of the way.  

Mistral’s account was visualized in a number of popular representations. Figure 1.7, a postcard from the early twentieth century, depicts a typical yet picturesque herd migrating across Provence.

![Postcard: “Return of the Herd, Excerpt from Mireille [Mirèio]” (early twentieth century, exact date unknown).](image)

Until the late nineteenth century, the seasonal migration between low and high Provence was made by foot and hoof, and it was a slow and challenging trek. Herds typically left the plains in

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149 For the full translation of the section of Mistral’s poem describing this seasonal migration, see Figure 1.8.  
150 BDR 6 Fi 2710: “Retour du troupeau. Extrait de Mireille de Mistral.”  
151 Ibid.
late May. To avoid risking over-exertion, a herd rarely covered more than three miles per day. Transhumant herds frequently traveled for three to six weeks to reach their destination, which usually lay 100-200 miles from their point of departure. Their path led through agricultural fields on wide, designated paths that farmers were required to leave uncultivated. Along the way, sheep grazed in fallow fields, forests, and rented pastures, as well as constantly snacking on roadside vegetation. According to Villeneuve, shepherds sometimes paid part or all of their rent in kind:

In all of the places they passed through, they were able to find landowners who received them without any compensation other than the gift of some sheep or goat’s milk that had been prepared before the departure.

Villeneuve presents a positive, symbiotic relationship between agriculturalists and pastoralists that is not always acknowledged in scholarship on the subject. He also claims that these farmers recognized the sheep’s presence as a source of fertilizer, and capitalized on the opportunity to sell fodder and produce to the shepherds. Indeed, it seems that migrating shepherds sometimes paid local fees by guiding their herd through village fields, thus fertilizing them. Other early nineteenth-century observers confirmed this symbiotic relationship between shepherds and farmers. Yet, grazing violations, property rights, power rivalries, and other factors frequently brought these two groups into conflict. Shepherds’ relations with the French state were equally

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152 Villeneuve dates their departure more precisely to the 14th-20th of May (Villeneuve 1815, 68). The May departure was a long-standing tradition in Provence that would change in the late nineteenth century, as the pastoral industry shifted from wool to meat production. See Chapters Four and Six.
155 Villeneuve 1815, 70.
156 “Ils voient aussi quelques avantages dans le fumier qui demeure sur le terrien ou parquent les troupeaux” (Villeneuve 1815, 70-71). Many nineteenth-century and contemporary scholars, as discussed above and in Chapter Two, focus on the supposed animosity and incompatibility between these groups.
157 Klein, 144.
158 Royer, 16.
ambivalent. French administrators appreciated the services and products that pastoralism provided – France was after all a gastronomic center of the world, but they also complained of the bureaucratic challenges of monitoring and regulating their mobile citizens.

Once the herd reached its destination, the sheep spent the summer grazing on fertile mountain meadows, or *alpages*. These “delicious pastures,” as Charles-François, Baron de Ladoucette, suggestively called them, were rented from the local population, except in cases of inverse transhumance, where *alpages* belonged to the owner of the herd.\(^{159}\) These *alpages* were often highly prized and could be considerably expensive.\(^{160}\) Here, shepherds’ accommodations were even more modest: primitive stone or wooden shelters called *cabanes*.\(^{161}\) Although *alpages* and *cabanes* were often distant from commercial centers, a shepherd’s life was hardly solitary. Again, they typically lived together with their families and other shepherds, comprising settlements that sometimes grew to the size of a small village. Ladoucette explains, “In the middle of prairies that extend just to the limits of all vegetation, appear the *cabanes* of shepherds, dairies, nearby chalets, entire villages uninhabited except in the summer.”\(^{162}\) In the fall, these groups returned to the lowlands with their herds,\(^{163}\) where they attended markets to sell cheese, skins, and old sheep for slaughter.\(^{164}\) Here, the annual cycle would begin again.

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\(^{159}\) Ladoucette 1848, 545. Rented *alpages* were either private or communal, and use was regulated by a head tax (Ladoucette 1848, 546). See Chapter Five. Ladoucette (1772-1848) served as prefect of the Hautes-Alpes from 1802-1809.

\(^{160}\) Sclafert 1934, 138.

\(^{161}\) Royer, 17-18.

\(^{162}\) Ladoucette 1848, 545.

\(^{163}\) Royer, 20. According to Royer, this departure generally began in late August in the fifteenth century (the Roi René’s time), but Villeneuve recounts having witnessed it in October in the early nineteenth century. The migration often took several weeks, but not two months, so there is a slight discrepancy between these dates. The timing might well have shifted with time (pastoral patterns would change considerably in the nineteenth century – see Chapters Four and Six), but it is also true that herds did not all travel at the same time. Instead, late August to October represents the range of this migration.

\(^{164}\) Royer, 20.
Alari was his name, a wealthy man,
He had a thousand sheep, the story ran.
The same were wont to feed the winter long
In rich salt-pastures by Lake Entressen,
And at wheat-bolling time, in burning May,
Himself would often lead his flock, they say,
Up through the hills to pastures green and high:
They say moreover, and full faith have I,
That ever as St. Mark’s came round again
Nine noted shearers Alari would retain
Three days to shear his flock. Added to these
A man to bear away each heavy fleece,
And a sheep-boy who back and forward ran
And filled the shearer’s quickly emptied can.

But when the summer heats began to fall
And the high peaks to feel the snowy gale,
A stately sight it was that flock to see
Wind from the upper vales of Dauphiny,
And o’er the Crau pursue their devious ways,
Upon the toothsome winter grass to graze.

Also to watch them there where they defile
Into the stony road where well worthwhile;
The early lambkins all the rest outstripping
And merrily about the lamb-herd leaping,
The bell-decked asses with their foals beside,
Or following after them. These had for guide

A drover, who a patient mule bestrode.
Its wattled panniers bare a motley load:
Food for the shepherd-folk, and flasks of wine,
And the still bleeding hides of slaughtered kine;
And folded garments whereon oft there lay
Some weakly lamb, a-weary of the way.

Next came abreast – the captains of the host –
Five fiery bucks, their fearsome heads uptost:
With bells loud jingling and with sidelong glances,
And backward curving horns, each one advances.
The sober mothers follow close behind,
Striving their lawless little kids to mind.

A rude troop and a ravenous they are,
And these the goat-herd hath in anxious care.
And after them there follow presently
The great ram-chiefs, with muzzles lifted high:
You know them by the heavy horn that lies
Thrice carved about the ear in curious wise.

Their ribs and backs with tufts of wool are decked,
That they may have their meed of due respect
As the flock’s grandsires. Plain to all beholders,
With sheepskin cloak folded about his shoulders,
Strides the chief-shepherd next, with lordly swing:
The main corps of his army following.

Tumbling through clouds of dust, the great ewe-dams
Call with loud bleatings to their bleating lambs.
The little horned ones are gayly drest
With tiny tufts of scarlet on the breast
And o’er the neck. While, filling the next place,
The woolly sheep advance at solemn pace.

Amid the tumult now and then the cries
Of shepherd-boy to shepherd-dog arise.
For now the pitch-marked herd innumerable
Press forward: yearlings, two-year-olds as well,
Those who have lost their lambs, and those who bear
Twin lambs unborn, - and wearily they fare.

A ragamuffin troop brings up the rear.
The barren and past-breeding ewes are here,
The lame, the toothless, and the remnant sorry
Of many a mighty ram, lean now and hoary,
Who from his earthly labours long hath rested,
Of honour and of horns alike divested.

All these who fill the road and mountain-passes –
Owd, young, good, bad, and neither; sheep, goats, asses –
Are Alari’s, every one. He stands the while
And watches them, a hundred in a file,
Pass on before him; and the man’s eyes laugh.
His wand of office is a maple staff.

And when to pasture with his dogs hies he,
And leathern gaiters buttoned to the knee,
His forehead to an ample wisdom grown
His air serene might be King David’s own,
When in his youth he led, as the tale tells,
The flocks at eve beside his father’s wells.¹

Anatolia

Like other Mediterranean regions, the Anatolian peninsula has long supported both agriculture and pastoralism.¹ Indeed, the history of pastoralism reaches back even further in Anatolia than in Provence. Some of the earliest evidence for the domestication of sheep and goats, dating from 6000 B.C.E., comes from neighboring regions.² The Hittites practiced pastoralism in Central Anatolia from the nineteenth to twelfth centuries B.C.E. The gradual lowering of the water table in this region, accompanied by a shift toward a warmer, drier climate, probably made Anatolia’s Mediterranean borders more suitable for raising sheep and goats than cattle.³ In any case, by the classical era, sheep had become ubiquitous throughout the region.⁴ They even became the stuff of legend. Aristotle told of a river in southwestern Anatolia, now known as the Menderes (Büyük Menderes Irmaği), that would turn sheep that drank from it yellow.⁵

The original appearance of mobile pastoralism in Anatolia is more difficult to date, but most scholars agree that this practice developed definitively in the medieval era with the arrival of the Turks, who were themselves nomadic pastoralists.⁶ Once the Ottoman Turks had consolidated

² Ryder cites archeological evidence of sheep in Crete and Cyprus, dating from 6000 B.C.E. The animals were not native to these islands, and thus were most likely brought deliberately from mainland Anatolia (Ryder, 57). Juliet Clutton-Brock cites earlier evidence of sheep under human control, though not necessarily domesticated, in Iraq. She hypothesizes that sheep were first domesticated in Western Asia, either in or near Anatolia. See Juliet Clutton-Brock, A Natural History of Domesticated Mammals (Cambridge, UK: Cambridge University Press, 1999), 74. See also Claudia Chang and Harold A. Koster, “Beyond Bones: Toward an Archaeology of Pastoralism,” Advances in Archaeological Method and Theory 9 (1986): 97-148.
³ Ryder, 56-57.
⁵ Aristotle, Historia Animalium, 3.12. Cited in Ryder, 143. Ryder also notes that Strabo’s remarked in the first century C.E. that some people had amassed great wealth by grazing their flocks on the Konya plain (Ryder, 57).
⁶ Xavier de Planhol, “Geography, Politics and Nomadism in Anatolia,” International Social Science Journal 11 (1959); Planhol 1958, 93-94; Johnson 1969, 201; Rudi Paul Lindner, Nomads and Ottomans in Medieval Anatolia
their power in Anatolia in the early fourteenth century, however, they abandoned their peripatetic ways. They established a state that, through centuries of conquest, eventually would stretch across the Mediterranean into Europe, Africa, and Asia.

Throughout the Ottoman era, the Ottoman administration played a sort of tug-of-war with its remaining nomadic population, advancing at times and then falling back. During the first two centuries of its existence, as the Ottoman Empire expanded, the central administration gradually increased its control over these groups. In the early 1600s, however, economic problems, military defeats, and the devastating effects of the Little Ice Age combined to force Anatolia’s settled population into retreat. Nomadic tribes that previously had been relegated to its inaccessible frontiers now spread into its southwestern provinces. Over the centuries that followed, the Ottoman administration addressed its nomadic contingent with ambivalence, wavering between policies of reluctant acceptance and sedentarization attempts.

For much of the Ottoman period, soil quality, climate, and land formation as well as the limits of transportation and administration helped to forge boundaries between the so-called ‘desert and sown’. Agriculture was mostly limited to areas that were accessible and relatively secure, through their proximity to Istanbul, other urban centers, or transportation networks. Nomadism, in contrast, thrived on the periphery, secluded areas outside the purview of the Ottoman state. As

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(Bloomington: Research Institute for Inner Asian Studies, Indiana University, Bloomington, 1983). These studies associate the arrival of nomadism in Anatolia with the definitive Battle of Manzikert of 1071. For the process of sedentarization of Turkish society in Anatolia under the Ottomans, see Lindner.

7 Sam White has noted with reference to the Anatolian plateau, “The land could shift equally to either cultivation or pastoralism, or an overlap of the two; and over the course of millenia, nomads had forced out farmers and farmers nomads many times according to the prevailing political or ecological balance” (White 2008, 151). Jean Frödin makes a similar comment in “Les formes de la vie pastorale en Turquie,” Geografiska Annaler 26 (1944): 223.

8 White 2008, 272; Grove and Rackham, 130-140; Tabak, 16-19.

agriculture and the reach of Ottoman administration gradually expanded, nomads retreated ever more to these frontiers and to unoccupied land considered unsuitable for farming. Some remained in the desert plateaus of Eastern Anatolia, while others were pushed west and south, into the Taurus Mountains and nearby coastal plains.\(^{10}\)

Antalya was a bustling center at various points in the past. When Ibn Battuta visited the cities Antalya and Alanya (Alaiye / Alaya) in the mid-fourteenth century, both were prosperous ports. Alanya provided his gateway into Anatolia, as he arrived by sea, and it made a very favorable impression.\(^{11}\) He described the surrounding country as “one of the finest in the world; in it God has brought together the good things dispersed throughout other lands. Its people are the most comely of men, the cleanest in their dress, the most delicious in their food, and the kindliest folk in creation.”\(^{12}\)

By the seventeenth century, Antalya’s significance as a port had declined, the surrounding region faced depopulation, and corruption and piracy plagued the remaining community. Alanya remained significant enough to appear in the mid-seventeenth-century account of Evliya Çelebi, but he complained of the disrepair and lawlessness of the city and surrounding countryside.\(^{13}\) In 1774, a French merchant ship that crashed on its shores was pillaged, the crew stripped bare by “a multitude of Turkish women and children from the neighboring village” and its coffers


\(^{12}\) Ibid., 416.

confiscated by the local Aga. As the captain later recalled, when he “demanded of some of these rogues on which coast he found himself treated so indignantly,” he was told simply “‘on the beach of Alaya and Satalie, but closer to Alaya.’” Such events became even more commonplace in the early nineteenth century. In 1810, this state of affairs grew so bad that the French consul was forced to flee for his life, abandoning his post and taking refuge in Cyprus for two years before he was able to return to France.

Environmental changes encouraged Antalya’s economic decline, depopulation, and the influx of nomads. The unfolding of the Little Ice Age in the sixteenth and seventeenth centuries brought wetter conditions to Mediterranean coastlands, making them choice breeding grounds for mosquitoes. In many places, farming was already restricted by the prevalence of steep hillsides and the absence of flat, arable land. Now, the prospect of malaria-ridden marshlands such as the Pamphylian Plain of Antalya and the Cilician (Çukurova) Plain of Adana, together with the heat, made these regions nearly uninhabitable in the summer. Meanwhile, nomadic tribes that gradually had been pushed out of the central Anatolian plateau by administrative measures and the expansion of agriculture began to take advantage of the relative emptiness and isolation of these coastal plains.

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14 Centre des Archives Diplomatiques de Nantes (hereafter CADN) 166PO/D76/1, Account of Captain Blaise Sigaud of la Ciotat, 27 January 1774.
15 “Le capitaine demande à de ses coquins sur quelle cote il se trouvait échoué de se voir traiter si indignement, on lui dit sur la plage d’Alaya et Satalie, mais plus voisin du dit Alaya.” CADN 166PO/D76/1.
16 For his personal account, see CADN 166PO/D76/1.
These developments did not lead to the complete abandonment of the region by its sedentary residents, but the Little Ice Age did contribute to a shift in the balance between ‘the desert and the sown’.\(^\text{19}\) In the late sixteenth century, both nomadic and sedentary populations were increasing, but nomads remained a small minority. In the sancak of Alanya, the number of settled households rose from over 17,000 to 20,000 from the 1520s to the 1570s, an 18 percent increase. The nomadic population doubled over the same time, but it still comprised only two percent of the total population.\(^\text{20}\) Changing climatic conditions transformed this picture. Although reliable statistics are not available for the centuries that followed, the accounts of Turkish and foreign travelers, as well as the region’s demographic transformation by the early nineteenth century, suggest an overall trend of depopulation combined with a steady influx of nomadic tribes.\(^\text{21}\)

\(^{19}\) For Ottoman administration of nomads in southern Anatolia, see Şenol Çelik, “XVI. Yüzyılda İçel Yörükleri Hakkında Bazı Değerlendirmeler,” in Anadolu’da ve Rumeli’de Yörüklar ve Türkmenler, Sempozyumu Bildirileri, Tarsus, 14 Mayis 2000, edited by Tufan Gündüz (Ankara: Yörtürk , 2000), 83-101. For their contribution to the regional agro-pastoral economy, see Armagan, 78-88. See also my discussion of southwestern Anatolia’s agro-pastoral economy below.

\(^{20}\) Cadastral surveys of 1520-1535 and 1570-1580 for the sancak of Alaiye printed in Ömer Lutfi Barkan, “Essai sur les données statistiques des registres de recensement dans l’Empire ottoman aux XVe et XVIe siècles,” Journal of the Economic and Social History of the Orient 1.1 (1957): 30. These figures provide a general indication of the region’s demography, but they should be considered with caution. The size and definition of household varied with time and culture, and it would not have meant the same thing to nomads and sedentary peasant farmers. Moreover, nomads are notably difficult to count, especially for taxation purposes, and a number of them undoubtedly escaped the calculations of official registers.

\(^{21}\) In the mid-seventeenth century, Evliya Çelebi described the region surrounding Konya and Maraş as a haven for wandering tribes. See Evliya Çelebi, Seyahatname, edited by Y. Dağlı et al. (İstanbul: Yapı Kredi Yayınları, 2001-2005), Vol. 3: 102-104. Cited in White 2011, 240-241. Likewise, Hütteroth attests that much of Anatolia was deserted in the early nineteenth century, with few permanent settlements and sparsely distributed nomadic tribes. Provincial yearbooks (salnameler) for this period indicate higher village populations than one might expect because they included seasonal inhabitants (nomads). See Wolf-Dieter Hütteroth, “The Influence of Social Structure on Land Division and Settlement in Inner Anatolia,” in Turkey: Geographic and Social Perspectives, edited by Peter Benedict, Erol Tümer, and Fatma Mansur (Leiden: Brill, 1974). See also the nineteenth-century provincial yearbooks for the Vilayet of Konya, some of which are available online through Türkiye Diyanet Vakfı İslam Araştırmaları Merkezi, “Salname-i Vilayet-i Konya,” Salnâme-i Vilayet-i Konya, Web: http://ktip.isam.org.tr/ (accessed 2 May 2013). For a discussion of the availability and utility of statistics for the early modern period, see Barkan 1957.
The nomads of southern Anatolia are known generally as yörük, which comes from the Turkish word yürümek, ‘to walk’. Each yörük tribe was composed of an extended family or clan who lived and migrated together, in a way not unlike the shepherd communities of Provence. After wintering in the river valleys of the coastal plains, they left in April for summer pastures, called yaylas, in the Taurus Mountains, traveling via migration routes fixed by tradition. Each clan occupied the same designated space year after year, which they claimed through ancestral use, rather than ownership in the modern, western sense. Here, they camped in communities of black felt tents among oak, juniper, grass and shrubs, and springs vital for them and their flock. They ate meat only rarely, and milk products from their sheep formed the bulk of their diet. They passed the time tending their herd, lambing and slaughtering yearling males in the winter, and making cheese in the summer. The men tanned hides and worked leather, while the women carded, spun and dyed the wool, and crafted textiles.

The yörük of southwestern Anatolia raised sheep, goats, and sometimes camels, the preferred form of transport and beast of burden of the Near East. Most yörük tribes in the Antalya and Adana regions raised varieties of fat-tailed sheep. In the Antalya region, the Dağlıç breed is

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22 As İlhan Şahin, Osmanlı Döneminde Konar-Göçerler / Nomads in the Ottoman Empire (İstanbul: Eren, 2006), 34-35. See also Johnson 1969, 20-21. I will use the general term ‘Yörük’ except when referring to specific tribes.
23 Şahin, 98.
26 Ryder, 212.
30 Ryder, 223.
A singular feature of this breed is shepherds’ tradition of choosing rams from within a flock, so that each flock remains inbred or closed, a breed in itself. The wool of this breed is used in carpets, and the sheep are prolific milk producers. Farther to the east, in Adana, the Ak-Karaman (White Karaman) is most widespread. This variety of fat-tailed sheep, which dominates most of central Anatolia and Syria, has a fattier tail than the Dağlıç, as well as a lighter but denser fleece. The Ak-Karaman is particularly renowned for its ability to withstand harsh conditions, including hot summers, cold mountain winters, a restricted diet, and limited access to water. It is thus well adapted to the peripatetic habits of the yörük.

In many aspects of their daily life, the yörük lived in much the same way as the pastoralists of Provence, but their local politics and relationship with the central administration set them starkly apart. The yörük lived both outside and within the Ottoman system. They often resisted taxes and conscription, and evinced much more affinity for the local control of their tribal leaders than for the relatively distant Sublime Porte. According to Henry John Van Lennep, a British traveler who observed yörük tribes in southern Anatolia in the mid-nineteenth century, “Their government is patriarchal, and they are divided into tribes, so many tents or families being said to be under the authority of each Sheikh, and office which is hereditary among them.”

The relative inaccessibility of nomadic tribes was undoubtedly a factor in Ottoman administrative policy toward them. Because they inhabited the frontiers of Ottoman authority,
nomads were difficult to control. Van Lennep recalled an encounter with a nomad who proudly described his imperial commission as head of the local police, or “gendarmerie,” though “he has repeatedly acknowledged that his ‘gendarmes’ rob whenever they can do so with the hope of not being found out.” Nomads did prey on villages, especially when attempts to barter failed. Tribes were also known to retreat into inaccessible mountains when tax officials drew near. The administration of nomads became even more difficult in times of war, when garrisons that might otherwise guard and protect vulnerable settled populations were called to the front.

Ultimately, the Ottoman administration enjoyed the most success in employing tactics of reward and punishment: burdening tribes with onerous taxes and offering generous incentives for settlement. Over the course of the Ottoman period, the administration made the nomadic lifestyle increasingly unattractive through mounting restrictions, penalties, taxes, and other demands, so that those who resisted settlement ultimately numbered among the Empire’s most impoverished inhabitants.

**Algeria**

As in Provence and Anatolia, the mobile pastoral tradition of the Maghreb has ancient roots. Indeed, the Roman name for this region, ‘Numidia’, comes from the Greek word for nomad.

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38 Ibid., 136. For an example of a case involving nomadic theft in Antalya, see Başkanlık Osmanlı Arşivi (hereafter BOA): A. MKT. MHM. 23/85 (H. 1266 / 1850).
41 Kasaba 2009, 75; Cengiz Orhonlu, *Osmanlı İmparatorluğu’nda Aşiretleri İskân Teşebbüsü: 1691-1696* (İstanbul: İstanbul Üniversitesi Edebiyat Fakültesi, 1963), Chapter 1; White 2008, 277. For Ottoman flexibility in governing its provincial population, see Karpat and Zens 2003; and Peacock 2009.
42 Ryder, 251.
Since antiquity and probably before, mobile pastoralism has been practiced in this region in various forms and degrees. For thousands of years, it has formed the backbone of the Maghreb’s economy, providing continuity in a history fraught with political, social, and religious change. Indeed, this tradition is so important to the Algerian past that one historian of the region has called it the “land of sheep.”

One the eve of colonization, the population of the Regency of Algiers was decidedly cosmopolitan. As one anthropologist has written, “The history of Algeria is not that of one people but of twenty.” Merchants, foreign officials, and Turkish soldiers mingled with indigenous inhabitants in the urban center of Algiers. Much of the rest of the territory was populated by communities of peasant farmers and the seasonal camps of pastoral nomads, but these too were a diverse bunch. The most commonly discussed distinction within Algeria’s native population is that of Berbers and Arabs. The Berber presence has been linked to the ancient Mediterranean civilization of the Phoenicians, which peaked c. 1200-800 B.C.E. From this perspective, Arabs are newcomers, having arrived abreast the Islamic conquests of the seventh to eleventh centuries. Nineteenth-century French thinkers, who were particularly keen to separate the two groups, divided them along ethnic, cultural, linguistic, political and economic lines. The predominant narrative argued that Berbers were a politically advanced agricultural people, associated with the cultivation of the fertile hills of Kabylia in northern Constantine, while Arabs were branded as incorrigible, anarchic desert nomads. In the colonial era, this narrative served to justify and guide the French administration of Algeria, as I discuss in Chapter

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44 “L’histoire de l’Algérie n’est pas celle d’un peuple mais / celle de vingt peuples, de vingt pays juxtaposes qui, très longtemps, vécurent en état d’opposition, de rivalités belliqueuses.” Hirtz, 17-18.
Two. This characterization, however, is far from representative of the actual state of Algerian society in the early nineteenth century. In practice, Berbers and Arabs had long since shared economic, political, as well as cultural ties. Members of either group might practice agriculture or pastoralism, or both, and choose a sedentary or mobile lifestyle. Both groups were governed by tribal organizations, and both followed Islam. Given these commonalities, it makes most sense to consider them together, as part of an integrated Maghrebian society.

When French forces arrived in the Regency of Algiers in the 1830, it was nominally Ottoman territory, but the Sublime Porte held little actual control. By the early nineteenth century, much of the central Maghreb was either directly or indirectly in the grip of powerful tribal leaders. The Ottoman state maintained a handful of troops, most of them in and around Algiers. Only four hundred were stationed in the entire province of Constantine, then known as the Beylik of the East, the Regency’s largest and most profitable beylik. These Turkish soldiers depended on the support of local auxiliary forces, including prominent makhzan (government) tribes, who, for their pains, were exempt from taxes and allowed to tax other populations. In this system, Ottoman involvement was limited to urban centers in the Tell, comprising approximately 30,000 square miles, or just one thirtieth of the total area of modern Algeria. The vast region beyond this oasis of Turkish control was governed by confederations of nomadic tribes. In some ways, these tribal confederations resembled the local administration of the yörük tribes of southwestern Anatolia, and their organization was not completely unlike the hierarchy of transhumants in

45 Ruedy, 32, 34-35.
46 Ibid., 33-34, 36-37.
47 Ibid., 36.
48 Ibid., 36.
Provence, from the common shepherd to the head bayle. Yet, in contrast to the yörük, who were ostracized and marginalized by society and the state, Algerian nomads were not only central players in their regional economy, but they had the upper hand.

The culture and social organization of Algerian tribes also shared notable features with pastoralists across the Mediterranean. As in Provence and Anatolia, nomads traveled in groups of families or clans. Their caravans could be an impressive spectacle. One witness compared it to “the scenes of biblical times [...] the picturesque [image] of an entire people marching toward the Promised Land.” In the Chelif River Valley in western Algeria, one mid-nineteenth century observer described the “cries, the bellowing of the herd, the howling of dogs” as ever-present sounds of spring, contrasting this constant noise with “the silence and solitude of this region in other parts of the year.” Prior to colonization, this land was populated exclusively by nomads, so that it was inhabited only part of the year. Once arrived in their summer or winter quarters, nomads pitched elaborate tents, creating a veritable, if temporary, metropolis. While the men tended their herd, the women and girls toiled over carpets and other handicrafts.

Although nomadic pastoralists traditionally roamed throughout Algeria, the specific nature of their trade and its role in the wider regional economy varied according to environmental and

52 “Leurs cris, le mugissement des troupeaux et les hurlements des chiens forment un contraste frappant avec le silence et la solitude de toute cette contrée parcourue dans une autre saison.” Quoted in Xavier Yascono, La colonisation des plaines du Chelif, de Lavigerie au Confluent de la Mina (Alger, 1955), Vol. II: 77. Yascono’s work is one of the few historical studies focused on a particular part of Algeria, rather than treating the country as a whole. For reference to this work, see Boukhobza, 3.
53 Lehuraux, 57-58; Hirtz, 58.
political factors. As in Provence and Anatolia, nomadic tribes migrated seasonally in search of a moderate climate, access to water, and fresh pasture. This journey led them not just from south to north but in all directions, and ranged greatly in its length.\textsuperscript{54} Northern Algeria possessed the best pastureland, with its choicest pastures in what would become the province of Constantine. This territory was reserved for the richest, most powerful tribes.\textsuperscript{55} Of Algeria’s nomadic groups, these had the most in common with the mobile pastoralists of Provence and Anatolia. They migrated on a relatively small scale, leaving and returning according to a seasonal schedule identical to that of their Mediterranean neighbors. In the fall, winter, and early spring, they grazed their sheep on fallow fields or other unused land in the Tell, and they benefited from the productivity of nearby mountain pastures in the summer.\textsuperscript{56}

Other, less privileged nomads had to travel much farther to reach suitable pastures. According to one early twentieth-century scholar, some tribes migrated over four hundred miles seasonally.\textsuperscript{57} In addition to herding their livestock, these long-distance nomads provided vital services to settled or semi-nomadic groups in the north. Many tribes crossed the Atlas to winter in the Sahara, taking with them foodstuffs and products for sale, and bringing back dates and other southern produce on their return.\textsuperscript{58} Indeed, in Algeria, the transmission of grain throughout the country was linked directly to the seasonal migration of these tribes.\textsuperscript{59} The prevalent forms of livestock also varied in different parts of Algeria. In the north, especially in the agricultural green-belt of the Tell, cattle grazed alongside sheep, while in the heat of the far south, goats and

\textsuperscript{54} Boukhobza, 26-27. Boukhobza calls this practice ‘achaba, which he defines as “the search for green pastures” (26). The word probably comes from the Arabic عشب, which refers to grass or pasture, but I have not encountered any other reference to it.
\textsuperscript{55} Boukhobza, 28-30.
\textsuperscript{56} Ibid., 28.
\textsuperscript{57} Lehuraux, 6.
\textsuperscript{58} Boukhobza, 32; Lehuraux, 57-58, 94.
\textsuperscript{59} Boukhobza, 35.
camels predominated. In general, though, and in between these two extremes, sheep and goats were by far the most common.\textsuperscript{60} Praising their versatility, one early twentieth-century scholar wrote, “The sheep is the essential wealth of the Algerian Steppe.”\textsuperscript{61}

**PASTORALISM AND THE MEDITERRANEAN ECONOMY**

Much of the literature on mobile pastoralists has focused on the dichotomy between them and settled agriculturalists. As the examples of Provence, Anatolia, and Algeria show, however, pastoral and agricultural industries sometimes had more in common than in conflict. Pastoralism alone does not supply all of one’s daily needs. To supplement their diet, pastoralists were either dependent on agriculturalists, or practiced agriculture themselves. The Mediterranean environment provided both of these opportunities, since mobile pastoralists spent at least part of the year in regions where they or others cultivated basic food crops.

In Provence, the practice of agro-pastoralism was common. In addition to human factors, the rain, sun, wind, and temperature have all played a role in shaping agricultural production in this region. The cultivation of standard Mediterranean crops – vines, olive trees and orchard fruits – characterizes the Provençal countryside, but in the early modern era these tamed fields were far outnumbered by open, uncultivated land.\textsuperscript{62} As one visitor observed, man has a “quarter of the land, the low-lying basins which are oases with harvests, olive trees, vines, and ornamental cypresses. Nature has three quarters of the land, layered rocks, reddish-brown or silver grey.”\textsuperscript{63}

In this environment, pastoralism provided an important supplement to agricultural activity in part

\textsuperscript{60} Ibid., 19-21.
\textsuperscript{61} “Jusqu’ici, le mouton est la richesse essentielle de la steppe Algérienne.” Lehuraux, 72.
\textsuperscript{62} This agricultural pattern was established in Provence by the late eighteenth century. Livet, 97.
\textsuperscript{63} Louis Gachon, in *Nouvelles Litteraires*, 10th February, 1940. Quoted in Braudel 1972, I: 399.
because it proved itself more versatile. Provence’s arid climate and intractable soils traditionally made agriculture difficult, and many inhabitants raised sheep and goats as a primary or secondary source of income. Throughout Provence’s history, environmental elements helped distinguish farmland and pasture. The limitations of soil and water generally restricted agricultural production to Provence’s plains and valleys, while herds grazed on the rocky hillsides above. Yet the geographical distinctions between these two activities were not always clear. Sheep provided a valuable source of fertilizer, and they frequently grazed on fallow vineyards and fields. In addition, both pastoralists and farmers exploited communal land.

Likewise, in Anatolia, nomads and peasants have long shared space and have both left their mark on the region. The nomads of southwestern Anatolia are often portrayed in European travel accounts as raiding the settled population rather than trading. There is some truth to this image. The mobility and relative autonomy of yöruk tribes allowed them to prey on the settled population, which they were inclined to do in times of need or when dissatisfied with the terms of exchange. In the late sixteenth century, for example, population pressure and climatic challenges combined to incite nomadic tribes into open revolt. The characterization of nomads as ruthless pillagers is less representative of the actual situation, however, than it is of the traditional Western bias against pastoralism, discussed in Chapter Two. Such representations blur the lines between nomads and bandits, a mistake that European observers were particularly

64 Livet, 23.
65 Livet, 86; Villeneuve 1815, 70-71; Claudia Chang and Harold A. Koster, “Beyond Bones: Toward an Archaeology of Pastoralism,” Advances in Archaeological Method and Theory 9 (1986): 103.
prone to make. Moreover, the popular image of conflict between the settled and mobile populations obscures the extent to which Anatolian peasants and nomads co-existed harmoniously and symbiotically in most places, most of the time.

Like their contemporaries in Provence, nomads in these regions raised sheep for meat, milk, and wool. Their consumption was primarily subsistence-based, but nomads also provided the empire’s supply of mutton, one of its main sources of meat, and a small portion of the wool they produced was exported. As in Provence, Algeria, and elsewhere around the Mediterranean, the herders of Anatolia were known to supplement their pastoral habits with agriculture. Indeed, their agricultural practices have led some scholars to describe them as neither true nomads nor agriculturalists, but a form of migrants. They grew some vegetables in their mountain home during the summer months, and there is also evidence that they cultivated small grain fields on the lower terraces of the Antalya plain, leaving them to nature during the summer and harvesting them on their return to the coast in the fall.

Nevertheless, the yörick generally remained dependent on nearby sedentary populations to supplement their diet. This relationship could be reciprocal, since tribes produced valuable goods and services ideal for exchange, but it occasionally involved violence, when nomads had

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67 Descriptions of bandits are ubiquitous in nineteenth-century European travel accounts, which often referred to them indiscriminately as nomads. See for example Van Lennep; A. Locher, With Star and Crescent (Philadelphia: Ætna Pub. Co., 1890); Baptiste Pougoulat, Voyage dans l’Asie Mineure, en Mesopotamie, à Palmyre, en Syrie, en Palestine et en Egypte (Paris: Ducollet, 1864); and Frederick Burnaby, On Horseback through Asia Minor (New York, 1985). See also Chapter Two. Mediterranean Europe had its own problems with bandits. See Braudel 1972, II: 734-754.

68 İnalcık and Quataert 1994, 38; and Dewdney, 109. According to Ryder, 80 percent of the meat eaten in Turkey in 1944 came from sheep, though that number has declined steadily since (222).


70 Murphey 1984, 190. Murphey uses the term “konar gocher halkı,” literally ‘coming and going’, which refers to a migrant population.

71 McNeill 1984, 113; Kolars, 22; Murphey 1984, 190.

72 Planhol 1958, 115, 120.
the power and will to take what they wanted by force.73 Most of the sedentary population of southwestern Anatolia lived in the mountains. In addition to furnishing the yaylas of the yöрук, the Taurus Range sheltered other, non-pastoral nomadic tribes, as well as small settlements of peasant farmers who raised cereals such as wheat, barley and cotton, and traded with the nomads.74 In the mountains, the nomadic population greatly outnumbered permanent residents.75 Moreover, these agricultural communities grew increasingly sparse in the sixteenth to early nineteenth centuries, while the permanent population on the plains declined as well.76 As late as the mid-nineteenth century, the western Antalya Plain was used primarily as a seasonal camp for yöruk tribes.77 This would change significantly, however, in the remainder of the century, as will be seen in subsequent chapters.

In the early nineteenth century, nomads comprised approximately 45 percent of the Algerian population and held much of its land and control.78 However, they shared this land with a considerable minority of agriculturalists. The greatest concentration of farmers were the Berber peasants of Grand Kabylia, but substantial sedentary populations could also be found scattered throughout Northern Algeria in pockets of suitable environmental conditions.79 Powerful nomadic tribes exacted tribute from this sedentary population in the form of produce, but they also exchanged goods and services such as livestock, handicrafts, and transport with the settled

73 Ibid., 115-117.
74 Ibid., 120. In should be noted that not all of the nomadic tribes in the Taurus were pastoralists. The Tahtaci, or woodcutters, who performed timber operations and also migrated seasonally, provide an important exception.
75 McNeill 1992, 156. For a discussion of the demographics of nomads in Antalya in the early modern era, see Armağan, 78-79, 81, 89-102.
77 Ibid., 157.
78 Ruedy, 25. According to Boukhobza, however, over half of the population was nomadic (Boukhobza, 32).
79 Ruedy, 26.
In addition, they practiced agriculture themselves, and agro-pastoralism formed an integral part of the pastoral tradition in Algeria. In the fertile Tell region to the north, for example, wealthy pastoralists often invested in agricultural land, which they either cultivated themselves, hired hands to tend while they were away, or rented to peasant farmers. The practice of agro-pastoralism was most pronounced in the province of Constantine, where a mild climate allowed pastoralists and agriculturalists to live and work side by side, in much the same way as in Provence.

Mediterranean pastoralists depended not only upon cultivated fields, but on forests as well. In Provence, forests have long been a valuable and limited commodity. Provence’s forests provided inhabitants with a wide range of resources and played a vital role in the local economy. The local population looked to forests as a source of firewood, as well as shelter, wild fruit, game, aromatic plants and herbs, grazing for animals, dead sticks for animal beds and for fertilization. For pastoralists in Provence, forests provided a valuable supplement to open pasture lands. In the fall and winter, sheep often grazed on forest lands while open pastures regenerated. Few shade-bearing grasses and herbs are palatable to sheep and goats, and they generally cannot reach the leaves of trees, but they will browse on small edible plants and low-lying leaves. Forests were particularly important in dry years and following a flood, when open pasture was unavailable or insufficient. Transhumant shepherds also depended on forests while traveling between summer and winter pastures. They provided a shepherd and his flock with shelter, food and bedding.

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80 Leeuwen, 67.
81 Boukhobza, 3.
82 Boukhobza, 19. Lehuraux, 74.
83 Boukhobza, 35. Lehuraux, 1-4.
84 Dumoulin 2002, 3.
85 Grove and Rackham, 191.
86 Whited, Forests and Peasant Politics, 15-16.
When necessary, pastoralists burned forests and brushlands to provide pasture for their animals. In the early modern era, this practice was particularly widespread in the central Maghreb, where it was least regulated. Here, agriculturalists also burned brushlands periodically, in a practice called keçir. This land was used for agriculture every four years and for pastoralism in the interval, forging another link between these two economic systems. Algerian pastoralists also grazed their herds in wooded areas and brushlands, which provided food, fodder, fuel, and welcome shelter from the sun and heat.

In Southwestern Anatolia, nomads depended on forests for shelter, fuel, and wooden tools. Their livestock occasionally grazed in forests, but both sheep and goats preferred the vegetation of summer and winter pastures. The only forests that contributed measurably to their diet lay along seasonal migration routes. As they passed through forests on their journey from coastal plains to upland pastures (yaylas), nomads could not prevent their herds from grazing on the vegetation that lay along their path. Because migration routes were standardized, herds grazed in the same intermediate forests year after year, but these forests were used only for short periods followed by extensive recovery time. To be sure, overgrazing, particularly by the omnivorous goat, damages vegetation and diminishes its ability to recover, but most recent studies agree that pastoralism has not been a major source of desertification or deforestation in the Mediterranean

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87 For a description of this practice in Provence, see Dumoulin 1996.
89 Boukobza, 28.
90 Malcolm Wagstaff lists a range of nomads’ uses of the forest, including, “cutting timber to provide lumber and firewood, producing charcoal for cooking and metal working, and extracting resins for adhesives, gums and paints” (Wagstaff, 159).
92 Wagstaff, 159.
region. Forests surrounding summer pastures in Anatolian mountains generally remained in fair condition throughout the Ottoman period, while depletion of forests near winter pastures in the plains was usually a result of their accessibility, and they were exploited not by nomads but by settled populations and the state. In general, the environmental impact of pastoralists in Provence, Algeria, and Anatolia in the early modern era was mild, especially when compared with what was to follow.

CONCLUSION

In Provence, southwestern Anatolia, and northern Algeria, pastoralists were both resolutely mobile and indelibly rooted to tradition. Pastoralists in these three places were united not only by a shared Mediterranean environment, but also by similar cultural and societal practices, political organization, their uses for sheep, their relationship with agriculturalists through systems of exchange and the practice of agro-pastoralism, their dependence on forests, and, last but not least, their singular tradition of seasonal migration between the mountains and plains of the Mediterranean hinterland. These features are descriptive not only of the three cases studied here, but of many other pastoral economies around the Mediterranean Sea. Together, they describe a brand of mobile pastoralism that is uniquely Mediterranean.

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95 A few other notable cases include the Mestas of Spain; shepherds of Italy, Greece and the Balkans; the Bedouin of the Levant; and the Berbers of Morocco. For Spain, see Phillips and Phillips. For Italy, see John A. Marino, *Pastoral Economics in the Kingdom of Naples* (Baltimore: Johns Hopkins University Press, 1988). For Greece, see McNeill 1992. For the Levant, see Norman N. Lewis, *Nomads and Settlers in Syria and Jordan*, 1800-1980 (Cambridge; New York: Cambridge University Press, 1987).
As I show in subsequent chapters, Mediterranean pastoralism would face major challenges in the nineteenth century. During this period, all three of the defining elements of this tradition – its commitment to mobility, the presence of a wider agro-pastoral society, and even the Mediterranean environment itself – would be subject to reinterpretation and modification. Members of the French intellectual elite would indict mobile pastoralists for environmental destruction, and French foresters would work with government officials to restrict their movements around the Mediterranean. Advances in communication, transportation, technology, and agriculture, as well as the transformation of the global wool market, would place additional pressures on Mediterranean pastoralists. Even as these developments altered the meaning of Mediterranean pastoralism, however, they added a new set of common traits to this practice. They gave pastoralists in Provence, Anatolia, and Algeria a joint role in contesting state power and in shaping Mediterranean forest administration through compromise. The adversity that Mediterranean pastoralists faced over the course of the nineteenth century, moreover, ultimately led to their romanticization by the early twentieth century, when poets, scientists, and ethnographers celebrated these nomads as symbols of an idealized past. To this day, the mobile pastoral tradition in the Mediterranean region continues to be defined by common practices, history, and identity. Yet, these patterns are only visible when we – like nomads – overstep traditional boundaries and approach our subject from a transnational perspective with an inclusive conception of mobile pastoralism. As the remaining nomads disappear, this process will be essential in investigating, understanding, and preserving their heritage.
CHAPTER TWO: BLACK SHEEP
THE INTELLECTUAL ROOTS OF FRENCH PASTORAL POLITICS

The natives manifest a veritable hatred of trees.
- Augustin Bernard and Napoléon LaCroix (Algeria, 1906)

Today, we use the phrase ‘black sheep’ to describe “the least reputable member of a group; a disgrace.” This idiom also exists in other languages, including French (‘brebis galeuse’). The phrase originated when sheep farmers viewed black sheep as a burden, since their wool was more difficult to dye. The color results from a rare genetic trait, so that most herds had no more than one or two black sheep. Some early modern cultures treated their appearance as a bad sign; in England it was considered the mark of the devil. Yet color was not the only factor to influence perceptions of sheep and pastoralism in the Mediterranean world. By the nineteenth century, all sheep were being targeted, regardless of their color. In this way, pastoralists and their herds became the ‘black sheep’ of the Mediterranean.

Throughout the early modern era, perceptions of Mediterranean pastoralism were highly politicized. As we saw in the previous chapter, legislators around the Inner Sea fretted over the challenges of governing a mobile population. In the Ottoman case, Anatolian tribes provided vital goods and services to the state, but they also annoyed the central administration by skirting its authority, evading taxes and hassling peasant communities. For these reasons, the Ottoman state initiated numerous campaigns to forcibly settle them. Prior to the nineteenth century,

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3 A similar example for the Turkish case is furnished by the Karaca Koyunlu (black sheep) Yörüks, who inhabited Aydın and Menteşe sancaks in the fifteenth and sixteenth centuries.
however, these efforts failed because the state lacked the infrastructure to enforce long-term sedentarization. Tribes simply returned to their traditional mobile lifestyle, forcing the sultan to recognize the limits of his control. The delicate balance between officials and mobile pastoralists was also a part of administration in Algeria and, to a lesser extent, Provence. In all three cases, pastoralists traditionally held considerable power, both through local political channels and by their very mobility, which could provide an escape from central authority. Consequently, Ottoman and French administrators viewed pastoralists in southwestern Anatolia, northern Algeria, and Provence with ambivalence, as a nuisance or a necessary evil.

Relations between nomads and farmers in these three Mediterranean contexts were complex, ranging from common practices and peaceful coexistence to rivalry, hostility, and opposition. Many pastoralists either worked with settled farmers or practiced agriculture themselves, but agriculturalists also fought pastoralists for rights, land and property. The multifaceted association of these two groups was an integral part of traditional Mediterranean society, making this region one of the few places on earth where mobile pastoralism and agriculture, ‘the desert and the sown’, have long been intertwined. In this chapter, I use this agro-pastoral society as a foundation to evaluate traditional perceptions of Mediterranean mobile pastoralists, and to examine why and how these views changed in the eighteenth and nineteenth centuries.

Biases against mobile pastoralists have long pervaded sedentary society. Yet, although Mediterranean pastoralists were targeted throughout the early modern era on various charges, the nineteenth century brought two significant new arguments into this milieu: conservationism and the idea of progress. During this period, opposition to sheep and goats began to be framed more
and more in terms of their environmental impact. Moreover, narratives against nomads were attached to the most pressing environmental concern of the day: deforestation. At the same time, mobile pastoralism was cast increasingly as a primitive, imperfect stage of civilization. As subsequent chapters will show, the combination of these narratives would have a significant impact on the future of Mediterranean pastoralism – and on the Mediterranean environment. While power politics and commercial interests continued to target pastoralism around the Mediterranean through restrictions, relocation, and sedentarization, these moves could now be justified, legitimized, and promoted through terms of environmental conservation and the pursuit of civilization. Once implemented, the systematic subjugation of mobile pastoralism opened up vast reserves around the Mediterranean for cultivation and exploitation.

**EARLY MODERN PERCEPTIONS**

The origins of conflict between nomads and settled populations are difficult to trace. Biases against nomads were already entrenched in the classical tradition, and they probably run much deeper. In the modern era, the most popular early poster child for the evils of nomadic pastoralism was the fourteenth-century Islamic scholar Ibn Khaldun. Ibn Khaldun, who grew up in Tunis, spent considerable time in what is now Algeria and died in Cairo. He undertook a massive historical study of the Maghreb. In his own time, Ibn Khaldun was a controversial figure whose scholarship brought him only marginal success, but in the early nineteenth century, orientalist scholars gave it new life – and new meaning. His study is usually divided into three separate parts: the introduction (*Muqaddimah*); an extensive history of Berbers, Arabs, and other

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5 Shaw 1982-3, 5-31; Horden and Purcell, 83. The story of Cain and Abel also attests the antiquity of such biases.

peoples (*Kitab al-Ibar*); and a biographical section.\(^7\) Subsequent interest has focused primarily on the first and second parts of his work.

The *Muqaddimah* (المقدمة), which literally means ‘introduction’ or ‘preamble’, is focused on Ibn Khaldun’s unique methodology. He promotes the sociological approach of using cyclical patterns to interpret history, especially the rise and fall of empires. He presents this pattern as a constant, pendulum-like swing between mobile and sedentary life: nomads settle and establish a state; the state becomes an empire; the empire crumbles and falls to nomadic invasions; nomadic life resumes, and the cycle begins again.\(^8\) In Ibn Khaldun’s day, history provided ample support for this model. In the span of just two hundred years, from the eleventh to thirteenth centuries, Crusader States in the Levant had been destroyed by a combination of Turkic tribes and the Mamluk state in Egypt, and Turks had forced the Byzantine Empire into retreat in Anatolia. Saladin had established the Ayyubid Dynasty in Egypt, and the nomadic Mongols had conquered a vast empire that stretched from China to the Middle East. Moreover, Bedouin life flourished all around Ibn Khaldun, throughout the Maghreb. From his perspective, the conflict between the ‘desert and the sown’ seemed vivid and universal.

The *Muqaddimah* presents an image of nomadism that is conflicted and complex. On one hand, Ibn Khaldun’s portrayal of nomads appears profoundly negative. His examples frequently pit the primitive Bedouin against advanced, sedentary civilizations.\(^9\) He compares Arab nomads to “wild, untamable (animals) and dumb beasts of prey” and contrasts their brutal savagery with the

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\(^7\) Hannoum, 61.
\(^9\) Hannoum, 61.
order and refinement of settled peoples.\textsuperscript{10} He also describes nomadism as a precedent to sedentarization and therefore a less developed stage, claiming, “Bedouins, thus, are the basis of, and prior to, cities and sedentary people.”\textsuperscript{11} Yet, on the other hand, he also describes these nomads as purer, more “natural,” braver, and “closer to being good” than their sedentary counterparts.\textsuperscript{12} From his perspective, empires inevitably tend toward laziness, decadence, corruption and vice, factors that ultimately doom them to decline.\textsuperscript{13} As Ibn Khaldun explains, “sedentary life constitutes the last stage of civilization and the point where it begins to decay. It also constitutes the last stage of evil and of remoteness from goodness.”\textsuperscript{14} While Ibn Khaldun mixed his distaste for nomads with respect and even admiration, he did consistently consider them to be distinct and opposed to sedentary society. This dichotomy is a salient feature in the narrative of the ‘desert and the sown’, one of Ibn Khaldun’s most enduring – if unintended – legacies.

Ibn Khaldun’s other great contribution to subsequent scholarship, at least in nineteenth-century France, was his description of Berbers and Arabs, outlined in his \textit{Muqaddimah} and expanded in the second part of his study. In these works, Ibn Khaldun associates Arabs with camel herding and the desert, describing them as “more rooted in desert life” even than other nomadic groups such as the Turks.\textsuperscript{15} The Berbers, by contrast, “do not go into the desert.”\textsuperscript{16} Instead, most are settled agriculturalists, or in other words, the ‘sown’. Ibn Khaldun explains:

\begin{itemize}
  \item \textsuperscript{10} Ibn Khaldūn 1969, Chapter II:1.
  \item \textsuperscript{11} Ibid., Chapter II:3.
  \item \textsuperscript{12} Ibid., Chapters II:4; II:5.
  \item \textsuperscript{13} Ibid., Chapters II:4; II:5; III:18.
  \item \textsuperscript{14} Ibid., Chapter II:4.
  \item \textsuperscript{15} Ibid., Chapter II:2.
  \item \textsuperscript{16} Ibid., Chapter II:2.
\end{itemize}
For those who make their living through the cultivation of grain and through agriculture, it is better to be stationary than to travel around. Such, therefore, are the inhabitants of small communities, villages, and mountain regions. These people make up the large mass of the Berbers and non-Arabs.\footnote{Ibid., Chapter II:2.}

Here, Ibn Khaldun contrasts Berbers and Arabs both geographically and culturally, presenting these two groups as the quintessential case of the ‘desert and the sown’. At the same time, he acknowledges connections and cooperation between them. He notes that Berbers may practice mobile pastoralism as an alternative to agriculture.\footnote{Ibid., Chapter II:2.} Moreover, by arguing that nomads will eventually become sedentary, his cyclical historiography suggests that these two societies are indelibly intertwined.

In the Algerian case, Ibn Khaldun’s vision was at least partially borne out. In the early modern era, authority in the central Maghreb shifted into the hands of tribes in a system that even the Ottoman conquest failed to shake effectively. The Ottoman administration, however, did its best to dilute the power of Algerian tribal confederations by populating the region with Turkish soldiers and officials. Meanwhile, it struggled to govern nomadic populations closer to home, including the troublesome yörük.

As we saw in Chapter One, the yörük lived both within and outside the Ottoman system, often forsaking Ottoman attempts at regulation for their own local government. Their periodic brigandage of rural villages, passes, and agricultural communities caused friction between them and sedentary communities, and gave the Ottoman state a perpetual headache.\footnote{Nomadic pastoralists were just one of the mobile groups that caused problems for the Ottoman state in the early modern era. Moreover, certain nomads were particularly notorious (such as the celalis, levends, sekbans, and later...} For its part, the
Ottoman state made numerous attempts to put an end to this recalcitrance by forcibly settling the yörük, but its repeated efforts at sedentarization were largely ineffective because, prior to the nineteenth century, the government lacked the means to enforce them. Nomadic tribes generally resisted settlement, and within a few generations they had reverted to their peripatetic ways. Sometimes they actually pushed back against settled populations and reclaimed regions that once had been won over to agriculture.

At the same time, Ottoman officials recognized the benefits of its tribal population. Nomads’ livelihood provided settled populations with valuable services, animals, and products. Their knowledge of remote topography and mountain passes made them strategic allies, and the sheep tax, when managed effectively, provided the state with a handsome amount of revenue. Ottoman officials frequently accorded tribal chiefs relative autonomy and authority in exchange for promises of military service and protection. The Ottoman state also did its best to regulate nomadic activity by overseeing nomadic use of summer and winter pastures, registering tribes

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20 For a thorough survey of sedentarization campaigns and their impact, see Cengiz Orhonlu, Osmanlı İmparatorluğu’nda Aşiretlerin İskâni (İstanbul: Eren, 1987); and Kasaba 2009, 13-83. Orhonlu provides a survey of Ottoman efforts to settle nomadic tribes in the early modern era (very little coverage of the nineteenth century). For an analysis of nineteenth century sedentarization from a sociological perspective, see Yonca Köksal, “Coercion and Mediation: Centralization and Sedentarization of Tribes in the Ottoman Empire,” Middle Eastern Studies 42 (2006): 469-491. For a survey in English of settlement campaigns throughout the Ottoman period, see Kasaba 2009. According to Orhonlu, the first set of comprehensive orders to settle nomadic tribes was issued in 1689. See Orhonlu, 57-65, 107-109; and Kasaba 2009, 66.

21 Kasaba 2009, 76 and 86-87.


23 One example is the great nomadic invasion of Anatolia and other Ottoman lands that followed the Celali Rebellion in the early seventeenth century. See White 2008, 272.

24 Linda T. Darling, Revenue-raising and Legitimacy: Tax Collection and Finance Administration in the Ottoman Empire, 1560-1660 (Leiden: Brill, 1996), 110-111. The sheep tax (Adet-i ağnam) was created in the late sixteenth century. It varied with province and millet, and was either collected as a rate per head or a flat fee. As with other taxes, those responsible for collecting the sheep tax often abused the system, so the imperial treasury rarely realized its full potential.

and livestock, and collecting taxes. In some cases, the compromise and collaboration required in Ottoman efforts to deal with its nomadic population helped to make this practice even more entrenched. Ultimately, the early modern Ottoman state perpetuated many of the ideas of Ibn Khaldun. As a sedentary empire, it contested the persistence of a mobile lifestyle and viewed nomads with ambivalence, as both primitive savages and brave soldiers. The Ottomans would have settled the yörüks if they could have, but the limits of centralization forced them to accept this group as a necessary evil, at least for the time being.

Prior to the nineteenth century, Ibn Khaldun’s works were relatively unknown in France, but French society had its own set of biases against pastoralism. Here, the administration generally considered pastoralists more of a nuisance than a threat, since their periodic movements interfered with the process of governing them and their herd. The limited reach of the state, moreover, meant that laws regulating pastoralism generally could not be enforced. At the same time, some early modern pastoralists held a significant amount of power and influence. While aristocrats generally did not venture into the mountains themselves – Villeneuve and Ladoucette are notable exceptions – they might own a large herd and hire shepherds to tend it. The royal herd of Roi René is one example (see Chapter One), but there were other powerful players, including many of the large feudal landowners of Provence. Indeed, even the French royal family

26 Kasaba 2009.
27 Ibid., 86, 124.
maintained a flock of Merinos in Arles through the mid-nineteenth century. Fernand Braudel explains this situation in *The Mediterranean*:

> Arles in the sixteenth century, and possibly for four or five centuries previously, was the capital of large-scale summer transhumance, controlling the flocks of the Camargue and especially of the Crau, sending them every year along the routes of the Durance valley to the high pastures of the Oisans, the Devoluy, the Vercors, and even to the Maurienne and Tarentaise. This was a real ‘peasant capital’: it was where the ‘capitalists’ lived – the top sheep farmers were still known by that name in recent times – and it was where notaries drew up and registered contracts.

For French monarchs, even at the height of absolutism, control entailed conciliation and compromise with this provincial elite, in a process not dissimilar to the Ottoman state’s dealings with nomadic tribes and other regional power brokers.

For the ruling class, sheep farming provided a source of wealth both through profits from the sheep, and through control of land, which could be rented out to other pastoralists. When carefully managed, this transhumant system actually provided a significant profit for the state. Braudel argues, “The movement of flocks offered fiscal resources which no state could ignore, which it would hasten to organize and always protect,” and he gives the example of Alfonso I, who reorganized Aragon’s pastoral industry in the mid-fifteenth century to include “privileged and compulsory sheep routes” with “payment exacted all along the line, naturally.” Although France was never as successful as Spain at capitalizing on pastoralism, French monarchs certainly recognized its economic benefits as well as its political costs. In France, moreover, the Catholic Church was a powerful landowner – possessing one tenth of all French land, and it also

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29 Orange and Alambert.
31 Sclafert 1934, 138.
32 Braudel 1972, I: 89.
benefited from the taxation of itinerant shepherds.\textsuperscript{33} In addition to these financial advantages, France’s pastoral industry provided the state with valuable products. As Olivier de Serres noted in \textit{Le théâtre d’agriculture et ménage des champs}, the early modern Bible of French agriculture, published in 1600, sheep served both “to exquisitely nourish man and to comfortably clothe him.”\textsuperscript{34}

For most of the early modern era, pastoralism in Provence was governed through a range of local taxes, tolls and fees, usage rights (\textit{droits d’usage}), and forestry regulations. Throughout the early modern era, sheep farmers were required to pay the municipal tax known as \textit{pulverage}, named for the clouds of dust raised by transhumant herds as they traveled toward their seasonal home.\textsuperscript{35} This tax existed until 1766, when it was replaced by an updated head tax and other forms of local and regional regulation.\textsuperscript{36} Other expenses included tolls for crossing bridges and fees for grazing violations. When they were due to private owners, these tolls were sometimes extracted in kind, through the gift of fresh cheese or fertilizer.\textsuperscript{37}

Thus, throughout the early modern era, the French were, like the Ottomans, primarily interested the economic and political implications of Mediterranean pastoralism, but they were also cognizant of its environmental impact. French landowners and regional administrators frequently complained of damage to fields and forests, especially by the omnivorous goat. Indeed, the damage goats did to saplings led some to believe that their bite was poisonous.\textsuperscript{38} Archival

\begin{thebibliography}{99}
\bibitem{33} Dumoulin 2002, 26.
\bibitem{34} “à exquisement nourrir l’homme & à commodément le vestir.” Olivier de Serres, \textit{Le théâtre d’agriculture et ménage des champs} (Paris, 1600), 315.
\bibitem{35} Bloch 1966, 204.
\bibitem{36} Klein, 144.
\bibitem{37} Ibid., 144.
\bibitem{38} Moriceau 2005, 165-166.
\end{thebibliography}
evidence suggests that legislation against goats began to appear in southern France from the fourteenth to seventeenth century, when many communities restricted their movements or outlawed the creature completely. The departments of Dauphiné and the Hautes-Alpes, for example, limited goat herding to mountains and uncultivated areas. The local and national administration banned goats repeatedly in the seventeenth and eighteenth centuries, though, as the recurrence of such legislation suggests, it had little impact. In a typical case, the Chambre des Eaux et Forêts, France’s central administration of forests, passed a law on January 27, 1731, attempting to safeguard forests by restricting goat herding to specified, non-forest areas and by increasing fines for violations. No sooner had it passed, however, than a flood of private exceptions quickly made the law a dead letter. The Eaux et Forêts attempted to reinforce it with subsequent acts in 1751 and 1773, which also went unheeded. Indeed, it seems that the state, recognizing the limits of its power in the early modern era, designed much of its legislation restricting grazing rights, pasture, and numbers and types of beasts, not as a guide for consistent surveillance and application, but so that it could be enforced if necessary.

39 Sclafert 1934, 131-133.
42 Lecugy, 37-39.
44 Corvol 1987, 27.
45 For a nineteenth-century critique of the unsystematic, sporadic application of pre-nineteenth-century forest legislation in Provence, under the parlement and the Chambre des Eaux et Forêts, see Charles de Ribbe, La Provence du point de vue des bois, des torrents, et des inondations avant et après 1789 (Paris: Guillaumin et Cie, 1857), Chapter 5: 69-77.
Pastoral regulations also aimed to mediate between peasants and pastoralists, which was no mean task. In Provence, peasants protested that pastoralists held too much power, and they grumbled about damage done to their fields and surrounding roads by passing herds.\(^{46}\) The use of common spaces was a particularly sore point between these two groups. Shepherds justly accused farmers of cultivating part or all of the communal land, which was supposed to be reserved for them.\(^{47}\) For their part, farmers pointed out that shepherds frequently grazed their herd illegally on private land or in protected forests (forêts défensables).\(^{48}\) Local pastoralists also protested the seasonal influx of transhumant herds because they increased competition for pasture, while the local government and property owners, including farmers, generally encouraged these outsiders as an extra source of income.\(^{49}\) To further complicate the picture, the battle over customary rights pitted villagers against rural inhabitants; the former possessed rights to communal pasture while the latter did not.\(^{50}\) These conflicts could become so severe in the early modern era that historian Jean-Marc Moriceau has dubbed them “the war for pasture.”\(^{51}\)

At the same time, another environmental concern was making its way to the fore. France spent much of the seventeenth century engrossed in the expansive campaign of state-building and embroiled in costly wars; together, these efforts forced it to draw heavily on timber.\(^{52}\) Louis XIV’s finance minister Jean-Baptiste Colbert, sensitive to France’s fast diminishing forest

\(^{46}\) Moriceau 2005, 374.
\(^{47}\) Ibid., 377-378.
\(^{48}\) Ibid., 377-378.
\(^{49}\) Ibid., 379. Moriceau cites les Archives départementales des Pyrénées Atlantiques, C 224: Hivernage des troupeaux Bearnais et Souletains à Saint-Jean-de-Luz, 1778.
\(^{50}\) For my discussion of customary rights, see Chapters Three and Four.
\(^{51}\) Moriceau 2005, 374.
\(^{52}\) Louis XIV (r. 1643-1715) was at war for much of his reign, which included three major conflicts – the Franco-Dutch War (1672-1678), the War of the League of Augsburg (1688-1697), and the War of Spanish Succession (1701-1713) – as well as minor skirmishes.
resources, created the Edict of 1669, an ambitious and comprehensive forest code. Colbert’s main objectives were to preserve France’s woodlands “for posterity” and to reserve them for state use, which he hoped would liberate his nation from dependency on foreign sources for timber. Significantly, the Edict brought both communal and private (seigniorial) forests under its jurisdiction, so that all forests were subject to national regulations, restrictions, and fines, and it created a governing body for forests, the *Chambre des Eaux et Forêts*. Colbert was most concerned about wood cutting and poaching, but he was careful to address all forest-related activities, including pastoralism. The section titled “Regarding Rights of Pasture” [“Des Droits et Pasturage & Panage”] spells out herding and grazing requirements, with particular attention to sheep and goats. Article XIII summarily bans them from all forests belonging to the church, the nobility, or the crown, as well as moors [“lands”] and brushlands [“vaines & vagues”] adjacent to forested lands. The penalty for violations included confiscation of part or all of the herd and a fine for each beast. These measures – along with the rest of the document – generally were enforced sporadically, if at all. Nonetheless, the Edict of 1669 gave a national voice to environmental concerns regarding forests and pastoralism. In the century that followed, its

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54 “Introduction,” *L’Ordonnance d’août 1669 sur les eaux et forêts*.

55 Corvol 1987, 185.


clauses were dutifully reprinted in local and national legislative documents. Even more importantly, the edict permanently linked environmental opposition to pastoralism to the narrative of deforestation.

In the French case, early modern anti-pastoral legislation aimed to reserve forests for timber operations and open land for agriculture, as well as to keep the peace, not to preserve the environment for its own sake. Indeed, even charges of environmental destruction often boiled down to power rivalries and property disputes, with farmers complaining about the damage done to their fields by a neighbor’s errant ram. These grievances against pastoralism were really nothing new. Early modern critics were neither the first nor the last to comment on the close-grazing habits of sheep and goats, and their perspective represented the continuation of a discourse about the nature and impact of pastoralism that had existed for thousands of years. Villeneuve put it aptly in his Statistique du Departement des Bouches-du-Rhône. Noting that goats had grazed in Provence’s woodlands even in Roman times, he declares, “People protested then, as we still do today, the damage caused by the murderous tooth of these animals.” Yet, prior to the nineteenth century, most agreed that pastoralism, particularly in its mobile form, was an appropriate use of the Mediterranean environment – when effectively regulated. Moreover, peasants, pastoralists and administrators shared the common motivation of commercial exploitation, so that environmental concerns generally arose only when some saw pastoralism as less efficient, less profitable, or interfering with their own use of land. Neither the French state nor its constituents were interested in conservation – at least, not yet.

58 For an example of the application of the Edict of 1669 to the regulations of the Grands-Jours of Burgundy in the 1780s, see Hayhoe, Appendix A (pp. 219-222).
59 “On elevait aussi beaucoup de chevres dans les bois, et on se recrriait, comme nous le faisons encore, sur les dommages causes par la dent meutriere de ces animaux.” Villeneuve 1829, 10-11.
The nineteenth century brought significant changes to the age-old conflict between mobile pastoralists and settled societies in the Mediterranean and around the world. The birth of conservationism in the early nineteenth century gave anti-pastoralists new environmental fuel for their fire, while the idea of ‘progress’ reframed pastoralism as a primitive form of civilization. At the same time, New Imperialism required a fresh lexicon for legitimizing the interests and actions of empire. France sought to justify its colonial interests in Algeria, while the Ottoman administrative elite continued to plot for the sedentarization of its nomadic tribes. In both states, policy makers benefited from innovations in communication, transportation, and technology that granted them greater control over mobile populations. Finally, various independent factors connected to the industrial era conspired against the traditional livelihood of nomadic groups, making it increasingly difficult for them to survive and resist administrative pressures.

THE BIRTH OF CONSERVATIONISM

Some scholars have argued that the roots of conservationism lay in state efforts to safeguard commercial exploitation of forests, such as those pursued by France in the early modern era. In the French case at least, this is partially correct. French administrative efforts such as the Edict of 1669 helped to furnish a foundation for forest management that would eventually promote an ethic of conservation. A number of additional developments in the eighteenth and early

nineteenth centuries, however, encouraged the French mindset along this path. The most significant of these factors were imperialism, the Enlightenment and Romanticism, and the French Revolution.

**Overseas Expansion and Colonialism**

Prior to the colonial era, the environmental transformation of Europe occurred on a relatively slow scale, over the *longue durée*. From the fifteenth to seventeenth century, however, European states began to explore and expand beyond the sea, motivated in part by the quest for virgin forests and other natural resources that had been depleted in Europe. Tropical islands in the Atlantic were the first to succumb to European colonial expansion, since they lay closest at hand, but the discovery of the New World and Europe’s bustling trade with Asia led to the addition of island colonies in the Indian Ocean and the South Pacific in the seventeenth and eighteenth centuries. Europe’s growth, the quest for new resources that helped to fuel it, and the environmental plundering that it entailed all contributed to the development and spread of concerns over environmental decline.

In *Capitalism and Material Life*, Fernand Braudel remarks, “Even at the end of the eighteenth century, vast areas of the earth were still a garden of Eden for animal life. Man’s intrusion upon these paradises was a tragic innovation.” Richard Grove expands on this theme in *Green Imperialism*, suggesting that early European imperialists perceived tropical islands as earthly paradise or “Edens” since their abundant forests, fresh water, and tame wildlife contrasted so sharply with the long-exploited landscapes of Europe. Once island colonies were secured and

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62 Grove 1995, Chapter 1. See also Richard Drayton’s use of this term in his study of European conceptions of nature in the age of imperialism, *Nature’s Government: Science, Imperial Britain, and the “Improvement” of the*
made to serve the state, however, their landscapes and these perceptions changed rapidly and dramatically. The precepts of mercantilism, which all early-modern European imperial powers pursued to some degree, encouraged thorough exploitation of colonial resources. Entrepreneurs worked industriously to extract as much as possible as quickly as possible. The result was what Grove terms an “environmental crisis” in the seventeenth century, when the once abundant resources of these “Edens” began to disappear.\(^63\) Springs went dry or turned sour, forests and indigenous wildlife vanished, and goats and rats proliferated. In the British colony of St. Helena, sheep and goats had apparently become such a nuisance by 1730, that settlers petitioned the governor to order the total extermination of the current population of these beasts and ban them on the island for a period of ten years.\(^64\) Hence, in the space of a few short years, the “tropical island edens” that Europeans first encountered were transformed into devastated wastelands.\(^65\) In this way, colonialism allowed a select but influential circle of Europeans to witness the environmental impacts of civilization firsthand and at a greatly accelerated pace.

The environmental consequences of colonialism received particular attention in France. The Edict of 1669 is evidence that the French generally attempted to deal with resource depletion through better management at home – though its efforts were not completely successful, while the British preferred to make up for domestic shortages by putting greater pressure on its colonies.\(^66\) Colonial environmental deterioration resulted from both approaches, but the two countries responded to the evidence of degradation differently. The British government remained relatively unconcerned about its environmental impact well into the nineteenth century, though

\(^{63}\) Grove 1995, Chapter 3.
\(^{64}\) Ibid., 120.
\(^{65}\) Ibid., 5-6.
\(^{66}\) Ibid., 60.
English naturalists produced a wealth of seminal texts on the subject. Meanwhile, the eighteenth-century French intellectual elite, often drawing on English sources, took up the cause of nature and began to call for action. In this way, environmental questions first raised in tropical island colonies found their way into the realm of the Enlightenment.

**Intellectual Sources: The Enlightenment and Romanticism**

In French, the Enlightenment is called the “Century of Light.” Along with its cousin Romanticism, this era transformed the way Europeans viewed the natural world and its inhabitants. The Enlightenment spread across Europe at the height of the Age of Exploration, when encounters with distant and exotic peoples were leading Europeans to evaluate the similarities and differences between themselves and ‘the other’. Georges Louis Leclerc de Buffon, a prominent French philosophe, argued in his master work *Histoire naturelle, générale et particulière* that humans had evolved into multiple races whose constituents shared common climate-specific temperaments. At the time of Buffon’s death in 1788, the *Histoire naturelle* totaled 36 out of 50 projected volumes and, according to one source, “was the most widely read scientific work of the century.” Johann Friedrich Blumenbach went further, dividing humanity into a hierarchical order of five distinct races, and maintaining that the Caucasian (European) race was the most perfect since it most closely resembled God’s original creation. As imperialism gained steam in the nineteenth century, racial theories lent legitimacy to European expansion and the domination of subject populations. They also played key roles in nineteenth-century perceptions of pastoralism. As I show, the Enlightenment concept of race contributed to

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67 For the influence of British natural history texts on French philosophe, see Matteson, 98-128. The French were conscious of the different path their environmental legislation had taken. For example, the author of an 1842 report on the forests in England commented that there was less concern over clearing in England than in France. BDR 7 M 163, First File: “Forêt, reboisement, correspondance, 1842.”
the idea of mobile pastoralism as a more primitive stage of civilization and became a particularly potent force against nomadic tribes in French colonial Algeria.

Enlightenment approaches to nature were close related to those of Romanticism, though the two movements were in some ways diametrically opposed. While the Enlightenment encouraged reason and rational thought, Romanticism championed feeling, emotion, passion, and instinct. Jean-Jacques Rousseau, often considered the father of Romanticism, offered his own hymn to nature in the controversial treatise *Émile, ou de l’éducation*, first published in 1762. In this work, Rousseau endorsed nature as an escape from the corruption and suffocation of civilization, explaining, “Prejudices, power, need, imitation, all of the social institutions in which we find ourselves submerged, strangle the nature within us and leave nothing in its place.” 70 *Émile* also presents man’s natural state as a purer and more satisfying way of life, arguing, “The closer man stays to his natural condition, the smaller the difference between his faculties and desires and the less far he consequently is from being happy.” 71 Though Rousseau’s philosophy varied dramatically during the course of his life, the aversion to civilization that he presents here echoes some aspects of Ibn Khaldun’s work. 72 The likeness is particularly striking in critical commentaries on Rousseau’s early texts, which often highlight the same points as scholarship on Ibn Khaldun. For example, in *Rousseau on Education from Nature*, Gabriel Compayré paraphrases Rousseau’s perspective thus: “Nature is good and beneficent. Her creatures are pure,

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71 “Plus l’homme est reste près de sa condition naturelle, plus la différence dès ses facultés à ses désirs est petite, et moins par conséquent il est éloigné d’être heureux.” Ibid., I: 69.

so long as they have not been perverted, corrupted, disfigured, and sophisticated by a pretended civilization which is merely a long decadence.”73

The clear connections between these scholars make their divergent legacies in the nineteenth century all the more striking. On one hand, Rousseau’s vision promoted a greater appreciation for nature. In the nineteenth century, it inspired inhabitants of smoke-choked industrial urban centers to escape to green meadows, mountains, and ponds. How could they not wish to preserve the fresh air and flowers that remained? Rousseau’s work also fashioned the image of the ‘Noble Savage’, which became a hallmark of scholarly debate on imperialism. This idea would lead French utopian socialists to express respect and even admiration for the native population of Algeria in the early years of the colonial era. The works of Ibn Khaldun, on the other hand, would be used by colonial agents and apologists to justify the oppression and dispossession of Algerian nomads.

In France, Romanticism and the Enlightenment unfolded against the backdrop of a beleaguered state, shaken not just politically and economically but also environmentally by expensive wars, a perverted system of privilege, and its own reckless growth. Together, these movements promoted an interest in the natural world manifest in the eighteenth- and nineteenth-century development of natural sciences, including botany, horticulture, silviculture, biology, geology, agronomy, atmospheric studies, and others. Through their focus on the environment, these fields motivated greater and more widespread concern for its preservation. Colbert’s Edict of 1669, which had

73 Gabriel Compayré, *Rousseau on Education from Nature*, Translated by R. P. Jago (London: G.G. Harrap, 1908), 21. See also Matteson, 140-142. It is unlikely that Rousseau read Ibn Khaldun, since his work had not yet been translated into French, but the two clearly shared a similar perspective on nature and civilization. Very few scholars have remarked on the similarity between the works of Ibn Khaldun and Rousseau. One who has is Dawn Chatty, *Mobile Pastoralists: Development Planning and Social Change in Oman* (New York: Columbia University Press, 1996), 18.
never been satisfactorily implemented, appeared in the mid-nineteenth century less capable than ever of checking the wholesale destruction of France’s forest reserves.\textsuperscript{74} France seemed doomed to depend on foreign sources for timber such as Italy and the Baltic states.\textsuperscript{75} Spurred by the intellectual precepts of the day, French \textit{philosophes} grew increasingly cognizant of these developments, and tracts proliferated on topics related to deforestation and the ruination of nature.\textsuperscript{76}

One of the most outspoken critics of French environmental legislation was Buffon.\textsuperscript{77} His \textit{Histoire Naturelle}, in addition to expounding racial theories for the development of mankind, also followed Linnaeus in classifying and describing all known organisms and addressing the question of forest depletion.\textsuperscript{78} He pursued this theme further in tracts with titles such as “Memorandum on the Conservation and Reestablishment of Forests” (\textit{Mémoire sur la conservation et le rétablissement des forêts}) which promoted the preservation of woodlands through better management.\textsuperscript{79}

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\textsuperscript{74} Pincetl, 81.
\textsuperscript{77} Spary offers excellent study of the role of Buffon and other Enlightenment-era scholars of natural history in the development of French environmental thought. For Buffon’s influence on the environmental aspects of European imperialism, see Drayton.
\textsuperscript{78} Matteson, 113-114.
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French forests found an even greater advocate in Henri-Louis Duhamel du Monceau, who has been credited with inspiring French and German scientific forestry. He published his magnum opus, *Traité complet des bois et forêts*, over the course of twelve years, from 1755 to 1767. As its title suggests, this work provided a “comprehensive treatment” of forests. Duhamel divided it into five volumes covering different aspects of his subject, including growth, physical characteristics, plantation, exploitation, and conservation. Duhamel presented his text as a management guide for landowners, but he was also motivated by a personal interest in forest preservation and a concern for the consequences of deforestation. In his introduction to the final volume, *On the transportation, conservation and power of wood*, he rhetorically asks his readers, “Is it not obvious that a country denuded of wood would be uninhabitable?” By sounding the alarm on French environmental exploitation, such tracts helped to pave the way for the birth and spread of the conservationist ethic in the nineteenth century. Although their main targets were the French state and large-scale timber operations, they raised awareness toward all possible perpetrators of environmental crimes, including pastoralists.

**The French Revolution**

As one study of French forest history has remarked, “On the eve of the Revolution, the Great Ordonnance of Colbert was, in practical terms, nothing more than a beautiful text.” Indeed, the Chambre des Eaux et Forêts had long since fallen from favor, and its administration was all but obsolete. Although seigneurial courts continued to adjudicate regional forest violations, their

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81 *Traite des arbres et arbustes* (1755), *La physique des arbres* (1758); *Des semis et plantations des arbres* (1760); *De l'exploitation des bois* (1764); and *Du transport, de la conservation et de la force des bois* (1767). See Matteson, 128.
83 “A la veille de la Revolution, la Grande Ordonnance de Colbert n’est pratiquement plus qu’un beau texte.” Larrère and Nougarede, 59-60.
main concern was poaching wood. Forest grazing, in violation of the Edict of 1669, remained widespread. At the same time, however, Enlightenment figures such as Buffon and Duhamel du Monceau were inspiring other environmental advocates, and by the late eighteenth century, forest management began to reclaim its place in French politics after an absence of over a hundred years. This time, however, another, more monumental and pressing concern temporarily pushed environmental issues off the stage: the French Revolution of 1789. Yet, this upheaval dramatically changed people’s perceptions of the natural world and fostered a new sense of anxiety and urgency regarding environmental degradation.

In *The Old Regime and the French Revolution*, Alexis de Tocqueville presents the French Revolution as a hurricane barreling ruthlessly through political, cultural, and religious institutions until, through its very devastation, “a change came over men’s minds.” Most nineteenth-century scholars agreed with this interpretation, though many would have cited an additional victim of the revolutionary storm: nature. The narrative of the day presented this period as an orgy of environmental devastation, and French administrators, professional foresters, and laymen alike wept over the wastes their woodlands had become. The forest conservateur Louis Tassy called this a “period of complete license in forest use,” and he estimated that 1,500 square miles of French forests had disappeared from 1791 to 1802. Others set the toll as high as 2,000 square miles. Critics of the revolutionary era’s environmental

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85 “la période de liberté absolue dont jouit la propriété forestière, de 1791 à l’an XI. 383000 ha de forêts disparurent.” Tassy, *Études sur l’aménagement*. Quoted in Larrère and Nougarede, 79. The higher figure is 500,000 hectares, cited in Ferdinand Allard, *Les forêts et le régime forestier en Provence*, Thèse pour le doctorat ès sciences politiques et économiques (A. Rousseau, 1901), 51. The Revolutionary impact on French forests is debated, but most modern scholars’ estimates are more moderate than Tassy’s. See, for example, Denis Woronoff, “La ‘Devastation Revolutionnaire’ des Forêts,” in *Revolution et espaces forestiers*, 44-52; and Archives départementales
impact generally focused their blame on four related targets: forest legislation, war, property, and goats.\textsuperscript{86}

Given the monumental achievements of the revolution’s early years – the abolition of feudalism, slavery, and monarchy; the establishment of a republic; church reform; a new calendar; and the division of France into départements, to name a few – it is somewhat surprising that sweeping environmental legislation did not also pass. On the contrary, the situation grew decidedly worse. The revolutionary government wasted no time in dissolving the hated and ineffective Chambre des Eaux et Forêts, the administrative body created by the Edict of 1669, but neglected to replace it with a better system. The National Convention finally produced a new forest code in September 1791, but this highly anticipated document failed to impress. It proved just as powerless as the previous forest regime to check environmental overexploitation.

The Law of 1791 embodied an era of fitful but ineffective attempts at environmental reform. The failure of forest legislation during this period was certainly not due to a lack of interest – the subject remained at the forefront of political debates from the 1789 National Assembly to the 1792 National Convention.\textsuperscript{87} Rather, this effort miscarried largely because no single governing body was strong enough, or remained in power long enough, to enforce it.\textsuperscript{88}


\textsuperscript{87} Pincetl, 81; Matteson, 213-289.

\textsuperscript{88} In 1792, the Legislative Assembly declared France a republic, dethroning Louis XVI and scrapping the constitutional monarchy it had created in 1789. Then it created a new governing body, the National Convention. Riddled by warring factions, this system lasted less than a year, when the more radical Montagnards took control under the leadership of Maximilien Robespierre. As France descended into the Terror of 1793-1794, a brutal dictatorship under Robespierre and his Committee of Public Safety, the regime and all of its institutions changed drastically once again. After just one year, in which sweeping legislative changes were passed and as many as 100,000 suspected counter-revolutionaries guillotined, this regime was overthrown in turn. It was succeeded by the
Napoleon I, who brought France out of revolution in 1799, re-stabilized the country, and held power for fifteen years, environmental administration was supplanted by the more pressing concerns of economic rehabilitation and war. Indeed, this latter issue proved a formidable counter to forest preservation initiatives throughout the revolutionary era. On April 20, 1792, the National Assembly voted to declare war on Austria. From this date, France remained in a continuous state of war on multiple fronts for over two decades.\textsuperscript{89} These conflicts took an immense toll on French forests. Desperate to bolster its naval fleet and unable to trade for timber with hostile European states, the French state systematically mined its dwindling woodlands.

The revolution increased the strain on forests not only on the grand scale of wars and politics, but also through the very local, real problem of poverty. Even though economic distress had originally helped incite the country to revolt in 1789, the revolution utterly failed to remedy this problem. Due largely to its volatile and impotent administration and to its constant wars, the economic impact of the French Revolution was devastating. As more and more peasants slid below the subsistence line, they sought provisions wherever they could. Those who had nothing else relied heavily on forests, where they found firewood, edible plants and berries, and even shelter.

The poor also used forests as pasture for their small livestock. People generally sold or slaughtered cows and even pigs as they became too expensive to maintain. Goats, however, would eat nearly anything, and they provided a cheap, vital source of dairy.\textsuperscript{90} Thus, France’s

\footnotesize{more moderate but less effective Directory, whose five members generally failed to agree on or accomplish anything.\textsuperscript{89} Pincetl, 54-55.\textsuperscript{90} Solakian.}
population of large stock plummeted during the revolution, while the number of goats increased dramatically – ‘ininitely’ in the eyes of some. One alarmed citizen in the Midi wrote, “Everywhere I have heard complaints about the excessive multiplication of goats. […] They climb everywhere, they destroy everything. […] We must take measures to stop the continuation of an abuse that is truly devastating.”91 Others branded these pests as a “real evil” (un mal reel).92 Jean Antoine Joseph Fauchet, who served as Prefect of the Var from 1800-1806, bewailed the destruction of “all the young trees” by 40,000 crazy goats.93 In his popular History of France, Jules Michelet, the celebrated nineteenth-century historian, vilifies goats for their environmental devastation, declaring “The goat above all, the beast of those who possess nothing, the adventurous beast who lives off the community, the leveling animal, was the instrument of this devastating invasion, the terror of the desert.”94 This passage and others like it helped to promote the demonization of the goat and establish its role in revolutionary destruction.95

At the same time, people recognized the value that goats served for the country’s poorest residents.96 Sensitive to this need, the state waffled between turning a blind eye and passing legislation to limit goat herding and grazing.97 A series of regional and national measures were passed during the period to deal with this problem. Throughout Provence, where goats were

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92 Solakian, 53.
93 Corvol 1987, 27.
95 Woronoff, 1989, 45.
96 Moriceau 2005, 164.
97 Sclafert 1934, 135; Solakian, 58.
particularly abundant, they were banned from all communal land, and their herd size was limited even on private land. Some départements imposed even harsher measures. Yet, the state ultimately lacked the means or the heart to enforce these measures. As with many of its other policies, the result was ineffective. Hence, the proliferation of goats in Provence and elsewhere outlasted the revolutionary era and became a problem for subsequent administrations to inherit.

In general, nineteenth-century critics agreed that the lack of effective forest regulation during the revolution had a lasting and catastrophic impact on the country. Looking back, one scholar lamented, “The license and devastation of woods grew each day more disastrous.” Government officials were equally distraught. Asked to evaluate the quality of his woodlands, the prefect of the Bouches-du-Rhône replied somberly, “All of these forests have suffered, more or less, from the effects of the revolutionary upheaval. To our great regret, we can no longer cite as forest any but Sainte Beaume in comparison to the others, which are only regarded as copses.” Even when they extolled the power of the French Empire, nineteenth-century voices mourned the Revolutionary Wars’ impact on forests. One early nineteenth-century treatise even used this example to argue that the ravages of war had been the principal cause of deforestation.

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99 The Var (1800-1806) provides one example. Corvol 1987, 27.
100 See, for example, Jules Michelet, *Histoire de la Révolution française* (Paris: Gallimard, 1952); Larrère and Nougarede, 44; Solakian; and Corvol 1987, 27.
101 Larrère and Nougarede, 74.
102 “La licence et la dévastation des bois deviennent chaque jour plus désastreuses.” Allard, 52.
103 “Tous ces forêts ont souffert, plus ou moins des effets de la tourmente révolutionnaire. À notre grand regret, nous ne pouvons plus citer comme forêt que la Ste Beaume en comparaison des autres qui ne sont plus regardés que comme des bois,” BDR 7 M 163, “Renseignements recueillis pour la solution des questions proposées par la circulaire, No. 18, de S.E. le ministre de l’intérieur, sur le changement du système météorologique du département des Bouches-du-Rhône” (1842).
throughout history and around the world, including Asia Minor, Phoenicia, Persia and Greece.\textsuperscript{104}

The idea of the revolution as an environmental free-for-all quickly solidified into a narrative, embodied and promoted by scholars such as Jules Michelet. In an often cited passage, Michelet presented this scene:

"During the Revolution, the population began together the work of destroying our forests. Trees were sacrificed for the most minor uses: one would cut down two pines to make a pair of clogs. At the same time, small livestock multiplied infinitely and settled in the forest, harming trees, saplings, young shoots, and devouring hope."\textsuperscript{105}

Once the image of revolutionary-era destruction was established as fact, it became a gauge for environmental stress and a rallying cry in calls for reform. This narrative was used to promote reforestation initiatives and stricter enforcement of forest legislation in Provence as well as Algeria. One French entrepreneur, François Trottier, used it in his petition for a government-sponsored plantation of eucalyptus trees. In \textit{The Role of the Eucalyptus in Algeria}, his 1876 treatise on the subject, he insisted that an amount of destruction equivalent to that described by Michelet occurred in Algeria “at the end of a single year,” with the addition of fire.\textsuperscript{106} Trottier’s work is characteristic of the ways that environmental concerns, born through eighteenth- and early nineteenth-century French experiences, were used in the mid- to late nineteenth century to motivate commercial interests in France and around the Mediterranean.


\textsuperscript{105} “À la Révolution, la population commença d’ensemble l’œuvre de la destruction de nos forêts. Les arbres furent sacrifiés aux moindres usages: on abattait deux pins pour faire une paire de sabots. En même temps le petit bétail se multipliant sans nombre, s’établit dans la forêt blessant les arbres, les arbrisseaux, les jeunes pousses, dévorant l’espérance.” Michelet 1934, 73. Quoted in François Trottier, \textit{Boisement et colonisation: Rôle de l’eucalyptus en Algérie au point de vue des besoins locaux de l’exportation et du développement de la population} (Alger: Imprimerie de l’Association Ouvrière V. Aillaud et C°, 1876), 6. ANOM BIB AOM B6787.

\textsuperscript{106} “Ce qui précède est ce que nous voyons d’un bout de l’année à l’autre sur tous les points de l’Algérie, et à cela il faut joindre l’incendie.” Trottier, 6.
NINETEENTH-CENTURY DECLENSIONIST NARRATIVES

In early nineteenth-century France, the factors discussed above, including anxiety over deforestation, growing ecological consciousness, changing views of nature and civilization, property debates, the narrative of revolutionary-era destruction, and animosity toward sheep and goats, began to coalesce into the shape of nascent conservationism. Given the evolution of this ethos, it is no surprise that forests were its first great cause, while sheep and goats became its greatest enemy. In Western Europe, criticism of pastoralism increased steadily in the first half of the nineteenth century, as more and more varied voices began to condemn the deleterious effects of close-grazers on forests as well as open lands. In contrast to their predecessors, nineteenth-century critics of pastoralism’s environmental impact framed their allegations in the language of conservation. While some of them unquestionably had selfish concerns at heart, others sincerely believed that sheep and goats were a deadly, destructive force no matter where they grazed, and they made every effort to save the earth from this menace.

The conservationist ethic sustained multiple arguments against Mediterranean pastoralism. One school blamed pastoralism for long-term environmental decline, in what A. T. Grove and Oliver Rackham have termed “Ruined Landscape Theory.” Drawing on this narrative, others cast pastoralists as the prime agents of deforestation, which they associated with dire environmental consequences including erosion, flooding, and climate change. A third perspective accused pastoralists of deliberate environmental destruction through habits associated with their trade, such as grazing their herd on fragile lands and burning fields and forests for pasture. These three charges were closely related, and they were often used interchangeably or combined, but each has a distinct history and identity.

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107 Grove and Rackham, Chapter 1.
Ruined Landscape Theory

In *The Nature of Mediterranean Europe: An Ecological History*, A. T. Grove and Oliver Rackham neatly paraphrase the general storyline of Ruined Landscape Theory:

Well into historic times Mediterranean lands had been covered with magnificent forests of tall trees: the sort of forests that modern foresters are trained to approve of. Men cut down the forests to make houses or ships or charcoal. The trees failed to grow again, and multitudes of goats devoured the remains. Tree, unlike other vegetation, have a magic power of retaining soil. The trees gone, the soil washed away into the sea or the plains. The land became ‘barren’, and even the climate got more arid.\(^{108}\)

The early modern colonial experience was instrumental in the genesis of this narrative. Its myths of a paradise lost inspired French neoclassicist artists such as Nicolas Poussin (1594-1665), who depicted the Mediterranean landscape in Roman times as lush, verdant, and heavily forested.\(^{109}\) His 1648 painting *Landscape with the Gathering of the Ashes of Phocion* provides a characteristic example (see Figure 2.1 below). Such images pervaded Enlightenment salons, where they influenced philosophy, scholarship on science and natural history, and popular thought.

\(^{108}\) Ibid., 9.
Figure 2.1 Nicolas Poussin, *Landscape with the Gathering of the Ashes of Phocion*, 1648.\(^{110}\)

Ruined Landscape Theory spread throughout Western Europe in the early nineteenth century, attracting the interest of a growing body of natural scientists, who gradually refined this theory into a mature narrative of Mediterranean environmental decline. In 1801, the French agronomist Rougier de la Bergerie remarked, “Nowhere is the degradation and extinction of soils [and] the devastation of trees and forests as active, rapid, and widespread than in mountain regions and the Midi.”\(^{111}\) By the mid-nineteenth century, the association of the classical landscape with lush forest


cover had become standard practice within French scientific circles. Louis Tassy, a prominent forest conservateur from Aix-en-Provence, introduced his best-selling treatise Études sur l'aménagement des forêts by affirming, “At the time when Roman civilization was brought to Gaul by Julius César, this country was almost entirely covered with woods.”112 In this work, he even traces the roots of the word ‘Gaul’ to the Celtic gael, or ‘forest’.113 Moreover, many experts maintained that various parts of the Mediterranean had been heavily and uniformly forested as recently as the sixteenth century.114 The French naturalist Alexandre Surell promoted this theory in his popular study of Alpine flooding, Étude sur les torrents des Hautes Alpes, published in 1841.115 Taking these claims one step further, Paul Demontzey, a contemporary of Surell, cited the open mountain meadows found above treeline as “witnesses of the existence of higher forests that disappeared at the hand of man.”116 The idea of severe Mediterranean deforestation also found voice outside the scientific community. Notably, Ladoucette adopted this view in the 1848 edition of his History, Topography, Antiquities, Manners and Dialects of the Hautes-Alpes with the addition of key claims. For instance, he states at one point, “Formerly the soil of the Hautes-


113 Ibid.


115 For critical discussions of this work and its impact on French environmental perceptions, see Simon, Clément and Pech, 338; and Fourchy, 114. See also Chapter Five.

116 “Les gazons formant aujourd'hui des pelouses continues au-dessus des forêts ne sont que les témoins de l'existence des forêts supérieures qui ont disparu par le fait de l'homme.” Paul Demontzey, Étude sur les travaux de reboisement et de gazonnement des montagnes (Paris, 1878), 249. Italics are his. Quoted in Sclafert 1959, 267. For an extended discussion of this theory, see Demontzey 1878, 244-249. As Demontzey admits, the altitudinal extent of forests is ultimately limited by atmospheric factors inhibiting their growth, though he conveniently obscures the difference between this natural limit and that imposed by the deadly bite of livestock. See also Whited, Forests and Peasant Politics, 91.
Alpes was almost entirely covered with forests and woods,” a phrase absent from earlier editions of the book.\footnote{117}{“Anciennement le sol des Hautes-Alpes était presque entièrement couvert de forêts et de bois.” Ladoucette 1848, 5.}

Once scientists, intellectuals, officials, and others accepted that the Mediterranean environment had suffered significant decline since classical times, they began to ask ‘why’. The stock response, which previously had focused on national timber requisitioning, shifted in the nineteenth century to include a new enemy: pastoralism. Over the course of the century, proto-conservationists derided pastoralism as an inefficient and unsustainable use of land that exhausted fragile Mediterranean soils, and they vilified sheep and goats in particular. Some critics targeted transhumance specifically because it took up more space.\footnote{118}{Corvol 1987, 65. Alexandre Surell and other mid-nineteenth century scientists were of this view, but some, like Prosper Demontzey, opposed it. For his response to Surell, see Demontzey 1878, 253. See also my discussion of this debate in Chapter Six. Much of the public also viewed transhumance as more destructive, perhaps because it was more widely visible. In a letter to the prefect of the Bouches-du-Rhône, the Comte de Villeneuve, the under-secretary to the Department of the Interior noted common complaints of residents and forest guards against the damages caused by transhumant herds. BDR 7 M 101, Letter: Paris, 17 décembre 1817. Villeneuve, however, happened to have a personal interest in transhumance, and had even participated in a seasonal migration, so he was not sympathetic. See Villeneuve 1819.}

Spurred by the belief that the Mediterranean landscape had long suffered under the tooth of these beasts, some began to oppose the practice of pastoralism on any Mediterranean land. Others took

\footnote{119}{Le nomadisme, avec ses troupeaux, tend sans cesse à élargir son domaine, à stériliser des régions de plus en plus vastes, à déborder sur les cultures environnantes si on le laisse faire. De là la fréquence des ruines dans les pays habites par les nomades; la destruction des cités, des travaux hydrauliques, l’insécurité favorisent leurs progrès.” Bernard and LaCroix, 5.}
a more moderate perspective. While they accepted the continued presence of herds in places unsuitable for cultivation, such as Provence’s abundant ‘wastelands’ (jachères, terres gastes et vaine), they vehemently opposed the practice of grazing in woodlands.

As in the eighteenth century, the most scathing denunciations were reserved for the goat. This creature was accused not only of destroying current forests, but also of thwarting future regeneration by devouring roots and saplings. Although they were domesticated, goats were commonly categorized with other noisome ‘pests’ such as foxes and rabbits. A typical observer affirmed, “the mortal enemy of the tree is the goat,” compared to which, “the ravages of wolves are insignificant.” Legislation outlawing goats or even calling for their extermination appeared throughout the modern period, but with little impact. Most French constituents considered goats’ usefulness to outweigh their many unsavory characteristics. For transhumant pastoralists, their intelligence and ability to lead the herd were indispensable, and they provided a cheap and palatable source of dairy. Goats were of particular value to the poorest sector of the population, and their numbers actually rose during and following the economic hardship of the French Revolution, despite the proliferation of laws against them. Yet, widespread and persistent opposition throughout France was not without effect, and it put particular strain on Provence because of the region’s considerable population of goats.

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120 Forêts perdues, 37. In contrast to sheep, goats prefer browsing on leaves, fruits, roots and branches of shrubs and higher growing vegetation. They are capable of destroying saplings and young trees that have not developed sufficient defenses.

121 “L’ennemi le plus clair de l’arbre est la chèvre,” “les loups ne font pas a beaucoup près le même ravage que les chèvres.” The municipality of Aveyron, 1795. Quoted in Révolution et espaces forestières, 49.

122 Indeed, their value to the poor may well have contributed to bias against them. See Michelet; and Révolution et espaces forestiers, 49. André Corvol estimates that the number of goats increased 15 percent in the Var département in 1795-1805 (Corvol 1987, 27).

123 Lecugy, 37-39.
Provence was both a precursor of declensionist narratives as well as one of their greatest targets. In the eighteenth century, members of the local elite began to express grief and alarm at the degraded state of their homeland. “One thing that surprises every observer,” wrote the Provençal historian Charles-François Bouche in 1775, “is that the plains of the Camargue were formerly covered with wood; today one sees only grain fields, marshes, and prairies partly covered with stagnant water.” Eighteenth-century critics aimed most of the blame for Provence’s environmental transformation on tree cutting and forest clearing, after which the impact of pastoralism, if mentioned at all, was a distant second. Thus, Bouche scolded inhabitants for having “abandoned” their landscape, and he declared, “It is not at all necessary to look elsewhere than in the abuses and effects of clearing [défrichements] for the cause of this desertion.”

In the nineteenth century, however, the same intellectual circles increasingly focused on pastoralism’s role in environmental decline in Provence and throughout the Mediterranean. One of the most influential voices on this subject was that of Etienne Laurent Joseph Hippolyte Boyer de Fonscolombe, a natural scientist from Aix. In a widely-read treatise titled “On the Destruction and Reestablishment of Woods in the Departments that Composed Provence,” he explains how the region’s landscape deteriorated over time:

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124 Note: Grove and Rackham are incorrect on this point. They imply that Ribbe was a seventeenth-century figure, and thus an early prognosticator of environmental damage. In fact, he was born in Aix-en-Provence in 1827 and died in 1899. See Grove and Rackham, 241.
125 “Une chose qui étonnera tout observateur, dit-il, c’est que les plaines de la Camargue etaient anciennement couvertes de bois; on n’y voit plus aujourd’hui que des terres à grain, des marais, des prairies en partie couvertes d’eaux stagnantes.” Charles-François Bouche, Éssai sur l’histoire de Provence (Marseille: Jean Mossy, 1775), Vol. II: 535, Chapter titled “Contrées abandonnées.” Quoted in Ribbe 1857, 23.
126 Bouche, 536.
127 “Mémoire sur la destruction et le rétablissement des bois dans les départemens qui composoient la Provence.” Boyer de Fonscolombe. 2-87. The text was first published in 1803, and was also published independently. For one positive review, see Villeneuve 1929, IV: 125.
All evidence proves that there were once very extensive forests in the calcareous regions that form seven eighths of these four Départements. The plains and valleys were covered with downy oaks [“chêne blanc”]; the heights with holm oaks and pines. As the population expanded, plains and valleys were cleared, where the beauty of the woods that had covered them attested to their fertility. Communal forests disappeared first. Goats and sheep that were introduced after trees were felled ate their remains; there is nothing left but brush.\textsuperscript{128}

In the early nineteenth century, the connection between deforestation and pastoralism became a standard part of declensionist narratives in Provence. Even Ladoucette, who as prefect of the Alpes-de-Haute-Provence was relatively sympathetic toward pastoralists, caught the bug. Describing “the devastation caused by goats [and] sheep” in his departamento, he lamented, “The eye grieves to see all the heights dry, denuded, without grass.”\textsuperscript{129} As in the eighteenth century, the goat received greater rebuke than the sheep, but its ravages were now couched in more detailed, scientific terms. It was “the scourge of all unenclosed plantations,” as a member of the Academic Society of Aix remarked. He continued, “It eats the shoots of all trees and saplings, without exception. It incessantly impedes their progress and after making its young subject languid and stunted for a few years, it ultimately kills it.”\textsuperscript{130} Boyer de Fonscolombe agreed, “Goats above all contribute to the destruction of woods, which furnish their principal

\textsuperscript{128} Tout prouve qu’il y a eu des forêts très étendues dans le pays calcaire, qui forme les sept huitièmes de ces quatre Départemens. Les plaines et les vallons étoient couverts de chênes blancs; les hauteurs, de chênes verts et de pins. À mesure que la population s’est accrue, on a défriché les plaines et les vallées, dont la beauté des bois qui les couvroyent attestoit la fertilité. […] Les forêts des communes ont disparu les premières. Les chèvres et les moutons introduits après la coupe des bois en ont broute les rejets; il n’y est reste que des brossailles.” Boyer de Fonscolombe, 6.

\textsuperscript{129} Ladoucette 1848, 464-465. The full quote is “les dévastations causées par les chèvres, les brebis, la feuille, les essarts [clearing / prescribed burns]; l’œil s’afflige de voir toutes / les hauteurs arides, déboisées, sans gazon,” but I am unsure in this context how to translate ‘feuille’, which means ‘leaf’. Possibly he means ‘feuillerin’, or fodder. See Pautou Girel, “Interventions humaines et changements de la végétation alluviale dans la vallée de l’Isère (de Montmélian au Port de St-Gervais),” Revue de Géographie Alpine 82.2 (1994): 133. Ironically, Ladoucette’s main complaint here is that were it not for pastoralists’ destruction of this landscape (Chauvetane, commune de Saint-Maurice), it could be used as a mine for “des richesses minérales,” as it had in the past.

nourishment,” and he noted that they were equally harmful to forests and fields. These views spread from the small circle of Provençal elite to the national stage, where they gained the attention and advocacy of the foremost natural scientists and thinkers of the day. By the mid-nineteenth century, the prominent naturalist Charles de Ribbe was so concerned about their environmental impact that he declared, “Only the absolute prohibition [of these animals] will prevent the total ruin of woodlands and promote their regeneration.” Many other scholars, officials, and agriculturalists shared his perspective.

If Provence helped bring Ruined Landscape Theory to life, then it flourished in Colonial Algeria, where this narrative found even more extreme expression, popularity, and purpose. Indeed, Algeria represents the full circle of French environmental perspectives, from their inspiration in tropical islands, to Enlightenment-era France and the landscapes of Provence, and then back to the colonies. For many members of the nineteenth-century European middle class, Algeria was an earthly paradise, as the tropics had been before their despoilment. It became a popular tourist destination and a retreat for those suffering from consumption and other ailments. In the 1840s, the artist and poet Eugène Fromentin, who visited the country multiple times, wrote of his arrival in Algiers:

131 “Les chèvres sur-tout, contribuent à détruire les bois dont elles font leur principale nourriture,” Boyer de Fonscolombe, 7.
132 “qu’une prohibition absolue peut seule empêcher la ruine totale des bois et favoriser leur reproduction.” Ribbe 1857, 130.
133 In Resurrecting the Granary of Rome, Diana K. Davis examines the development, substance, purpose, and impact of this narrative in the French Algerian case. Her study presents a masterfully crafted, thorough survey of the biases Europeans developed through their colonial experience, and she argues convincingly that these biases helped to justify French colonial rule.
134 Some scholars have contested Grove’s theory for the origins of European environmental thought. It seems doubtful that the experience of island colonies supplied the sole source of inspiration for the birth of conservationism over two centuries later (nor is this Grove’s argument), but this history was certainly a contributing factor, and it is particularly useful in interpreting subsequent perceptions of forests and pastoralists in French colonial Algeria. For other perspectives on the origins of conservationism as well as a neat summary of the debate, see William Beinart and Lotte Hughes, Environment and Empire (Oxford: Oxford University Press, 2007), 14-18.
I spent last summer in Provence, in a part of it that prepares you for this place, making you yearn for it: calm waters, an exquisite sky with almost the vibrant light of the Orient. It does not bother me to come to a place where my feet are on real Arab soil yet is only on the opposite shore of the sea that separates it from France and just across from the area that I’ve left.135

For Fromentin and a host of others, the Algerian landscape was recognizable as well as pleasantly exotic. Likewise, in the words of one mid-nineteenth century settler, it was “France and the Orient summarized in a single volume.”136

Yet, while French colonists were relatively comfortable and familiar with the Mediterranean climate in the north, Algeria’s southern regions sorely tested their limits, and many judged the desert to be both unproductive and dangerous.137 Léon Lehuraux, an early twentieth-century scholar, described this contrast well:

While the surroundings of Algiers give one the impression of finding oneself in a geographical zone analogous to the coasts of Provence, the land situated approximately 200 kilometers [124 miles] to the south offers the eye a totally different view. Here, there are vast plateaus swept by the winds or immense plains scorched and seared by an implacable sun. No more trees, no more greenery, nothing but the naked, sad earth, a landscape of ferocious size, an earth that in full sun bursts with the only wealth it seems to possess, that of its subtle savage colors, greys or whites.138

The European perception of the desert as a sterile, deadly waste is reflected throughout imagery from the colonial period. Grand tableaux depict windswept skeletons half buried in burning,

137 Ford, 349.
138 “Tandis que les environs d’Alger laissent l’impression de se trouver dans une zone géographique analogue à celle des côtes de Provence, la contrée située à environ 200 kilomètres plus au sud offre aux regards un panorama totalement différent. Ici, ce sont de vastes plateaux balayés par les vents ou d’immenses plaines qu’un soleil implacable brule et calcine. Plus d’arbres, plus de verdure, rien que la terre nue, triste, un paysage d’une farouche grandeur, une terre qui fait éclater au clair soleil la seule richesse qu’elle semble posséder, celle de ses subtiles teintes fauves, grises ou blanches.” Lehuraux, 2-3.
endless sand. They seem to ask how anyone could survive in such a place, and why they would ever choose to live there.

Algeria’s climatic range allowed French observers to choose their imagery according to their agenda. As a result, ambivalence pervades nineteenth-century French literature on Algeria. French observers described the environment of colonial North Africa as both familiar and foreign, as both a paradise and a paradise lost. To be fair, the limits of French authority and the ongoing campaign to extend French control prevented early French colonists from extensive or representative surveying for most of the nineteenth century. Yet, this did not prevent them from cultivating powerful narratives about the Algerian environment. As French power established itself in the Maghreb, so too did ideas about the nature of the Algerian environment and its history. These ideas were based at least as much on preconceptions as on actual observation, and they directly impacted French policy in the region.

As Diana Davis has shown, French perceptions of Algerian society and ecology were influenced by narratives and descriptions that predated the French conquest. In particular, French attempts to reconstruct Algerian environmental history drew heavily on classical sources, including Herodotus, Strabo, Tacitus, Pliny, Ptolemy, and others, who characterized North Africa as a fertile breadbasket or “granary.”

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139 Consider, for example, Gustave Guillaumet, *Le Sahara*, 1867. Printed in Davis 2007, Color Plate 6, following page 88.
140 Archival sources suggest that land was still being surveyed in the late nineteenth century. See for example: ANOM FM/F99/971: “Forêts: Les trois provinces. Statistique forestière” (Constantine, April 12, 1854); and ANOM ALG/GGA/P13: Correspondence: May 24 1860, Algérie, Division de Constantine, Territoires Militaires, Bureau des Affaires Civiles to Monsieur le Ministre de l’Algérie et des Colonies, Objet: “Forêts, Constitution de la propriété forestière dans la province.”
nineteenth century could hardly ignore the contrast between the environment they encountered and that described in antiquity.

Campaigns in Algeria in the 1830s brought painful awareness of France’s limited knowledge of the region. Citing this problem, the French naturalist and traveler Bory de Saint-Vincent urged the Minister of War to finance “a commission both exploratory and scientific, a single body directed toward a common purpose.”

Scientific missions, based on those completed in Egypt and the Morea (Peloponnese) earlier in the century, were duly carried out in 1840, 1841, and 1842, ambitiously aiming to understand and classify all aspects of Algerian culture, history, and geography. To this end, experts in every branch of natural science, art, and history, from zoology to portraiture, were included. In the following years, the results of this expedition were published in multiple volumes under the title *Exploration scientifique de l'Algérie pendant les années 1840, 1841, 1842 publiée par ordre du gouvernement et avec le concours d’une commission académique*. This document contains a detailed section on nomads, whose depiction clearly has been influenced by the Saint-Simonian belief in the noble savage. The physical geography of Algeria is also examined at length. Here, the commission’s observations are clearly practically oriented. Algeria is divided into “productive” and “unproductive”

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Broc, 327; Davis 2007, 36.

Broc, 327.

Lucas. See also Broc, 326-331.
The possibility of afforestation in the Sahara is considered and compared to the draining of the *Landes* in France.\textsuperscript{147}

The success and scope of this enterprise was limited by personal rivalries and politics,\textsuperscript{148} but it provided a precedent for other, similar endeavors, and its observations guided French administrators in the development of Algerian environmental legislation. As the French worked to subdue and consolidate their new prize, they persevered in the study of its nature and resources. The resulting reports helped to shape French concerns over deforestation and environmental decline.\textsuperscript{149}

By the mid-nineteenth century, French environmental discourse on Algeria had solidified into a tale of severe environmental decline since the Roman era. During the early years of conquest and colonization, various observers struggled to explain and chronicle the long-term environmental changes they believed to have occurred in Algeria. At the same time, they consciously and unconsciously served the causes of colonization and colonial administration by blaming natives for ecological destruction. This narrative appears fully formed in an 1846 report on the state of Algeria’s forests:

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\textsuperscript{146} Lucas, 5.
\textsuperscript{147} Ibid., 8.
\textsuperscript{148} It did not help that Barthélemy-Prospé Enfantin, a prominent French utopian socialist or Saint-Simonian, was involved in their execution. In his approach to the mission, Enfantin often clashed with the other members, and he was little inclined to compromise. One scholar has described him as “the greatest burden and the least useful” member (“le plus encombrant et le moins efficace”) of the commission (Broc, 329).
\textsuperscript{149} I return to these reports and their implications for French forest administration in Algeria in Chapter Three.
More than any other country Algeria must have in distant times been covered with forests. One finds irrevocable indications of this in all its provinces. It is not in Algeria as in Europe, where the progress of civilization was the cause of deforestation. There, a thousand needs to satisfy either in construction or in industry; here, other uses depending on barbarity, always in accord with the interests of men.  

By presenting native Algerians as selfish, short-sighted, and barbaric, such perspectives supported the subjugation of indigenous Algerians by European colonists, and helped to justify their campaign to crush the tradition of Algerian nomadism through dispossession and oppression.

Once such views had saturated Western Europe, they began to drift across its frontiers. In the nineteenth century, Western travelers to the Middle East began to express growing concern over the presence of pastoralism in Anatolia, calling it a tragic corruption of fertile land. As early at 1823, one French agronomist listed Anatolia along with Egypt, Judea and Greece as “once fertile countries transformed into deserts” where nothing remained but “ruins and tombs.” W.J. Hamilton, who visited the countryside near Bursa in the mid-nineteenth century, lamented that lands “capable of the finest cultivation” had become “a scanty pasture to the flocks of wandering tribes.” Others made the cause of Anatolia’s demise even clearer, citing it as “the last and greatest example of the sterilization of a civilized country by nomads.” These views were confirmed by nineteenth-century European diplomats posted in Anatolia, whose correspondence abounds with scornful descriptions of the ravages of nomadic tribes. In a typical example, a

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150 “Plus qu’aucun autre pays l’Algérie a dû dans des temps éloignes être couverte de forêts. On en trouve des indices irrévocables dans toutes les provinces. Ce n’est pas en Algérie comme en Europe, où les progrès de la civilisation ont été cause de déboisement. Là mille besoins satisfaire soit en construction, soit en industrie; ici d’autre usages dépendant de la barbarie, toujours d’accord avec les interets des hommes.” ANOM F/80/1785, M. de Bassano, “Examen de la question forestière dans la Subdivision de Bône” (8 février 1846).
151 “tous ces pays ne présentent plus que des ruines et des tombeaux.” Baudrillart 1823, 3.
153 “L’Asie Mineure présente le dernier et le plus grand exemple de la stérilisation d’un pays civilisé par les nomades; ce sont les Turkmènes qui y ont refoule l’agriculture et l’ont ruinée.” Bernard and LaCroix, 5.
British consul posted to Kayseri described the “blackened stumps, charred and scorched trunks” that resulted from local tribes’ “habit” of burning trees to increase pasture land in their yaylas (summer pastures).\(^{154}\)

At the same time, the accounts of European observers suggested that Anatolia possessed vast forest resources.\(^{155}\) The origins of this belief probably date to the early modern period, when various French travelers, including Nicolas de Nicolay (1517-1583), Pierre Belon (1517-1564), Jean-Baptiste Tavernier (1605-1689), Jean de Thevenot (1633-1667), Laurent d’Arvieux (1635-1702), Antoine Galland (1646-1715), and Joseph Pitton de Tournefort (1656-1708), returned from the Ottoman Empire with tales of its exotic landscape. Their descriptions were popularized, exaggerated, and propagated during the period of Turquerie, a celebration of Ottoman culture that spread throughout Europe in the seventeenth and eighteenth centuries.\(^{156}\) By the nineteenth century, the narrative of Ottoman environmental wealth was so entrenched in European thought, that the Ottoman state’s mid-nineteenth-century announcement that it would open up its resources to international commercial exploitation generated a literal frenzy among competing European powers.\(^{157}\)

The broad precepts of Ruined Landscape Theory were bolstered by specific concerns over Mediterranean deforestation. The nineteenth century brought a significant change to discussions of Mediterranean forest decline. In France and throughout Western Europe, a growing cadre of intellectuals, natural scientists, national administrators, and local officials concerned about the

\(^{154}\) British National Archives (hereafter BNA), FO 222/2 (1880).

\(^{155}\) Dursun 2007, 101-114.


pace of deforestation began to rank pastoralism – and its mobile form in particular – among the greatest threats to the sustainability of Mediterranean forests. Prominent natural scientists spoke out against the admittance of sheep and goats into forests and lobbied for stronger legislation to restrict these close grazers to “sterile hillsides and mountains,” where, incidentally, eighteenth-century legislation had attempted to confine them without success.\footnote{158} As the issue of deforestation gained increasing attention, these beasts came under fire not only for their ostensible damage to trees, but also for a range of environmental catastrophes associated with deforestation, discussed in Chapter Five. These environmental issues supported and supplemented ongoing concerns about the economic and political consequences of deforestation. Together, they made Mediterranean pastoralists their scapegoat of choice.

*Narratives of Deliberate Destruction*

Within the French intellectual milieu, the precepts of proto-conservationism fostered a genuine fear of pastoralism in Provence, Algeria, Anatolia, and throughout the Mediterranean region. Many genuinely believed that this practice would destroy the earth, both directly, through the impact of their livestock on forests and fields, and indirectly, through erosion, flooding, climate change, and other consequences. But nineteenth-century opposition to Mediterranean pastoralism was aimed not only against its supposed environmental side effects. In addition, many critics maintained that pastoralists practiced deliberate destruction, both by nature and by trade. They branded shepherds, along with their herd, the black sheep of the nineteenth-century Mediterranean economy.

\footnote{158} The full quote is: “dans les collines et les montagnes stériles.” Boyer de Fonscolombe, 7.
French stereotypes portrayed pastoralists as lazy, corrupt, lawless, and irresponsible. A late eighteenth-century tract, “On the pastoral economy of the Hautes-Pyrénées, of its vices and the ways to remedy them” (“De l’économie pastorale dans les Hautes-Pyrénées, de ses vices et des moyens d’y porter remède”), as the title suggests, associated pastoralists in the Pyrenees with a colorful range of “vices” that, according to the author, wreaked environmental havoc. Many considered pastoralists as lacking respect for the law and assumed that they would graze their herd illegally. “The shepherd does not have the proper respect for forests,” declared a typical detractor, adding, “He destroys for the sake of destruction.” Those who kept goats were under the greatest suspicion because of restrictive grazing laws. One Provençal scholar characterized the goatherd as “a kind of poacher,” leading his goats into communal mountains by day and “skirting and traversing cultivated property by night.” Similarly, the prefect of the Ardèche, during the ‘plague’ of these animals following the revolutionary era, called the goat “the animal of the idler and the pillager,” in an obvious slight toward its keepers.

Mobile pastoralists faced even greater rebuke across the Mediterranean. Traveling in western Anatolia in the early nineteenth century, Chateaubriand recorded widespread destruction:

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159 See for example, Fillias, 65; and Charles Carteron, Voyages en Algérie: Tous les usages des Arabes, leur vie intime et extérieure, ainsi que celle des Européens dans la colonie (Paris: J. Hetzel, 1866), 104, 114, 182, 283-284, 290.


162 Gibelin, 134.

We began to climb through a mountainous region that would be covered with an admirable forest [...] if the Turks let anything grow. But they set fire to the young plants and mutilate the trees. These people destroy everything. They are a veritable scourge.\textsuperscript{164}

Theodore Bent, an archeologist who arrived later in the century, echoed this charge. Calling nomads “the most inveterate enemies of the Asia Minor forests,” he accused them of “lay[ing] bare whole tracts of country that they may have fodder for their flocks.”\textsuperscript{165} In French colonial Algeria, the report was even worse. Mobile pastoral groups, once the region’s de-facto rulers, quickly became its most despised and desperate residents. European scholars and settlers generally characterized them as indolent, treacherous, and destructive. “For nine months of the year,” claimed one observer, “they are concerned with nothing but their own pleasures.”\textsuperscript{166} Alexis de Tocqueville took for granted nomads’ “anarchy.”\textsuperscript{167} Others focused on their lack of civilization. A study conducted in 1906 placed them on a level between hunter-gatherers and farmers, and declared, “Living with his beasts, often far from any urban center or community, the nomad is little inclined to progress.”\textsuperscript{168} During the colonial era, moreover, indigenous pastoralists were almost always held accountable for forest fires, whether through negligence, malevolence, or burning for pasture (see Chapter Five).


\textsuperscript{165} Bent, 455.

\textsuperscript{166} “L’Arabe, dit M. Daumas, - le poétique historien de la Grande-Kabylie, - l’Arabe déteste le travail; pendant neuf mois de l’année, il ne s’occupe que de ses plaisirs.” Quoted in Fillias, 65. For Fillias, Arabs and Algerian nomads were one and the same.


\textsuperscript{168} “Il reste vrai que le pasteur se place en général, au point de vue du niveau social, entre le chasseur et l’agriculteur. […] Vivant avec ses bêtes, souvent très éloigné de tout centre urbain et de toute agglomération, le nomade est peu porte au progrès.” Augustin et LaCroix, 4.
French colonial sources also included nomadic pastoralists physically and psychologically in their vision of Algeria’s ‘ruined landscape’. In the vast majority of colonial-era – as well as subsequent – accounts, Algeria’s environmental state is presented as the result of centuries of devastation by nomadic Arab inhabitants. This narrative played a major role in European perceptions of the indigenous population. Indeed, much of the colonial population seems to have sincerely believed that Arabs hated the earth. Following a devastating fire in 1878, for which natives were blamed, the Bône newspaper spoke of “this Arab nation animated by Muslim fanaticism and contempt for the riches of the earth.”169 In another typical example, a report commissioned to investigate forest fires in Algeria declared, “In contrast to the Berber, the Arab is the personal enemy of trees. Everywhere that he establishes himself, he destroys them.”170 The stereotype of Arab destruction became so entrenched in French perspectives of Algerian nomads that, in the eyes of some later observers, it appears romanticized and almost sympathetic. “The Saharans love their desert,” mused one early twentieth-century scholar, “certainly not in a poetic way, but because, in their simplicity, they believe themselves more free, being able to pitch their tent where they please, to drive their herd where the grass grows and to live as it suits them.”171

Many debated whether native pastoralists or fire posed a greater threat to Algerian forests. “Grazing is thus the principal cause of the disappearance of forests,” claimed one disputant, explaining, “Fire is really only an accessory cause.”172 In the end, most considered this point moot, since they generally held nomads responsible for both fires and grazing.173

169 Courrier de Bône, August 29, 1878, 3. Quoted in Ford, 354.
171 “Les sahariens aiment leur désert, non par poésie sans doute, mais parce que, dans leur simplicité, ils se croient plus libres, pouvant planter leur tente où il leur plait, conduire leurs troupeaux ou l’herbe pousse et vivre comme il leur convient.” Lehuraux, 171. See also Boukhozba, 38.
173 See Chapter Five for my discussion of accusations against Mediterranean pastoralists in cases of fire.
REFRAMING THE DESERT AND THE SOWN

The birth of conservationism created a new source of significant, environmental vitriol against Mediterranean pastoralism; at the same time, social and political factors were reshaping perceptions of this practice. In the mid- to late eighteenth century, the intellectual pursuits of Enlightenment figures such as Montesquieu and Adam Smith developed the philosophical idea of progress. In essence, this theory maintains that history is, or should be, a march toward a more perfect future.\textsuperscript{174} In the nineteenth century, this idea, bolstered by industrialization, scientific theories of evolution, and the rise of European imperialism, nurtured growing expectations of progress and civilization.\textsuperscript{175} In the works of thinkers such as John Stuart Mill, Saint-Simon, Karl Marx, and Herbert Spencer, it fueled various interpretations of history, from utopian socialism, to Marxism, to social Darwinism.\textsuperscript{176} These movements shared the idea of history as a series of stages of civilization, famously framed in the fourteenth century by Ibn Khaldun. But while the medieval Muslim scholar had presented history as cyclical and found both advantages and disadvantages to each of its stages, their models all included elements of direction, advancement, and progress. These ideas inspired many sedentary Europeans to revisit and reinterpret the age-old paradigm of conflict between ‘the desert and the sown’, especially in the colonial context. To them, mobile pastoralists began to appear not only more primitive, but also a threat to civilization and its perfection. In the nineteenth century, narratives of progress motivated attacks


\textsuperscript{175} Almond, Chodorow, and Pearce 1981: 5-6.

\textsuperscript{176} Claude Henri de Rouvroy, comte de Saint-Simon, more commonly known as Saint-Simon, established the French utopian socialist movement Saint-Simonianism in the early nineteenth century. This movement would have a significant impact on French colonial Algeria as well as on France. See below. For a thorough treatment of this subject, see Osama Abi-Mershed, \textit{Apostles of Modernity: Saint-Simonians and the Civilizing Mission in Algeria} (Stanford: Stanford University Press, 2010).
on Mediterranean pastoralism from multiple directions, rewriting its history, changing its terminology, and reframing its identity.

**Manipulation of the History of Pastoralism**

In early nineteenth-century intellectual circles, the combination of Ruined Landscape Theory with environmental opposition to pastoralism created a serious conundrum. How could a practice that had existed ‘since time immemorial’ be unsustainable? In other words, if mobile pastoralism in the Mediterranean dated to the Roman era or even earlier, then why was environmental deterioration not observed until the early modern era? Indeed, why was it not worse? Some scholars addressed this problem, not by changing their perceptions of pastoralism, but rather by changing history. In a classic example, Ferdinand Allard, in his 1901 doctoral dissertation, *Les Forêts et le Régime Forestier en Provence*, dates the origins of transhumance in Provence to the fourteenth century, when he claims Merinos were introduced from Spain.\(^\text{177}\) In general, Allard exhibits little sympathy for the practice of transhumance, calling it “detestable” and naming it “one of the principal causes of the ruin of the Alps.”\(^\text{178}\) According to his account, the introduction of sheep to Provence in the medieval period suddenly burdened Haute-Provence with “an enormous increase in livestock to nourish,” and he reasons that the Alps “could not sustain them without rapid degradation.”\(^\text{179}\) The plains of Basse-Provence were no better off, apparently exhibiting “an aspect of advanced ruin.”\(^\text{180}\) Only by reframing pastoralism’s arrival in Provence to coincide with the incidence of environmental decline is Allard able to sustain his argument. The ambiguity of mobile pastoralism’s origins allowed Allard and other nineteenth-

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\(^{177}\) Allard, 178.

\(^{178}\) Ibid., 179.

\(^{179}\) “Les pâturages des Alpes recevaient de la sorte un énorme surcroît de bétail à nourrir. Ils n’y pouvaient suffire sans une dégradation rapide.” Ibid., 178.

\(^{180}\) “un aspect de ruine avancée.” Ibid., 179.
and early twentieth-century scholars to date it to the medieval period, thus providing consistency in claims of its unsustainability.

The history of pastoralism was also politicized in Ottoman Anatolia and French Algeria. In the early nineteenth century, the Ottoman Empire became increasingly self-conscious of its international role and image. One result was the promulgation of national histories that tended to downplay the empire’s nomadic roots. Instead, they portrayed its founders, the tribe of Osman, as *gazi*, or holy warriors. By casting themselves as medieval Muslim zealots, the Ottomans gained support within the Islamic community as well as legitimacy for their control of the Islamic caliphate. The Ottomans also used the *gazi* creation myth to construct and project a nobler, more ‘civilized’ image to Europe than that of marauding tribes. At the same time, the Ottoman self-identification with a *gazi* past added to the isolation and alienation of the empire’s remaining nomadic population.

In Algeria, history played a central role in the development and justification of French administration. As French observers debated the nature and causes of North African environmental degradation, many were careful to differentiate between the Kabyles (Berbers) and the Arabs. They idealized the Kabyles as sedentary, peaceful, lawful, and environmentally-

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181 Lindner 1983. Lindner explains and supports this thesis throughout the text. See for example p. 101. The “*gazi*” thesis, the idea of early Ottoman conquests were motivated primarily by religious zeal, was famously presented by Paul Wittek in *The Rise of the Ottoman Empire* (London: The Royal Asiatic Society, 1938), and refined in Wittek’s later work (see below). While Lindner contests this theory, he also suggests that *gazi* imagery was used by the Ottomans to distance themselves from their nomadic past. See also Fuad Köprülü, *Les origines de l’Empire ottoman* (Paris, 1935). For a more recent analysis of the Ottomans’ use of the *gazi* myth, see Cornell Fleischer, *Bureaucrat and Intellectual in the Ottoman Empire: The Historian Mustafa Ali (1541-1600)* (Princeton, NJ: Princeton University Press, 1986), 274-276.


183 Lindner, 105.
responsible agriculturalists, contrasting them with the brutal and reckless, nomadic Arabs.\textsuperscript{184} Kabyles were portrayed as the true natives of the land, while Arabs were newcomers and outsiders. These distinctions led many to theorize that significant environmental decline in North Africa began with the Arab invasions of the eleventh century.\textsuperscript{185} According to this view, the Hilalian Arab invaders first subdued the predominantly agricultural Kabyles who had previously inhabited the region, and then instigated a reign of terror on the North African environment by exploiting it for extensive nomadic pastoralism.\textsuperscript{186} Because this narrative draws artificial contrasts within Maghrebian society and casts the Kabyle as the saintly counterpart to the marauding Arab, modern scholars have labeled it the Kabyle Myth.\textsuperscript{187}

The French colonial elite embraced this story. By the mid-nineteenth century, the Kabyle Myth had become an accepted part of Algerian history, and it helped to dictate French perceptions of Algerian society, politics, and environment. In 1837, Alexis de Tocqueville based his counsel for French colonial administration on this narrative. Drawing on the perceived contrast between Arabs and Kabyles, he advised, “With the Kabyles we must focus above all on questions of civil and commercial equity; with the Arabs, on political and religious questions.”\textsuperscript{188} He also expressed more hope of winning over the Kabyles than the Arabs, whose “soul is even more

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\textsuperscript{184} Achille Fillias describes the difference between the two groups thus: “ Là, en effet, est la différence caractéristique des deux nationalités. L’Arabe, à l’esprit indolent, est le type de la vie nomade; le Kabyle aime par-dessus tout le foyer domestique, sa maison, son village; artisan infatigable, il laboure, sème, récolte, enterrer” (Fillias, 65).
\textsuperscript{185} Léon Lehuraux provides a perfect example of this story (Lehuraux, 11-23). For modern critiques, see Patricia M. E. Lorcin, \textit{Imperial Identities: Stereotyping, Prejudice and Race in Colonial Algeria} (London: I.B. Tauris; New York: St. Martin’s Press, 1995), 2; Davis 2007, 57-58; and Ford, 354.
\textsuperscript{187} Tocqueville 2001, 21.
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mobile than their dwellings.”  The Kabyle myth also became a way for French colonists to make sense of the Algerian environment. “In Algeria,” explained one mid-nineteenth century observer, “one can, without fear of error, affirm that wherever the earth appears desolated, without trees, one is in Arab territory; in contrast, wherever there is fine cultivation, beautiful trees, woods and forests, one is in Berber lands.

The Kabyle Myth continued to pervade Algerian historiography through the 1980s. Even Charles-Robert Ageron, a post-colonial scholar of Algerian history whose work clearly blames the colonial population for indigenous suffering, fails to question this narrative. In *Histoire de l’Algérie Contemporaine*, he sums up Algeria’s pre-colonial history by stating, “Only the invasion of the Hilali Arabs in the eleventh century calls for special mention, since by introducing Arab nomads as distinct from Arab armies into a sparsely-populated North Africa, it permanently altered the structure of its society.”

Still, even at the time of its origination in the mid-nineteenth century, historical support for the Kabyle myth would have appeared shaky at best. The same Roman authors who described North

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189 Ibid., 21.
190 “En Algérie, on peut, sans craindre de se tromper, affirmer que là où le sol présente un aspect désolé, sans arbres, on est en territoire arabe; au contraire, là où existent de belles cultures, de beaux arbres, des bois et des forêts, on est en territoire berbère.” Auguste-Hubert Warnier, *L’Algérie devant l’Empereur, pour faire suite à l’Algérie devant le Sénat, et a l’Algérie devant l’opinion publique* (Paris: Challamel Ainé, 1865), 9.
192 Ageron 1991, 1. Fernand Braudel also accepts this narrative in his magnum opus, *The Mediterranean in the Age of Philip II*. See for example Braudel 1972, I: 95-6. It is interesting to note that Braudel was personally familiar with Algeria, having taught there in his youth (Ford, 354).
Africa’s importance in provisioning the empire also wrote extensively on the practice of nomadic pastoralism there. These sources suggest that, in the classical era, nomadism was already viewed as an age-old tradition in North Africa. It was apparently practiced widely throughout the region, including areas under cultivation. Thus, the inhabitants of Algeria prior to the Hilalian invasion, so romanticized in nineteenth-century French accounts, were not in fact a settled agricultural people. Given this history, the arrival of more nomads in the eleventh century could not have produced the massive societal upheaval that the Kabyle Myth depicts. Nineteenth-century French interpretations also missed other important details of Roman descriptions. For example, they failed to consider that, in order for it to supply the Roman Empire with grain, the agricultural demands made on North Africa must have been considerable, and the intensification of agriculture during this period would certainly have taken a significant toll on its environment.

The evidence of Roman ruins also undermines the Kabyle myth. The Romans built cities along the coast and harvested grain in the fertile Tell, but they almost completely neglected other areas, which were deemed unproductive due to altitude or low rainfall. In fact, the Roman pattern of settlement in Algeria appears very similar to that of the French two thousand years later, suggesting ecological continuity rather than change.

This narrative never should have been believed, so how did it ever become so popular? The answer is simple: it served a very useful purpose. Like other forms of opposition to Mediterranean pastoralism, the Kabyle myth provided significant practical implications. It

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helped justify colonization in Algeria and the subjugation of native populations, and it significantly influenced French environmental policy throughout the Mediterranean.

**The Terminology of Pastoralism Revisited**

Growing criticism of nomadic pastoralism may well have contributed, not just to the rewriting of history, but also to the creation of new terminology. Unlike the term ‘nomad’, in English usage for nearly five hundred years, ‘transhumance’ is a relatively modern word.\(^{194}\) It did not arrive in the English language until around 1911, and its roots are only somewhat deeper in French and Spanish. It first appeared in the French dictionary *Robert* in 1818.\(^{195}\) Thus, the practice of transhumant pastoralism in Provence and other parts of the world predated its classification by hundreds, if not thousands, of years. To say that the creation of the term ‘transhumance’ was belated would be a gross understatement, so why did modern Europeans develop a term to describe an age-old practice? Fernand Braudel explains this discrepancy by arguing that ‘transhumance’ is a more recent concept. He observes, “Transhumance and nomadism seem to be activities dating from different ages,” proposing a chronological progression from nomadism to inverse transhumance to ‘normal’ transhumance.\(^{196}\) More likely, transhumance was first named when it began to be challenged, in the early nineteenth century, as Pierre-Yves Laffont has suggested.\(^{197}\)

It is also quite possible, however, that the term ‘transhumance’ gained currency at least in part as a way to distinguish European mobile pastoralism from similar practices outside of Europe, in the Near and Middle East, Africa, and Asia. As the French came into contact with other mobile

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\(^{195}\) *Transhumance et estivage en Occident*, 9.

\(^{196}\) Braudel 1972, I: 88.

\(^{197}\) “La transhumance serait donc nommée au moment où les éléments qui la constituent connaissent les plus violents assauts.” *Transhumance et estivage en Occident*, 14.
pastoral systems through trade, exploration, and imperialism, they sought to distinguish these practices from their own. New, distinct terminology allowed them to maintain that mobile pastoralism at home in Europe was a modern, civilized institution, whereas abroad it was primitive and destructive – even if the two systems were in practice very similar. In addition, ‘nomadism’ has long been associated with the Orient. Some European literature even presents it as a symbol of the divide between East and West. In this context, the term ‘transhumance’ may well have been a way for European powers to preserve and reinforce their Western identity even as they expanded into the East.

The case of colonial Algeria supports this idea. Here, European settlers began to practice mobile pastoralism alongside native pastoralists. The two groups shared pastures, migration routes, methods, and even sheep. Their practices were identical, save for the origins of the owner of the herd. Yet, in a key point of terminology, nineteenth-century colonial accounts never refer to European pastoralists as nomadic, nor do they call indigenous pastoralists ‘transhumant’. The two systems were always carefully differentiated. “There has indeed developed a modern form of pastoral industry, with enormous herds of sheep and cows guarded by a small number of shepherds,” acknowledges a 1906 account of pastoralism in Algeria, referring to the practices of European settlers, “but they are not real pastoral peoples, living from the milk of their herds.”

Colonists, moreover, generally assumed their knowledge of pastoralism to be superior.

199 Léon Lehuraux is in a way an exception, but his use of these terms complicates the picture even more. In his 1931 account, Nomadism and Colonization in the Hauts-Plateaux of Algeria, he uses the terms ‘nomadism’ and ‘transhumance’ interchangeably. For example, one table lists the “Transhumance of nomadic tribes of the Southern Territories summering in the Tell” (“Transhumance des tribus nomades des Territoires du Sud se rendant en estivage dans le Tell”). Lehuraux, Annexe V.
200 “Il s’y est bien développé une forme moderne d’industrie pastorale, avec d’énormes troupeaux de moutons et de bœufs gardés par un très petit nombre de bergers; mais il n’est pas né là de véritables peuples pasteurs, vivant du lait de leurs troupeaux.” Bernard et LaCroix 1906, 6-7.
Government correspondence from the mid-nineteenth century criticized the practices and products of native pastoralists, and discussed how Algeria’s pastoral industry could be improved through the introduction of superior European methods, selective breeding, and foreign breeds. In a government report, French agronomist F. Robiou de la Trehonnais, after describing at length the weaknesses, stagnation, and destructiveness of the indigenous pastoral system, remarks, “When one begins to consider the climatic conditions so favorable in Algeria, one is surprised that pastoralism should be so disregarded by European agriculturalists.” As if to prove his case, one settler, after years of careful husbandry, described a “notable” improvement in the quality of wool from native sheep, and he optimistically projected “that one could achieve great results with the indigenous ovine race,” but only through continued, dedicated amelioration.

Hence, the linguistic distinction between transhumance and nomadism originally may have had more to do with orientalist stereotypes than with any real difference in the meaning of the two terms. This possibility makes an even stronger case for the use of Mediterranean pastoralism as a common descriptor for mobile pastoral systems around the Inner Sea.

Narratives of Identity and Civilization

In the context of French imperial interests in Egypt and then Algeria in the early nineteenth century, a number of enthusiastic orientalists revived Ibn Khaldun’s works through translations,

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202 “Quand on vient à considérer les conditions si favorable du climat de l’Algérie, on s’étonne que l’élevage soit aussi déconsidéré qu’il semble l’être par les agriculteurs européens” (Trehonnais, 47).


204 The picture is complicated by French observers who used the two terms interchangeably. However, well into the twentieth century, the term ‘nomadism’ continued to be much more popular in referring to non-European cases, while ‘transhumance’ remained standard for practices within Mediterranean Europe.
critical reviews and commentaries.\textsuperscript{205} This scholarship took a liberal approach to the texts that suited the objectives of French imperialism. As one such scholar, William de Slane, explained in the Introduction to his \textit{Histoire des Berberes et des Dynasties Musulmans de l’Afrique Septentrionale par Ibn Khaldoun} (\textit{History of the Berbers and the Muslim Dynasties of North Africa}), the translator’s goal was not an “exact reproduction of ideas uttered in the text,” but rather to “provide ideas that lead to the perfect understanding of the narrative.”\textsuperscript{206} Hence, these interpretations overlooked key parts of Ibn Khaldun’s work praising nomads, and focused on early evidence of their primitive and destructive nature.

Ibn Khaldun’s French interpreters undertook the challenge of establishing him as an authority on Algeria’s nomadic population and a precedent for France’s policy of dispossession. Since Ibn Khaldun was himself a member of the conquered race, this task also required them to recast him as an outsider in his own age and culture.\textsuperscript{207} They were so successful in this project that he became – in French translation – a standard reference for colonial administration.\textsuperscript{208} His work probably contributed more than any other source to the construction of the Kabyle myth.\textsuperscript{209} Indeed, contemporary scholars still cast Ibn Khaldun as an unsympathetic critic of nomads and continue to overlook the ambiguity of his works, thanks largely to the efforts of nineteenth-

\textsuperscript{205} Silvestre de Sacy, his student William de Slane, and Joseph de Hammer, among others. For a critical survey of these scholars and their interpretations, see Hannoum, 60-69. For a general description of the Orientalist renaissance in European literature, see Zachary Lockman, \textit{Contending Visions of the Middle East: The History and Politics of Orientalism} (Cambridge: Cambridge University Press, 2004), 67-69.

\textsuperscript{206} William de Slane, \textit{Histoire des Berbères et des dynasties musulmans de l’Afrique septentrionale par Ibn Khaldoun} (Alger: Imprimerie du Gouvernement, 1852), i. Quoted in and translated by Hannoum, 64.

\textsuperscript{207} Hannoum, 62-63.

\textsuperscript{208} See for example, the use of J. Masselot, \textit{Ville et rade de Bougie: Province de Constantine (Algérie) par J. Masselot, Lieutenant de Vaisseau, Directeur du port de Bougie, Ancien élève de l’École Polytechnique} (Bougie: Imprimerie et Librairie F. Biziot, 1869) in political correspondence on forest fires (1871-1873). ANOM MI 18 Mion/78.

\textsuperscript{209} For Caroline Ford’s analysis of Ibn Khaldun’s role in formulating the Kabyle myth, see Ford, 347-8. See also Yves Lacoste, \textit{Ibn Khaldun: The Birth of History and the Past of the Third World} (London: Verso, 1984); M. E. Lorcin; and Hannoum, 66-67.
century orientalists. In the *Encyclopedia of Islam and the Muslim World*, the entry for “Bedouin” accuses Ibn Khaldun of denouncing this group as “vengeful and destructive,” while the author notes, “Others have described Bedouins by their well-known values of generosity and hospitality and high standards of poetic compositions.”

The colonial administration used the works of Ibn Khaldun to support the Kabyle myth and narratives of Algerian environmental decline, to present nomadism as primitive and inferior to sedentary society, and generally to guide, promote and legitimize colonial administration of natives. Léon Lehuraux, in his conceptualization of the Arab conquest, cites Ibn Khaldun, who he maintains “never finds terms sufficiently energetic for defaming the conquerors of Barbary.” Indeed, William de Slane’s translation, *Histoire des Berbers*, has the Hilalian invaders cutting down all the trees, destroying civilization, and transforming much of North Africa “into desert” through the ruin of its cities and towns. De Slane also translated Ibn Khaldun’s *Muqaddimah* into French under the title *Prolégomènes*.

De Slane and other mid- to late nineteenth-century scholars were also influenced by the philosophy of Karl Marx, whose conceptualization of different stages of society seemed to echo that of Ibn Khaldun, while offering a convenient justification of imperialism. De Slane’s *Prolégomènes* supported and cultivated French perceptions of nomadism as an earlier stage of civilization and helped to justify sedentarization as part of the French colonial civilizing mission.

As Ibn Khaldun explains through the pen of de Slane, “I have placed nomadism before sedentary

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211 Boukhobza, 2; Lacoste 1966, 146, 150.
212 “qui ne trouve jamais de termes assez énergiques pour flétrir les envahisseurs de la Berberie.” Lehuraux, 21.
214 Ibid., 164. See also Davis 2007, 56.
life because (in the order of time) it has preceded all of the forms that the latter can take." The text continues, "As much as sedentary life promotes the progress of civilization, nomadism opposes it." De Slane’s *Prolégomènes* also vilifies the Arabs. “Every country conquered by the Arabs is soon destroyed,” reads the title of one chapter, which goes on to detail the evils of Arab civilization:

The habits and morals of nomadic life have made the Arabs a crude and savage people. The coarseness of their lifestyle has become for them second nature, a state in which they wallow, since it assures them liberty and independence. Such a disposition prevents the progress of civilization.

French orientalists also resurrected the works of other medieval Muslim scholars, which they used to support and corroborate these theories. Together they projected a negative image of Arab-nomads that helped justify French legislation against them.

French readings of Ibn Khaldun and Marx influenced European perspectives outside of Algeria as well. In the nineteenth century, as criticism of Mediterranean pastoralism increased, many revived the idea of the ‘desert and the sown’, viewing shepherds as a malignant ‘other’, and framing their opposition in terms of a clash of civilizations. One prominent French historian has characterized the decline of the traditional system of collective grazing in Provence as “an episode in the eternal conflict between arable and stock farming – one might almost say between

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215 “J’ai placé la vie nomade avant la vie à demeure fixe, parce que (dans l’ordre du temps) elle a précédé toutes les formes que celle-ci avait pu prendre.” Slane 1863, 148.
216 “Autant la vie sédentaire est favorable au progrès de la civilisation, autant la vie nomade lui est contraire.” Slane 1863, 313.
217 “Tout pays conquis par les Arabes est bientôt ruiné.” Slane 1863, 313.
218 “Les habitudes et les usages de la vie nomade ont fait des Arabes un peuple rude et farouche. La grossièreté des mœurs est devenue pour eux une seconde nature, un état dans lequel ils se complaisent, parce qu’il leur assure la liberté et l’indépendance. Une telle disposition s’oppose au progrès de la civilisation.” Slane 1863, 313.
219 For example, El Bekri and Idrissi. See Davis 2007, 54.
220 For a survey of the changes in scholarly perceptions of pastoralists in Algeria, from the French colonial era to the present, see Florence Deprest, “Using the Concept of Genre de Vie: French Geographers and Colonial Algeria, c.1880-1949,” *Journal of Historical Geography* 37.2 (2011): 158-166.
the settler and the nomad – and between the small producer and the capitalist.” The resulting narrative not only affected Provence and Algeria, but it also reached beyond the realm of French control, to challenge the identity and legitimacy of mobile pastoralists in Anatolia.

The works of Ibn Khaldun were translated into Turkish in the eighteenth century, though his cyclical view of history had maintained a modest following among Ottoman intellectuals for the previous two centuries. During this period, the Ottomans were primarily interested in his model of the rise and fall of empires, which they gleaned for insight into their own military and economic distress. In this context, Ibn Khaldun’s characterization of the Bedouin as more courageous, pure, and good than their sedentary counterparts helped to furnish an explanation for Ottoman decline. Thus, early modern Ottoman readings of Ibn Khaldun, far from contributing to bias against nomadic tribes, encouraged their idealization. Only in the mid- to late nineteenth century, as Europeans exercised a growing presence and influence in the Ottoman court, did Western interpretations of Ibn Khaldun’s work gain currency within the Ottoman elite.

Western critiques of nomads in Anatolia combined Ruined Landscape Theory with other, older narratives, including the view of nomadism as a more primitive stage of development. Frederick Burnaby, a late nineteenth-century adventurer, published an account of his travels through Anatolia that is far from unsympathetic toward the Ottoman population. “People in this country, who abuse the Turkish nation, and accuse them of every vice under the sun,” he writes, referring

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221 Bloch 1966, 204-205.
224 See Kasaba 2009, 7.
to his English audience, “would do well to leave off writing pamphlets and travel a little in Anatolia.” Yet, Burnaby carefully distinguishes his sympathy for the Turks from his disapproval of their “despotic” government. Everywhere, he describes evidence of agricultural and industrial waste and decline, and his text resounds with opportunities lost. He is struck by the region’s rich mineral potential, which he counts as wasted due to a lack of modern materials. To drive home his point, he quotes a local Turk as saying, “We have got nothing but paper money in Anatolia […] all this rich metal lies buried beneath our feet.” He describes marble quarries unused for hundreds of years and fields of “rich soil” abandoned and left fallow. Referring to this desolate landscape, Burnaby cries, “Poor Turkey, she has descended the steps of civilization, and not ascended them like European nations.”

Many nineteenth-century visitors shared Burnaby’s perspective of Ottoman political and environmental decline. Indeed, the French consul in Antalya was so fed up with administrative corruption that he abandoned his post in 1810, taking the French consulate with him. Fifty years later, little had changed. In 1857, the British consul general complained vocally of scant law enforcement in the vilayet of Antalya. In Voyage dans l’Asie Mineure, his contemporary Baptistin Poujoulat, after explaining the Ottoman system of conscription to his readers, remarks sardonically, “This system […] does not reveal a great advancement of civilization in this country.” Poujoulat’s characterization of Arabs is particularly severe. He could easily be
echoing the voices of French colonials in Algeria when he writes, “Arab civilization rapidly gained a place among the advanced civilizations, only to fall back into the barbarity of the desert.”

Nineteenth-century European observers also linked assumptions about the weakness of Ottoman administration to tales of nomadic destruction. Many could not understand why the state would allow nomads to exist if they could be settled. Travelers and diplomats alike complained of “marauding Bedouins,” the “attendant evils” of nomadism or “the lawless, predatory disposition” of certain tribes. On a voyage through southern Anatolia in the 1860s, the British traveler Henry Van Lennep took the precaution of bringing along a police escort for protection, but he noted that even the policeman “skulked and hid behind us” when they passed nomadic tribes.

At the same time, many travelers romanticized the freedom of a people who could “pack up their chattels and migrate to the mountains” whenever the taxman arrived. Such rebukes against the Ottoman administration of nomads contributed to the empire’s ailing reputation. Although members of the Ottoman elite had been soul-searching throughout the early modern era, European critiques made them acutely conscious of the weaknesses of their state and, in particular, its environmental consequences. By the 1850s, concerns of Anatolian environmental degradation had reached the Near East, where they began to find voice in the rhetoric and policy of the Ottoman administration. The Ottoman state’s ability to control its nomadic population

234 “La civilisation arabe a rapidement pris place parmi les civilisations humaines, pour retomber ensuite dans la barbarie du désert.” Ibid., 203.
235 D. Hogarth, The Nearer East (London, 1905), 199; Locher, 450; and Van Lennep, 136-137, 294. For examples of such language among British consuls, see BNA FO 78/2987, FO 222/1 (1879), FO 222/2 (180), and FO 196/55 (1857).
236 Van Lennep, 136-137.
237 Burnaby, 85.
became a matter of pride. Sedentarization offered the administration a way, in the face of Western critics, to show its strength.

Before the mid-nineteenth century, the Ottoman state showed little concern for the environmental impact of pastoralism. Ottoman language regarding nomads had long reflected the frustrations of governing an unruly, itinerant population, but its insults were political; they generally did not belittle particular groups, and they did not include accusations of ecological impact. The cases when Anatolian nomads were held accountable for environmental damage tended to arise from interests in property rather than preservation. Beginning in the Tanzimat era, however, the voices of Ottoman officials began to echo Western views against pastoralism. As the Ottoman state worked toward modernization and westernization, it increasingly characterized nomadism as primitive and backward. In official correspondence, the Empire’s tribal population was described with various disparaging stock phrases. Officials lamented that they were living “in a state of nomadism and savagery” and advised that they be “gradually brought into the fold of civilization” and “liberat[ed] from the shackles of community life.”

Nomads were subject to such epithets as “barbarous,” “primitive,” “raider,” and “savage.” As

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238 M. Şükrü Hanioğlu, A Brief History of the Late Ottoman Empire (Princeton: Princeton University Press, 2008), 87-88.
239 Inalcık 1986; Murphey 1984; White 2008, especially pp. 64-65, 92. For example, nomads were frequently accused of allowing their animals to “chew up” agricultural fields. Yet in such cases, the offense was trespassing. One typical case from the sixteenth century makes this distinction clear. A tribe had been charged with failing to restrain its sheep during the seasonal commute while passing a settlement near Erzurum. The local kadi reported that these nomads had “encroached into the territory” of the district governor and fed on the pastures of the local inhabitants. BOA MD 10/57 (1571), quoted in White 2008. White also cites numerous other examples that exhibit these priorities, though he uses them for different purposes in his work.
the nineteenth century progressed and the administration’s references to nomads became increasingly pejorative and standardized, Ottoman antagonism of these groups also grew. The wedge between ‘the desert and the sown’ became ever more pronounced. At the same time, the Ottoman state was itself subjected to unflattering epithets by its European critics. Its widespread, depreciatory identification as ‘the sick man of Europe’ emerged in the mid-1850s, after the conclusion of the Crimean War. In this context, the drive to settle nomadic tribes became more than a matter of convenience for the Ottoman state. As the Ottoman administration adopted Western perspectives on nomadism, sedentarization became a symbol of Ottoman cultural advancement. In this way, European biases against pastoralism provided the Ottoman state with international legitimization for its policy against nomads at a critical juncture in both its internal affairs and its global reputation.

As long as North Africa remained under Ottoman rule, its nomads were treated much like those of Anatolia. The principal difference was that North Africa was gradually slipping out of the control of the Sublime Porte. The greatest challenge to traditional roles and views of nomads in Algeria, however, arrived with the establishment of French control in the mid-nineteenth century. In the wake of the French conquest of Algeria, debates surfaced over perceptions of the native, nomadic population. Liberals and socialists sought to legitimize the French colonization of Algeria through a benevolent and altruistic administration that would share the light of civilization. Shortly after the initial French conquest, one group emerged as the self-proclaimed spokesmen for the native population: the Saint-Simonians. In the 1830s to 1850s, many of these utopian socialists arrived in Algeria intent on molding it into a new, ideal society. They

243 Caroline Finkel, *Osman’s Dream: The History of the Ottoman Empire* (New York: Basic Books, 2005), 457. See also my discussion of the Crimean War in Chapter Three. Tsar Nicolas I became the first to use this phrase in 1853.  
244 For a detailed study on this subject, see Abi-Mershed.
embraced natives, preached peace, and promoted the gospel of the glorious *mission civilisatrice*. Their initiatives to instruct and uplift the native population made a significant impact on French public opinion, especially when these efforts seemed to work. In a typical gesture, Saint-Simonians restyled Algerian nomads as France’s own noble savages. In 1859, Henri Duveyrier, the son of another prominent Saint-Simonian, set off on a three-year trek through the Sahara with a member of the notorious Tuareg tribe as his guide. When he returned alive and proceeded to write *Exploration du Sahara: Les Touareg du Nord*, in which he described his hosts as “hospitable, generous, kind and peaceful,” many began to question their former perceptions.  

The peace-loving Saint-Simonians found unlikely allies in the military organization of the Bureaux Arabes, the offices assigned the task of overseeing indigenous affairs. The Bureaux Arabes were formed in 1830 as a branch of the French military to govern zones that had not been fully pacified. Though their main sphere of influence was in the southern, military zone, the Bureaux Arabes operated throughout Algeria. In 1844, branches of the Bureaux Arabes were established in each of Algeria’s three provinces as well as the southern zone. The staff members of these offices spoke Arabic, they were versed in Middle Eastern history and culture, and many were self-styled ‘Arabophiles’, or ‘indigenophiles’, who not only lived among the natives but also adopted native customs and dress.

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246 Ageron 1991, 23.

247 Ibid.
The Bureaux Arabes, and the military administration in general, quickly gained a reputation for being more sympathetic toward the indigenous Algerians than the civil administration. This characterization was due largely to the role of the Bureaux Arabes as representatives of indigenous groups. These offices provided the principal legal avenue for native Algerians to influence French Administration. Among other functions, the Bureaux Arabes held tribunals where native Algerians could voice their concerns and complaints. The preponderance of case studies preserved in the archives of the Bureaux Arabes provides clear evidence that Algerians frequently took advantage of this opportunity. Few of these cases actually reached the Algerian civil administration, but those that did showed the officers of the Bureaux Arabes strongly in support of their cause.248

Nonetheless, even Saint-Simonians, the Bureaux Arabes, and other ‘indigenophiles’ aimed to civilize the natives by encouraging them to settle, rather than appreciating them on their own terms.249 General Thomas-Robert Bugeaud de la Piconnerie, a leader of the Algerian conquest in the 1830s, urged the French administration to “work actively to modify” indigenous customs, and he argued, “The best way to change [the natives] is to sedentarize them.”250 Prosper Enfantin agreed. His *Colonisation de l’Algérie*, published in 1843, promotes an “agricultural”

248 See for example ANOM ALG/GGA/P2, Letter: from Direction provinciale des affaires arabes, Province d’Oran, to Gouverneur Général. (12 July 1868). This document is contained in French colonial archives on forest administration. For a discussion of indigenous support from local administrators, see Ford, 358-359.


organization of native tribes. According to Enfantin, the best way to uplift the natives is to “build towns, improve agriculture, [and] create commercial relations.” The Bureaux Arabes, for their part, sought compromise largely out of necessity, in the interest of their own tenuous security in dangerous regions. As with the overwhelming majority of French colonists and administrators, the members of the Bureaux Arabes maintained the view of afforestation and sedentarization as progress, even in the desert.

Alexis de Tocqueville was a harsh critic of both Bugeaud’s military regime and the Saint-Simonians. Despite his unwavering support for the idea of French colonization of Algeria, he was never satisfied with the way this enterprise was carried out. His appeal to Parliament in 1847 exhibits his characteristic pessimism toward the French colonial mission:

We reduced the charitable establishments and let the schools decay, we disbanded the seminaries. Around us knowledge has been extinguished, and recruitment of men of religion and men of law has ceased; That is to say, we have made Muslim society much more miserable, more disordered, more ignorant, and more barbarous than it had been before knowing us.

Tocqueville was also skeptical of the civilizing mission as a solution to these problems. He argued, “We should not at present push [the natives] along the path of our own European civilization, but in the direction of their own.” Yet, Tocqueville also adopted an extreme approach to colonial rule. His “Essay on Algeria,” published in 1841, maintains that France can only conquer Algeria through brutal domination, and he advocates “burn[ing] harvests,”

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251 Enfantin, 42.
252 Ibid., 481.
253 For an example of Tocqueville’s hostility toward Bugeaud, see Writings on Empire and Slavery. Referring to the military’s resentment toward the civilian population, Tocqueville writes, “We have encountered this imbecile sentiment at all levels, and General Bugeaud personifies it” (Tocqueville 2001, 57).
“empty[ing] silos,” and “seiz[ing] unarmed men, women, and children.”256 He also acknowledges the political advantages of sedentarization. Referring to the colonial resistance led by Abd-el-Kader, Tocqueville states, “he knows well that the nomadic life of his tribes is his surest defense against us,” and he predicts, “His subjects will become ours the day they attach themselves to the soil.”257 Indeed, the theme of history as a series of stages of civilization from nomadic to sedentary, barbaric to civilized, permeates Tocqueville’s writing on empire. “The Arabs of the African coast also have a multitude of vices and virtues that […] belong to the stage of civilization at which they find themselves,” he explains in his “First Letter on Algeria,” published in 1837.258 French colonial writings increasingly reflected this perspective. As one official bluntly affirmed, “The contemporary pastoral lifestyle of the natives [is] incompatible with all civilization.”259

Yet, not everyone accepted these narratives unquestioningly. By the late nineteenth century, French geographers had begun to abandon the idea that nomadic pastoralism was a more primitive use of the land than settled agriculture.260 Instead, they considered it an ideal form of adaptation to certain environments, including the Mediterranean. At around the same time, fresh perspectives emerged on the causes and extent of environmental degradation in Algeria. Theodore S. Woolsey, an American forester and a graduate of the French Forestry School at Nancy, visited Algeria in the early twentieth century and published a comparative study of Mediterranean forests, including Tunisia, Algeria, and Corsica in 1917. In his account, French Forests and Forestry, he maintains the prevailing view against extensive Mediterranean

256 Tocqueville 2001, 70.
257 Ibid., 72.
259 Ageron 1968, 123. Quoted in and translated by Prochaska, 236.
260 Deprest.
pastoralism.\textsuperscript{261} He also agrees that Algeria has been severely deforested, and his view of the French forest administration and its role in Algeria is generally positive.\textsuperscript{262} Woolsey departs from the standard view, however, in his explanation for environmental change in Algeria. In his account, he suggests that much of the deforestation in Algeria actually occurred following the French occupation.\textsuperscript{263} Quoting an anonymous source, Woolsey estimates that the forest cover of Northern Algeria has retreated up to 60 percent since the early 1870s, when extensive cork farming began.\textsuperscript{264} Contemporary studies have confirmed Woolsey’s observations, citing cork farming in the mid to late nineteenth century as the principal source of forest degradation in Algeria, though they also trace the beginnings of soil erosion to the Roman era.\textsuperscript{265} Thus, by the early twentieth century, the perspectives of scientists, scholars, and other experts finally began to move away from the standard declensionist themes formulated in the mid-nineteenth century.

By this time, however, these narratives were already engrained in popular thought and used to support a powerful colonial lobby, which easily overwhelmed and silenced opposing voices. This trend is illustrated in the demise of the Bureaux Arabes. The tendency of this organization to advocate indigenous rights made it a target of French settlers, who viewed it as a direct challenge to their own rights, needs, and privileges.\textsuperscript{266} They demanded more consideration and representation in the administration of Algeria, and they petitioned the central government incessantly to limit the power of the Bureaux Arabes. While some local administrators addressed the concerns of the Bureaux Arabes and supported indigenous rights, they also felt pressure from

\textsuperscript{261} See, for example, Woolsey, 55, 88-89.
\textsuperscript{262} Ibid., 49-53, 56.
\textsuperscript{263} Ibid., 4, 50, 77.
\textsuperscript{264} Ibid., 50. See also Ford, 348.
\textsuperscript{266} For an example of such complaints from one outspoken French Algerian, Paulin Trolard, see Ford, 357.
this aggressive and powerful French Algerian lobby. The influence of the Bureaux Arabes declined, and native voices were neglected or ignored. The death knell came in 1870, when European settlers succeeded in instating a French civil regime throughout Algeria that relegated the *Bureaux Arabes* to little more than a powerless advocacy group.\(^{267}\) At the same time, colonists discovered ways not only to silence the Bureaux Arabes and other supporters for indigenous rights, but also to directly and effectively eliminate native access to land and power. They ensured that anti-pastoral narratives would continue to permeate scholarship well into the twentieth century, and influence public policy and administration even longer.

**CONCLUSION: THE COMBINATION OF NARRATIVES**

Drawing on Enlightenment thought as well as the evidence of environmental degradation in the colonies and during the French Revolution, early conservationists sincerely believed that Mediterranean pastoralism posed a real and severe ecological threat. They blamed pastoralists for deforestation and its perceived environmental and social consequences. At the turn of the nineteenth century, concern over deforestation was limited to a few disparate voices, and it was dealt with in a handful of laws that were rarely enforced. However, this environmental perspective soon joined forces with political, social, and cultural biases against pastoralism to create a forceful anti-pastoral lobby.

In the nineteenth century, Mediterranean pastoralism’s critics comprised an unlikely alliance of farmers, legislators, ruthless entrepreneurs, early conservationists, and others; supporters of pastoralism formed an equally motley crew. Indeed, few subjects are better suited than pastoralism to navigate the distinctions among various interest groups and networks of power in

\(^{267}\) Ageron 1991, 45.
the nineteenth-century Mediterranean region. This issue cuts to the heart of deep, multi-faceted conflicts between pastoralists, local agriculturalists and other settled inhabitants, foresters and other scientists and conservationists, local and regional administrations, and the central administration. Each of these groups had unique interests regarding Mediterranean mobile pastoralism. This diverse range of characters used environmental and civilizational arguments to justify and legitimize their opposition to pastoralism in Provence, Anatolia, and Algeria. As I show in the next chapter, one of their greatest achievements, and one of pastoralism’s most bitter challenges, would be the passage of modern, scientific forest legislation.
PART II: THE SEEDS OF SEDENTARIZATION
CHAPTER THREE: COUNTING SHEEP
MEDITERRANEAN MOBILE PASTORALISM IN THE CONSTRUCTION OF FRENCH SCIENTIFIC FORESTY, 1760-1860

"Why," a prominent resident asked me, "don’t you call for the plantation of woods in the more susceptible places? Why not limit the number of pastures and the number of beasts?"

– Charles-François, Baron de Ladoucette

During his travels through the Alps in the early nineteenth century, Charles-François Ladoucette, Prefect of the Hautes-Alpes from 1802-1809, was perpetually taken aback by the “devastations” of sheep and goats. His account abounds with images of mountain villages surrounded by barren, melancholy hillsides. By this time, the Edict of 1669 had been in force for 150 years, theoretically protecting the forests of the Alps, as well as state forests throughout France. In practice, however, the wars of the seventeenth and eighteenth centuries, together with the military and social aspects of the French Revolution, had exacted heavy demands on France’s woodlands. Noble families also played a role by reaping growing profits from wood sales. At the same time, the enforcement of forest legislation had fallen by the wayside. As a result, the condition, extent, and resilience of French forests reached an all-time low.

1 “‘Pourquoi,’ me disait un des principaux habitants, ‘ne pas faire un appel pour semer ou planter du bois dans les endroits qui en sont susceptibles? Pourquoi ne pas limiter les pâturages et le nombre des bestiaux?’” Ladoucette 1848, 464-465.

2 Ladoucette 1848, 464. See also Ibid., 5-6, 91, 257, 303, 396, 464, and 484.

3 The Bourbon-Penthièvre family, for example, shifted its income heavily toward the sale of wood during the course of the eighteenth century. Wood sales comprised just over 20 percent of their profits in 1737, compared to nearly 75 percent in 1790. Jean Duma, Les Bourbon-Penthièvre (1678-1793): Une nébuleuse aristocratique au XVIIIe siècle (Paris: Publications de la Sorbonne, 1995), 98.

and apply an effective system of forest administration, France first needed peace, stability, a healthy government, and strong motivation. In the 1820s, the French state finally met all of these preconditions, and it implemented an ambitious forest code based on the precepts of modern scientific forestry. In the years that followed, the 1827 French Forest Code became the foundation of forest legislation in Provence, Algeria and Anatolia, as well as in other contexts in the Mediterranean and around the world. Through this new code, France strove to save its forests when they seemed closest to being lost.

In this chapter, I trace the construction of French scientific forestry from its roots to its spread across the Mediterranean. The formulation of scientific forestry in France was heavily influenced by the system of forest management pioneered by neighboring German states in the mid- to late eighteenth century. Yet nineteenth-century French forestry was inspired at least as much by domestic changes in perceptions of the environment and pastoralism, discussed in the previous chapter, as it was by developments abroad. From its very origins, moreover, this new system was forced to confront and regulate a substantial number of Mediterranean pastoralists, a feature that set French foresters in stark contrast to their German counterparts. From 1827 to 1857, the regime of French scientific forestry expanded around the Mediterranean from France to Algeria, and, through a French forest mission to the Ottoman Empire, into Anatolia. Such accomplishments helped to establish France as the undisputed sovereign of Mediterranean forestry and a torchbearer for forest administration around the world.

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EARLY MODERN FOREST LEGISLATION IN THE MEDITERRANEAN

The history of French forest legislation reaches far beyond the nineteenth century and the borders of France. As early as classical times, observers expressed concerns over deforestation in the Mediterranean region. Yet wood also supported a range of essential individual and state activities, such as heating, smelting, construction, and shipbuilding. For medieval and early modern inhabitants of the Mediterranean, wood remained both a valued and a heavily exploited resource. In 1600, Olivier de Serres praised the health benefits of forests, but he also listed the necessity of wood “for the preparation of meats, in order to baste and dress [them]; for making charcoal, fires, tiles and bricks, ceramic and glass utensils; to smelt metals; and for a thousand other useful, necessary, and agreeable tasks.” In the medieval and early modern eras, these and other immediate requirements tended to take precedence over anxieties about the exhaustion of future forest resources. Europe’s woodlands received an additional blow in the sixteenth and seventeenth centuries from the combination of state initiatives of exploration and colonial expansion, large-scale military conflicts, and the demands of a burgeoning population, all of which took a heavy toll on forests. As a result, environmental concerns grew increasingly strident and widespread. Today, scholars continue to acknowledge the significant impact of these factors on European forests, but they generally agree that the damage was not as severe as

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5 The idea of deforestation as an ecological concern was not of Western origin. It was also a prominent issue in various states outside of Europe, including India, China, and Japan, in the early modern era. Grove, Chapter 1; Joachim Radkau, Wood: A History (Cambridge: Polity Press, 2012), 4 & 296-297; and Mark Elvin, The Retreat of the Elephants: An Environmental History of China (New Haven: Yale University Press, 2006), 185-6, 324. It did not, however, become a cause for concern in the Ottoman Empire until later. See below.


7 “pour l’appareil des viands, pour se bastir et meubler, pour faire du charbon, de la chaux, des tuilles et briques, des ustenciles de terre et de verre, a fonder les mineraux, et a mille autres choses utiles, necessaires, et plaisantes, comme a retirer infinite d’oiseaux” (Serres, 559). Serres also noted, “Nul ne doute de la santé du séjour ès forests” (Ibid.).

8 See Chapter Two.
reports of the time made it seem.⁹ In any case, France’s forest resources would continue to decline considerably before they began to improve; from the mid-seventeenth century to the early nineteenth century, French forests lost half of their extent.¹⁰ Nonetheless, it was largely thanks to early modern apprehensions about deforestation that modern forest administration was born.

The medieval and early modern periods witnessed the refinement of French forest legislation as well as increasing forest exploitation. In 1346, King Philip VI passed a law which is sometimes, if inaccurately, considered the first French forest code.¹¹ The aim of this succinct document – comprising just seven pages – was to provide a ready supply of naval timber to augment the royal fleet.¹² Philip and his successors harvested the forests of France voraciously. Speaking of Louis XI (r. 1461-1483), one royal attendant recalled, “The king excited fear not only among men, but also among trees.”¹³

National forest administration saw substantial development in the sixteenth century.¹⁴ In 1516, François I (r. 1515-1547) forced a new edict on forests past staunch resistance in Parlement and

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¹⁰ Matteson, 282.


¹² Matteson, 59.


the Chamber of Accounts. Notably, this edict included a clause banning all livestock (bestes) from forest stands too young to defend themselves against grazing, though it did not specify an age limit for protected trees.\textsuperscript{15} In 1561, during the reign of Charles IX, a series of royal ordonnances marked the first time different types of forests were distinguished and some placed in reserve.\textsuperscript{16} Two years later, an amendment banned the cutting of undergrowth younger than ten years, punishable by seizure of the forest and a fee.\textsuperscript{17} Thus, the earliest national forest codes focused on specifying seigniorial privileges, setting aside certain woodlands for state use, and imposing basic limitations on exploitation. They made little mention of sheep, goats, or other kinds of pastoralism. Neither deforestation nor forest grazing had yet become a central concern for the French state, and both practices continued unabated.

The first major step in the evolution of French forest administration dates to the promulgation of the Edict of 1669, introduced in Chapter Two. Its goal was not significantly different from that of earlier forest reforms. Like previous forest legislation, this document was primarily concerned with state-building. Its main interest was still to limit the use of France’s forests by its inhabitants, in order to provide more timber for royal shipbuilding and thus maximize French naval strength. Yet, this document differed from previous legislation in both its size – it totaled over one hundred pages of provisions, stipulations, and explanations – and its scope.\textsuperscript{18} It was the first law to place extensive limits on sheep and goat grazing throughout France. It also

\textsuperscript{15} Edict on forests (1516), Article 72: “Nulle beste n’ira en taillis jusqu’à tant que le bois se pourra défendre des bestes, pour ce que une beste qui ne vaudra pas 60 sols ou quatre livres, y pourrait faire dommage de 100 livres ou de plus en une année.” Printed in Jourdan et al., XII: 68.
\textsuperscript{17} Dumoulin 2002, 1; Baudrillard 1821, 16.
\textsuperscript{18} \textit{Ordonnance de Louis XIV sur le fait des eaux et forêts, du mois d’août 1669: Régistrée au Parlement de Besançon, le 27 avril 1694. Augm. de l’édit du mois de may 1716} (Besançon: Chez la veuve de C. Rochet, 1750).
revolutionized the French forest administration by placing previously independent forests under national control. Perhaps even more importantly for the future of French forest management, the Edict of 1669 represents France’s earliest national attempt to address anxieties over environmental degradation. Its goal, clearly stated in the Introduction, was to preserve France’s forests “for posterity,” in other words, to maintain sustainable exploitation. It is this aspect that made the Edict of 1669, more than any other document, the forefather of nineteenth-century French scientific forestry.19

Given the demands on French forests at the time and Louis XIV’s military ambitions in particular, sustainable forest exploitation may well have been impossible to achieve even if the strictest measures of the ordinance had been observed. In any case, the Edict of 1669 had little impact because it was not effectively enforced on state or local, seigneurial levels. Prior to the nineteenth century, forest regulations were designed to be enforced by forest guards (gardes-champêtres) posted sparsely throughout the realm.20 These were veritable forest soldiers, with military – rather than silviculture – training.21 Their primary task was to prevent poaching and illegal wood cutting, but they were also assigned to enforce grazing regulations.22 They patrolled their designated forests armed, and often had occasion to use their weapons.23

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21 Corvol 1987, 189.
22 Ibid., 185.
23 Dumoulin 2002, 48; Blais, 21. Prior to the nineteenth century, guards were permitted to carry pistols but not rifles. Blais suggests that many actually travelled unarmed because of the associated costs of outfitting themselves (Blais, 21). Blais cites Antoine Pecquet, Loix forestières de France, commentaire historique et raisonné sur l’ordonnance de 1669, les réglements antérieurs, & ceux qui l’ont suivie: auquel on a joint une bibliothèque des auteurs qui ont écrit sur les matières d’eaux & forêts, & une notice des coutumes relatives à ces mêmes matières (Paris: Chez Prault, 1753), Vol. I: 316.
generally were obliged to work alone, far from their colleagues, and they sometimes needed protection from local residents as much as the forests did. They were, as a rule, unpopular and resented by local communities. Their attempts to enforce the law could lead to violence, even murder. Because guards were hired and paid by the communities they served, moreover, they were easily bought off or corrupted by local interests.

Throughout the early modern period, the standard response to increasing forest legislation was widespread disregard, if not blatant violation. As a result of limited manpower, surveillance was extremely poor. Because the government lacked the resources necessary to impose its regulations against pastoralism, shepherds continued to brazenly lead sheep and goats into forests. Although forest guards were not present in sufficient numbers to prevent local inhabitants from violating forest laws, their occasional policing did help to gain them widespread mistrust and hostility. Indeed, the most significant effect of the Edict of 1669 may have been to turn local populations against forestry officials and the forest administration in general because its terms were perceived by many as unjust, draconian, and infringing on customary rights.

Much like law enforcement in general under the Ancien Régime, forest administration was most effective in times of peace, as most forest agents doubled as soldiers and could be called active

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24 For two eighteenth-century accounts of violence against forest guards, see Delisle de Moncel, Mémoire sur le repeuplement (Nancy: Chez H. Haener, Imprimeur du Roi, 1791), 5; François Louis Jerome Baron, Projet de l’organisation de l’administration des Eaux et Forêts (Paris: Imprimerie nationale, 1790), 3. Cited in Matteson, 229. According to one study, the most common incidents of violence occurred when forest guards attempted to seize weapons from poachers. Indeed, foresters were not supposed to confiscate the weapons of offenders because, as one account explained, “a subject with as light a consequence as hunting” did not warrant such risks. Daniel Jousse, Commentaire sur l’Ordonnance des eaux et forêts, du mois d’août 1669 (Chez Debure, pere, 1772), 166. Quoted in Blais, 21.
25 Dumoulin 2002, 41; Graham. Such activities persisted into the early nineteenth century. In a typical example, the mayor of Marseille described the corruption of forest guards in 1822 as though it were commonplace. See BDR 7 M 163, Third File: “Reboisement, 1822, Première Arrondissement.”
26 Larrère and Nougarede, 58.
27 Corvol 1987, 184-185.
duty. For the same reason, enforcement frequently broke down in times of war and internal conflicts, such as the French Revolution and the Napoleonic era. Warfare also intensified the burden on national forest resources.\textsuperscript{28} At the same time, the French population was steadily expanding, placing growing demands on the land and its forests.\textsuperscript{29} To add to the problem of enforcement, forest rights and ownership remained complex and poorly defined through the early nineteenth century.\textsuperscript{30}

For these reasons, French forest administration enjoyed only a marginal impact until the development of effective and sufficient surveillance in the nineteenth century. In general, pre-nineteenth-century forest legislation increased public aversion to forest administration without effectively regulating forest use. Yet, these initiatives did succeed in reducing the extent and speed of deforestation, even if they failed to prevent forest destruction completely.\textsuperscript{31} The state of French forests in the early nineteenth century was far from ideal, but it is safe to say that without any prior forest regulation it would have been significantly worse.\textsuperscript{32}

National legislation tells only part of the story of forest management in France. As the case of Provence shows, local administrators and laypeople held their own counsel on the problem of deforestation, and they supplemented national laws with region-specific decrees. Most contemporary scholars agree that the French Revolution exercised only a minimal impact on

\textsuperscript{28} Radkau 2012, 150; Williams 2003, 176; Matteson, 92.
\textsuperscript{29} Dumoulin 2002, 5.
\textsuperscript{30} Corvol 1987; Whited, \textit{Forests and Peasant Politics}, 21-51.
\textsuperscript{31} Dumoulin 2002, 5.
\textsuperscript{32} Ibid. Dumoulin argues that pre-nineteenth century regulation at least slowed the disappearance of forests in Provence.
Provence’s overall forest cover. Yet, a genuine concern over deforestation pervaded the voices and actions of the post-revolutionary Provençal elite.

In the eighteenth and early nineteenth centuries, Provence’s parlement, far from relying on the sickly Chambre des Eaux et Forêts to save the nation’s forests, imposed a number of provisions regarding forest use, which were in some cases stricter than the national legislation. In many cases, residents also fought forest violations by augmenting the number of guards stationed in their forests or by exercising vigilance themselves. Local officials echoed the heightened sense of alarm over the state of their forests. By 1822, administrative debates regarding reforestation throughout Provence had reached a peak. “It is too true,” the mayor of Tarascon argued in a regional meeting, “that as a result of forest clearing, floods have exercised their ravages without obstacles [...] we must hurry to recreate that which has been destroyed.” Many politicians blamed the denudation (dépaissance) of Provence’s hillsides on sheep and goats. Jean Baptiste Marquis de Montgrand, mayor of Marseille from 1815-1830, agreed that afforestation was a necessary and immediate concern, and cited three essential steps to initiate the process: prohibit clearing, improve surveillance and the quality of forest guards’ performance, and, finally, restrict grazing. Others tempered their accusations by acknowledging the importance of pastoralism. As the Tarascon mayor cautioned, too strict of legislation would “destroy a very

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33 Forêts perdues, 19.
34 Corvol, “Région Rhône, Alpes, Provence et Cote d’Azur,” in Les sources de l’histoire de l’environnement, 305-322.
36 Forêts perdues, 20.
37 “C’est trop vrai que par suite des defichements, les torrents ont exercé leurs ravages sans obstacles [...] il faudrait se hâter de recréer ce qui a été détruit.” BDR 7 M 163, Third File: “Reboisement, 1822, Première Arrondissement.”
38 Ibid.
necessary type of industry.”

Instead, he promoted education and moderate grazing regulations that would protect trees under a certain age.

Forest administration became a particularly strident pursuit under the prefecture of Antoine Claire Thibaudeau. Formerly a popular revolutionary, Thibaudeau reconciled himself to Bonapartism, serving in the Bouches-du-Rhône for eleven years, from 1803 to Napoleon’s fall in 1814. The post was for him a minor demotion, and he may have taken out some of his frustration on his constituency, using what one source has termed his “well-known [...] administrative rigor” to pass sweeping reforms in forest management, among other areas.

In an effort to compensate for the ‘abuses’ of the Revolutionary era, Thibaudeau reinstated the harshest anti-pastoral legislation of the Ancien Régime. In 1804, he promulgated a new law echoing eighteenth-century legislation, but with increased punishments for infractions. The 1804 ordinance targeted both sheep and goats in explicit terms:

- It is forbidden for inhabitants of communities and for all persons having the right of pasture in national, communal, or private forests, to lead or send sheep, goats, ewes or rams there, or to landes, moors, wastelands, or the borders of woods and forests, on pain of confiscation of the beasts and a fine of three francs per head.

Thus, the ordinance outlawed the two types of livestock most essential to the Provençal economy from all of their traditional haunts. It also prohibited inhabitants of the Bouches-du-Rhône from

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39 “Ce serait nuire à un genre d’industrie très nécessaire.” Ibid.
40 Ibid. Various regional and national forest legislation in French history imposed such limitations on forest grazing, often placing groves of trees under the age of six to ten years off limits.
41 “Antoine Claire Thibaudeau,” in Dictionnaire des parlementaires français, IV: 396-397.
42 Forêts perdues, 18.
43 “Il est défendu aux habitans des communes usagères et à toutes personnes ayant droit de pacage dans les forêts nationales, communales et des particuliers, d’y mener ou envoyer bêtes a laine, chèvres, brebis et moutons, ni même es landes et bruyères, places vaines et vagues, ou rives des bois et forêts, a peine de confiscation des bestiaux, et de trois francs d’amende pour chaque tête de bétail, etc.” BDR 7 M 163: Eaux et Forêts, Eighth File.
keeping goats at all, “except in designated lands, and under specified conditions.” In 1811, perhaps recognizing the impossibility of enforcing the 1804 measure, Thibaudeau passed another law regarding goat grazing. This initiative, “Arrête relative au parcours des chèvres,” confined goats to wastelands (étendues de landes and terres gastes). The 1811 act not only prohibited goats from entering forests, but it also adopted an expansive definition of ‘forest’ that included the kermes oak (Quercus coccifera), a small bush commonly found throughout garrigue and maquis scrubland. By incorporating these landscapes into his legislation, Thibaudeau effectively expanded the purview of forest administration. Through this seemingly minor qualification, Thibaudeau expanded the significance of his legislation far beyond its time. Thibaudeau’s administration was hardly successful at keeping goats out of forests, but his new definition of the Mediterranean forest gave it a long-lasting, if under-appreciated legacy. As we will see, the manipulation of the meaning of ‘forest’ became a popular and pragmatic tactic of nineteenth-century French forest administration throughout the Mediterranean.

Much of the legislation of Thibaudeau’s prefecture and other early nineteenth-century administrations was recycled from eighteenth-century acts of the Parlement of Provence. This constant reiteration of laws that were technically already in force affirms that these measures were not effectively applied. Likewise, a survey of court cases from the early nineteenth century shows that forest legislation was enforced sporadically at best. Indeed, the exception effectively proves the rule. In one case from 1804, two shepherds were caught with a herd of 198 goats in

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44 “défenses a toutes personnes d’avoir et d’entretenir des chèvres, excepté dans les terroirs et quartiers désignes, et aux conditions prescrites sous les peines portées par l’Ordonnance.” Ibid.
45 BDR 14 J 173. Printed in Forêts perdues, 18.
46 Forêts perdues, 19.
the communal forest of Gémenos.\textsuperscript{47} To make matters worse, this forest had already been classified as deforested and was under special protection. An infraction of this scale suggests that more minor infringements occurred on a regular basis. Passing laws was one thing; enforcing them was quite another.

**THE DEVELOPMENT OF FRENCH SCIENTIFIC FORESTRY**

French scientific forestry was both the continuation of previous forest policy as well as something entirely new. As discussed in Chapter Two, the nineteenth century heralded the spread of new perspectives on nature and forests in particular among the French scholarly elite. For the first time, trees began to be appreciated for their own sake, not for their commercial potential.\textsuperscript{48} At the same time, developments in natural science cultivated a greater, deeper understanding of silviculture, while industrialization and urbanization drove up commercial demands on forests at a staggering pace. Although nineteenth-century French forestry perpetuated the goal of sustainable exploitation, which had been articulated as early as 1669, it also reframed forest policy in self-consciously scientific terms. Thus, this type of forestry is called ‘scientific’ because it presented itself as the product of careful, exhaustive scientific research. This methodical approach to forest management gave forest engineers and administrative officials alike newfound confidence in the necessity and success of their mission. It spurred them to enact legislation on a scale unforeseen in the history of forest management.

Scientific forestry also differed from previous approaches through the introduction of new goals. In the nineteenth century, forest legislation strove to become not just scientific but also more

\textsuperscript{47} BDR 2 U 2 2827: Analyse procédure contre François Tessère et Lazare Ambroise, bergers de Gémenos, pour avoir fait paître un troupeau de chèvres dans la forêt communale.

systematic. Improvements in surveillance would allow satisfactory enforcement. Finally, a redoubled effort at sustainability, which had previously been superseded by commercial, military, and state interests, would become a principal aim of the new forest legislation. French foresters fantasized about creating a vast, burgeoning forest stretching all across France. In the process, they stepped up their efforts against those who seemed to be standing in the way of this objective, and pastoralists became prime targets.

The development of French scientific forestry represents a prime example of the “governmentality” of the nineteenth-century French state. The French sociologist Michel Foucault created this term, which connects the concepts of governing (gouverner) and thought (mentalité), to describe the confluence of state power, political economy, security, bureaucratization, and the presentation and regulation of knowledge systems (savoirs). The appearance and institutionalization of these features in European administrative structures over the course of the early modern era led to new conceptions of and roles for the state. French scientific forestry embodied the trends of discipline, litigation, regulation, and economic administration characteristic of modern governmentality. In addition, it represented a new ‘science’ as well as a new science of police. By creating a complex, hierarchical administrative network responsible for unparalleled levels of surveillance and policing, the forest regime expanded the French state’s presence to meet its population and buttressed national security. Moreover, through its self-portrayal as ‘science’, French scientific forestry produced new forms

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50 Foucault presented his philosophy of “governmentality” in a series of lectures. These lectures have been compiled in Michel Foucault et al., The Foucault Effect: Studies in Governmentality (University of Chicago Press, 1991). For a more specific application of Faucault’s conceptualization of the modern state apparatus, see Michel Foucault, Discipline and Punish: The Birth of the Prison (New York: Pantheon Books, 1977).

51 Foucault 1991, 103.
of political knowledge, giving the French state an expanded role in the thoughts and actions of its constituents.\textsuperscript{52} As I show below, the forest regime even wrought the French language into the service of the state.

The pioneers of French scientific forestry owed much to developments across the Rhine. Prussia was arguably the first state to implement scientific forest management.\textsuperscript{53} Prussian scientific forestry matured in the late eighteenth century, when France was mired in the internal conflict of the French Revolution. In Prussia, scientific forestry emerged as one branch of \textit{Kameralwissenschaft}. Based on Enlightenment principles, these “Cameral sciences” – named for the chamber (\textit{Kammer}) reserved for royal council meetings – applied a scientific approach to economic, administrative, and social practices.\textsuperscript{54} Indeed, they might be considered the ancestors of today’s applied sciences. Through this affirmation of the usefulness of science for government, Cameralism formed an important component of modern German governmentality.\textsuperscript{55} By the last quarter of the eighteenth century, the Cameral sciences had become an integral part of the education system in Prussia and throughout German-speaking lands.\textsuperscript{56} In France, Cameralists inspired the genre of French Enlightenment thinkers known as Physiocrats, who argued for the

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52 For Foucault’s analysis of the role of these features in governmentality, see Foucault 1991, 103-104.
54 Lowood, 316.
55 Drayton, 69-74; Foucault 1991, 11, 156.
\end{flushleft}
centrality of natural knowledge to the agenda of political reform.\footnote{Drayton, 70.} As in German-speaking lands, this line of thought would prove critical in the development of state-sponsored scientific forestry.

Like the French, Germans depended on wood for heating and construction, and it was a necessary element in a variety of crafts, industries, and trades.\footnote{Ibid., 318.} In German states, scientific forestry was also motivated by growing fears of deforestation following environmentally devastating wars. The greatest impetus for systematic forest management was the Seven Years’ War (1756-1763), fought largely on German soil.\footnote{Ibid.} By the end of this conflict, the first forestry school had been established in the Harz Forest, in the center of what is now Germany, and Allgemeines ökonomisches Forstmagazin, the first journal devoted to forest science, made its debut.\footnote{Whited, \textit{Forests and Peasant Politics}, 27; Lowood, 319-320; Raoul von Dombrowski, \textit{Allgemeine Encyklopädie der gesammten Forst- und Jagdwissenschaften} (Wien und Liepzig: Berlag von Moriss Perles, 1894), 510. The journal first appeared in 1763.} The same year, Johann Gottlieb Beckmann’s \textit{Tract on the Improvement of Forest Science} (Chemnitz, 1763), was published, becoming the first book with ‘forest science’ in its title, though it was not the first book on this subject.\footnote{Lowood, 319-320. The full German title is \textit{Beyträe zur Verbesserung der Forstwissenschaft, als einen dritten Theil der Versuche von der Holzsaat zum allgemeinen Besten herausgegeben}.} Germans were well aware of their contribution to international forestry. “Compare our literature and the number of our educated foresters to what there is abroad!” wrote one proponent in the mid-nineteenth century, declaring, “The beginnings of forestry science are entirely German.”\footnote{J. Ch. Hundeshagen, \textit{Encyclopädie der Forstwissenschaft, systematisch abgefasst}, 3 vols., 4th ed. (Tübingen: Laupp, 1842), Vol. I: 6. Quoted in and translated by Lowood, 317.}

Prior to these developments, German forests were guarded by the same kinds of sparsely-placed, untrained, easily corruptible, worn-out military veterans as in France. Their title, \textit{Jäger}, which
means ‘hunter’, is even more suggestive of their limited role than the broad moniker of their French counterparts, the *gardes-champêtres* (rural police). One of German forestry’s principal goals was to develop a systematic, scientific course of study that would mold a new generation of elite forest-scholars. Hence, German foresters began to receive extensive training before stepping out into the field. In the true “quantifying spirit” of the Enlightenment, their education stressed mastery of mathematical concepts and other empirical studies as a precondition for advancement to the practical.63 This theoretical foundation was, however, carefully tailored to its field. Students were required to address such problems as the value of a forest, and the volume and specific gravity of wood.64 As the reviewer of one textbook on forest mathematics wrote, these were indeed “terrible demands for most foresters!”65

Throughout the construction and early evolution of French scientific forestry, the French kept a close eye on developments among their “colleagues across the Rhine,” as one nineteenth-century forester fondly styled them.66 French foresters enthusiastically translated German texts into French and used them as the foundation of French forestry education.67 Nonetheless, all students

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64 Lowood, 322.


at the Royal Forest School at Nancy were required to study German. French forest engineers also adopted German methods of monoculture plantations as well as the idea of ‘sustained yield’, which held that forests should be carefully managed to “always deliver the greatest possible constant volume of wood.” At the same time, French forestry followed a path distinct from that of its German neighbors. Most commonly cited are certain technical distinctions between the two methods, but there were substantive differences as well. The first French scientific forest code explicitly divided forest administration from hunting regulations, which were presented in a separate code. Meanwhile, German foresters continued to be known as Jäger. The French also lacked German foresters’ strict dedication to order and mathematical computations. While France also instituted rigorous academic training for future forest agents, its program focused more on the natural sciences – such as the study of tree types and their environments – and their practical application. The 1870 curriculum, for example, included applied mathematics alongside

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69 Georg Ludwig Hartig, Grundsätze der Forst-Direction (Hadam: Neue Gelehrten-Buchhandlung, 1803), 64. Quoted in Lowood, 338. As can easily be imagined, this policy quickly broke down in practice because the idea of sustainability (German: Nachhaltigkeit, literally ‘providing for future generations’) was and remains impossible to define, let alone achieve. It carried multiple meanings even in the context of late eighteenth-century scientific forestry. For an analysis of this term and its implications in scientific forestry, see Joachim Radkau, “Wood and Forestry in German History: In Quest of an Environmental Approach,” Environment and History 2:1 (1996): 66; Harold K. Steen et al., History of Sustained-yield Forestry: A Symposium: Western Forestry Center, Portland, Oregon, October 18-19, 1983 (Santa Cruz, CA: Forest History Society, 1984); and David Smith, The Practice of Silviculture, 8th ed. (New York: John Wiley & Sons, 1986), 344-352.

70 In distinguishing French and German scientific forestry, most scholars point out that the French frequently converted old-growth forests into coppices (taillis) and coppices with standards (taillis sous futaie), while German foresters usually preferred to maintain high forest (hochwald) growths, though both methods were used in both cases. See Radkau 2012, 151-152; and Ibid. 1996, 70-71. Radkau cites Badré, 141. See also Smith, 330, 474-485; and Matteson, 75. Coppicing (French: taillis) describes the practice of repeatedly cutting down trees near ground level to encourage new shoots. In the French case, this practice had mixed results. It provided lumber faster and in greater quantities, but it also destroyed healthy trees and hindered regeneration in the long term. High forest method, by contrast, maintains valuable long-lived trees in different-aged forests by selection cutting, thinning, or clearcutting, but it is generally more difficult to implement since it requires working on multiple growth cycles.


72 Radkau 1996, 319-327.
elements of forest botany, forest economy, mountain reforestation, and forest law. Finally, in contrast to its Northern European neighbors, France developed nineteenth-century forest legislation with Mediterranean landscapes and economies in mind. Hence, the French soon became the unrivaled experts on scientific forestry in the Mediterranean context.

In their articulation of forest science, French scholars were influenced not only by developments across the Rhine, but also by key events to the north. Beginning in the mid-eighteenth century, the rapid growth and spread of factories transformed England into the world’s first industrial center. Industrialization was not a precondition for the application of environmental policy in all states, as some scholars have suggested. In any case, France followed a different path to industrialization than its northern neighbor, but it also experienced urbanization, mechanization, and the rise of factories during the course of the nineteenth century. These developments made a distinct impact on the French intellectual psyche. With its emphasis on machines and soot, the industrial era took people away from ‘nature’, which had previously been an intrinsic part of their lives. It created new perspectives on and appreciation for the ‘natural’ environment, the world outside smoke-stained cities. Thus, industrialization contributed significantly to the development of the idea of conservation. At the same time, it extracted major demands on natural resources and thus encouraged people to think practically about sustainability. These two

73 Centre d’accueil et de recherche des Archives nationales, Paris (hereafter CARAN), F10 1743: Écoles forestières, 1871-1883. The full curriculum in 1870 was: “mathématiques appliquées, éléments de botanique forestière, économie forestière, reboisement et gazonnement des montagnes, dune, droit forestier.” See the discussion of the establishment of the French Forest School at Nancy below.
74 The Ottoman case is an obvious counterexample, as will be seen below. See also Dursun 2007, 1.
76 There is an extensive body of literature devoted to this topic. For classic conceptualizations of how the Enlightenment and Industrialization changed popular perceptions of nature, see Carolyn Merchant, The Death of Nature (San Francisco: Harper & Row, 1980); and Raymond Williams, The Country and the City (Oxford: Oxford University Press, 1975).
ideas, conservation and sustainability, were critical to the conceptualization of scientific forestry in France.

**THE FRENCH FOREST CODE OF 1827**

On July 31, 1827, the French state promulgated a comprehensive new forest code. The timing of this event was the result of political, social, as well as intellectual factors. In the early nineteenth century, France emerged from the turmoil of the French Revolution and the Napoleonic era battered politically, economically, and emotionally. The restoration of the monarchy in 1814-1815 was equally controversial, especially under the autocratic Bourbon King Charles X ‘the beloved’ (r. 1824-1830), but it at least brought peace and relative stability. Charles X and his parliament profited from this opportunity to respond to the rising tide of dire forecasts and bleak depictions of forest devastation. The 1827 Forest Code was the product of lengthy debates, investigative commissions, and compromise between the upper and lower branches of parliament. During this process, the elected, bourgeois Chamber of Deputies generally attempted to temper the draconian restrictions advocated by conservative, aristocratic members of the Chamber of Peers. Although they succeeded to an extent, many still viewed the result as a victory for the landed nobility and a death knell for provincial peasants and pastoralists. The autocratic style of Charles’s administration no doubt facilitated the passage of the 1827 Forest Code. Given the immediate and persistent public outcry against the code, it is unlikely that a less authoritarian or aloof governing body could have carried it out.

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77 The code was approved on May 21, 1827, and promulgated July 31, 1827. Baudrillart 1827, 65.
78 Matteson, Chapter 5.
79 One source has described the 1827 code as causing “de profonds traumatismes” for the marginal rural population (Forêts perdues, 15).
80 On the question of state sovereignty and the role of governmentality in the implementation of state legislation in nineteenth-century France, see Foucault 1991, especially pp. 32-33, and 93-96.
In some ways, the 1827 code was only next in a long line of countless attempts at French forest regulation, but in another sense it was a watershed. The prime purpose of the new forest regime was to maintain and preserve France’s forest resources for posterity. For the first time, the principles of the new forest science were applied wholesale to forest administration in France. Those who crafted the code firmly believed that these scientific principles would afford the forest better protection and allow practical, sustainable exploitation. The code also addressed the problem of enforcement. It sought to improve the implementation of the law through more methodical organization, enriched and intensified staff training, amplified surveillance, and local civilian support. The first three of these objectives were relatively successful; the last was, except in Algeria, an utter failure.\textsuperscript{81} Finally, the 1827 code placed communal, royal, state, and private forests under its jurisdiction, giving forest administrators control of nearly all of France’s woodlands. This vast regime grew even greater through the code’s creative interpretation of the word ‘forest’. Hence, this code at last gave the French central administration the power and the opportunity to make a momentous, judicious impact on the environment.

\textit{Description and Clauses}

A sweeping, ambitious document, the 1827 Forest Code attempted to cover all aspects of forest use. Many of its clauses were recycled, sometimes word-for-word, from previous forest legislation. The code specified similar regulations for clearing (\textit{vidange}) and regular cuts (\textit{coupes}) in the forests under its control and maintained forest agents’ administrative role in both operations. Likewise, forest agents were still held personally responsible for any violations, destruction, abuse or grazing damage that occurred under their watch, but they also reserved the right to accuse others of forest infractions without material proof. As before, miscreants were

\textsuperscript{81} See below and subsequent chapters. In the Algerian case, civilian support came primarily from European settlers and not the indigenous population.
considered guilty until proven innocent, and many of the penalties for infractions were retained, including fines and confiscation of tools or livestock, depending on the offense.

Nonetheless, the 1827 Forest Code was in many ways an innovative and even revolutionary document. Instead of the poorly supervised, loose network of forest guards hired by private agents and the crown, it envisioned a massive, complex, bureaucratic forest regime. In a gesture that spoke of the new, commercial orientation of this administration, the code placed it under the Finance Ministry. It also showed the influence of forest science, stipulating that all forests be subjected to regular maintenance (*aménagement*), a process described at length in subsequent documents. In addition, the code greatly expanded the purview of the forest regime. It henceforth governed royal, state, communal and other public forests, as well as private ones, covering each type with a nearly identical set of restrictions.\(^2\) The code placed non-wooded commons under the forest regime as well, including wastelands (*terres gastes, terres vagues et vaines*) and communal land classified as protected (*defens*), which the forest administration considered degraded and planned to improve.\(^3\) Although the code set the terms by which territory could be removed from the forest regime, petitions on this subject were only rarely granted (see Chapter Six).

Even as it enumerated usage rights (*droits d’usage*) for state and communal forests, the forest code aimed to limit and ultimately eliminate these rights. Article 62 warned that no more concessions would be made in the future. The text also proposed the process of *cantonnement*,

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\(^2\) *Code forestier (du 21 mai 1827)*, Art. 1. Specifically, the forest regime oversaw forests belonging to the state (*l’état*), communities (*communales*) and other public establishments, the crown (*couronne*), as well as princely domains revertible to the state (*apanage*), and forests in which ownership was shared among previously mentioned categories and private owners. The new forest regime also covered private forests, in which it enjoyed almost all of the same administrative rights as in other forests.

\(^3\) Villeneuve 1829, 87.
whereby forests were divested of customary rights at the discretion of forest agents. Likewise, it sought to combat the traditional right of *affouage*, which guaranteed residents a portion of wood from their communal forests to be used as firewood. The new code strictly regulated the collection, sale and distribution of firewood, and residents were no longer permitted to gather it themselves. Moreover, the penalties for forest infractions received more attention and detail than in previous documents. A lengthy appendix posted a range of penalties depending on the type, age, size, location, and quantity of the trees or forest in question, as well as the nature of the offense.

**Pastoralism under the 1827 Forest Code**

One of the most radical aspects of the new forest administration, at least for its Mediterranean constituents, was its perspective on pastoralism. Mediterranean pastoralism occupied a prime place among the controversial forest practices targeted in the 1827 Forest Code. Indeed, grazing sheep and goats in communal forests was *the* traditional customary right that those who crafted the forest code considered most detrimental to forest health. Through the new legislation, they sought to limit and eventually eliminate pastoralists from French forests. There was no ambiguity in the attitude of the forest code toward this practice. Article 110 states, “In no case and under no pretext may the inhabitants of communities […] bring into woodlands belonging to these communities […] goats, ewes or sheep.” This article applied to all communal and state forests,

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84 *Code forestier (du 21 mai 1827)*, Title III, Section VIII. For a discussion of the impact of this process and its impact on inhabitants, see Andrée Corvol, “La privatisation des forêts nationales aux XVIIIe et XIXe siècles,” *Histoire économique et financière de la France. Études et documents* 2 (1990): 219-220; Whited, *Forests and Peasant Politics*, 36-37; and Matteson, 334. For an explanation of cantonnement, see *Les eaux et forêts du XIIe au XXe siècle*, 222-223.

85 *Code forestier (du 21 mai 1827)*, Art. 81 & Art. 103. For a discussion of the Parliamentary debate regarding *affouage* in drafting the 1827 Forest Code, see Matteson, 326-329.

86 See *Code forestier (du 21 mai 1827)*, Appendix. Baudrillart 1827, 63.

87 “Dans aucun cas et sous aucun prétexte, les habitants des communes et les administrateurs ou employés des établissements publics ne peuvent introduire ni faire introduire dans les bois appartenant à ces communes ou établissements publics, des chèvres, brebis ou moutons, sous les peines prononcées par l’article 199 contre ceux qui
including those in which sheep pasturing had previously been permitted.\textsuperscript{88} Grazing was severely curtailed even in private forests, where the code restricted sheep and goats to sections that had been classified as \textit{defensables}, meaning that they exhibited healthy growth and were not in need of protection.\textsuperscript{89} Penalties for infractions included the seizure of any livestock found grazing illegally as well as harsh fines or a stint in prison for those unable to pay.

The code did offer the possibility of granting exceptions to communities where the forest administration recognized access to communal pasture as “an absolute necessity,”\textsuperscript{90} but it also reserved the right to remove or limit this and other privileges in any state, communal, or private forest through \textit{cantonnement} or by converting pasture land into forest.\textsuperscript{91} As one contemporary source has observed, nineteenth-century forest agents did not sanction pastoralism; at best, they “tolerated” it.\textsuperscript{92} After a town had obtained a royal ordinance authorizing grazing, the next step was for forest agents to designate certain forest parcels as \textit{defensables}, and to determine how much livestock they would support. In typical fashion, the Royal Ordinance of 7 June 1829, by which the town of Roquefort-la-Bédoule was granted the right to pasture sheep in its commons, contained various limitations. First, it restricted herds to cantons of communal woods “that will have been previously declared \textit{defensables} by the agents of the administration of forests.”\textsuperscript{93}

\textsuperscript{88} Concerning state forests, see \textit{Code forestier (du 21 mai 1827)}, Art. 78. Printed in Baudrillart 1827, 20.
\textsuperscript{89} \textit{Code forestier (du 21 mai 1827)}, Art. 119.
\textsuperscript{90} Ibid., Art. 64.
\textsuperscript{91} Ibid., Art. 110, Art. 63, Art. 118 (\textit{bois particuliers}), & Art. 90 (“de la conversion en bois et de l’aménagement de terrains en pâturage”). Matteson has argued that pasture rights were not susceptible to abrogation through \textit{cantonnement} (Matteson 334-335), but they could be “repurchased” (“rachetés”) by the state, which had an equivalent effect, as the cases of Provence and Algeria show (\textit{Code forestier (du 21 mai 1827)}, Art. 64). See my discussion below and in subsequent chapters.
\textsuperscript{92} Simon, Clément, and Pech, 343.
\textsuperscript{93} BDR 150 E 1N 2, Ordonnance du Roi (7 juin 1829): Art. 1: “Les habitans des Communes de Roquefort et al sont autorisés à faire pacager les Brebis ou Moutons dont ils seront propriétaires seulement, dans les Cantons des Bois.
Second, it set a cap on the number of sheep to be admitted each year, to be determined annually by forest agents based on their evaluation of the forest.\textsuperscript{94} Finally, it reiterated the requirement that the commons be reserved exclusively to local inhabitants for their personal use.

In addition to restricting the locations where grazing was permitted, the forest code also placed strict limits on the type and number of beasts. Only the sheep belonging to the inhabitants of a given community were permitted to graze in its communal forests. These inhabitants were further restricted to grazing sheep exclusively for their personal use; communal land was not to be used for commercial pastoralism. Nor could one sell one’s right to local communal land to someone living outside the community. Access to these territories was strictly reserved to members of the community. The forest administration included additional grazing restrictions. It capped forest grazing at two sheep per hectare (about 2.5 acres),\textsuperscript{95} and required that all livestock be branded and wear bells (clochettes).\textsuperscript{96} Violations were punished with a fine per head of livestock, and sometimes with the confiscation of livestock and the imprisonment of the owner or shepherd. In cases involving protected lands or a repeat offense, the penalty was doubled. Moreover, everyone exploiting the communal forest for pasture was required to pay an annual head tax based on their number of livestock to support the activities of the forest administration. More than ever before, foresters under the nineteenth-century French forest regime were preoccupied with counting sheep.

respectifs de ces Communes qui auront été préalablement déclarés défensables par les agens de l’administration des forêts.”
\textsuperscript{94} Ibid.
\textsuperscript{95} Simon, Clément and Pech, 343.
\textsuperscript{96} Code forestier (du 21 mai 1827), Art. 76.
The 1827 Forest Code represented a major innovation in French forest administration in another significant way: it finally addressed the problem of enforcement. Indeed, this aspect was probably its greatest long-term contribution. In contrast to previous forest legislation, the 1827 Forest Code developed an extensive and systematic training program for foresters.97 No longer were they simply wounded or unwanted military men. Future forest inspecteurs, sous-inspecteurs, and conservateurs, the white-collar overseers of the forest regime, received training at France’s royal forestry school at Nancy, which opened in 1824, and even lowly forest guards were expected to attend secondary vocational schools in forestry.98

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97 See Ordonnance du Roi pour l’exécution du code forestier (1827). Printed in Baudrillart 1827, 65-121. The bureaucratization of the French forest regime was part of a wider trend of professionalization. It was also owed much to the precedent of German forestry, discussed above. For the professionalization of French forest administration, see Whited, Forests and Peasant Politics, 32-33; and John M. Merriman, Police Stories: Building the French State, 1815-1851 (Oxford: Oxford University Press), Chapters 2 & 7.

98 Ordonnance du Roi (1827), Articles 40-56.
Once they had completed their studies, graduates became part of a vast administrative network. They were sent to stations in every department of France, where the new forest regime established regional offices with a complex bureaucratic infrastructure, including a staff of forest guards of varying rank, an inspecteur, and a sous-inspecteur. A strict hierarchical organization required foresters to start with the lowliest tasks and gradually work their way up the ranks. To fight corruption, all forest guards and agents were subjected to scrutiny by superior members of the forest administration.\textsuperscript{99} Provincial officeholders reported to the head of the forest administration, the national conservateur of forests, who was in turn overseen by the Minister of Finance. Within their jurisdiction, foresters strictly monitored exploitation, directed reforestation initiatives, and attended court cases involving violations of forest regulations. The personnel in the employ of the forest service increased significantly in the decade following the promulgation of the Forest Code of 1827.\textsuperscript{100} In many places, however, it seems to have peaked around 1850.\textsuperscript{101} Thus, the forest administration not only cracked down on forest misuse on paper, but it also greatly increased surveillance and systematized punishment for offenders. For the first time, French forest legislation enjoyed a reasonable possibility of enforcement.\textsuperscript{102}

\textit{Defining the Forest}

The new forest administration furthered its campaign against Mediterranean pastoralism by manipulating the very definition of the forest. In French, the term ‘forest’ (\textit{forest, forêt}) has

\textsuperscript{99} Dumoulin 2002, 7.
\textsuperscript{100} In the Franche-Comté, for example, personnel increased nearly 70 percent from 1833 to 1845. See Matteson, 365-366. Matteson cites \textit{Les eaux et forêts}, 483 & 495.
\textsuperscript{101} CARAN F\textsuperscript{1724}: “Commission du réorganisation du service forestier” (1878), Rapport de M. Charles Geraud.
\textsuperscript{102} For the number of forestry officials in various districts in the late nineteenth century, including Aix-en-Provence, see CARAN F\textsuperscript{1725}: “Organization militaire.” In 1879, for example, 186 foresters served the canton of Aix. With the rise in personnel, the forest service found itself spending most of its funds on salaries. For these figures, see annual reports in the forest regime’s publication \textit{Annales Forestières} (later \textit{Revue des Eaux et Forêts}).
maintained the broad meaning of “a vast expanse of trees” since the medieval era. Over the same period, its legal designations have varied considerably. In the earliest French forest laws, the term forêt referred specifically to royal game preserves, including deer parks and warrens (garennes). This definition changed with the growing dominion of national forest administration, becoming both broader and more precise. As the author of an eighteenth-century French encyclopedia remarked, “The term ‘forests’ once signified waters as well as woods, currently it only means forests in the strict sense, woods, warrens, brush.” Accordingly, the Ordonnance des Eaux et Forêts of 1669 included woods and bushes as well as warrens (“bois, buissons & garennes”) in its jurisdiction. Throughout the history of forest legislation, moreover, the term ‘forest’ implied a territory’s productive potential, in other words, its exploitable trees. In the technical sense, ‘forests’ were distinguished from ‘woods’ (bois) and ‘copses’ (taillis) in French, as in English, by their extent as well as by the size and age of their trees. In practice, however, French accounts employed forest / forêt interchangeably with a variety of other terms, including bois, taillis, futaie and massif, which in other cases had significantly different connotations. The French definition of ‘forest’ remains ambiguous even today. The French National Forest Office currently requires that only ten percent of a region be

103 “Forêt,” Centre national de ressources textuelles et lexicales (CNRTL). Web: www.cnrtl.fr/definition/forêt (accessed: January 11, 2013). It is also in this general sense that Olivier de Serres uses the term, though he also distinguishes between high growth forests (bois de haute futaie) and coppices (bois, taillis). See Serres, 558-560.
105 “Le terme de forêts signifiait anciennement les eaux aussi-bien que les bois, présentement il ne signifie plus que les forêts proprement dites, les bois, garennes, buissons.” Charles-Joseph Panckoucke, Encyclopédie méthodique (Paris: chez Panckoucke, 1784), Vol. 4: 144.
107 Indeed, this commercial focus has led scholar James C. Scott to remark that the early modern state failed to see “the forest for the trees” (Scott, 21).
108 Antoine Furetière states, in his Dictionnaire universel, contenant généralement tous les mots français, tant vieux que modernes et les termes des sciences des arts (La Haye: P. Husson, 1727), “There is barely any difference between woods (bois) and a forest, unless a forest is a wood of larger extent” (Vol. I, entry: “Bois”).
covered in trees in order for it to be classified as forest, whereas the international standard is twenty percent.¹⁰⁹

The authors of the 1827 Forest Code saw the ambiguity of the French forêt as an opportunity. Rather than adopting previous definitions – or delimitations – of forests, they undertook the formidable task of resurveying the French landscape.¹¹⁰ The code declared enigmatically that its jurisdiction would cover any “coppice (taillis) or high forest (futaie) […] that will be recognized as susceptible to maintenance or regular exploitation by the administrative authority.”¹¹¹ In the process, foresters and surveyors reinterpreted and generally broadened the qualifications for lands to be classified as ‘forest’. Some of the inspiration for this project came no doubt from the German founders of modern scientific forestry, who had also recognized the importance of clearly defining the forest. Indeed, addressing this problem became one of the first and most fundamental tasks of German foresters.¹¹² Yet, even before scientific foresters popularized monoculture plantations, the German forests were much more homogenous than those of France. France’s environmental diversity contributed to the vagueness and versatility of the term forêt. Its meaning varied considerably from damp, temperate northern regions, to the high slopes of the Alps and the Pyrennes, to the sunny, dry, calcareous Mediterranean coast.¹¹³ Nineteenth-century foresters took this range of landscapes as their cue. In Provence, much of the land they classified

¹⁰⁹ Pierre Bazire and Jean Gadant, La forêt en France (Paris: La Documentation Française, 1991), 25-26. Cited in Whited, Forests and Peasant Politics, 9. This classification, however, is common for Mediterranean states, where the definition of ‘forest’ is necessarily different than elsewhere, such as Northern Europe. Turkey adopts a similar definition. See Chapter Six.
¹¹⁰ Ordonnance du Roi, 1827, Art. 59.
¹¹¹ “Sont soumis au régime forestier, d’après l’article 1er de la présente loi, les bois taillis ou futaies appartenant aux communes et aux établissements publics, qui auront été reconnus susceptibles d’aménagement ou d’une exploitation régulière par l’autorité administrative.” Code forestier (du 21 mai 1827), Art. 90. This article regards communal and public forests only, but the same definition applied to other forests.
¹¹² Lowood, 320.
as forest had nary a tree, at least according to the plaintive voices of local inhabitants and officials. Thus, although the inclusion of non-economically viable tree species in the 1827 Forest Code ended the French forest regime’s purely commercial interpretation of forests, its purpose remained the same: to regulate and maintain as much territory as possible. By harnessing its definition to state authority and power, the forest administration successfully recast the term ‘forest’ as a weapon of nineteenth-century French governmentality.

The 1827 Forest Code in Provence

The Mediterranean forest of Provence can indeed be difficult to distinguish from other prevalent forms of vegetation, such as maquis and garrigue scrubland. It seems that even local administrators could not always tell the difference, or, more likely, they attempted to exploit this ambiguity for their own ends and for the interests of their communities. In 1816, when the prefecture of the Bouches-du-Rhône conducted a survey of the department’s communal forests, many respondents claimed that their jurisdiction had little or no real woodlands left. “There are no communal woods or forests at all,” declared the mayor of Allauch, “just wasteland used to graze herds of sheep.”114 Following the promulgation of the 1827 Forest Code, however, foresters and surveyors reclassified as forest many of the very zones that local officials had claimed, just a few years before, to be completely devoid of trees. In some cases the transformation was as simple and blatant as a new vocabulary. In 1830, for example, the Municipal Council of Roquefort la Bédoule abruptly began referring to grazing rights in its “communal woods” (“bois communal”), which it previously had called “wastelands” (“terres

114 BDR 103 E 2N1: “Statistique des Bouches-du-Rhône” (Allauch, 1816). See also BDR 8 F 30/2 (Arles); and BDR 8 F 30/1 (Aix-en-Provence). Cited in Forêts perdues, 24-25.
Moreover, the forest regime often placed these new acquisitions under special protection (en defens), and thus subject to even more restricted use than other forests, since they were categorized as degraded.\textsuperscript{116}

The nineteenth-century forest regime justified its expanded jurisdiction by reinterpreting the Provençal forest. In his \textit{Statistique des Bouches-du-Rhône}, published shortly after the promulgation of the 1827 Forest Code, Villeneuve had presented pine, downy and holm oak, and other light- and soft-wooded trees (bois blanc) as hallmarks of the Provençal forest.\textsuperscript{117} The new national forest regime added to this description the ubiquitous kermes oak.\textsuperscript{118} This shrub already had been classified as a forest growth by Provence’s strict Napoleonic-Era prefect, Antoine Claire Thibaudeau. The 1827 Forest Code, however, gave this definition a much broader significance, applying it to all state, royal, communal, public and private forests. The new legislation also tethered this classification to additional regulations, and, through increased surveillance, made it possible to enforce. Hence, by including the kermes oak in its description of forest vegetation, forest agents effectively expanded the definition of the forest to include regions previously considered wasteland and used as sheep and goat pasture. The new designation placed these zones under the same rules as forests, which either limited their use by pastoralists or excluded them altogether. This reclassification was particularly detrimental for the owners of

\textsuperscript{115} BDR 150 E 1 N 2: “Roquefort la Bédoule,” Extrait des registres des délibérations du Conseil Municipal de la Commune de Roquefort (28 mars 1830).
\textsuperscript{116} Dumoulin 2002, 14-15; Villeneuve 1829, 4: 88.
\textsuperscript{117} Villeneuve 1829, 4: 102. Cited in Forêts perdues, 20. The French terms are: pins, chênes blancs, chênes verts, and bois blanc.
\textsuperscript{118} BDR 14 J 173 (1811); Forêts perdues, 18-19.
goats, who were generally banned from forests and thus depended on the existence of wastelands. In redefining the forest, the forest regime removed the goatherd’s last recourse.\footnote{Révolution et espaces forestiers: Colloque des 3 et 4 juin 1987, edited by Denis Woronoff (Paris: Éditions L’Harmattan, 1989), 62, 58; Forêts perdues, 36; Dumoulin 2002, 130, 133-134.}

Because of the centrality of pastoralism to Provence’s economy, many of its communal forests qualified for exceptions from Article 199 of the forest code. But while forest agents continued to allow sheep to graze on communal land in certain cases, they made it much less profitable for communities and pastoralists. Under the new forest code, profits from grazing violations and the head tax went to forest agents as partial compensation for their services.\footnote{Code forestier (du 21 mai 1827), Art. 64; Art. 110. See also Dumoulin 2002, 23.} The forest regime also added to pastoralists’ financial burden by stepping up fines, taxes, and enforcement.

At the same time, foresters worked actively to extend forest cover throughout Provence, attempting afforestation even in the rockiest, most degraded soils, and irrespective of the local economy.\footnote{Corvol 1987, 341.} Former pasture became future forest. Many communities, hit with the loss of pastoral revenues, turned to logging and agriculture.\footnote{Simon, Clément, and Pech, 343-4.} In most communities of Provence, the forest regime supported commercial logging over pastoralism.\footnote{Dumoulin 2002, 113-115; BDR P5 32: Logging reserves 1849-1860; Forêts perdues, 35. See also the example of Ceyreste (BDR 7 M 249: Ceyreste).} It also approved projects to expand agriculture at the expense of pastureland, such as on the Crau and the Camargue (see Chapter 7). In addition, the forest administration limited access to pasture in Provence by redefining or rezoning land. Forest agents conducted regular inspections of public forests in their jurisdiction. In forests they determined to be endangered, they restricted customary rights or removed them altogether.\footnote{Code forestier (du 21 mai 1827), Art. 67.} In this way, a number of communities temporarily or permanently lost permission to graze animals in their communal forests. Finally, the forest regime protected
certain forests from customary rights and exploitation for cultural, religious, or recreational purposes. One such place was the forest of Sainte-Baume, which was believed to be the retreat of Mary Magdalene, in addition to being a favorite destination for a Sunday stroll. As Figure 3.2 shows, this preserve remained relatively well forested throughout the nineteenth century.

Figure 3.2 Tourists Arrive in the Forest of Sainte-Baume.

### French Forestry in Algeria

In the conclusion to the 1827 French Forest Code, Charles X entreated French citizens to observe the law “in our entire realm, lands and countries of our control [obéissance].” This territory was about to grow significantly. Just as the French government was putting its final touches on the 1827 Forest Code, tension was building across the Mediterranean between the Ottoman

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125 Forêts perdues, 72.
126 BDR 6 Fi 2168. The postcard is postmarked 1907, but the date of the photograph is unknown, probably late nineteenth century.
Regency of Algiers and France, which would ultimately lead to France’s greatest colonial experiment. In Algeria, the objectives, application and implementation of the French forest regime were tied directly to the unique history and development of this French colony.

The French conquest was a long, violent struggle that was both disorganized and ill-conceived. It began as if by accident on April 29, 1827, when the dey, the Ottoman governor of Algiers, insulted the French consul by slapping him with a fly swatter.128 This seemingly minor incident led to the breakdown in diplomacy between the two formerly friendly states. By the end of the year, communications and trade had reached a standstill. The “fly whisk” episode, as it is popularly known, offered an international corollary to a host of domestic problems already haunting Charles X’s reign. Not least among these was his growing unpopularity – the recent passage of strict forest legislation did not help. In this context, his advisors began to suggest that an Algerian campaign might provide “a useful distraction from political trouble at home.”129 Hence, on June 14, 1830, a contingent of 37,000 French troops reached the Algerian coast, and by July 5, they had forced the Ottoman governor to surrender the city of Algiers, Algeria’s capital city.130 Almost simultaneously, on July 26, 1830, a popular revolution broke out in France, forcing King Charles X to abdicate the throne in favor of his distant cousin, Louis-Philippe. Meanwhile, the conquest of Algeria proceeded slowly but steadily. Beginning with cities, coastal regions, and the Tell, Algeria was gradually pacified and brought under French

128 For a more detailed account of this event and its consequences, see Ageron 1991, 5; and Julien, Chapter 1: “L’affaire d’Alger (1827-1830).” The cause for the attack is popularly held to be long-outstanding debts by French merchants, but more likely the Dey was upset about the construction of French garrisons in La Calle, a move that, incidentally, was also very unpopular in France. In any case, the Dey was not at all impressed by the French consul. The previous year he had asked the French minister of foreign affairs to send a replacement, referring to Deval as a “schemer” (“intrigant”) (Julien, 26).
129 Ageron 1991, 5. Tellingly, this suggestion was offered by Charles X’s minister of war, Clermont-Tonnerre.
130 Ibid., 5-6.
control. Many remote and mountainous regions did not fall until after mid-century, and the French never gained full authority in the desert zones south of the Atlas.

Unrest in France begot turbulence abroad. France’s nineteenth-century political turmoil, its violent, fitful steps toward democracy, were paralleled by almost unchecked license by settlers, soldiers, and officials in its new colony, which enjoyed a near-complete lack of oversight by the central government until the mid-nineteenth century. In the absence of clear direction, competing philosophies and private interests held sway. Hence, the terms of Algeria’s colonization set the stage for frosty encounters among myriad groups – settlers, the military, the civil colonial administration, the French central government, various indigenous groups, and other interested parties – each with distinct perspectives, values, and objectives. The conflicts among these groups date from the conquest itself, and they were never satisfactorily resolved. One of the earliest, longest-lasting, and most significant sources of contention among different interest groups in French Colonial Algeria was the administration of its forests.

Control of Algerian woodlands was a major priority for the French colonial mission, and the establishment of forest administration was among the earliest acts of the French occupation. Ongoing campaigns, which expanded French control slowly through the third and fourth decades of the nineteenth century, required a steady supply of timber. Indeed, for this reason, Algerian forest products were initially administered by the military and designed to meet its needs. Timber was also needed to construct and solidify the French colonial presence, as well as to rebuild many of the edifices that French soldiers had razed in the heat of conquest. France,

131 For some examples of early military demands on Algerian forests, see ANOM FM F80981.
132 Ford, 344.
moreover, was eager to reap domestic benefits from its new possession’s natural resources, especially in the wake of concern over deforestation at home. At the same time, preliminary surveys of the Algerian landscape helped to convince the French administration of the urgent necessity of systematic forest management. The Algerian Forest Service was thus created in 1838, arriving on the heels of conquest.

Estimating the extent of forests in Algeria on the eve of colonization is not an easy task. Roman authors described extensive forest cover in the Maghreb, and scholars continue to draw on their imagery, depicting the North Africa of antiquity as a much greener landscape, if not a veritable breadbasket. What is not clear is when, how, and to what extent the forests of the Maghreb disappeared. Early French colonial accounts are little help, since they also rely heavily on classical sources and are riddled with contradictions and inconsistencies associated with their limited perspective, personal prejudices, and imperialist interests (see Chapter Two). The first reliable statistics did not appear until the late nineteenth century, and well into the twentieth century, scholars continued to overestimate the extent of deforestation during the pre-colonial and colonial eras. Regardless of the actual state of Algeria’s forests, in the eyes of nineteenth-century French observers, they were in desperate need of attention.

Concern over Algeria’s environment intensified during the early years of colonial rule. Following the mixed results of the *Exploration scientifique* in 1840 to 1842, France ordered

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133 See for example Williams 2003, Figure 4.1: Major timber- and grain-growing areas and trade routes in the Mediterranean basin, fourth-first century BC, page 78. Williams displays the Maghreb (Numidia) as a major source of timber for the Mediterranean. For forest exploitation in medieval North Africa (tenth to eleventh centuries), see Maurice Lombard, “Un Problème Cartographié: Le Bois dans la Méditerranée Musulmane (VIIe-XIe Siècles),” *Annales. Économies, Sociétés, Civilisations* 14.2 (1959): 245. For relevant Roman authors, see Chapter Two.

134 For a discussion of the problems of establishing a timeline of Maghrebian deforestation, see McNeill 1992, 99.

135 See Chapters Three and Six.
other commissions, statistics and censuses of Algeria’s forests. These preliminary reports varied in their presentation of Algeria’s environmental state. In 1848, for example, one French geographer called the massifs of the Kabylie region “an almost inexhaustible mine of wood,” and another praised the forests of the Tell as an “immense resource.” At the same time, others were already promoting the narrative of constant deforestation since antiquity and characterizing Algeria as “devoid of forests.” Early French colonial studies, however, did agree on one thing: They consistently portrayed forest management on the eve of the French conquest as nonexistent, and they urged the French administration to take immediate action to save what forest cover Algeria had left. Thus, one early reconnaissance report warned that, if left unchecked, traditional practices would “destroy precious resources for the future,” while another prophesied that “this green, wooded country would soon be converted into a sterile and burning desert.” Clearly, French colonial observers already thought they understood the problems and potential of Algeria’s forests, even though only a tiny fraction of its woodlands had been surveyed by mid-century. Indeed, surveying was still underway in the final decades of the nineteenth century.

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136 Lucas. See Chapter Two for my discussion of this mission and its results.
137 See for example ANOM ALG/GGA/P9: Statistique Générale; and ANOM F°1785, M. de Bassano, “Examen de la question forestière dans la Subdivision de Bône” (8 février 1846).
139 ANOM ALG/GGA/P9a, Report, 14 Mars 1845. The ambiguity of forest reports continued into the later decades of the nineteenth century, as much of Algeria remained unsurveyed. In an 1868 report, for example, the forest inspector described a full range of forestation in Constantine: “Il faut remarquer, en effet, que si les forêts sont rares dans la région centrale de la Province, elles sont denses et multipliées sur le littoral, ainsi que dans la partie méridionale du Tell.” ANOM ALG/GGA/P9a, Algérie, Province de Constantine, Service des Forêts, Conservation de Constantine, “Forêts de l’Algérie, Statistique Générale,” Fait et Dressé par l’Inspecteur Hors de Conservateur des Forêts, Constantine le 5 juin 1868.
Government reports also echoed the sensationalist language of many colonists, scientists, and scholars, as well as their tendency to equate forestation, civilization, and colonial success. As early as the 1840s, the French minister of war stressed the “necessity of conserving trees and brush” in France’s new possession, and of developing forest plantations vital to “the success of all colonization.” Likewise, in an 1867 agricultural report to the governor general, the agronomist F. Rubio de la Trehonnais asserts, “Societies cannot exist without wood.” He presses this point throughout his opening chapter, titled “Forestation and Colonization.” Trehonnais’s text suggests the extent to which the theme of forest health permeated French colonial politics. Driven by the convictions that Algeria’s forests comprised one of its greatest potential resources – if not the greatest – and that these woodlands were desperately ill, the French state ensured that the forest regime would play a starring role in the broader colonial enterprise.

In 1838, the French administration applied the French Forest Code of 1827 verbatim to all of the Algerian territory under its control. The implementation of the French code in Algeria symbolized the extension of French governmentality across the Mediterranean. It offered the new colonial administration a quick fix to a number of administrative problems. First, it allowed

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143 “J’ai insisté sur la nécessité de conserver les arbres et broussailles à proximité des centres de population et d’établir le place de plantations possibles […] pour pouvoir procurer aux colons et habitants le bois de construction et de chauffage qui soit d’une si grande nécessité pour le succès de toute colonisation.” ANOM ALG/GGA/P14, Minute de la lettre écrite du Ministre de la Guerre (Algérie) à Gouverneur Général (26 août 1842).


145 “Boisement et Colonisation.” Ibid.

146 The code was never officially promulgated in Algeria, but it was applied intrinsically, by fact of conquest. Édouard Sautayra, Législation de l’Algérie: Lois, ordonnances, décrets et arrêtés par ordre alphabétique avec notices, tables (analytique et chronologique) et cartes administratives et judiciaires (Paris: Maisoneneuve, 1878), 286.
the immediate control and exploitation of colonial forest resources. This was an invaluable step for the French conquest, since the new forest administration stood at the liberal disposition of the military, which made far greater demands on Algeria’s forests than any other patron in the early years of the French occupation. Colonial forest administration also provided a way to deal methodically with the complexities of settlement, including property distribution, customary rights, and demands for concessions. Finally, it represented a supposedly fast and sure solution to unchecked forest destruction by the native population, as well as a way to legitimately unseat Algerian natives from prime real estate. Colonists were already pouring in, long before the dust of conquest had settled. With the implementation of the French forest code, foresters also began to arrive, ready to take up the defense of trees.

In contrast to other Mediterranean contexts, the application of French forestry in Algeria was not a source of friction between the forest regime and local inhabitants – at least not with all of them. Throughout the colonial era, most French settlers supported the forest administration. Yet, even as they pressed for stricter policies and penalties, they constantly sought ways to curb restrictions on their own exploitation of Algerian land. As a result of colonial interests, the burden of the forest administration in Algeria was absorbed almost entirely by its indigenous population. The cause of reforestation ultimately became an effective way for French colonists and others to legitimate the subjugation of native Algerians. In this case, the French colonial administration applied the same environmental arguments that French scientists, foresters, and officials were using to justify the alienation, dispossession, and sedentarization of mobile pastoralists across the Mediterranean. Such policies were detrimental enough for the so-called Kabyles, or agricultural

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147 ANOM FM F80981, Note relative à la lettre adressée par M. l’Intendant Militaire de la division d’Alger à M. le Gouverneur Général du 13 mars 1843.
Berber populations of northern Constantine, but for those mobile tribes who traditionally lived off of their sheep, the impact was much worse. Neither group had the power to protest, at least not through formal, political channels.

The implementation of the French forest code in Algeria, however, was far from harmonious. One significant problem was the code’s incongruity with Algeria’s ecological and social features. French forestry students, most of whom based their perceptions of healthy woodlands on the great forests of the Vosges surrounding Nancy, were understandably shocked by the arid, sparse, paltry landscape presented by Mediterranean forests. Likewise, the 1827 code was designed to address the concerns of temperate metropolitan France, where reforestation efforts focused on preventing erosion, flooding and other problems of excess water. Already poorly suited to the environmental peculiarities of Provence, the code proved even less appropriate in the Maghreb. In Algeria, ecological concerns revolved around the lack of water and related issues such as desiccation and drought. For the same reason, the environmental issues attendant to mountain deforestation and afforestation did not translate to Algeria, where an equal if not greater concern was deforestation in valleys and on plains. In addition, Algeria’s distinct flora, fauna, and soil composition hampered efforts at reforestation as well as cultivation. Colonists struggled to cultivate orchards and vineyards, and some experimented with exotic plant species, to little avail.

\[\text{Prochaska, 234-235; Ford, 344-345.} \]
\[\text{For eucalyptus, see ANOM ALG/GGA/P59. For viticulture, see ANOM ALG/GGA/P12; ANOM ALG/GGA/P62. For other “exotic” tree species, see ANOM F^80^788. See also Julien, 46. The initiative to plant Algeria with eucalyptus trees was a particularly notorious disaster. See my discussion in Chapter Five and Davis 2007, 102-108.}\]
Other problems with the French code arose from its ignorance toward Algerian society and economy. Although most Algerian forests were inhabited, they remained subject to the same usage restrictions designed for uninhabited forests in France. Thus, residents were banned from traditional and essential practices such as building structures or lighting campfires in forest lands, and from cutting or gathering wood and other forest products. Some clauses seemed a direct affront to the indigenous population. For example, native Algerians, who were predominantly Muslim or Jewish, could take little consolation in the code’s authorization to pasture pigs in forests. At the same time, the French code strictly prohibited sheep and goat grazing in forests, which traditionally was widely practiced in Algeria. Banning indigenous Algerians and their herds from the forests on which they depended quickly became a recipe for impoverishment and desperation among the native population. As in France, the colonial forest regime exacerbated the problem of indigenous dispossession through its broad definition of forests. French entrepreneurs, hampered by the restrictions of forest legislation, complained about the inclusion of vast tracts of “brushland” in state forest lands, “even though one never sees any groves of trees there.” Even colonial foresters openly admitted that many of the ‘forests’ in their jurisdiction were not actually wooded.

For these and other reasons, the application of the French forest code to Algeria became a source of perpetual problems and debate. The military, who witnessed firsthand the dangers of

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150 See Prochaska, 235.
151 Ibid.; Ford, 345.
152 “bien qu’on ne la voye jamais de bouquets d’arbres.” ANOM FM F1786, Notice sur le Cercle et la Ville de la Calle (Algérie); Doucement fourni par M Dubouchage concessionnaire des forêts de chêne liège de La Calle; Confiées a M Duval 23 mars 1855.
attempting to enforce French forest legislation on a hostile and poorly controlled indigenous population, sought concessions and exceptions to the forest code from the civil colonial administration and the central forest administration in France. Even foresters protested. In 1845, while the conquest was still underway and Algeria remained under military authority, the sous-inspecteur of Bône, Constantine, contested the central forest administration’s policy of complete reforestation since, as he claimed, it was not an effective way of gaining control of the native population. “The system of exploitation must thus be modified,” he argued, and he recommended that the Algerian forest regime recognize and respect the local practice of pastoralism, in spite of environmental costs. “If a section is devastated by fire or grazing,” he reasoned, “We might hope that the damage is not irreparable.”

Other members of the colonial forest service went further, proposing extensive amendments to the French forest code or the promulgation of an entirely new code unique to Algeria. In early drafts of an Algeria-specific forest code, foresters attempted to address the specific challenges of administering tribal confederations of nomadic pastoralists and their herds, and to set the terms for regulating the use of forests for pasture, rather than shutting pastoralists out completely. Sometimes the provincial governor was sympathetic to these initiatives, but efforts to temper the French code were resisted all the way by the central forest administration as well as by a growing lobby of European settlers. Although the Algerian forest administration took initiatives to adjust the forest code to Algeria’s needs as early as 1843, Algeria did not receive an independent forest code until 1903.

154 “Le système d’exploitation doit donc être modifié. […] Si un canton est dévasté par l’incendie et le pâturage, il est à désirer que le désastre n’ait pas irréparable.” ANOM FM F501785, Forêts du Kaidat de l’Edough (Province de Bône), reconnues par M. de Klopestein, Sous Inspecteur des forêts en Algérie, pendant l’année 1845 (Ministère de la Guerre).

155 ANOM ALG/GGA/P1, “Propositions faites le 14 Jan 1848 par le chef du service des forêts pour servir à la rédaction d’un règlement forestier, spécial à l’Algérie.”
The issues of enforcement and native pastoralism engendered other conflicts as well. Indeed, one of the earliest and most resounding complaints against the colonial forest administration was insufficient surveillance. In France also, the forest regime lacked sufficient personnel to impose all of its ambitious goals with complete success – such an achievement, if possible, would have required an inconceivable amount of manpower. But the problem was greatly exacerbated in Algeria, where even basic administration was severely limited. How indeed could foresters be expected to impose French laws where even the military had failed? A range of voices, from forest guards and the central forest administration, to military men, settlers and the civil administration, all commented on this problem, though their critiques differed in the solutions they proposed and where they laid the blame. In an 1844 letter to the governor-general of Algeria, the French finance minister acknowledged the weaknesses of the colonial forest administration to combat native destruction, noting, “These devastations, as well as a host of others of the same kind, have not escaped the agents and guards of the forest service; but they remain unpunished, most often due to the manifest lack of personnel.”

Yet, the minister reserved most of his blame for the provisional, military justice system – later known as the Bureaux Arabes – for refusing to recognize and punish forest violations on land not yet formally classified as forest. “We are, as you can see, Monsieur Gouverneur Général,” he explained, “quite weak and powerless relative to the conservation of wood so useful in Africa, according to all reports.”

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157 “Nous sommes ainsi que vous le voyez, Monsieur le Gouverneur Général, bien faibles et bien désarmés relativement à la conservation du bois si utiles en Afrique sous tous les rapports.” Ibid.
The minister’s letter stresses the importance of completing the assessment of Algeria’s forests, a task that was problematic in itself. Likewise, many forest agents prefaced reports on regional forests with caveats such as, “I do not deny that this survey is very incomplete,” and they complained incessantly about “insufficient” personnel.\textsuperscript{158} Even in the final decades of the nineteenth century, foresters continued to respond noncommittally to requests for statistics on forest cover in their jurisdiction.\textsuperscript{159}

There is no question that, throughout its tenure, the forest regime in Algeria was hampered by poor surveillance and dangers of the job. As late as 1917, Theodore Woolsey remarked, “Each year quite a number of forest officers are shot from ambush owing to the ill feeling engendered through the performance of their duties, especially trespass investigations.”\textsuperscript{160} In order to lure graduates of the French forestry school at Nancy, Algerian forestry recruiters were forced to offer significant incentives, effectively combat pay, to new guards. Forest guards who accepted posts in Algeria received an initial bonus as well as a higher salary than domestic guards.\textsuperscript{161} In Algeria, the colonial forest service also supplemented French guards with indigenous guards. The latter were required to accompany French guards, particularly in remote regions.\textsuperscript{162} Native guards often acted as intermediaries between the forest service and the local population, and this feature, together with their knowledge of local geography, language, and customs, made them invaluable assistants to their French counterparts. At the same time, native guards were under significant pressure. Their privileged position with the French colonial administration could

\textsuperscript{158} “je ne me dissimule pas que cet état est fort incomplet.” ANOM FM F\textsuperscript{80}971, M. le Secrétaire Général du Gouvernement, Alger, de l’Algérie, département de Constantine, Service des Forêts (l’Inspecteur chef du Service des Forêts), Constantine, le 12 avril 1854.
\textsuperscript{159} See for example, ANOM FM F\textsuperscript{80}175: Statistique Forestière 1854-1857; ANOM FM F\textsuperscript{80}971 (1858); ANOM ALG/GGA/P9a (1868-1888).
\textsuperscript{160} Woolsey, 103.
\textsuperscript{161} Ibid., 106-8.
\textsuperscript{162} ANOM ALG/GGA/22K/10.
allow them to rise above the poor situation of other native Algerians, but at a cost. They were often seen as traitors and ostracized by their own community, while also failing to be accepted by the French colonial population. In addition to their local escort, forest guards traveled armed with well-maintained pistols and rifles supplied by the French military. These weapons were in part a symbol of the forest guards’ additional function as auxiliary forces, but they were also a vital necessity. Despite these precautions, forest agents remained the targets of native aggression.

One story illustrates the difficulties that French foresters in Algeria encountered in the absence of native guards. In 1896, a French guard stationed in the vicinity of Batna, whose local counterpart was “indisposed,” reported catching a native Algerian illegally tending a fire in the woodlands of Bekkaria (Constantine). According to the forester, the Algerian “refused to tell me his name.” On further questioning, he identified himself with “a name impossible to understand a single syllable.” While the forester was attempting to transcribe this incomprehensible word, the Algerian grabbed his rifle. The forester described the ensuing struggle in his report:

Seeing that this native wanted to disarm me, I punched him in the face, but I also tried to avoid relinquishing my weapon. After a fight of approximately two minutes, finding his strength superior to my own and knowing that my rifle was cocked and loaded, I was forced to give it up. I also realized that he had a knife concealed under his cape, with which he almost stabbed me. […] My life was saved by the grace of God. ¹⁶³

This episode reveals the tensions and conflicts of interests that underlay relations between the European and indigenous populations. Even those Algerians who understood the terms of the French forest code generally failed to appreciate its environmental reasoning. This attitude was particularly prevalent among mobile pastoral tribes, whose members justifiably viewed the efforts of French foresters either as arbitrary disruptions of their traditional lifestyle or as

¹⁶³ ANOM ALG/GGA/22K/10.
deliberate manifestations of imperial power.¹⁶⁴ In either case, they were inclined to place the needs and interests of their community over the demands of the state whenever they believed they could do so with impunity. In the case described above, the native guard, Hami, duly followed up on the loss of his colleague’s rifle by paying a visit to the local Algerian tribe. He managed to retrieve the French guard’s rifle but claimed not to have caught the man who had stolen it. According to the French guard’s report, the thief “ran behind a tree and disappeared.”¹⁶⁵ More likely, Hami deliberately neglected to turn him in. Neither the French Forest Code nor forest agents’ training at the Nancy school prepared them to deal with such incidents. For fear of such encounters, many foresters simply neglected to enforce the law. In this way, they formed a tacit compromise with local inhabitants that served to mitigate the effects of colonial administration.

Part of the problem with the forest code was that it was never meant to serve Algeria at all. It was not officially promulgated in Algeria, but rather was applied by default, as a result of the conquest. Throughout the nineteenth century, the forest code was therefore treated as a provisional law. Indeed, its application to Algeria was not formally recognized until 1873.¹⁶⁶ Nonetheless, the French Forest Code ultimately provided the basis for Algerian forest administration for over half of the colonial era. Meanwhile, forest-related issues contributed to the development of profound rifts among Algeria’s civil administration, its colonial population,

¹⁶⁴ In contrast, Algerian agriculturalists tended to be more supportive of the French colonial regime (which was also much more supportive of their livelihood than it was of mobile pastoralism), and many eventually joined the Algerian reforestation league. See Chapter Six.
¹⁶⁵ Ibid.
the military, the central administration in France, the Ministry of Finance, and the central forest administration. At the center of these debates were Algerian nomadic pastoralists, who were rarely permitted to speak at all.

The Development of Scientific Forestry in Anatolia

In the autumn of 1857, twenty-seven years after the French invasion of Algeria and thirty years after the promulgation of the French Forest Code, two French forest engineers, Louis François Victorin Tassy and Alexandre Stheme, arrived in Istanbul. They had been hired by the Ottoman government to develop scientific forestry in the Ottoman Empire. Tassy and Stheme were tasked first to determine the state of Ottoman forests (there were no reliable data at the time) and second to develop a system of forest administration that would permit sustainable exploitation. A number of factors conspired to place these French foresters at the head of the Ottoman forest regime in the mid-nineteenth century. Their presence was the result of new demands, expectations, and concerns regarding Ottoman resources, the empire’s changing attitude toward Europe, the Tanzimat era of reform, and, finally, the intricacies of Franco-Ottoman relations.

“Of all the Mediterranean powers,” Ottomanist Colin Imber has written, “the Ottoman Empire possessed the most abundant resources for shipbuilding.” The extent of forest cover and environmental exploitation are not nearly as well documented in the Ottoman case as in France. Nonetheless, the accounts of early modern witnesses together with Ottoman state-building initiatives suggest a general picture of plentiful forests gradually extinguished. As the Ottomans expanded, they gained control of a wide range of natural resources, which contributed to their

military might, power, wealth, and the longevity of their empire. At its peak, the Ottoman state was almost completely self-sufficient. In a perfect representation of the Ottoman Empire’s cyclical system of resource management, the bulk of Egypt’s timber supply came from Anatolia, which was also the primary recipient of Egypt’s foodstuffs. In the sixteenth and seventeenth centuries, when France was already beginning to fret over deforestation, the Ottoman Empire still enjoyed ample forest resources in the Balkans, along the northern Black Sea coast, and along the Mediterranean coast in the West and South. In the words of Imber, these forests were “the envy of foreign observers.” The French viewed Anatolia as a haven of “great, beautiful and abundant woodlands of all varieties.” Anatolia’s extensive forests were also the pride of native Turks. Indeed, the seventeenth-century Turkish traveler Evliya Çelebi is credited with describing the region just south and east of Istanbul (Kocaeli Province) as a “sea of trees” (ağacı denizi), an epithet used through the late nineteenth century. In the mid-nineteenth century, the Ottoman Empire was still exporting wood from these and other Anatolian forests to France and other international destinations.

Nonetheless, the French forest engineers who arrived in Istanbul in the mid-nineteenth century to develop scientific forestry in the Ottoman Empire generally described the history of Ottoman

171 Imber 2002, 294.
174 L. C. M., “Recherches sur le mouvement d’importation et de l’exportation des bois, des combustibles minéraux, de la fonte et des fers pendant la période quinquennale de 1842 à 1847,” Annales Forestières, Deuxième Série, 7 (1848), 33. In the eighteenth century, the Ottomans began exploring other sources of timber for their navy. See Yusuf Alperen Aydın, Sultanın Kalyonları: Osmanlı Donanmasının Yelkenli Savaşı Gemileri 1701-1770 (İstanbul: Kürş Yayınılar, 2011); Idris Bostan, Osmanlı Bahriye Teskilâtı: XVII. Yüzyılda Tersâne-i Âmile (Ankara: Türk Tarih Kurumu Basimevi, 1992), 102. In the timber trade, the proximity of forests to water courses and ports was a crucial factor.
Such perceptions of Ottoman forest management represented the triumph of narratives of French governmentality. For these French observers, the issue at stake was not so much environmental degradation – they admitted that the Ottoman Empire maintained robust forest resources – as it was poor administration. From the highly bureaucratized, governmentalized perspective of the Second Empire, the Ottoman state apparatus appeared anachronistic, despotic, chaotic, and weak. Hence, French efforts to institute scientific forestry in the Ottoman Empire were representative of a broader initiative to implement new conduits of administration, power, and political knowledge for the Ottoman state and, perhaps more significantly, for France.

The discourse of unrestrained, devastating license was clearly a misconception, but Ottoman restrictions on forest exploitation in the early modern era were limited, especially compared to those of France. As in Europe, mining, heating, construction, timber extraction for military and commercial shipbuilding, clearing for agriculture and pasture, fires, wars and urbanization had all taken a toll on Ottoman forests. The administration regulated some activities, such as hunting and fishing, and closed certain forests to public use, but such moves were motivated by property concerns, rather than environmental ones. Moreover, inhabitants had for centuries enjoyed liberal access to forests not under private ownership (Cibâl-i Mübâha). Prior to the mid-nineteenth century, the Imperial Naval Arsenal oversaw forest management, and, in general, it saw fit to protect only those forest lands designated as reserves for naval construction, hunting, or other use by the sultan. It seems that the Ottoman state was more interested in making its lands productive (i.e. clearing them for cultivation) than in preserving its forests. Many of the forested lands of Anatolia lacked commercial potential because there were no nearby, convenient waterways to facilitate the transportation of timber. Thus, the forests in the Taurus Mountains of southwestern Anatolia remained relatively well preserved into the twentieth century. Others

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178 Scholarship on the history of Ottoman forestry is limited, as is scholarship on Ottoman environmental history in general. Two noteworthy archival-based studies examining this subject are White 2011; and Dursun 2007. The issue of timber is also taken up in White 2008, 30-38.

179 Dursun 2007, 33.


184 Louis Bricogne, “Les forêts de l’Empire ottoman,” Revue des Eaux et Forêts 16 (1877), 273. Bricogne states that certain forest massifs remained because their “composition and distance from the sea or from commercial centers did not promise significant revenues” (“la consistence et l’éloignement de la mer ou des centres de consommation ne faisaient pas augurer d’importants revenus”).

185 Today, Antalya Province boasts some of Turkey’s greatest expanses of old-growth forests. See Chapter Six.
were transformed through clear-cutting, slash-and-burn agriculture or pastoralism. Those in the empire’s European provinces and along Anatolia’s northern and western coasts were particularly susceptible, but burning for agriculture occurred throughout the empire with the tacit acceptance of the central administration. From the perspective of the early modern Ottoman elite, forests were more profitable once they were cleared.

Likewise, the Ottoman administration traditionally showed little concern for the ecological impact of pastoralism. When Anatolian nomads were charged with environmental damage, the source of the dispute arose, as a rule, from interests in property rather than preservation. Indeed, while peasant farmers were quick to blame nomads for ruining their land, the imperial government did not necessarily take their side. In such cases, the judge’s concern was with which of the two parties had a right to the land, rather than what they had done to it. Moreover, forest legislation of the early modern Ottoman Empire was notably mute on the issue of pastoralism, in stark contrast to that of pre-Revolutionary Provence. In any case, in the Taurus Mountains of southwestern Anatolia, the yörük and their livestock probably did less damage to the region’s forest cover than their neighbors, the Tahtacilar (lumberers) and the Ağaç erleri (wood cutters). Both groups were nomadic tribes like the yörük, but instead of pastoralism, they gained their livelihood through wood cutting. Throughout the early modern period, these nomads played a central role in the extraction of forest products, including wood, timber, and charcoal. They were also actively involved in the trade of such products with ports around the

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186 Dursun 2007, 39. The nineteenth century would bring additional sources of forest destruction, particularly mining and railroads. See Chapter Six.
188 White 2008, 65. As an example, White cites a case from Kavala (Greece) in 1564, in which peasants accused nomads of destroying their land, claiming “this is our pasture.” The sultan responded by ordering the local kadi (judge) to determine the exact limits of the tribe’s traditional pasture. BOA MD 6/300. See also Kasaba 2009, 53.
Aegean and Mediterranean coast of Anatolia. The Ottoman administration, far from condemning this practice, encouraged and supported it. As early as the fifteenth century, these tribes were engaged directly by the state.\textsuperscript{190}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{ NOMADIC.jpg}
\caption{Postcard of a Nomadic Tahtacı Tribe near Izmir (early 20\textsuperscript{th} century).\textsuperscript{191}}
\end{figure}

Scientific forestry arrived in the Ottoman Empire through the channel of the Tanzimat, a period of westward-leaning and centralizing reforms in Ottoman administration. It formally began in November 1839, when Sultan Abdülmecid I issued the \textit{Hatt-ı Şerif} of Gülhane (the Rose Chamber Edict), a decree outlining basic rights for Ottoman citizens and promises of reform. Significantly, the sultan’s western-leaning foreign minister Mustafa Reşid Pasha read this

\begin{flushright}
\textsuperscript{190} Dursun 2007, 41; İnalçik 1986, 52-53.
\end{flushright}
document before an assemblage of Ottoman elites as well as foreign diplomats and dignitaries. Thus, the Rose Chamber Edict was aimed as much at appeasing and impressing the Great Powers of Europe as it was at the Ottoman population. Although its value was largely symbolic and it was not legally binding, this proclamation had significant political consequences. The Tanzimat era that followed witnessed a proliferation of legislative measures designed to increase productivity, efficacy, and efficiency in the transportation of imperial resources and the delivery of profits to the imperial treasury. It was this context that gave rise to the concept of the Sublime Porte as a central administrative bureaucracy directed by the sultan’s top ministers. Over the thirty years that followed, these figures drove reform by developing transportation and communication systems, encouraging agricultural expansion, redirecting the commercial exploitation of natural resources to guarantee a profit for the state, and investing in modern resource management, including scientific forestry.

One year after the Gülhane proclamation, Sultan Abdülmecid I established the empire’s first forest directorate under the Ministry of Trade. This first institution proved ineffective, however, and he annulled it less than a year later. Abdülmecid made a second attempt to reform forest management in 1857, just after the conclusion of the Crimean War, a conflict that had exposed many inefficiencies in Ottoman administration. He established of the Council of Public Works which oversaw the protection and regulation of the Empire’s natural resources,
including forests.\footnote{The council’s vast range of responsibilities included everything from transportation, construction and maintenance, waterways and irrigation, and industry, to agricultural improvements and forestry. Dursun 2007, 177.} In the same year, the state began appointing foreign experts to help develop and modernize various aspects of Ottoman economy and industry.\footnote{BOA İrade Meclis-i Vala, No: 1637 (1857). Printed in Osmanlı Ormancılığı ile İlişki Belgeler, I: 156-159.} Forestry was one of the targeted areas. From its inception until 1878, nearly all of the council’s forest specialists were French.\footnote{There may also have been a British forester on the council. See Dursun 2007, 179. Dursun cites Robert Bernhard, Türkiye Ormancılığının Mevzuatı, Tarihi ve Vazifeleri, translated by N. B. Somel (Ankara: Yüksek Ziraat Enstitüsü, 1935), 109; and BOA İrade Meclis-I Vala, No. 16327 (1857). Türkiye Ormancılığının Mevzuatı, Tarihi ve Vazifeleri is a Turkish translation of Robert Bernhard, Grundlagen, Geschichte und Aufgaben der Forstwirtschaft in der Türkei (Ankara, 1935).}

The selection of French experts was in many ways a natural choice. Throughout the modern period, France had worked with the Ottoman state in diplomatic, economic, and military alliances.\footnote{Mitra Jonah Brewer, Gold, Frankincense, and Myrrh: French Consuls and Commercial Diplomacy in the Ottoman Levant, 1660-1699 (PhD Diss., Georgetown University, 2003).} From the mid-sixteenth through the eighteenth century, merchants from Marseille maintained a prominent role in both intra-Ottoman trade and Ottoman trade with France.\footnote{Junko Thérèse Takeda, Between Crown and Commerce: Marseille and the Early Modern Mediterranean (Baltimore, MD: Johns Hopkins University Press, 2011), 81-82.} In the seventeenth century, the phenomenon of *Turquerie* exploded onto the French cultural scene. Turkish influence became fashionable in clothing, accessories, food, literature, art, interior design and music. Even King Louis XIV caught the bug. Following an Ottoman diplomatic mission to France in 1669, he commissioned Molière to include a Turkish scene in his latest play, *Le Bourgeois Gentilhomme* (1670).\footnote{Fatma Müge Göçek, East Encounters West (New York: Oxford University Press, 1987), 72. See also Deirdre Pettet, “A Veritable Bedouin,” in *Distant Lands and Diverse Cultures* (Westport, CT: Praeger, 2003), 41.} Likewise, French society and culture exercised an increasing influence on the Ottoman elite. By the late eighteenth century, French had become the language of diplomacy as well as that of culture and learning. The Ottoman language, moreover, began to borrow extensively from it, incorporating terms such as civil (sivil), police (polis), and
economie (ekonomi), even when indigenous synonyms existed. When Selim III undertook military reforms in the late nineteenth century, he based them on the French model, importing instructors as well as an entire library from France.

These friendly relations endured into the nineteenth century, though they began to falter following French military campaigns in the Middle East, such as the invasions of Egypt and Algeria, and French support for the Greek War of Independence. In 1850, moreover, President Louis-Napoleon had claimed French custody over Christian Holy Sites in the Near East, an audacious move that the Ottoman state was loath to support. As the Ottoman administration proved less and less capable of competing militarily and financially with European states, it grew increasingly apprehensive about European ambitions in its territories. In 1853, the tsar became the first to call the Ottoman Empire ‘the sick man of Europe’, an epithet that would haunt Ottoman statesmen for the duration of the century. By mid-century, Franco-Ottoman diplomacy had cooled considerably.

The Crimean War of 1854-1856, in which France and Britain helped to defend the Ottoman Empire against Russia, heralded a new age of friendship between the Sublime Porte and France. Following the conclusion of this conflict, the French and Ottoman administrations began negotiating the resumption of diplomatic relations. In a letter dated August 1857, the Ottoman Minister of Foreign Affairs assured the French ambassador “of the desire of the Sublime Porte to consolidate more and more the ties of the cordial friendship that so happily unites the two

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203 Hanıoğlu, 34.
204 Ibid., 44.
205 Ibid., 48-49.
206 Finkel, 457.
207 Ibid.
The engagement of French forest engineers was an integral part of this broader initiative.

The selection of French agents was also due to the growing reputation of French forestry. Since the promulgation of the French Forest Code in 1827, France had gained international renown as a pioneer of modern forest science. Moreover, French foresters, in contrast to their German rivals, benefited from a Mediterranean connection. In the middle decades of the nineteenth century, these characteristics contributed to increasing interest in and respect for French methods within Ottoman intellectual circles. Hence, while the Ottoman administration chose delegates from various European states to head other newly-created offices in its economic and industrial bureaucracy, it wanted its forest specialists to be French.

For France, the forest mission to Istanbul offered an opportunity for increased influence over a large, if ailing, empire, and more broadly to augment its global presence and prowess. The Ottoman forest mission was just one aspect of France’s efforts in the mid-nineteenth century to project a modern national image by pursuing science on an international scale. The Ottoman engagement represented at once a feather in France’s cap and a barb against its scientific rivals in German states. Thus, from a wider perspective, the goals of the French foresters in Istanbul were multifaceted. They were expected to help modernize the Ottoman Empire as well as to improve France’s image there and in the world arena. In late 1870, shortly after the outbreak of the

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208 “Je suis également charge de réitérer a votre Excellence l’assurance du désir de la Sublime Porte de voir se consolider de plus en plus les liens de cette amitié cordiale qui unissent si heureusement les deux empires.” CADN 2 Mi 1209, Correspondance du départ: Sublime Porte (Pera), Ministère des Affaires Étrangères (Ottoman) à M. Chauvenel, Ambassadeur de sa majesté l’Empereur des Français (29 août 1857).


210 Pursun 2007, 183.

Franco-Prussian War, the French forest regime readied a fresh shipment of forest agents for departure. Yet the *Revue des Eaux et Forêts* made no mention of the war or of the necessity of playing triage within its ranks. Instead, it crowed proudly, “The choices attest to the great care that the forest administration takes to send abroad agents worthy, in every perspective, to represent it.”

The direction of Ottoman scientific forestry and its impact on nomads was largely the work of the Frenchmen who initiated it and their success in communicating their views and concerns to their Turkish audience. These foresters had been educated in a tradition that condemned mobile pastoralism as destructive and inefficient, and that vilified sheep and goats. A native of Aix-en-Provence, Louis Tassy loved the Mediterranean environment and devoted his life to its protection. He grew up surrounded by grazing and migrating herds of sheep, which he learned to blame for Provence’s denuded state. Although his assignment in the Ottoman Empire immersed him in a vastly different language, society and culture, he might have mistaken the Mediterranean environment and pastoral economy of Southwestern Anatolia for home. Tassy spent two terms in the service of the Ottoman state. After his initial stint as head of the French forestry mission from 1857-1862, Tassy was assigned to Corsica, another semi-arid Mediterranean land, where, according to one of his biographers, he “rediscovered the beautiful Mediterranean climate.” He returned to Istanbul in 1865 in the capacity of Vice President of...

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215 “Il retrouvait en Corse le beau climat de la région méditerranéenne.” Ibid., 7.
the Council of Public Works.216 The Revue des Eaux et Forêts boasted about Tassy’s reappointment, remarking that the Ottoman government had “never ceased to regret the loss of his excellent service.”217 Tassy remained in his post until 1868, when he returned definitively to France to continue with renewed energy his campaign for reforestation.

During his tenure in the Ottoman Council of Public Works, Tassy wrote an extensive report proposing solutions to the main problems of Ottoman forest management, including a detailed plan to increase profits for the state.218 This initial review blamed both a lack of legislation as well as limited surveillance and enforcement for the poor administration of Ottoman forests. As a remedy, Tassy called for the immediate adoption of extensive reforms, greater restrictions on forest use, and a significant increase in manpower.219

After the departure of his original partner Alexandre Stheme, Tassy recommended the appointment of Adolphe Bricogne, a classmate from the French forestry school at Nancy and another native of the Midi.220 Bricogne accordingly joined the mission and, following Tassy’s departure in 1868, took over the administration of the French forest committee. Soon after his arrival, Bricogne began the ambitious task of surveying the forests of the Ottoman Empire. Throughout his reports, he expressed continual amazement at the neglected and degraded state of the Anatolian landscape. He described most of the province of Konya as “completely

220 Özdoğan, E., and Ekizoğlu, 60. Alexandre Sthsme, Tassy’s original colleague, left the Ottoman Empire in 1863 to head the forest commission in his home of Moselle, a department in northeast France (Buttoud 1983, “STHÉME, Alexandre”). Bricogne (1825-1906) was born in Montpellier (Özdoğan and Ekizoğlu, 60).
To the south, the northern slopes of the Taurus Mountains that divide Konya from the province of Antalya were, in his estimation, “ruined, burned, overgrazed, trampled by livestock [and] can no longer regenerate naturally.” The hinterland of Antalya Province is similarly depicted as a scene of profligate devastation. Bricogne characterized the landscape of Alanya, a coastal town east of Antalya, as “the poorest, rudest of all the coast of Karamania [southwestern Anatolia], its forests reduced to nearly nothing.”

Like Tassy, Bricogne considered pastoralism a serious threat to forest preservation, a perspective that his survey of the forests of Anatolia only served to strengthen. He first encountered nomads summering in the mountains of Bursa Province, which is also where he first observed “the traces of their ravages.” His reports make frequent reference to Anatolian nomads’ “detrimental effect on forests.” Among their destructive practices, Bricogne listed the mortal bite of their sheep and goats, their custom of haphazardly cutting down old-growth trees “to make a minimal profit,” and “burning the underbrush of forests to produce beautiful pastures the following year.” While he acknowledged that certain forests, such as those covering the foothills of the Western Taurus in Antalya Province, had long been exploited for shipbuilding and commercial logging, he still blamed pastoralists for their gradual degradation.

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221 Bricogne 1877, 425.
222 “Leurs versants ruines, incendies, abroutis, piétinés par le bétail ne peuvent plus se régénérer naturellement.” Ibid.
223 “Le plus pauvre, le plus rude de toute la cote caramanienne. Ses forêts se réduisent à peu de chose.” Ibid., 430.
224 “C’est sur les plateau herbeux de l’Olympe que nous observons pour la première fois les habitations d’été (yailas) des Turcomans et les traces de leurs ravages.” Ibid., 382. Here Bricogne refers to Uludag, the highest mountain in western Turkey, called ‘Mont Olympe de Mysie’ in French.
225 “Funeste influence sur les forêts.” Ibid., 382.
226 “On le voit couper à plaisir les plus beaux troncs pour en tirer un profit minime; de plus, cette habitude invétérée […] d’incendier le sous-bois des forêts pour produire de beaux pacages l’année suivante.” Ibid., 382-383. See also 431.
227 Ibid., 429.
At the same time, Bricogne described the mountains of the high Western Taurus, the summer abode of the yörük, as “relatively well preserved, thanks to the natural obstacles that prevent their commercial exploitation.” This observation seems to contradict his negative view of Turkish nomads because it identifies commercialization, rather than pastoralism, as the main source of environmental degradation. In fact, Bricogne’s comment offers a clear representation of the distinction between practice and rationality in nineteenth-century French forestry. As this example shows, French foresters fought Mediterranean pastoralism indiscriminately, regardless of its impact on a given environment because it violated the precepts of French forest ‘science’ and French governmentality. Even for these proto-conservationists, environmental administration was as much about regulation, power, and the politics of truth, as it was about pure preservation.

Pursuing the theme of administration, Bricogne worried that regions populated by nomadic tribes would be particularly difficult to regulate because nomads had long enjoyed free access to forests through customary rights. In a telling allusion to the similar problems facing Provence, his account refers to these rights as “droits d’usage,” the same terminology used in France. In the “deforested and ruined” environs of Alanya, he judged the forest service to be “more powerless than anywhere else,” citing the “violence,” “savage customs,” and “well-known” intractability of its tribal population. Bricogne’s condemnation of Anatolian nomads formed a harsh critique of

228 “relativement ménagés, grâce aux obstacles naturels qui s’opposent à leur exploitation commerciale.” Bricogne 1877, 427-428. Bricogne’s distinction of the environmental state of these two zones is explained in part by the fact that Tahtacıs generally lived nearer to the coast, where timber could be more easily transported. Bricogne’s account refers to Tahtacıs and pastoral nomads indiscriminately.


230 Bricogne 1877, 382-383.

231 Ibid., 430.
Ottoman governmentality. He implied that the reforestation so necessary to this bleak landscape could only occur once nomads were better administered – or better yet settled. He also commented that, as easily and quickly as Antalya’s forests could be restored, given the initiative, “one can hardly hope that such an undertaking will ever be seriously attempted.” In effect, he dared the Ottoman state to prove him wrong, but he clearly doubted that it would. The subsequent translation of Bricogne’s writings into Turkish suggests that his criticism was destined for a Turkish as well as a French audience. Indeed, a contemporary source has commended his work for “providing a very valuable addition to our forest history.”

Though Bricogne’s Turkish contemporaries hardly could have enjoyed hearing their system of government attacked, they would have been receptive to Bricogne’s perspective on the administration of nomads because it closely matched their own.

As Bricogne’s report suggests, the findings of French forest engineers in Anatolia echoed the conclusions of French foresters in other parts of the Mediterranean. Like their colleagues, they conveyed the rhetoric of political economy and the political knowledge of French forest science. In their efforts to improve Ottoman forest management and protection, they targeted the widespread practice of mobile pastoralism, holding this practice largely responsible for degradation throughout the empire and treating it a serious hindrance to environmental ‘progress’. As solutions, they recommended the same institutions emblematic of governmentality in France: surveillance, legislation, and litigation. As they pressed for administrative reforms that would to exclude nomadic tribes from forests, they gained ready assistance from the Ottoman government and other Turkish authorities.

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232 Ibid., 430.
233 Bricogne’s work was quickly made available to a wider Turkish readership. His main written contribution was the book The Forest Commission in Turkey, published in Turkish as Türkiye’de Ormanlık Heyeti, translated by Fahri Bük (Ankara: T. C. Ziraat Vekâleti, 1940). First published in 1877.
234 “Ormanlık tarihimize bakımdan çok değerli bir yayını niteliği taşımaktadır.” Özdönmez and Ekizoğlu, 60.
administration, which had been struggling to control its nomadic population for centuries. Together, they formed a formidable force against the yörük.

CONCLUSION

Four years after the arrival of the French colonial mission in Istanbul, everything seemed to be going according to plan. In April 1861, the Grand Vizier wrote to the French Ambassador to thank him for sending such fine agents. Monsieur Stheme had demonstrated “his assiduity and his capacity,” while Monsieur Tassy had distinguished himself “by the solidity of his varied knowledge and especially by the enlightened care he brought to the foundation of the Forest School.” Moreover, just as France hoped, its Ottoman mission had increased international renown for French scientific forestry, leading to other engagements as well as respect and influence around the world. By the mid-nineteenth century, the French forest administration not only governed all of France’s possessions in the Mediterranean, including the Midi, Corsica, and Algeria, but since it formed the basis of Ottoman forest legislation, it also served the Eastern Mediterranean, including the Balkans, Anatolia, and the Levant. France had become the undisputed leader in Mediterranean forestry. The deeply-rooted ties between French forest administration and Mediterranean mobile pastoralists helped to secure and solidify this global reputation.

Yet, even as French forestry gained popularity among scientific, intellectual, and administrative circles abroad, it remained unpopular and problematic at home and throughout its Mediterranean

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235 CADN 166PO/E/956, Letter: Grand Vizier (Mehmet) to the French Ambassador (22 April 1861, Sublime Porte, Grand Vezirat).
236 “Mr Tassy, inspecteur des forêts, par la solidité de ses connaissances varies et spécialement par les soins éclairés qu’il a apporté à la formation de l’École forestière, Mr Sthème, inspecteur des Forêts, par son assiduité et sa capacité.” Ibid.
spheres of influence. In this way, the French forest regime exemplified both the strengths and the weaknesses of nineteenth-century French governmentality: its expansion of state power, sovereignty, and political knowledge on one hand, as well as its crippling system of rationality, inflexibility, and cumbersome bureaucracy on the other. As subsequent chapters reveal, these problems only intensified as the nineteenth century matured into its second half. In Provence, foresters continued to spar with local communities for the control and preservation of common lands. In Algeria, the forest regime, marred from the outset by competing interests and later commandeered by overzealous colonists, was quickly spiraling out of the control of the central administration. In Anatolia, foresters complained about a lack of support from the state, while Ottoman sources accused their French charges of lacking ambition and dedication to their task. Meanwhile, pastoralists around the Mediterranean continued to petition, negotiate, fight, and break the law to pursue their livelihood. They taught foresters and administrators that, like their sheep, they did indeed count.
Chapter Four: Nomads’ Land
The Nineteenth-Century Evolution of Land Laws and Property in Provence, Algeria, and Anatolia

It seems that these lands are like a sacrifice to the spirit of devastation and routine, and that they bear no administration. Who fails to notice, in our countryside, their state of abandonment, this multitude of weeds, of miserable herbs, of mole-hills that cover nearly everything? Common pasture is generally not regulated; it is practiced on the greatest variety of lands, and it is very often free. Under such conditions of exploitation and use, what can the earth be, if not completely unproductive?

- Joseph Ferrand, On Communal Land in France (1859)\(^1\)

Nothing is more dangerous in a new country than the frequent use of forced expropriation.

- Alexis de Tocqueville, Essay on Algeria (1841)\(^2\)

As the French forest regime tightened its grip on woodlands, another legislative force was chipping away at the grazing grounds of Mediterranean pastoralists. In Provence, Algeria and Anatolia, the definition and designation of property changed dramatically over the course of the nineteenth century. In all three cases, changes in property developed both through the forest regime as well as alongside it. The nature of this transformation and its impact on pastoralists varied from case to case, but it also exhibited common elements and themes across these three contexts. Thus, the issue of property represents an important link among them.

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\(^1\) “Il semble que ces terres soient comme un sacrifice fait à l’esprit de dévastation et de routine, et qu’elles ne souffrent aucune gestion. Qui ne les reconnaît, dans nos campagnes, à leur état d’abandon, à cette multitude de ronces, de mauvaises herbes, de taupinières qui les couvrent presque tout entières? La dépaissance commune n’est généralement pas réglementée, elle s’exerce indistinctement sur les terrains les plus divers, elle est très-souvent gratuite. Que peut être le sol soumis à de telles conditions d’exploitation et de jouissance, sinon complètement improductif?” Joseph Ferrand, De la propriété communale en France et de sa mise en valeur, étude historique et administrative (Paris: P. Dupont, 1859), 20.

\(^2\) Tocqueville 2001, 88.
For hundreds of years, the existence of Mediterranean pastoralists depended on their regular, periodic access to an extensive amount of property – mountain pastures in the summer, fallow fields in the fall and winter, low meadows in the spring, as well as wastelands and forests throughout the year. Differences in property formed the main distinction among various types of pastoralists and helped to regulate the regional pastoral economy. In Provence, for example, many pastoralists owned pastureland in the low plains or enjoyed access to it through local customary rights, but they had to rent upland pastures in the summer. Alpine communities, by contrast, drew a substantial profit from the seasonal influx of sheep, but they also paid to graze their sheep on the Crau and other winter destinations in Basse-Provence.

The history and development of property legislation also varied in important ways in Provence, Algeria, and Anatolia. In France, massive tracts of land changed hands in the revolutionary era due to the abolition of feudalism and the redistribution of Church and émigré property. Then, this property shifted again following the Restoration of 1814-1815, as many former owners returned to France. These changes also brought new patterns and systems of regulation for grazing and transformed traditional pastoral society. Ultimately, they gave the French forest regime much greater control over the practice and spaces of pastoralism.

In Algeria and Anatolia, and to a lesser degree, in France, the challenges pastoralists faced in terms of access to pasture and property ownership were directly related to the arrival of new inhabitants in the mid- to late nineteenth century. In all of these regions, the extensive use of land

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3 Fernand Braudel cites the difference in property as the main distinction between regular and inverse transhumance. See Braudel 1972, I: 88-89. In regular transhumance, mountain pastures are rented, and the herd originates on the plain. In inverse transhumance, the reverse occurs. See Chapter One.

4 Some of these owners succeeded in reclaiming their lands, but many did not. The Church, however, never regained its lost property, which served as a lasting source of resentment against Charles X and contributed to his ouster in 1830.
that characterizes mobile pastoralism became less viable as population density increased. In Algeria, the impact of the transfer – and transformation – of property on mobile pastoralists was particularly profound. European settlers worked concertedly to dispossess indigenous nomads through environmental arguments, propaganda, punishment, crooked exchanges, and the reinterpretation of property. In this context, colonial appropriation not only limited the options of pastoralists, but it left them homeless, jobless, destitute and desperate. Like northern Algeria, southwestern Anatolia also had to accommodate an influx of settlers in the mid- to late nineteenth century, in this case refugees from former Ottoman provinces lost in war. This new and sudden population pressure placed additional constraints on Anatolian nomads already burdened by the Ottoman forest regime, especially as their new neighbors began converting pasture to agricultural fields. At the same time, new Ottoman property legislation drove nomadic pastoralists from the lands on which they had long depended. In all three cases, nineteenth-century changes in property conspired against Mediterranean mobile pastoralists, hitting hardest those small-scale producers whose voices carried little political weight.

The very mobility of Mediterranean mobile pastoralists made them acutely susceptible to the nineteenth-century trends of privatization and bureaucratization of property rights. In the nineteenth century, the tide of enclosure swept across Europe, fueled by the philosophy that private ownership would breed better caretakers and by states’ eagerness to exchange land for profit.\(^5\) This trend also infiltrated the Mediterranean, affecting Provence, Algeria, and Anatolia to varying degrees. Most scholars agree that privatization had major social and environmental

\(^5\) The term ‘enclosure’ may refer specifically (literally) to the process of fencing off private property, or to the more general process of privatization. I use the term in the latter sense. While English fields usually were enclosed, or fenced off, during the Agricultural Revolution, French property was less characteristically so, though privatization proceeded just the same. See Bloch 1966, 205.
consequences and significantly altered popular perceptions of nature, though the evaluation of these effects remains the subject of debate.⁶ The impact of privatization on the practice of Mediterranean pastoralism, however, has received little scholarly attention.⁷ Even less discussed is the active role that mobile pastoralists played in the development and expression of this transformation. An examination of the connection between Mediterranean pastoralism and enclosure sheds considerable light on the debate over public versus private resource management. It also illuminates the evolution of French scientific forestry from a novel perspective. Indeed, as this chapter will show through the cases of Provence, Algeria, and Anatolia, the changing interpretations and designations of property proved to be important factors in both the application of French forest legislation and the transformation of Mediterranean pastoralism. It is no coincidence that the nineteenth century witnessed the waning of both no man’s land and nomads’ land throughout the Mediterranean.

⁶ For the debate over the environmental effects of privatization, see Elinor Ostrom, Governing the Commons: The Evolution of Institutions for Collective Action (Cambridge; New York: Cambridge University Press, 1990). See also Garrett Hardin’s classic analysis, “The Tragedy of the Commons,” Science 162: 3859 (1968): 1243-1248, and the ensuing controversy in the scholarly community. In January 2013, JSTOR included 602 sources citing this article. For a discussion of privatization’s impact on the perception of nature, see Isabelle Richefort, “Nature et société: Le sentiment d’une crise profonde,” in Les sources de l’histoire de l’environnement, 111; and La nature en révolution. The debate over the benefits of privatization continues in the present day. As the example of revolutionary France shows, there is no simple answer.

REVOLUTION, PROPERTY, AND PASTORALISM IN FRANCE

French sheep traditionally exploited a variety of landed property types. The massive flocks of large-scale commercial agriculturalists typically enjoyed access to their owners’ pastures for at least part of the year, though even they were compelled to rent pasture during their seasonal commute. In addition, French pastoralists generally benefited from the right to *vaïne pâte*, which allowed them to graze their herd, most often during the fall or winter, on local fields that farmers deliberately left fallow. Although this practice provided agriculturalists with a valuable source of fertilizer, they did not always welcome it, and the use of *vaïne pâte* appears to have declined during the course of the eighteenth century. Added to these options were customary rights (*droits d’usage*) conditionally granting inhabitants and their livestock access to local commons. Customary rights were traditional privileges governing residents’ use of lands held in common by their community. In Provence, these communal lands typically included wastelands (*terres gastes*), unsown agricultural fields or territory deemed unsuitable for agriculture (*terres vaines and vagues*), communal forest – variously defined, and other vacant lands. As demonstrated in Chapter Three, national forest legislation regulated and limited the use of communal forests long before the turn of the nineteenth century. Yet it also guaranteed local inhabitants access to these spaces as well as basic rights of exploitation.

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8 See Chapter One for the general characteristics and seasonal fluctuations of traditional pastoral regimes in Provence.
9 The right of *vaïne pâte* was practiced throughout France in the early modern era. In Provence, it dates at least to the thirteenth century. Paul Fassin, *Le droit d’esplêche dans la Crau d’Arles* (PhD Diss., Université d’Aix-Marseille, 1898), 7.
10 René Baehrel argues that the fertilizer provided by pastoralists’ use of fallow fields represented their greatest economic contribution. Baehrel also suggests that the agricultural shift from grain to wine in the eighteenth century marginalized local pastoralists’ place in a broader agro-pastoral system, as viticulturists tended to look less favorably on the right to *vaïne pâte* than had farmers of cereals (Baehrel and Aymard, 136, 169).
11 *Forêts perdues*, 32. For a study of French property and customary rights the eighteenth and nineteenth centuries in the context of irrigation, see Rosenthal.
The details of customary rights varied among communities, but they generally allowed inhabitants to collect deadwood, herbs as well as other forest products, and included limited grazing rights in forests and other common lands. Each specified the number and type of animals that could be admitted into the communal forest, where they were allowed, and regulations governing their presence. In all cases, customary rights on communal lands were reserved for members of a community for their personal use. Even inhabitants of the surrounding countryside were excluded, and local residents were forbidden from selling or transferring their usage rights to anyone else.

Communities gained revenue from local pastoralism in three principal ways. The most significant and consistent profit came from the head tax. Communities collected this tax annually from local pastoralists who grazed their livestock on communal land. The tax was determined per head, based on the type and number of animals. It provided a major source of revenue for the numerous communities in Provence with a large population of sheep and goats. The rental of communal pastures provided another source of profit for the communities of Provence. Seasonal access to pastures was regularly rented to foreign transhumant herds both in the Alps and in Basse-Provence, where Arles, as well as a handful of other communities with abundant pastures, led the way as prime destinations for wintering sheep. In addition to the steady income that the head tax and the rental of pastures provided, grazing violations on communal land offered communities a supplemental source of revenue. Municipalities charged owners of livestock found grazing illegally on communal land with a range of fines based on the number, location, and type of their beasts as well as the nature of the violation. These animals, moreover, could be

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12 Dumoulin 2002, 32. See also Ladoucette 1848, 546.
13 See for example BDR 7 M 248, les Baux en Provence, 1890-1900.
confiscated by the community and held until the fine was paid. Under certain conditions, or if the owner defaulted on his payment, the wayward livestock became the property of the community, and could be sold to generate additional profit. The prevalence of court cases from the eighteenth and early nineteenth centuries regarding communal grazing violations shows that this system encouraged local vigilance, was used frequently, and could be quite lucrative.\textsuperscript{14}

In Arles, the situation was unique. Here, pastoralism comprised such an important part of the local economy that special laws dating to the early medieval period, if not before, regulated access to communal pastures in the surrounding countryside. Throughout the early modern era, a traditional customary right called the \textit{droit d’espleche}, granted exclusively to the local population, allowed them to graze their flock free of charge on the nearby Crau. This privilege disappeared in the modern era, however, as grazing access and the pastoral industry in general became more profit oriented.\textsuperscript{15} The extent of communal pastures also declined steadily in the eighteenth and nineteenth centuries. The community of Arles sold off its last remaining communal pasture in 1862, thereby ending an age-old tradition.\textsuperscript{16}

Communal lands provided only a small fraction of the amount of territory needed to sustain Provence’s pastoral industry.\textsuperscript{17} Other pastures were owned by private landowners, the state, or, prior to the French Revolution, the Catholic Church, and rented to outsiders and commercial pastoralists for profit. In many communities of Haute-Provence, the rental of summer pastures to

\textsuperscript{14} BDR 2 U 2 2827 (Gémenos, an XII); BDR 2 U 2 2862 (Draguignan, 1849). It seems that the confiscation of livestock was not always profitable, however, since communal funds paid for its upkeep while it was in custody. Some of these files include complaints protesting the cost of maintaining confiscated livestock.

\textsuperscript{15} See Fassin; and Thomas Shippers, “Le cycle annuel d’un berger transhumant,” in \textit{Histoire et Actualité de la Transhumance en Provence}, edited by Danielle Musset (Mane: Les Alpes de Lumière, 1986), 64.

\textsuperscript{16} Fassin, 15, 22.

\textsuperscript{17} \textit{Forêts perdues}, 21.
transhumant shepherds from the Bouches-du-Rhône and the region surrounding Arles comprised the principal form of income.\textsuperscript{18}

\textit{The Revolution of Property Rights}

Both customary rights and the extent of common lands were significantly expanded during the French Revolution of 1789, when the National Convention redistributed Church and feudal lands to local communities and the state. Prior to the revolution, the Catholic Church was the largest landowner in France, possessing ten percent of all French property. During the upheaval of the Revolutionary period, feudal rights were abolished, a new national church was established, and nobles and clergy fled France. Much of their land was auctioned to private owners. Other parcels became public property – communal land.

Against the backdrop of these changes, the revolutionary government readdressed the range of customary rights traditionally awarded to French citizens. In 1791, the passage of a new rural law code reaffirmed the right of \textit{vaine pâture}, authorizing the inhabitants of a community to pasture their livestock on the unenclosed fallow fields of their neighbors, provided that they in turn admit a comparable number of beasts to their own unseeded property.\textsuperscript{19} These stipulations technically limited this privilege to landowners and entitled those who possessed the most land to make the greatest use of others’ vacant lands. All landowners had the choice of opting out of this system by fencing off their property, but doing so divested them of the opportunity to exploit the fallow fields of others. In practice, this law, together with the shifts in property designation during the Revolutionary era and the early nineteenth century, expedited the decline of the age-

\textsuperscript{18} Ladoucette 1848, 544-545.
\textsuperscript{19} Le nouveau code rural, ou Le jurisconsulte campagnard: Contenant le code rural de 1791, le code forestier, la loi sur la pêche fluviale, le texte des dispositions du code civil (Avignon: P. Chaillot jeune, 1838), 10-11; Fassin, 37.
The Revolution of 1789 was equally instrumental in the transformation of common lands. The law of partage (distribution), passed June 10-11, 1793, declared, “All communal lands, known throughout the Republic under various names [...] belong by their nature to the body of inhabitants or members of communities on the territory of which these lands are located,” and it authorized communities to take possession (revendiquer) of these lands. Hence, during the revolutionary era, French citizens grew accustomed to – and even dependent on – greater access to and exploitation of communal lands. They fiercely guarded their customary rights, which were, in many cases, central to their survival. The French state’s gradual erosion of these droits d’usage over the course of the nineteenth century, was thus no mean feat.

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20 Fassin, 36. The right of vaine pâture was abolished through the Loi du 9 juillet 1889, Article 2.
21 “Tous les biens communaux en général, connus dans toute la République connus dans toute la république sous les divers noms de terres vaines et vagues, gastes, garriages, landes, pacages, pâtis, ajoncs, bruyères, bois communs, hermes, vacants, palus, marais, marécage, montagnes, et sous toute autre dénomination quelconque, sont et appartiennent de leur nature à la généralité des habitants ou membres des communes, ou des sections de commune dans le territoire desquelles ces communaux sont situés; et comme tels, lesdites communes ou sections de commune sont fondées et autorisées à les revendiquer,” Loi du 10-11 juin 1793: Décret concernant le mode de partage des biens communaux, Section IV, Article 1°. Printed in Bulletin des lois des justices de paix, recueil chronologique des édits, décrets, arrêtés, lois, ordonnances et circulaires ministérielles, depuis 1563 jusqu’en 1852, edited by J.-L. Jay (Paris: Chez Durand, 1852), Vol. I: 120-121. The law also noted that communal forests would be governed specifically through forest legislation. See also Carol Kieko Matteson’s discussion of partage and communal grazing rights (Matteson, 243).
22 For a case study of the effects of the French Revolution of 1789 on property in the Corbières, another region of southern France, see McPhee. McPhee argues that the revolutionary division of property in the Corbières contributed to nineteenth-century trends of privatization, the decline of common lands, and the gradual replacement of pastureland with agricultural fields and vineyards (McPhee, Chapter 6). It also contributed to friction among landowners, peasants, and small-scale pastoralists in the nineteenth century (Ibid.). My archival research suggests similar effects for Provence. Jean-Laurent Rosenthal also touches on this issue in The Fruits of Revolution, cited above. He argues that the nineteenth-century evolution of property liberated land from many of the bureaucratic constraints contained in the pre-revolutionary system of privilege and commons, in which the conflicting interests of neighboring villages had prevented the realization of regional irrigation and drainage systems.
At the same time, the system of communal property came under increasing scrutiny. In the mid-eighteenth century, Buffon had argued that forests would be better safeguarded if they were owned privately, rather than communally. Others took up his call, and in the late eighteenth century a few Provençal communities began to experiment tentatively with privatization by divvying up communal lands among inhabitants. This point of view gained currency in France following the French Revolution, when an abundance of tracts appeared claiming that the abolition of feudalism had triggered an irresponsible pillaging of the land. In broader terms, authors maintained that private ownership would encourage better environmental stewardship. As one study put it, “Every undivided property is doomed to indifference” because “the collective being, in its relations with the land, envisages no improvement, responsibility, or future.” For these reasons, the author concluded, “Communal pasture imposes an inevitable sterility on the soil.”

Some critics even praised the initiative of the 1791 revolutionary assembly in removing private lands from the scrutiny of central forest administration. “Once the revolutionary torment had passed,” wrote one scholar at the turn of the twentieth century, “private woods and forests, newly liberated, quickly took on throughout Provence a new wealth. They are today generally all in a state of remarkable prosperity.” Moreover, by the early nineteenth century, England, France’s

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23 Matteson, 114-115.
25 “Enfin la dépaissance commune impose au sol une stérilité inévitable. Toute propriété indivise est vouée à l’indifférence. L’homme ne s’assujettit au travail que pour un but moral ou matériel qui lui soit propre. Ses facultés, ses espérances ne s’attachent qu’à ce qui peut recevoir le sceau de sa personnalité. L’être collectif, envisage dans ses rapports avec la propriété, n’a ni mobile ni responsabilité ni avenir.” Ferrand, 20.
26 Ibid.
27 “La tourmente révolutionnaire passée, les bois et les forêts des particuliers, nouvellement affranchis, ont rapidement pris dans toute la Provence une valeur nouvelle. Elles sont aujourd’hui généralement toutes dans un état de prospérité remarquable.” Allard, 58.
northern rival, had methodically eliminated its commons through parliamentary acts of enclosure, and other Western nations had begun to follow suit. Treatises in the bourgeoing field of economics scientifically proved the benefits of privatization, both for individuals and the state. By breaking the bonds of feudalism, the French Revolution had played a role in this trend as well. Many in France began to associate privatization with progress and modernity, linking English privatization to its prosperity and industrial success.

Private property, however, did not necessarily fare better than communal land during and following the revolution. As one official warned in 1798, “It is an evil not to have subjected to the police the forests that were sold by the Republic. The purchasers have razed them entirely, and timber, which is becoming rare, will one day be lacking.” One hundred years later, scholars were still blaming the environmental destruction of the revolutionary era on both communal and private over-exploitation. Describing private property’s independence from the forest regime following the law of September 1791, one scholar chided in 1901, “The abandonment of rules of use and management [and] the authorization of unlimited cutting were the immediate and unfortunate consequences of this abrupt liberation.” Thus, according to some observers, the ideal solution was private ownership under the supervision of the forest regime. This system would come to pass under the 1827 Forest Code.

The trend toward privatization gained speed throughout the nineteenth century. In 1802, Napoleon initiated an extensive reform of the traditional Rural Code (code rural) aimed to

28 The legislation of 1791 revised the Edict of 1669 to apply only to national and communal forests (Matteson, 233).
29 AN Flcra Doubs 6: Quirot, Commissioner of the Doubs, Compte de la situation politique pendant le mois de Messidor an 6 (June-July 1798). Quoted in and translated by Matteson, 209.
reduce customary rights, and targeting communal pastoralism in particular.\footnote{Jacques Léon Godechot, Les institutions de la France sous la Révolution et l’Empire (Paris: Presses universitaires de France, 1985), 663. Specifically, Napoleon attempted to eliminate the practices of parcours and vaine pâture, both of which traditionally entitled residents to graze their livestock on communal lands, wastelands, and along the sides of roads. This project was never effectively carried out under Napoleon, though both common lands and customary rights steadily declined throughout the nineteenth century.} Two years later, he passed the Civil Code, which accorded private landowners an unprecedented amount of independence, granting owners the right to dispose of their landed property as they saw fit.\footnote{“Les particuliers ont la libre disposition des biens qui leur appartient.” Code Civil (1804), Book II, Chapter 3, Article 537.} While the law scratched many initiatives of the French Revolution, including the requirement that inheritance be divided equally among one’s children, it continued to encourage the division of land parcels by giving landowners such license and by upholding the revolutionary ban on primogeniture.\footnote{See Matteson, 419-420; Badré, 126; and Jeremy K. Popkin, A History of Modern France, 4th ed. (Pearson, 2013), 77.} Finally, Napoleon encouraged privatization and the fragmentation of French property through his creation of a new nobility, which involved not only handing out titles such as the newly-created Legion of Honor, but also giving the gift of generous land grants to his loyal followers. At the same time, aristocratic émigrés, reassured by the emperor’s overtures and social conservatism, began to return to France to reclaim their former possessions.\footnote{Napoleon authorized the massive return of emigrants through an act of 6 floreal an X (April 26, 1802). See Godechot, 570.} These disparate members of the new French elite worked together to reverse the tide of popular exploitation that had taken hold of French territories in the previous decades, which they uniformly condemned as a destructive free-for-all. The privatization of French forests proceeded even more swiftly during the Restoration, when it was recognized as a valuable source of profit for starving state coffers. Indeed, from the time of the French monarchy’s return in 1814 to the establishment of the Third Republic in 1870, France surrendered over one fourth of its...
woodlands, covering nearly 1,400 square miles (353,000 hectares) – an area the size of Corsica, to private buyers.35

**Property and the Nineteenth-Century forest regime**

By the time the French Parliament passed the Forest Code of 1827, the nature of French property already had irrevocably shifted. Pastoralists who had traditionally depended on communal lands had watched those lands steadily shrink over the previous decades. Some gave up on the commons and began to rent pasture from private landowners. The new forest code encouraged this shift by making the exploitation of common lands less appealing, saddling users with additional fees, stipulations, and bureaucracy. In many cases, moreover, they closed communal forests to grazing altogether, which literally forced pastoralists to seek pasture elsewhere. The declining use of the commons sent communities into a vicious cycle. Each year brought fewer sheep, which meant less revenue from the annual head tax. In order to meet expenses, many communities felt compelled to sell off common lands, which in turn contributed to the trend of privatization.36 Regardless of how they responded to these pressures, under the 1827 Forest Code, pastoralists found themselves subject to the same restrictions and limitations whether they grazed their flock in public or private woodlands.

The evolution of property in the nineteenth century did not heal old wounds between pastoralists and farmers in Provence. This momentous shift created, if anything, more conflict. Provence emerged from the revolutionary era’s jumble of property with an inordinate amount of private

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forests and less than its share of communal land.\(^{37}\) It is thus no surprise that local peasants, pastoralists and other parties each clung jealously to what they had left. The factious role property played in nineteenth-century negotiations can be seen in a comparison of court cases adjudicating grazing violations on public and private lands. In nineteenth-century Provence, infractions on common lands most often concerned one of a handful of crimes: shepherds herding more sheep than they were allowed, pasturing sheep without having previously declared them on the municipal register, herding goats, or grazing in protected areas.\(^{38}\) These issues, however, rarely arose in suits involving private lands. Instead, landowners’ main accusation against pastoralists was that they were there at all; an abundance of court cases dealt with shepherds poaching pasture.\(^{39}\)

Indeed, of the range of grazing offenses brought to court in the early nineteenth century, most involved property disputes, rather than violations of forest legislation. Incidents of sheep and goats grazing illegally on private land were particularly prevalent following the restoration of the monarchy in 1815, when the return of émigrés limited the amount of land available for grazing.\(^{40}\)

The culprits, moreover, were usually discovered by the property owners themselves or their

\(^{37}\) *Forêts perdues*, 20-21. On the eve of the passage of the French Forest Code in 1827, the Bouches-du-Rhône department included only 73 square miles of communal forest, compared to over 160 square miles of private forest. Much of the latter was owned by a single family, the Albertas (BDR 6 M 25). One member of this family, Jean-Baptiste-Suzanne Marquis d’Albertas, briefly served as Prefect of the Bouches-du-Rhône during the Restoration from 1814-1815. Privatization of Provençal land continued under the Restoration.


\(^{39}\) The problem went both ways. In one case from Allauch (1818), pastoralists complained that private landowners had taken over part of the communal land and were using it for cultivation. The mayor claimed he was powerless to stop them since the town lacked the revenue necessary to conduct a proper survey delineating the boundaries of the commons. BDR 2 O 3 1: “Pâturage: Allauch. Préfecture (1808-1824), Marseille.”

\(^{40}\) For example, in 1825, two shepherds, Pellat and Boyer, were accused of grazing sheep belonging to Joseph Bellon on the property of Jean Francois Gourrande in the commune of Istres (BDR 2 U 2 2821: Cour d’appel, 25 avril 1825).
agents, rather than by public forest guards, who were conspicuously absent from most of these cases. Grazing sheep illegally on private lands was not a new phenomenon, as similar cases from the eighteenth century show (see Chapter Two). Yet the growing ratio of private to public lands, paralleled by a declining number of landowners willing to open up their fallow fields to grazing, certainly made this problem more common.

The frequency of property violations may have been exacerbated by the obscurity of property delimitation. The absence of clear borders between public and private property, and between exploitable and protected communal lands, remained a widespread problem long after the passage of the 1827 Forest Code. French foresters were responsible for surveying and delimiting the commons, as well as marking territory to be protected or kept in reserve. This was no easy task. In addition to the challenge of identifying the Provençal forest, it involved navigating disputes between private landowners, local administrations, and other interested parties. It also required trekking through brambly Mediterranean woodlands armed with a sufficient supply of boundary stones. Meanwhile, the borders of public forests were constantly shifting – and shrinking – as communities and the state sold them off for fast cash. For these reasons, surveying forest boundaries kept foresters busy for much of the nineteenth century. In its final decades, they were still struggling to delineate communal forests.

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41 For one example of disputes arising from the absence of clear distinction between public and private land, see BDR 2 O 3 1, Letter: Mayor of Allauch to Prefet, Marseille (17 février 1818). See also Forêts perdues, 21.
42 Dumoulin 2002, 32, 35.
43 In the nineteenth century, property boundaries were marked, often for the first time, with stones (Dumoulin 2002, 33).
44 See for example, BDR 150 E 1N 2: “Roquefort-la-Bédoule: Pacage. Redevance sur les troupeaux paissant sur les terres gastes (1807-1882),” which discusses surveying problems in the mid-nineteenth century; and BDR 7 M 286: “Bois Communaux: Gèmenos,” which describes efforts to survey the communal forest in the 1890s.
Local administrations in Provence were generally sympathetic to pastoralism since it formed such an important part of their economy, but sometimes even they felt it went too far. In 1830, for example, the mayor of Roquefort la Bédoule addressed the municipal council with a bitter complaint against the domination of the town’s commons by local pastoralists. The previous year, in 1829, pastoralists had been granted permission to graze their livestock in communal forests by a royal ordinance, following the stipulations of the 1827 Forest Code. According to the mayor, these sheep had since taken over all exploitable lands “without distinction,” which, he protested, “deprived the community of an annual revenue of 400-500 francs, but which gave a major advantage to the owners of herds.”

Some critics of pastoralism protested the free rein that livestock apparently enjoyed in lands not covered by the forest regime. These were the lands ambiguously abandoned by Article 90 of the 1827 Forest Code, which specified that the forest administration would oversee only those woodlands “recognized as susceptible to maintenance or regular exploitation by the administrative authority.” This clause allowed foresters to identify dubious territory as forest, but it also freed other communal lands from the protection of the forest regime. Worse, these unregulated lands were often the ones in the poorest condition, judged to be beyond the help of reforestation efforts. In other instances, Article 90 led to the neglect of small forest plots – which were particularly prevalent in Provence – deemed too insignificant to merit the attention of the

45 “il n’y a plus aujourd’hui aucune espèce de terre communale qui soit en réserve, et toutes sont à l’usage des bêtes à laine sans distinction, ce qui privè la Commune d’un revenu annuel de 4 à 500 f, mais ce qui donne un grand avantage aux propriétaires des troupeaux.” BDR 150 E 1N 2, Extrait des registres des délibérations du Conseil municipal de la commune de Roquefort (28 mars 1830). See Chapter One for my description of various types of herd owners and their roles in society.

46 “Sont soumis au régime forestier, d’après l’article 1er de la présent loi, les bois taillis ou futaies appartenant aux communes et aux établissements publics, qui auront été reconnus susceptibles d’aménagement ou d’une exploitation régulière par l’autorité administrative.” Code forestier (du 21 mai 1827), Art. 90. This article regards communal and public forests only, but the same definition applied to other forests.
either to these discarded lands, which were least able to sustain it, or to the healthiest, most robust woodlands, classified as defensables (the opposite of those ‘en defens’). In both cases, pastoralists ultimately made more of a negative impact than they had before the days of ‘scientific’ forest regulation, and they consequently gained even greater unpopularity in the outside community. At the same time, almost paradoxically, the number of pastoralists who used these commons fell steadily over the course of the nineteenth century, as Figure 4.1 shows for the village of Roquefort-la-Bédoule. In this typical example, the total number of sheep grazing in the communal forest and terres gastes dwindled from a peak of close to 2,000 animals just before the implementation of the Forest Code in 1827, to a negligible amount in the final decades of the century. By the mid-1880s, the commons were used by no more than a few dozen sheep. As the commons disappeared over the course of the nineteenth century, so did the practice of forest grazing. Small-scale pastoralists also beat a steady retreat, since the use of these lands was vital to their existence. In 1884-1885, for example, the commons of Roquefort-la-Bédoule were exploited by no more than a single shepherd and his paltry flock. Thus, by the end of the nineteenth century,

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47 Allard, 64.
48 “Et c’étaient justement celles qui réclamaient la protection la plus sérieuse, la plus urgente et la plus nécessaire! C’était une hérésie que le législateur venait de consacrer, erreur dont le pays souffre depuis 60 ans.” Allard, 64.
49 BDR 150 E 1N 4: “Roquefort la Bédoule. Pacage. États des propriétaires dont les troupeaux paissent sur les terres gastes et les bois communaux, 1809-1884.” There were 40 sheep in 1884 and 60 in 1885, comprising no more than a single herd.
50 Ibid.
there was hardly anyone left to fight for the preservation of common lands. A law passed June 22, 1891, outlawed the customary right of communal grazing (*vaine pâture*) throughout France, except in communities that petitioned successfully to preserve it.\(^{51}\) The law generated no public outcry, and only a handful of communities elected to preserve their traditional grazing rights. In this way, the long-cherished privilege of communal pasture all but disappeared from Provence, and with it, the common ground of foresters, peasants, and pastoralists.\(^ {52}\)

![Communal Pasture Use in Roquefort-la-Bédoule](image)

**Figure 4.1** Communal Pasture Use in Roquefort-la-Bédoule, 1809-1885.\(^{53}\)

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\(^{52}\) See BDR 134 J 106: “Procès entre la ville de Salon et Couderc et autres, au sujet de la vaine pâture” (1901); and BDR 135 J 7: “Dépaissance et vaine pâture: Situation juridique de la Camargue (1909).” For a discussion of the gradual disappearance of commons in France, see Bloch 1966, 135, 197-234.

\(^{53}\) BDR 150 E 1 N 4: “Roquefort la Bédoule. Pacage. États des propriétaires dont les troupeaux paissent sur les terres gastes et les bois communaux, 1809-1884.” The top line shows the annual number of herds, with specific numbers plotted at various points. The bottom line shows the total number of sheep.
The Commercialization of Agriculture

The forest regime also sowed conflict between pastoral and agricultural camps by supporting the conversion of pasturelands to fields for cultivation. This program was one result of the 1827 Forest Code’s obscure reference to “the improvement of pasture lands.” The expansion of agriculture in Provence was particularly pronounced throughout the Crau and the Camargue. Both regions were traditionally devoted to pastoralism, and their value as winter grazing lands was so significant that they singlehandedly had made the nearby city of Arles the center of Provence’s pastoral industry in the early modern era. While Arles continued to dominate pastoralism in Provence in the nineteenth century, other industries began to trickle into this region. During this period, the forest and agricultural administrations, both governed by the profit-oriented Ministry of Finance, promoted cultivation in these areas through the expansion of irrigation and drainage systems. As a result, the size of the Crau’s remaining steppe diminished considerably along with the marshes of the Camargue, and both regions were submitted to the plow. Over the course of the nineteenth century, much of their traditional grazing ground was converted to wheat fields, olive and almond trees, orchards, vineyards, and rice paddies. Despite the decline in area available for pasture, the number of sheep exploiting these regions increased steadily, as Figure 4.2 shows. Sources estimate the population at 150,000 animals in the late

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55 The Ministry of Finance oversaw the French forest administration until 1877, when it was transferred to the Ministry of Agriculture. Both governing ministries promoted the conversion of pasture to agriculture throughout France.

56 According to Orange and Alambert, the Crau and Camargue together provided winter pasture for about half of the total number of sheep in the Bouches-du-Rhône department. Orange and Alambert, 25; Belleval, 23.
eighteenth century, though no reliable statistics exist from that time. By the mid-nineteenth century, it had risen to over 300,000 in the Crau and Camargue alone. This figure ceased to climb after the wool crisis of the 1860s, when small producers were virtually shut out of the industry. Nonetheless, the rural hinterland of Arles continued to provide pasture for a substantial number of sheep. By the late nineteenth century, however, most of them belonged to regionally-based, large-scale agricultural operations and were raised not for their wool but for slaughter (see Chapter Six and Conclusion).

Today, sheep have all but disappeared from the Camargue, and the Crau maintains only 27 square miles (7,000 hectares) of pasture, just one-tenth of its size in 1829. On average, this area

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58 The total number of sheep in the Bouches-du-Rhône continued to rise until the 1860s, when it fell sharply as a result of the wool crisis. In the second half of the nineteenth century, the number of merinos declined 70 percent throughout France (Orange and Alambert, 36). The number of sheep grazing around Arles declined temporarily, but the pastoral industry reorganized itself in the final decades of the century. In 1898, the region again hosted 300,000 sheep (Orange and Alambert, 26, 36). I discuss the nature and impact of the wool crisis in Chapter Six.

59 Based on figures from Orange and Alambert, 9, 23; Villeneuve 1829, 4: 61-64; and Belleval, 2.
serves 100,000 sheep during the winter months.\footnote{“Arles Camargue: De la Crau aux marais du Vigueirat,” Arles Office of Tourism, Web: http://www.tourisme.ville-arles.fr/document/pdfs_document/us1161856424.pdf, (accessed: 20 November 2012).} To put this figure into perspective, it might help to point out that under the 1827 code, the French forest administration, in those Provençal lands where it permitted pastoralism, typically limited grazing to between two and four sheep per hectare, the maximum amount it believed would permit annual regeneration and sustainable use.\footnote{See for example BDR 7 M 250, Conservation des forêts, Troisième Arrondissement: Orgon, “Demande de l’autorisation d’étendre le droit de dépaissement, 1857.” In this case, the forest administration refused to increase the amount of Orgon’s territory open to grazing, but it did agree to allow up to four sheep per hectare. See also Cointat, especially p. 111.} Under the current conditions, however, over fourteen sheep must share each hectare of land. This is a high figure even with modern fertilization techniques.\footnote{In 1924, Orange and Alambert estimated that even the prime pastureland of the Crau could not support more than eight to ten sheep per hectare (Orange and Alambert, 43), much more than other lands but still less than their current burden (Orange and Alambert, 43). In addition, sheep must now share the Crau with hay fields. See Le Foin de Crau AOC, Web: http://www.foindecrau.com/ (accessed 4 May 2013).} Moreover, few contemporary sheep are transhumant. Instead, they graze the same Mediterranean pastures year-round. Thus, partly through the initiatives of the French forest administration, nineteenth-century fears of overgrazing have become a reality.

LAND, PRODUCTION, AND DISPLACEMENT IN FRENCH COLONIAL ALGERIA

Once the dust of the French conquest of Algeria began to settle, French colonial administrators, military officials, and intellectuals alike found themselves with a hard-won prize of dubious merit. The territory and its peoples posed a major administrative challenge. Everything was foreign – the land, the language, the people, as well as their customs and traditional system of administration – and the success of French governmentality depended upon a better understanding of all of these areas. France’s next step was to consolidate its physical and intellectual command over the territory and the indigenous population. As French officials,
colonists, military men, and forest agents alike quickly discovered, the appropriation of Algerian land was one of the surest paths to this end.

The French colonization of Algeria was largely driven by the convenient but false assumption that property was not a major concern for nomads because they were constantly on the move, in contrast to the sedentary population. In the early years of the occupation, the French government deliberately identified the seasonal pastures of mobile pastoralists as vacant land ripe for settlement. Pre-colonial designations of property, moreover, were either misunderstood or deliberately ignored. This interpretation served to make room for a growing stream of European settlers, lured by the French administration’s generous incentives to move in.

At the same time, French interpretations of Algerian property were deliberately tailored to serve the moral precepts of the ‘New Imperialism’: the uplifting mission civilisatrice. As discussed in Chapter Two, even the most sympathetic nineteenth-century French observers, following the philosophy the Saint-Simonians and later Marx, viewed nomads as primitive and destructive, and urged them to settle. Others expressed doubts that mobile pastoralism could be eliminated altogether, but they stressed the importance of reclaiming all of the region’s arable land for agriculture. Hence, one of the main goals of the colonial administration became the systematic removal of mobile pastoralism from Algeria’s potentially productive areas. During the second half of the nineteenth century, nomads were systematically banished to Algeria’s vast uncultivated regions, from coastal marshes and rocky foothills, to the Hauts-Plateaux, the Atlas, and the Sahara, including much territory that would hardly deserve the designation ‘wasteland’ in France. These remote areas, ‘reservations’ in all but name, became the last bastions of
Algerian pastoralism. In this way, the French administration solidified the boundary between the ‘desert and the sown’, which had long been permeable, fluid, and indistinct.

Before the process of requisitioning Algerian property could begin, the new colonial regime needed to identify, understand, and codify it. The French administration pursued this goal by commissioning investigations of Algerian history, society, and environment, using this information to pave the way for European settlement and exploitation. Almost from the date of conquest, French concerns about Algerian forests were linked with the issue of property. The *Statistique générale* of 1844, France’s earliest comprehensive report on Algeria’s environment, suggested that the sooner forests were taken out of the hands of native Algerians, the better. The report seemed to leave no doubt that Algerians were poor stewards of their forests. In this way, French discourse on environmental practices helped to pave the way for the French colonial enterprise of indigenous dispossession.63

Although the initial response to concerns about Algeria’s environmental state was to apply the French Forest Code of 1827 verbatim, its impact proved even more limited than the modest extent of French control. The French conquest, meanwhile, proceeded steadily, but slowly. Algeria remained under partial military rule until 1870. For nearly half a century, it was, according to one scholar, the army’s “parade ground and particular preserve.”64 Even in the 1850s, when most of northern Algeria had been subdued, the French Forest Code carried very little weight. French colonial officials quickly discovered that administering these regions was

64 Ageron 1991, 8.
entirely different from conquering them. While they viewed forest administration as an excellent goal, they acknowledged that, at least in the short term, stronger stuff was necessary.

Colonists quickly recognized property as an effective route to power in France’s new territory. As its control of Algeria expanded, France, aided by a growing number of European settlers, methodically remolded Algeria’s property divisions to suit the colonial administration. During the conquest, French forces ousted local and Ottoman rulers throughout Algeria, climbing into the power vacuums they had created. They also initiated a process of dispossession of native Algerians that would continue throughout the nineteenth century. During the period of conquest, the French state gradually brought regions that had been pacified under civil administration and opened them to European colonization. By the 1850s, the civil zone comprised most of the northern territory, though even here French control in many rural hill and mountain regions remained limited. French colonial officials governed Algeria through the three administrative provinces of Oran, Algiers, and Constantine. The military zone (Territoires du Sud) stretched across the Sahara in the south of Algeria and remained subject to military rule.

As French control expanded, it brought new indigenous inhabitants under its realm. Yet, during the colonial era, the growth of the native Algerian population was stunted by disease and impoverishment as well as violence and oppression, and aversion to the new regime drove many Algerians across the border into neighboring Tunisia. Meanwhile, settlers began to trickle in from France and other European states, drawn by the promise of a new start, land grants,

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subsidies, and other incentives. While disease and other hardships associated with their new home also took a toll on immigrants, the European population grew slowly but steadily in the second half of the nineteenth century. Nonetheless, Europeans remained a small minority in Algeria throughout the colonial era. In the 1860s, they comprised just over six percent of Algeria’s total population, and were confined almost exclusively to urban centers.

Although the French conquest of the countryside would take much longer, it was ultimately achieved through forest administration, property legislation, and the plow. Forests occupied center stage in the colonial discourse on property. These were the territories that the French central administration considered most endangered and in need of protection, but for colonists they offered prime real estate and opportunities for exploitation. They also provided resources, pasture, and shelter for native pastoralists, and many of them were, at the time of the French conquest, occupied by indigenous tribes. As in France, the French forest regime was tasked with identifying and classifying Algerian woodlands, distinguishing them from other types of land. Hence, throughout the nineteenth century, French forest agents strove to apply property divisions that would best protect and preserve Algerian forests, while settlers fought for legislation that would increase their access to forests while limiting indigenous usage rights.

**Property Laws**

At the time of the French invasion, the inhabitants of Algeria recognized several categories of land, including private property (mülk), collective or communal property (arch), state property,

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67 For a description of these incentives as well as immigrants’ disillusionment on arrival, see Julien, 364-371.
68 Lorcin, 126; Julien, 157-159. Faruk Tabak has cited malaria as the main cause of death among settlers in Algeria, describing this disease as a common Mediterranean phenomenon. See Tabak, 218.
69 Fillias, 6. Including all miscellaneous people, the total population of Algeria in 1862 was calculated at: 3,062,124 (Fillias, 7). For another use of this statistic, see “Lettre de S. M. l’Empereur au maréchal Pelissier, duc de Malakoff, Gouverneur Général de l’Algérie,” in Statistique et documents relatifs au Sénatus-consulte sur la propriété arabe, 1863 (Paris: Imprimerie Impériale, 1863), 8. See also Julien, 118-119, and chart on page 472.
and unclaimed land. These divisions, and their associated rights of usage and access, had origins in local customs as well as Islamic tradition. The new French administration responded to this system in conflicting ways. On one hand, French colonial officials made a modest effort to comprehend Algeria’s traditional forms of property ownership and its methods of land management and exploitation. In some places, they even preserved pre-colonial structures, especially where a lack of access or resources made colonization impracticable or undesirable. The vast expanses of Kabylia in the province of Constantine, for example, remained largely untouched by colonial rule. The French administration divided these and other remote territories into communes mixtes. Though this label implied the coexistence of European settlers and native Algerians, it was generally a euphemism for indigenous communities. On the other hand, most French colonists were ill-informed of Algerian property traditions, and their attitudes toward Islamic law ranged from ignorance to outright contempt. The French administration also felt significant pressure to open up land for European settlement. As a result, indigenous property rights eroded steadily against the onslaught of colonization.

As French settlers began to compete with indigenous groups for land, they used environmental arguments to challenge indigenous claims. Colonial accounts described the natives alternatively as poor environmental caretakers, and as the bearers of a destructive environmental tradition. The former argument described Algerian soil as rich and full of potential, while the latter presented a landscape brutalized by centuries of ecological desecration. One report from the mid-

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70 For example, an 1889 report by the Algerian Forest Conservator proposes to explain the various types of Algerian property and their basis in Islamic Law (30 janvier 1889). A.D. Combe, Conservateur des Forêts, “Les forêts de l’Algérie” (Alger: Imprimerie de Giralt, 1889), 14, 16. ANOM BIB AOM B6904. See also the analysis of mid-nineteenth-century French discussions of Algerian property in Julien, 404.
71 Alain Mahé, Histoire de la Grande Kabylie, XIXe-XXe siècles: Anthropologie historique du lien social dans les communautés villageoises (Saint-Denis: Bouchene, 2001), 8, 10. Kabylia was one of the last parts of northern Algeria to resist French control. It was not subdued until 1857 (Julien, 394-395).
72 Ford, 343-4, 357.
nineteenth century enthusiastically promoted the “fecundity” of Algerian soil and gave promising production figures for a multitude of crops, including grain, cotton, and tobacco.\(^{73}\) Meanwhile, other accounts were already describing the Algerian landscape as ruined. In both cases, the conclusion was the same: Algeria should not be wasted on the Algerians.

Contemporary European property debates also influenced French perceptions of Algeria. For many observers, the Algerian environment seemed a classic example of what Garrett Hardin would later term “the tragedy of the commons.”\(^{74}\) Advocates of this perspective argued that Algerian land could only be saved by converting it to private property and placing it at the disposal of European settlers. At the same time, French analysts began to cultivate a narrative that “property exists only exceptionally among the Arabs.”\(^{75}\) More than any other argument, this interpretation seemed to invite settlers to move in and claim Algerian land. Even if it was occupied, they could be sure that the natives did not own it.

**The Second Empire and the “Arab Kingdom” of Napoleon III**

In 1848, another revolution extinguished the monarchy in France, sweeping Louis-Philippe from the throne. Louis-Napoleon Bonaparte, the nephew of Napoleon Bonaparte, was elected president of the newly created French Republic in a landslide victory. The new leader, who would later become Emperor Napoleon III, initially shared his uncle’s lack of interest in colonial affairs.\(^{76}\) Nonetheless, on June 16, 1851, he passed a law that greatly expanded the territory available for French colonial exploitation in Algeria, inviting French settlers to freely claim

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\(^{73}\) Fillias, 10-11.
\(^{74}\) Hardin, 1968: 1243–1248.
\(^{75}\) Fillias, 79.
\(^{76}\) Julien, 388.
native lands through a process known as *cannonnement*.

Proponents of the idea insisted that it would help civilize the native population. “Without the integration of races [there can be] no progress, and without cannonnement, no integration of races,” reasoned the former editor-in-chief of the Algerian newspaper *La Colonisation* in 1858.

In practice, however, the law was a paragon of nineteenth-century French governmentality. Notably, it classified three types of geographical features as state property exempt from expropriation: forests, mines, and key waterways. Of these three categories, forests were by far the most extensive, as well as the most disruptive to private and indigenous property claims. In a clear continuity with the forest regime in France, moreover, many of the so-called ‘forests’ protected by this clause did not contain a single tree. As in France, this reconceptualization of forest lands represented a brand of political knowledge designed to increase state control over landed property and inhabitants. At the same time, the law’s focus on forests reveals much about the values and concerns of the French imperial administration. Perhaps even more than in other Mediterranean settings, French officials, intellectuals, and forest agents considered woodlands in colonial Algeria a precious and vulnerable resource. In the eyes of Louis-Napoleon’s administration, the sole and necessary remedy for the danger facing Algeria’s woodlands was an autocracy exercised by the French scientific forest regime.

The law of June 16, 1851, was in part an attempt by the French president to win popular support in France’s most prized colony, and to restore stability there after years of agricultural hardship

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77 For the implementation of this law in Algeria, see ANOM ALG/GGA/P13, Third File: “Forêts: Organisation: Constitution du Sol forestier: Commissions forestières (Constatation des droits de propriété): Execution de la Loi du 16 juin 1851.”

78 Quoted in Julien, 405.
and unrest. In practice, it seemed to please no one. The law granted European settlers a partial victory. While the redistribution of land authorized by the 1851 legislation presented them with a positive boon, it also substantially curtailed their access to Algerian land. Colonists complained that most of the land grants were snatched up by powerful speculators and financial institutions, depriving them of any potential benefit. Many French entrepreneurs, for their part, felt that the law placed oppressive limits on their ability to exploit the Algerian environment, and they continued to press for concessions and reform. Likewise, French colonial administrators criticized the law as unrealistic and impractical. In the 1850s, very little Algerian territory had been surveyed, so it was often impossible to say what was forest and what was available for colonization. As late as the 1880s, the governor of Algeria complained that the obscure boundaries of the forest regime continued to hamper the implementation of cantonnement.

At the same time, the law of 1851 dealt a heavy blow to indigenous groups, and its impact on forests was dubious at best. It assumed that natives had an abundance of land and offered to formally recognize part of this territory as theirs if they voluntarily gave up their ‘extra’ land to the French state. As an obvious consequence of this measure, indigenous groups were pressured into sacrificing much of their property to European settlers. In the province of Constantine, cantonnement claimed 50 to 85 percent of indigenous tribes’ ancestral lands, leaving them with...

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79 Napoleon III never managed to gain much popularity among French Algerians. His greatest offense, in their eyes, was his extreme centralization. Not only did this system cut French Algerians out of political decisions regarding their colony, but it also forced the most minor requests to filter through a tedious, labyrinthine bureaucracy in Paris. Many complained that initiatives that had taken two years to be approved under the July Monarchy of Louis-Philippe now took three. In one anecdotal tale, a colonist rejoiced when he finally received permission to build his mill…four years after applying for a permit (Julien, 396-397).

80 Ford, 344.

81 Julien, 404, 406-408.

82 ANOM ALG/GGA/P13, 14 février 1882, Minute de la lettre écrite, Gouverneur Général de l’Algérie, Secrétariat Général, 2e Bureau, à M. le Ministre de l’Agriculture (Administration des forêts), Paris.
little other than remote mountain regions. Many pastoralists also lost their traditional livelihood, because it depended on access to extensive territory. The system of cantonnement also enabled the French administration to pick and choose its parcels in the exchange, so that natives often were forced to cede the choicest forest and agricultural lands. Thus, over the course of a decade, “the most beautiful of tribes” were, in the words of one observer, “diminished by half and ruined completely.” For all its costs, the law did little to improve the state of Algerian woodlands.

Throughout the second half of the nineteenth century, while forest agents struggled to survey the vast expanses of Algerian territory that had come under French control, the use of unclassified forests continued unregulated and unabated. Moreover, even the process of identifying and protecting forest lands fueled destruction because it meant banishing pastoralists to territory that was smaller, more crowded, and often less ecologically resilient.

Following a brief tour of Algeria in 1860, Napoleon III abruptly changed his policy on colonial administration. In place of the civil administration he had helped to institute less than a decade before, he restored the full authority of the military through the office of gouverneur général and the Bureaux Arabes, which he considered more sympathetic to indigenous groups. Supposedly embracing the native cause, he proclaimed the French colony to be an “Arab Kingdom,” a label which immediately invoked the rage of the colonial population, and he argued that “the natives,

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83 Julien, 405.
84 Ibid.
85 Davis 2007, 100.
86 “La plus belle tribu […] diminuée de moitié et ruinée, complètement.” Quoted in Julien, 405.
87 In 1858, the Prefect of Constantine argued just this in a letter protesting the application of the law of 1851. ANOM F98971, Letter: Préfet de Constantine à Jacques-Louis Randon, Gouverneur Général de l’Algérie (6 février 1858).
88 Napoleon III spent just three days, September 17-19, in Algiers with his wife (Julien, 419).
89 Julien, 419; Ageron 1991, 36-38; and Lorcin, 77.
like the settlers, have a legal right to my protection, and I am just as much the emperor of the Arabs as the emperor of the French.”⁹⁰ Where he had previously championed settler rights, moreover, he now condemned cantonnement for its negative impact of indigenous groups.⁹¹ In the decade that followed, Napoleon III pursued policies proposing to uplift and civilize the native Algerian population and acclimate them to French colonial administration. On June 22, 1863, under his administration, the French parliament passed a law designed to stop colonists from claiming native territory.⁹² For the first time since the French conquest, indigenous tribes were formally recognized as “the owners of the territories in which they exercise permanent and traditional use.”⁹³ The law put a temporary halt to the process of cantonnement,⁹⁴ and it theoretically offered indigenous tribes the opportunity to gain French legal status for their land through property concessions.⁹⁵ Finally, as if to validate the emperor’s new-found faith in the civilizing mission as well as the Western predilection for private property, it promoted the division of tribal lands among individual members.

In practice, these measures won him even greater scorn among settlers. Most Europeans had immigrated to Algeria in the hope of personal aggrandizement, and they had little inclination to

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⁹¹ ANOM F⁸⁰ 1679. See also Abi-Mershed, 167.
⁹⁴ Projet de Sénatus-consulte, Art. 7. This article nullified Article 14 of the law of June 16, 1851.
⁹⁵ Projet de Sénatus-consulte, Articles 2 & 3.
subordinate their own success, let alone survival, to the altruistic betterment of the indigenous population. “In our opinion,” wrote the French-Algerian journal *La Seybouse* in 1861, “there is in Africa only one interest worth respecting, and that is the colonist’s – ours; only one important law – ours.”\(^96\) Ironically, even as the authors of this editorial rebuked Napoleon III for his seemingly native-friendly policies, by suggesting that the colonial population maintained a monopoly on reason and justice in Algeria, they tacitly reaffirmed their allegiance to French governmentality. Nonetheless, the law of June 22, 1863, led to growing antagonisms within the colonial administrative apparatus.\(^97\) The Bureaux Arabes, which had welcomed *cantonnement* just a decade before, now considered it a duty to protect indigenous groups against the colonial onslaught.\(^98\) The stage was set for a serious and impending conflict.

In the long run, the law also negatively affected native Algerians, as colonists used their greater familiarity with French law to maneuver around measures designed to safeguard native land. The implementation of the 1863 law was particularly harmful for mobile pastoralists.\(^99\) Because their use of land was not “permanent,” it was often not considered a valid property claim. Even those pastoral tribes lucky enough to gain formal ownership of part of their territory were now confined to it year-round. They suddenly found their annual migration cycle restricted, if not closed off completely.\(^100\) The range and options of these tribes dwindled even more as once-communal territory was systematically divided up among individuals, many of whom, out of

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\(^96\) “Selon nous, il n’y a en Afrique qu’un seul intérêt respectable, c’est celui du colon; c’est le nôtre; qu’un seul droit sérieux, c’est le nôtre.” “Éditorial,” *La Seybouse* 12 juillet 1861. Quoted in Julien, 406.

\(^97\) Abi-Mershed, 168.

\(^98\) Julien, 426; Xavier Yacono, *Les Bureaux Arabes et l’évolution des genres de vie indigènes dans l’Ouest du Tell algérois (Dahra, Chérif, Ouarsenis, Sersou*) (Larose, 1953), 171. For the evolution of the perspective of the Bureaux Arabes in the mid-nineteenth century, see Yacono 1953, 160-171.

\(^99\) As Patricia Lorcin has argued, this legislation also perpetuated the ‘Kabyle myth’, strengthening the conceptual distinction between Kabyles and Arabs and deliberately targeting the latter group (Lorcin, 86).

\(^100\) Davis 2007, 100; cites Lehuraux, Chapters 2 and 3.
confusion or desperation, sold off their parcels to speculators. This process of dispossession undoubtedly helps to account for the rapid rise in the number of settled Arabs during the mid-nineteenth century, as the table in Figure 4.3 shows.

<table>
<thead>
<tr>
<th>Nationalities</th>
<th>1856</th>
<th>1861¹⁰¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>92,738</td>
<td>112,229</td>
</tr>
<tr>
<td>Foreigners</td>
<td>66,544</td>
<td>80,517</td>
</tr>
<tr>
<td>Settled Arabs ('Arabes des villes')</td>
<td>123,250</td>
<td>358,760</td>
</tr>
<tr>
<td>Tribal Arabs ('Arabes des tribus')¹⁰²</td>
<td>2,184,099</td>
<td>2,374,091</td>
</tr>
<tr>
<td>Indigenous Jews</td>
<td>21,048</td>
<td>28,097</td>
</tr>
<tr>
<td>Other (Population en bloc)¹⁰³</td>
<td>8,388</td>
<td>13,142</td>
</tr>
<tr>
<td>Total Population</td>
<td>2,496,067</td>
<td>2,966,836</td>
</tr>
</tbody>
</table>

Figure 4.3 The Population of French Colonial Algeria, 1856-1861.¹⁰⁴

The Warnier Law and the Settler Colony Era, 1871-1900

Algeria’s indigenous population suffered an even greater blow after the fall of Napoleon III and the Second Empire, when a petition headed by the French colonist Auguste-Hubert Warnier led to the reinstatement of cantonnement. Warnier first arrived in Algeria in 1834 as a young military surgeon and a member of the scientific commission. Throughout his life, he remained a devoted follower of the Kabyle Myth, but though he initially expressed idealistic Saint-Simonian convictions, living in the colony for half a century significantly altered his perspective. While he continued to promote Berber society as relatively orderly and civilized, he grew increasingly hostile toward Algeria’s Arab population. In various works published throughout the 1850s,

¹⁰¹ The growth in the overall indigenous population was partly due to the conquest of new territory between 1856 and 1861.
¹⁰² This figure does not include native inhabitants from families living outside French zone or from the aghalik (oasis) of Ouargla.
¹⁰³ This figure comprises inhabitants of hospitals, orphanages, lycées, colleges, pensions, seminaries, convents, prisons, and Berranis, native Algerians from the interior who came to the Tell temporarily to conduct business – artisans or laborers coming from Kabylie, Biskra, the oases of M’zab, and from ‘black Africa’ (pays des nègres) and formed a floating population (Fillias, 6). Including all miscellaneous people, the total population of Algeria in 1862 was calculated at 3,062,124 (Ibid., 7).
¹⁰⁴ Based on data in Ibid., 6-7.
1860s and 1870s, he condemned the Arab as lazy, corrupt and degraded, a “devastating torrent” and a brutal, unwelcome invader.\textsuperscript{105} By the 1860s, he had become an outspoken advocate for the supremacy of colonists, winning him election as an Algerian delegate to the French Senate in 1871.\textsuperscript{106} On July 26, 1873, he succeeded in passing a law that removed the indigenous property concessions granted by Napoleon III.\textsuperscript{107} Thereafter, colonial appropriation of native lands continued apace.

The law of July 26, 1873, often called the Warnier Law (\textit{loi Warnier}), was much more than just a backlash against the centralizing, bureaucratizing, and \textit{arabophile} politics of Napoleon III. Rather, it symbolized the arrival of a new era in Algeria, when the interests of the colonists finally triumphed.\textsuperscript{108} This period coincided with another revolution in France, which occurred against the backdrop of the Franco-Prussian War of 1870-1871 and brought an end to the Second Empire and the reign of Napoleon III. Thus, the politics of 1870s Algeria reflected the return of republicanism in France. Perhaps even more importantly, the Warnier Law presented a direct response to the greatest insurrection of native Algerians that the administration had faced since the conquest of Algeria.

On the opening page of his account \textit{Les Algériens Musulmans et la France (1871-1919)}, Charles Robert Ageron introduces the Rebellion of 1871 by stating, “In this Algeria, classic land of...

\textsuperscript{105} Warnier 1865, 5. See also Auguste-Hubert Warnier, \textit{L’Algérie devant le Sénat} (Paris: Dubuisson, 1863); Jules Duval and Auguste-Hubert Warnier, \textit{Bureaux arabes et colons} (Paris: Challamel Ainé, 1869); and Auguste-Hubert Warnier, \textit{L’Algérie et les victimes de la guerre} (1871). See also my discussion of Warnier’s role in the propagation of the Kabyle myth in Chapter Two.
\textsuperscript{106} Davis 2007, 96. See also Lorcin, 129-30, 309.
\textsuperscript{108} Ageron 1979, 94.
insurrection, no revolt could have been more expected or announced than that of 1871.”

Perhaps intentionally, his words call to mind Alexis de Tocqueville’s famous characterization of the French Revolution of 1789 as both “inevitable” and “completely unforeseen.” As Ageron suggests, the brutal irony of this conflict is that it should have been predicted and prevented. There was no shortage of warning signs, but the colonial administration failed to act. Indeed, by 1870, French colonists had grown so accustomed to dominating Algerian society that they had long since abandoned any fear of native opposition. Yet, indigenous groups were growing increasingly frustrated by the path that colonial rule was taking. The immediate cause of the revolt was the end of the “Arab Kingdom” era and the reinstatement of civil administration throughout Algeria in 1870, but the rebellion was equally due to years of extreme hardship faced by native Algerians and their growing desperation and hostility toward the colonial regime.

The revolt began in early 1871 as an uprising of powerful tribal leaders and quickly spread to the indigenous masses. Yet, the rebel fighters lacked coordination and proper weapons. By September 1871, the majority had surrendered.

After the revolt was definitively crushed, the colonial administration began the process of punishment. Rebel tribes were saddled with indemnities that they could never afford to pay, forcing them to sell off much of their remaining territory. In this way, the European population of Algeria gained 1,700 square miles (446,000 hectares) of confiscated land, an area roughly the

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109 “Dans cette Algérie terre classique des insurrections, nulle révolte peut-être ne fut plus attendue et plus annoncée que celle de 1871.” Ageron 1968, I: 3.
111 Ageron 1968, 4-8.
112 Ageron 1991, 52. Ageron estimates the number of rebel fighters at 800,000, but this is surely high, since the total indigenous population at that time was no more than three million. Even with all males of appropriate age fighting, the total could not have been more than 500,000 to 700,000. More likely, it was much less. Ageron’s figures probably come from colonial sources, which were inclined to exaggerate the number of Algerians involved in the rebellion so that they could, among other things, justify extensive retribution.
size of the Bouches-du-Rhône department, and kept indigenous tribes in crippling debt for the rest of the century. 113 The number of native deaths during the insurrection is estimated in the thousands, though exact figures are unknown. Many more died from disease and famine in the years leading up to the rebellion. As a result, in 1871-1872, the native population reached its lowest point since the French conquest, falling to roughly 2.1 million. 114 The punishment did not stop here. On the contrary, it also involved a revolution in colonial administration, ushering in a regime of repression.

No legislation represents the Algerian government’s new approach better than the Warnier property law of 1873. Indeed, an Algerian official would later unabashedly call it “the settlers’ law.” 115 Even more than its predecessors, the Warnier property law of 1873 championed the principle of private property and the fractionalization of communal land. Jettisoning any semblance of respect for local pre-colonial customs, it subjected all Algerian territory to French civil law. Thus, tribal territory that remained undivided was opened up for bidding, including arch as well as shared mülk lands. 116 The Warnier Law allowed the state to carve vast reserves out of former tribal land, but its effect on forests was far from auspicious. Instead, speculators, investors, and others versed in French law ultimately reaped the greatest profit, and Algerian woodlands disappeared at an accelerated pace. 117

113 Ageron 1991, 52. See also Davis 2007, 92.
114 Ruedy, 93; Davis 2007, 92. This figure illustrates a decline in approximately 600,000 people since 1861. Much of the loss was the result of famine and disease.
115 “la loi des colons” (1904). Quoted in Ageron 1979, 95.
116 Ageron 1979, 94-95.
117 Ibid., 95.
Woodland Concessions and the Cork Boom

The ideals of the 1871 Revolt reverberated through the late nineteenth century in a few minor uprisings, but they were quickly and effectively suppressed. In general, the crippling reparations of the 1871 Revolt, combined with harsh forest and property laws, left native Algerians too weak to respond. For the duration of the nineteenth century, they had little choice but to hope for relief from sympathetic French patrons. In Algeria, European settlers and a new genre of Algerian-born Europeans (later known familiarly as *Pieds-Noirs*) dominated the political scene through the Warnier Law, its subsequent amendment in 1887, and other legislation favoring the rights and dominance of the colonial population. In this context, colonial enterprises flourished. It is thus no coincidence that this period marked the peak of the lease or sale of forest lands to European entrepreneurs for the exploitation of cork oak trees (*chênes-lièges*).

The Algerian cork industry provides a good gauge of the contrast between local interests in this colonial context with those across the Mediterranean in Provence. The cork oak, or *Quercus suber*, is one of the few large plants that thrive in the hot, dry, calcareous soils of the Mediterranean region. It is native to both southern France and the northern coast of Africa, as well as to other Mediterranean lands.¹¹⁸ Yet, cork exploitation was almost unheard of in Provence, where even the efforts of the nineteenth-century forest regime to promote the cultivation of cork trees floundered. In most cases of experimental cork plantations in Provence, foresters won little for their pains other than strong rebuke from the local population. As one

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official stated bluntly regarding such an initiative in his village in the 1820s, “Nobody wants this type of woods!”

The demand for cork increased over the course of the nineteenth century, however, and it coincided neatly with the colonization of Algeria. In the mid-nineteenth century, the cork industry quickly exploded into one of the colony’s most popular and lucrative ventures. At the turn of the twentieth century, cork trees were producing an annual profit of five million francs, one-sixth of Algeria’s total forest revenue. The French government began to sell cork concessions shortly after its conquest of Algeria in the 1830s. Following the passage of the law of June 16, 1851, in which the administration formally claimed ownership of all of Algeria’s woodlands, such concessions became more commonplace and systematic. But the greatest rise in the number of concessions occurred in the 1860s, as the state learned to capitalize on this fast and easy source of revenue, and as an ever-growing number of eager entrepreneurs began to arrive.

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119 BDR 7 M 163, First File: Charleval, c. 1821. This file also contains the responses of other communities, including Alleins, Ceyreste, Meyrargues, Rocquefort, and Salon.

120 Henry Sivak has discussed the impact of cork production on French colonial law. See Henry Sivak, Law, Territory, and the Legal Geography of French Rule in Algeria: The Forestry Domain, 1830-1903 (PhD Diss., UCLA, 2008).

121 Allard, 8, 15.

122 In my archival research, the earliest concession I found was completed in October of 1839, near La Calle, when the French administration’s control and knowledge of Algerian forests were both still very limited. ANOM FM F80/981, Third File: “La Calle: Concessions: Six-cent hectares de chênes-liège à la Calle, concédés à Mr Verjon.” According to Eugène Battistini, the earliest profitable cork-oak concessions were made in the late 1840s, a date that my research supports. Eugène Battistini, Les forêts de chêne-liège de l’Algérie (Alger: Victor Heintz, 1937). Cited in Davis 2007, 84.

123 For early cases, see ANOM FM F80/981 (Alger, 29 octobre 1839); ANOM FM F80/971 (Blidah & Medea, 24 novembre 1853); ANOM ALG/GGA/1 I 181 (Blidah, 13 octobre 1862); ANOM FM F80/980 (Alger, 2 août 1858); ANOM FM F80/175; ANOM FM F80/178; ANOM FM F80/177; and ANOM FM F80/986.

124 See for example ANOM ALG/GGA/P9a; ANOM ALG/GGA/P10; ANOM ALG/GGA/P60; ANOM FM F80/971; ANOM ALG/GGA/1 I 181; ANOM FM F80/980; MI 18 Miom/78; ANOM FM F80/178; and ANOM FM F80/178.
Cork concessionaires rose swiftly to prominence among Algeria’s colonial population. One of their first victories was the prolongation of their tenure. Cork concessions were originally granted for 40 years, but in 1861, the governor extended this term to 90 years. Nonetheless, concessionaires continued to exert considerable pressure on the colonial administration. Citing the difficulties of establishing this industry in Algeria, including strong resistance from the native population, burned or degraded land, and the absence of roads and other means of access and transportation, they fought for the removal of term limits on their rights of exploitation. Hence, five years later, French authorities began to sell cork forests permanently to former concessionaires.

The impact of these concessions on native pastoralists was direct, immediate, and significant. Although the French administration did grant forest concessions to native tribes as well as to colonists, such lands were as a rule deemed unsuitable for any kind of profit-oriented exploitation. In many cases, indigenous Algerians were forced from the cork-studded woodlands they had once inhabited and relocated to less desirable land. The hardship and disruption resulting from the resettlement process is vividly demonstrated by their strong resistance to it. Native protest, in the form of fire, vandalism, violence, and other clear acts of opposition became an increasingly common theme in the years of the Algerian cork boom. Indeed, this single industry played a major role in driving the native population to revolt in 1871.

125 ANOM FM F801786, First File: “Proposition de soumettre à l’examen du Conseil Consultatif un projet de décret ayant pour objet de porter de 40 à 90 ans la durée des concessions d’exploitations de chênes-liège faites par décisions Ministérielles dans la Province de Constantine.”
126 Ibid.
128 These concessions were granted as a result of the Senatus-Consulte of June 22, 1863, discussed above. See also ANOM ALG/GGA/P9, “Algérie, Service des Forêts, Conservation de Constantine.”
129 See Ford, 344-345, 346.
For their part, cork farmers became some of the most hostile as well as influential critics of indigenous pastoralists, but this antagonism was not always present. One early proponent of the cork industry suggested employing Arabs in his enterprise, in the absence of a sufficient number of European laborers, as a way to assimilate and civilize them.\footnote{ANOM FM F80\textsuperscript{130}, Third File, “La Calle: Concessions: Six-cent hectares de chênes-liège à la Calle, concédés à Mr Verjon” (1839).} Even in the mid-1860s, cork moguls were still using the language of the \textit{mission civilisatrice} to legitimize their enterprise, though their gaze had shifted from Arabs to Berbers, thanks to the latter’s reputation as sedentary and relatively docile. In 1865, a league of cork farmers begged the emperor to give them the land he had recently conceded to native tribes, which they explained would ultimately improve the native condition. “The cork industry, more than any other, is incontestably that which creates the greatest relations between the European and the native,” they argued, suggesting that their enterprise alone would ultimately facilitate “the assimilation of the two races.”\footnote{ANOM FM F80\textsuperscript{131}, “Deuxième pétition à l’Empereur, a lui présentée lors de son voyage en Algérie. Les Concessionnaires de forêts de Chênes liège, en Algérie, à Sa Majesté Napoléon III” (Constantine, 30 Mai 1865).} One particularly ambitious entrepreneur, in a lengthy petition to the Minister of War in 1866, asked for permission to reserve all of the forests of lesser Kabylia for cork exploitation. He explained that harnessing the resource potential of these lush, extensive forests would not only be profitable for his own enterprise, but it would also bring prosperity to the local Algerians and “give them an interest in the conservation of forests.”\footnote{ANOM FM F80\textsuperscript{132}, Third File, “Note: Sur la mise en valeur des forêts de Chênes-liège de la petite Kabylie, par la société Besson et Compagnie associée aux Indigènes.” The Minister of War was convinced, and M. Besson’s petition was successful. For another, similar treatise promoting the active engagement of the Berber Kabyles on cork plantations, see ANOM FM F80\textsuperscript{1785}, “Société Civil des Lièges de l’Ouidere (6° Lot de l’Edough – Algérie), Enquête générale sur les incendies de forêts: Observations présentées par le Conseil d’Administration a Son Excellence Monsieur le Maréchal de France Gouverneur Général de l’Algérie, sur le rapport de la Commission des incendies, réunie à Constantine en janvier dernier” (1866).}
Others, however, were less optimistic. Many concessionaires complained of native acts of destruction and sabotage on their property. The most common accusation against native pastoralists was arson, which will be taken up in the next chapter. Following a particularly devastating fire in 1863, a league of cork farmers petitioned the emperor for compensation, attributing the blaze to “Arab fanaticism.” Another charge, which gained popularity in the late nineteenth century, was that natives were misusing territory that had been conceded to them. For example, a near hysterical account appeared in the journal *Moniteur de l’Algérie* in 1886, reporting that the inhabitants of Kabylie were unceremoniously stripping all of their precious cork trees “for an immediate profit” through tanning. The author attributed part of the blame to the French administration, which, “by not taking the necessary measures to prevent this vandalism, renders itself an accomplice.” Even native Algerians who were not actively destroying forest resources were accused of doing so indirectly. Cork farmers expressed particular hostility toward pastoralists, viewing the tradition of forest grazing as a prime factor in the degradation of cork trees before and during the French occupation.

In the late 1870s, the cork boom was already ending, though the Algerian cork industry continued to thrive. By this time, the French state had alienated nearly all of Algeria’s cork-producing lands, the majority of which lay in the hands of an elite cadre of large-scale entrepreneurs whose ventures had won them inordinate wealth and power within Algerian

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133 ANOM FM F801786.
134 ANOM FM F801785, Sixth File.
136 “en ne prenant pas les mesures nécessaires pour empêcher ce vandalisme, s’en rend complice.” Ibid.
The political sway of this interest group expanded throughout the second half of the nineteenth century, especially in matters related to forestry and the administration of native tribes. In 1866, a handful of cork moguls were commissioned to head an official investigation of forest fires. Not surprisingly, they blamed indigenous pastoralists, listing sabotage, fanaticism, and carelessness among the sources of their crimes. Cork farmers also became prominent members of the influential Ligue du Reboisement de l’Algérie (Algerian Reforestation League), formed in 1882. This role may seem ironic, given that these industrialists were often bitter critics of the forest regime. Nevertheless, this position gave them, like many of the league’s other members, the opportunity to deflect blame for environmental degradation onto the native population. Cork farmers put their growing authority to good use, frequently pressuring the colonial and central administrations for concessions, dispensations, protection, and compensation against the devastating ravages of “Arab” pastoralists.

Thus, the rise of the cork industry not only forced more indigenous Algerians from their ancestral lands, but it also gave them a formidable new adversary, while creating new sources of environmental contention. Even as cork farmers contributed actively to the decimation of

139 A few prominent names within French archives on the nineteenth-century Algerian cork industry are Besson, Lucy, Falcon, Montebello, and Berthon. In addition, many cork farmers possessed titles, such as ‘count’ or ‘baron’. See for example the list of signatories on cork farmers’ petitions in ANOM MI 18 Miom/78 (1865, 1872); and ANOM FM F801785 (1863).
141 Rapport de la Commission d’enquête nommée par l’Assemblée générale des concessionnaires de forêts de chênes-liège, 29. See also Chapter Five.
142 Many cork entrepreneurs numbered among the League’s list of adherents in 1882. Bulletin de la Ligue du Reboisement de l’Algérie 1 (1882): 39-55; ANOM ALG/GGA/ 1 I 181. This organization will be discussed in more detail in Chapter Six.
143 See for example ANOM MI 18 Miom/78; ANOM FM F801785; and ANOM ALG/GGA/P62.
Algerian woodlands, they succeeded in establishing, spreading, and maintaining a narrative that attributed this development almost exclusively to native hands. Ironically, many European observers continued to support the charge of native responsibility long after the cork boom had ended, when its own devastating impact on Algerian woodlands could hardly be ignored. In this way, the manipulation of property allowed those whom it profited to both marginalize the native population and blame it for the environmental consequences of their enterprise.

LANDHOLDING, RESETTLEMENT, AND SEDENTARIZATION IN ANATOLIA

Across the Mediterranean in southwestern Anatolia, major shifts in property designation, taxation, and legislation in the mid- to late nineteenth century were also dramatically reshaping mobile pastoralists’ relationship to their environment and assisting sedentarization efforts. As in Algeria, this transformation resulted from a combination of top-down administrative measures and the arrival of immigrants eager to exploit nomads’ lands for agriculture, timber, mining, and other industries. In both cases, the process was facilitated by the regime’s promotion of sedentary life. Likewise, it was equally detrimental to nomads and forests.

Although some scholars have represented the Ottoman state as inherently opposed to nomadism, this was clearly not always the case. In the early modern era, perpetual wars and the

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144 See for example, J. Reynard, *Restauration des forêts et des pâturages du sud de l’Algérie* (Adolphe Jourdan, 1880); and René Rousseau, “Contribution à l’étude de la question forestière en Algérie” (Alger, 1931), 1, 4. ANOM BIB AOM B6896. Rousseau blames native pastoralists for long-term destruction, but he also criticizes the colonial regime for not doing more to reverse the problem. He claims that two-thirds of Algeria’s forests were destroyed between the date of French conquest and 1928 (Rousseau, 5). Similarly, Woolsey estimates in his 1917 work that up to sixty percent of the forest cover near Constantine, Batna, Medea, and Setif had disappeared since the peak of the cork boom, in 1871 (Woolsey, 50). Recent studies confirm these figures, attributing most of Algeria’s forest degradation to the extensive cork farming of the mid- to late nineteenth century. See Ford, 348; and Davis 2004, 370. For a broader view of global deforestation in this period in the context of the expansion of the European economy, see Tucker and Richards.

145 For an analysis of the historiographical narrative that presents states and nomads in conflict, in the Ottoman case and others, see at Kasaba 2009, 4-7. As Kasaba notes, this perspective, like French colonial perceptions of Algeria,
incorporation of new territories limited the Ottomans’ control over the countryside, leading them to adopt a policy of administrative flexibility. During this period, military conflicts robbed the Anatolian countryside of much of its male population, leaving fields uncultivated and villages unprotected. The resulting lack of security spurred many rural inhabitants to move to Istanbul and other commercial centers, contributing to steady urbanization and urban growth over the course of the eighteenth century. As settlements retreated, many nomadic tribes expanded their domain, transforming unused plots into pasture. They also enjoyed near complete independence, thanks to the exodus of regional administrative officials. Recognizing the limits of its power, the early Ottoman state often dealt with these tribes in the only way it saw fit, by giving their leaders administrative roles in exchange for nominal promises of military service and taxation. In practice, this treatment increased tribal power and autonomy, as well as the insecurity of the countryside.

As discussed in Chapters One and Two, early modern Ottomans recognized the benefits of their nomadic population, including military support and garrisoning, rural administration, transportation services, and the products of pastoralism. Indeed, nomads comprised nearly one-fifth of the Ottoman population in the sixteenth century, and this figure did not decline

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149 Kasaba 2009, 8-9.
significantly until the nineteenth century.\textsuperscript{150} To ignore or subjugate such a significant population would have belied the Ottomans’ characteristic pragmatism. Sources show that, on the contrary, they made deliberate efforts to keep the peace between their mobile and settled populations. Nomads and agriculturalists frequently brought claims of property violations to court, and Ottoman judges ruled such disputes with an even hand.\textsuperscript{151} This relationship began to change in the late seventeenth century, however, as both nomadic tribes as well as the Ottomans’ traditional flexibility toward them became more of a liability than an asset.\textsuperscript{152} The transformation of property rights and designation was a key factor in altering Ottoman perceptions of their nomadic population. Likewise, new designations of property helped the Ottomans to determine, shape, and implement new policies regarding nomads.

\textit{Property in the Ottoman Empire}

Beyond the bustling metropolis of Istanbul, early modern Anatolia presented an almost entirely rural landscape. Most of this territory was \textit{miri}, or state land, though private ownership and other property distinctions did exist.\textsuperscript{153} Although \textit{miri} land theoretically belonged to the sultan, in practice the designation and administration of rural territory was more complex, and it varied greatly from place to place. Even Anatolia, often considered a ‘core’ zone or the heartland of the Ottoman Empire, contained territory under the direct control of the sultan as well as regions where his power and authority were little more than nominal.\textsuperscript{154} Most of these latter areas were

\textsuperscript{150} Ágoston 2003, 17.
\textsuperscript{151} Murphey 1984, 194; White 2008, 64-65.
\textsuperscript{152} Kasaba 2009, 54-58. For the Ottomans’ early flexibility, see Ágoston 2003, 15-31.
\textsuperscript{153} A significant third category, though not relevant to our discussion, was land held in trust or charitable foundations (\textit{vakıf}), which was the preferred form of hereditary holding in the Ottoman Empire, since private property had to be divided up among heirs. See Imber 2002, 193. For a detailed discussion and differentiation among types of property ownership and claims to land in the early modern Ottoman Empire, see Huri İslamoğlu-İnan, “Politics of Administering Property: Law and Statistics in the Nineteenth-century Ottoman Empire,” in \textit{Constituting Modernity}, 16-18.
\textsuperscript{154} Ágoston 2003, 19.
mountainous, inaccessable regions inhabited by nomads, such as the eastern and southern frontiers of the peninsula.\textsuperscript{155} Although they were divided into the same administrative units as other territories and were ostensibly incorporated into the Ottoman system, these regions differed in that they were ruled by tribal authority and their administration was hereditary.\textsuperscript{156} Indeed, hereditary \textit{sancaks} (provinces) might almost be considered the property of the tribe, except that they were subjected to taxation and provided valuable services to the state.

Rural land was divided into \textit{timars}, worked by peasant tenant farmers and administered by members of the Ottoman officer class (\textit{sipahis}) in exchange for duties to the state. Timars were similar to the fiefs of feudal Europe, though the timar-holder technically was not a land owner.\textsuperscript{157} The task of collecting taxes in the countryside fell to fiscal representatives, local administrators, or tax farmers, who purchased the right to collect taxes from the state.\textsuperscript{158} Tax farming, as it was known, was a risky business, since the tax farmers (\textit{mültezim}) were responsible for the delivery of taxes to the state, regardless of what they managed to collect. Nonetheless, some profited greatly from this enterprise, extracting as much as they could from local peasants. In addition, provincial administrators and timar-holders drew part of their revenue from taxes, as well as

\begin{flushright}
\textsuperscript{156} Imber 2002, 188-189; Ágoston 2003, 17-19; \textit{Tribes and State Formation in the Middle East}, 43.
\textsuperscript{157} İnalçık and Quataert, 71 & 73. 
\end{flushright}
fines and other regional sources.\textsuperscript{159} Thus, only a portion of what was collected made it back to the imperial treasury.

By the eighteenth century, many of the timars of rural Anatolia had become hereditary tax farms, effectively private land that was no longer profiting the state.\textsuperscript{160} At the same time, the short-term tax farming system was facing a crisis, as rural instability, decentralization, and other factors were making tax farms an increasingly difficult sell for the state. In part to combat these problems, the state launched the system of \textit{malikane} revenue contracting, in which it sold life-long tax farms through public auction.\textsuperscript{161} This system greatly increased the number of tax farms, and it provided a quick source of imperial profit.\textsuperscript{162} In the long term, however, the central administration lost a vital source of revenue to speculators and other contractors (\textit{malikane}) who purchased lifetime tax rights.

Through these developments, wealthy tax farmers gained control of most of rural Anatolia by the early nineteenth century, and much potential state revenue disappeared into the hands of these middlemen.\textsuperscript{163} This system of tax collection ultimately proved detrimental to both the peasantry and the imperial treasury, and during the Tanzimat era, the Ottoman administration made various efforts to reform it.\textsuperscript{164} Just months after the Gülhane proclamation in 1839, the timar system of

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{159} Shaw, I: 125-127; Imber 2002, 190-191; Ágoston 2003, 16-17.
\item \textsuperscript{160} Hanioğlu, 21; Sevket Pamuk, \textit{A Monetary History of the Ottoman Empire} (Cambridge; New York: Cambridge University Press, 2000), 84-87, 189.
\item \textsuperscript{161} Salzmann 1993, 400-402.
\item \textsuperscript{162} Imber 2002, 211, 285. Hanioğlu, 21; Genç 2000, 117. Genç dates the introduction of the practice of selling lifetime tax farms (\textit{malikânes}) to 1695. According to Genç, the \textit{malikâne} system led to an increase in the number of tax farms of over two hundred percent from 1698 to 1774, and revenues nearly doubled. See Genç, “Osmanlı Maliyesinde Malikâne Sistemi,” in \textit{Türkiye İktisat Tarihi Semineri: Metinler, Tartışmalar, 8-10 Haziran, 1973}, edited by Osman Okyar and Ünal Nabantoğlu (Ankara, 1975), 231-296.
\item \textsuperscript{163} İslamoğlu-Inan 2000, 19-20; Imber 2002, 211-212, 285.
\item \textsuperscript{164} İslamoğlu-Inan 2000, 29.
\end{itemize}
\end{footnotesize}
land-holding and tax farming were officially abolished and replaced by a bureaucratic system of tax collection based on the French model. In 1830-1831 and 1844, officials gathered demographic statistics designed to determine and evaluate the empire’s taxable population. In addition, the 1844 census was accompanied by surveys recording, classifying, and registering rural property and revenue (temmetuat), which the administration hoped would lead to a more efficient and profitable restructuring of the taxation process. These and other measures culminated in the Land Code of 1858, which would become, for both Anatolia’s sedentary and mobile populations, the most substantial and far-reaching initiative of this period.

The 1858 Land Law

In 1858, the Ottoman administration passed a sweeping land law designed to help it regain control of the countryside. The Land Code of 1858 (Arazi Kanunnamesi) was largely the work of the reform-minded Ahmet Cevdet Pasha. Although he constructed the law with Western principles in mind, he opposed the direct application of European civil codes to the Ottoman

165 Hanıoğlu, 89.
case. The 1858 code became the first document to institute and regulate state control of forests following the arrival of the French forestry mission the previous year. At the same time, it promoted the privatization of agricultural land.\textsuperscript{170}

As the first Ottoman law to explicitly and generally identify land as property, the Land Code of 1858 aimed to clarify rural property divisions. It identified five distinct types of landed property: private property (mülk), state land (miri), public or communal land (metruk), foundation land (vaktf), and wastelands (mawat).\textsuperscript{171} The law even distinguished between the ownership of actual land, meaning the earth or soil, and individual trees that stood on it.\textsuperscript{172} In order to determine these distinctions, the code called for the surveying and registration of all rural property. Local inhabitants were required to formally register the land they exploited, backing up their property claims with support from legal documents (tapu).\textsuperscript{173} In exchange, they were recognized as owners and given much greater control over their land than before.\textsuperscript{174} Yet those unable to produce the necessary documentation, or who neglected to register their land for other reasons, became landless and disadvantaged.

The 1858 code’s system of registration succeeded in streamlining tax collection, and it absolved many rural peasants from chronic debts to tax farmers. Yet its merit, even for agriculturalists,

\textsuperscript{170} Dursun 2007, 15; İslamoğlu-İnan 2000, 40-41. For a study of earlier privatization trends, see Salzmann 1993, 393-423.
\textsuperscript{171} F. Ongley & Horace E. Miller, eds., \textit{The Ottoman Land Code} (London: William Clowes and Sons, 1892), I; Shaw, II: 114; \textit{Osmanlı Ormancılığı ile İlgili Belgeler}, I: xvi.
\textsuperscript{172} \textit{Ottoman Land Code of 1858}, Articles 25-28. Printed in Ongley & Miller, 13-15. See also Dursun 2007, 222; and Colin Imber, “The Law of the Land,” in \textit{The Ottoman World}, edited by Cristine Woodhead (Routledge, 2012), 43. While the practice of distinguishing a parcel of land from its trees may seem unique, it was also a consideration in French forest legislation, where foresters evaluated both a forest’s “immobile capital” (land) and its “mobile capital” (trees, etc.). See Whited 2000, 36.
\textsuperscript{173} Aytekin, 733-734; Jorgens, 103; İslamoğlu-İnan 2000, 32-33.
\textsuperscript{174} İslamoğlu-İnan 2000, 27; Shaw II: 114.
was dubious and varied significantly due to regional conditions, background, the extent of the code’s application, the role and status of potential landowners, and a number of other factors.\footnote{Sluglett and Farouk-Sluglett, 413.} Though the code’s intent remains the subject of debate, it seems clear it aimed to promote state centralization rather than simply to liberate the peasantry.\footnote{Aytekin, 726-730; Jorgens, 108.} In any case, the code’s impact on mobile pastoralists was relatively clear. It proved destructive to many, whether they chose to continue to practice their traditional lifestyle or to settle and become farmers. Nomadic claims to pastureland were generally based on traditional usage rather than official ownership, and they often lacked the documentation necessary to legitimize their claims. Moreover, few nomads understood the terms of the code or were able to take advantage of the opportunity to register their property. In addition, the small, individual plots encouraged by the code did not meet the needs of mobile pastoralism. Although the law did make provisions for \textit{yayla}s and \textit{kaşla}s (summer and winter pastures), its treatment of this type of traditional, communal property was vague and unsatisfactory.\footnote{Ottoman Land Code of 1858, Art. 84.} As a result, many tribes were excluded from traditional pastureland or forced to pay ever-increasing rent for their pasture.\footnote{Hütteroth 1974, 23.} Those who settled faced a similar predicament, joining the ranks of impoverished, landless peasants.

The Land Code of 1858 ultimately had a detrimental effect on forests as well as nomads.\footnote{For a thorough discussion of the code’s effect on forests and forestry, see Dursun 2007, 218-231.} Although one of its goals was to improve the protection of forest resources, various aspects and provisions of the law counteracted this aim. The failure of the law to ensure adequate implementation and enforcement proved to be a considerable weakness. One of its provisions
was a tax on the extraction of forest products in state and communal (village) lands. In theory, this tax was intended to generate revenue for the state and to limit forest exploitation. In practice, however, villagers found ways around the law. For example, one clause absolved villagers from the tax when they housed soldiers, and many used this exemption to take as much firewood as they wanted, whenever they pleased. In addition, the multiple goals of the code ultimately worked against each other. The Ottoman administration hoped to use the legislation to promote agricultural expansion, which would benefit the state by increasing production and add to state revenue through registration. Thus, Article 19 of the code explicitly permitted new owners to burn down forests on their land, inviting owners of “such places as forests and woods [to] make it into arable land by opening it up in order to cultivate it.” The implications were devastating for Ottoman forests. Farmers, no longer fearing retribution, indiscriminately destroyed forests throughout the Empire. The Ottoman Land Code of 1858 ultimately became one of the main causes of deforestation in nineteenth-century Anatolia. Finally, the law failed to regulate either forests or agriculture effectively, since its passage was immediately followed by a host of exceptions.

In this context, charges against nomads for forest destruction appear ironic as well as absurd. Clearly, the administration valued agriculture above forest preservation, while the protection of pasture numbered among its lowest priorities. Nonetheless, deforestation offered justification, at least in the eyes of French foresters and other Westerners, for Ottoman efforts to target and settle nomadic tribes.

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180 Shaw, II: 235.
181 Ibid., II: 235; Dursun 2007, 228.
182 *Ottoman Land Code of 1858*, Art. 19; Ongley & Miller, 11; *Osmanlı Ormansılığı ile İlgili Belgeler*, I: xvi.
183 *Osmanlı Ormansılığı ile İlgili Belgeler*, I: xvi.
Resettlement and Refugees

When the Land Code of 1858 was promulgated, the effort to sedentarize nomadic tribes was already a well-worn theme in Ottoman administration. In the late sixteenth and early seventeenth centuries, the Ottoman countryside was plagued by Celali Rebellions, a series of uprisings led by nomadic tribes driven largely by unfavorable climatic factors associated with the Little Ice Age and exacerbated by rural unrest. These rebellions helped to spur the Ottoman state to attempt to reclaim control of the countryside. Members of the Ottoman elite began a process of soul-searching reform that targeted banditry, corruption, and inefficiency throughout the empire, and promoted a stable, sedentary lifestyle for its constituents (reaya). In many ways, the blame for administrative weaknesses, agricultural failure, brigandage, and other problems was laid at the feet of Anatolia’s mobile pastoral population. By the late seventeenth century, the administration had traded its long-standing policy of acceptance, accommodation and compromise toward Anatolia’s nomadic population for a new program promoting regulation, resettlement and sedentarization.

As evidence of this shift, the sultanate issued its first formal sedentarization campaign in 1689, and this initiative was succeeded by other, similar programs over the course of the eighteenth century.

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184 See White 2008, “Part II: The Little Ice Age and the Celali Rebellion,” 171-267; White 2011, 123-225; Griswold 1993; Griswold 1983; and Barkey, Chapters 5-6, pp. 141-228.
187 White 2011, 243-244; Kasaba 2009, 65. Kasaba cites Wright, 127, though there is no explicit reference to nomads on this page.
In the nineteenth century, sedentarization campaigns took on new attributes. They were no longer aimed merely at increasing centralization improving rural security; they also became a symbol of modernization and progress. As we saw in Chapter Two, nineteenth-century official attitudes toward mobile pastoralists began to echo Western biases and language, explicitly...
categorizing nomads as savage, primitive and less advanced than their settled peers. In addition, the sedentary campaigns of the mid-nineteenth century exemplified Ottoman governmentalization and its principles of reform. Cevdet Pasha, the mastermind of the 1858 Land Code, was also behind some of the most ambitious sedentarization efforts, including the forced settlement of tribes in Adana from 1865-1869. In another important shift, sedentarization orders finally began to enjoy real success in the mid- to late nineteenth century. Developments in technology, transportation, communication, industry, and the military gave the central administration much greater and more immediate control over its vast periphery. The Ottoman state now had better tools to sedentarize its mobile populations. Over the same period, it had gained two significant sources of ethical justification for its sedentarization initiatives: the narratives of civilization and environmental conservation.

The Ottoman administration of nomads during this period was closely related to the arrival of Muslim migrants and refugees from former European provinces, who resettled voluntarily or involuntarily within the shrinking borders of the Ottoman Empire as a result of population exchanges following Ottoman losses abroad. In the nineteenth century, an unremitting string of wars and other costly conflicts dramatically increased the flow of immigrants into Anatolia. Their appearance became a common phenomenon in the second half of the nineteenth century,

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196 The Firka-i İslâhiye, the largest military operation in the Ottoman settlement campaign, was launched in 1865 See Yusuf Halaçoğlu, “Fırka-i İslâhiye ve Yapımsı Olduğu İskân.” Tarih Dergisi 27 (İstanbul 1973): 1-20; Orhonlu 1987, 116; Saydam, 229. See also Chapter Six.
197 Kasaba 2004, 37.
when the Empire engaged in multiple, costly conflicts on the European front. The Crimean War was a particularly significant factor. Its conclusion in 1856, in addition to encouraging western-style reforms, spurred the arrival of throngs of Muslim refugees from Russian-held lands in Eastern Europe and the Caucasus seeking shelter in Ottoman realms. Scholars have estimated this figure at up to one million immigrants in the decade following the Crimean War. Approximately 600,000 of them were settled in Anatolia, many in the Adana region and along the peninsula’s southwestern Mediterranean coast. Although these new inhabitants provided the Ottoman state with valuable services and information, they also burdened the state with serious problems of infrastructure, provisioning, and settlement. Regulating and resettling this migrant population required new legislation, particularly in terms of the division and administration of property. Both the Land Code of 1858 and the forest bill of 1861 appeared in this context.

198 İnalçık and Quataert, 793-795. Peaks in immigration occurred following the Russo-Turkish war of the late eighteenth century, the Greek war of Independence (1820s), the Crimean War (1850s), and the Balkan Wars (1870s). Volume 2: “Economy and Society” of the four-volume anthology The Great Ottoman-Turkish Civilisation (Ankara: Yeni Türkiye, 2000), edited by Kemal Çiçek, contains a number of articles on this subject, though they are of varying quality. See in particular İlhan Şahin, “Nomads” (pp. 360-368); Süleyman Erkan, “The Interference of Foreign Countries in the Ottoman Policy of Settling Immigrants at the End of the 19th Century” (pp. 555-574); Abdullah Saydam, “The Migrations from Caucasus and Crimea and the Ottoman Settlement Policy” (pp. 584-593); Mehmet Yılmaz, “Policy of Immigrant Settlement of the Ottoman State in the 19th Century,” (594-608); and Ahmet Halaçoğlu, “Immigrations to Anatolia during Balkan Wars and their Results” (pp. 617-625). The periodic influx of Ottoman refugees (muhacir) actually began earlier, in the long eighteenth century. The Treaty of Karlowitz, signed in 1699, marked a significant turning point in Ottoman fortunes. In it, the Ottomans permanently surrendered much of the territory they had held in Eastern Europe and the Balkans. As a result of this treaty, over one hundred thousand Muslim refugees sought shelter in the remaining Ottoman lands, according to a recent estimate (Kasaba 2009, 57). See also İnalçık and Quataert, 647-650.

199 Shaw, II: 141.


201 Gould 1973, 64; İnalçık and Quataert, 861-862; Toksöz, 73-81.
Nonetheless, the government was unable to provide these immigrants with all of the services and support they needed, and many of them were simply given land and expected to cultivate it. In an echo of the convenient assumptions made by French colonists in Algeria, the Ottoman administration chose to identify territory occupied part time by nomadic pastoralists as vacant lands. Thus, refugees frequently found themselves settled on the seasonal pastures of nomadic tribes. To complicate the picture, some of these new inhabitants, such as the Circassians, were not farmers at all, but nomads like the yörük. Their presence on these lands was no coincidence. As the Ottoman administration surely realized, these sedentary inhabitants served as an effective check on the movements of nomadic tribes, supplementing the Sublime Porte’s own efforts to control them. From a purely logistical perspective, moreover, the increased population density created by the influx of refugees left little room for mobile pastoralists to practice their trade. In earlier times, they may have been able to defend their traditional rights to the land by force, but in late nineteenth-century confrontations, immigrants usually had the Ottoman military on their side. Consequently, nomads had to choose whether to settle, to rent pasture from their new neighbors, or to retreat into the shrinking periphery.

202 Kasaba 2009, 57. This practice could be detrimental for the refugees as well as for nomads that had previously occupied the region. The British foreign office took a particular interest in the resettlement of refugees in Anatolia. In one particularly critical dispatch, the British consul in Konya complained that “the almost criminal action of the Turkish Government in sending thousands of refugees, a large proportion of them armed with modern weapons, to the country without making proper provision for their support or maintenance” was leading to deadly tensions between refugees and the local tribal populations. BNA FO 78/2987, Letter: Wilson to Layard (Sivas, 14 October 1879).

203 Hütteroth 1974, 23; Gould 1973, 64; Toksöz, 76-77.

204 Gould 1973, 2, 4.

205 As the continued presence of nomads throughout Anatolia, especially in mountain regions, attests, many chose the latter option. It is also important to note that not all refugees were inclined to pursue agriculture on the plains. Circassian refugees, who through negotiations with the Ottoman state were entitled to join other nomads in mountain settlements, present an important counter example. See Toksöz, 76-78; Yılmaz; İnalçık and Quataert, 787-788; and Kasaba 2009, 117-118.
It was largely through the influx of refugees that Southwestern Anatolia was repopulated in the nineteenth century. The Mediterranean coastal regions surrounding Antalya, Alanya, Adana and the nearby Taurus Range had long since become a last bastion of nomadic independence, largely since these regions were neglected by the rest of society.\textsuperscript{206} In the nineteenth century, however, administrative and technological reforms prepared them for settlement. The Ottomans initiated this process early in the century, when they worked to improve rural security and extend central authority in the provinces by resettling local dynasties far from their power base. Through this campaign, the entire Tekeliöğlu clan, which had long dominated affairs in and beyond Antalya, was forcibly moved to Salonica.\textsuperscript{207} As the century progressed, streams of refugees arrived in its wake. The malarial swamps that had long acted as a deterrent to permanent residence now began to be drained for cultivation, and the majestic mountain forests into which the yörük retreated annually were subjected to a flurry of timber and mining activity.\textsuperscript{208} All of these changes placed significant pressure on nomadic groups, limiting their movements, restricting pastureland, and subjecting them to ever-increasing fees, fines, and regulations. Thus, the transformation of property in the nineteenth century gave the Ottoman administration an immense advantage in dealing with its mobile pastoral population. It helped to break down and pacify these former lions, turning them into lambs.

\textsuperscript{206} Planhol 1958, 115; Tabak, 229. See also Chapter One.
\textsuperscript{207} Ahmed Cevdet, \textit{Tarih-i Cevdet} (Istanbul: Matbaa-i Osmaniye, 1309 [1891]), Vol. 10: 148. Cited in Hanioğlu, 61. The long-term impact of this initiative seems limited. According to Captain Stewart, the British consul, corruption and insecurity were still rampant in Antalya in the late nineteenth century. See British Archives: FO 222/2: Correspondence 1879-1880, Adalia (Antalya) Vilayet: 13 Jan 1880.
\textsuperscript{208} For developments in Adana, see Gould 1973, 12; and Toksöz. For Antalya, see Planhol 1958, 124-125; McNeill 1992, 287. For both regions, see Tabak, 294.
CONCLUSION

Although the nineteenth-century transformation of property in France, Algeria, and the Ottoman Empire was not seamless for the governments of these three regions, it did provide them all with a convenient and effective weapon against their Mediterranean pastoral populations. In Provence, this transformation took the form of the decline and disappearance of the commons. This process favored large-scale, commercial agriculture and pushed out the majority of shepherds. In Algeria, property legislation became a way for the colonial population to exercise control over native pastoralists, giving settlers legal recourse for policies of dispossession. The Ottoman Empire employed similar tactics, requiring a process of property registration that favored settled agriculturalists and left nomads landless and increasingly destitute.

These measures did not pass uncontested. In all three of these Mediterranean contexts, mobile pastoralists challenged changes in property through active opposition, and the impact of property legislation was tempered by negotiation and compromise. In Provence, pastoralists petitioned local administrators, who were often sympathetic to their cause. Officials in the central administration were also aware of the vital role of the commons in the livelihood of so many, and this acknowledgement led them to alleviate the burden of administrative policies. As a result, certain communities were able to cling to the customary privilege of common pasture much longer than foresters, intellectuals, commercial farmers, entrepreneurs, and other critics would have liked.

The same trend of privatization had very different implications in Algeria and Anatolia. In Algeria, tribes fought back against colonial pressure, sometimes violently, as in the insurrection
of 1871. Their resistance hardened settlers, foresters, and the colonial administration against them, and made them even more popular scapegoats for environmental damage, disasters, and decline. Yet, their struggles also won them sympathy and support among progressive French intellectuals and officials. By the turn of the twentieth century, a harsh critique of colonial practices had developed in mainland France, and the pendulum that had ushered in the ‘settler colony era’ was poised to swing the other way.

In Anatolia, tribes also voiced dissent toward administrative measures by staging uprisings and rebellions, which occurred throughout the early modern era. In addition, nomads used their mobility to retreat into mountains and other peripheral regions, beyond the reach of Ottoman authorities. These tactics taught the Ottoman state to treat its mobile pastoral population with care, taking advantage of the tribes’ assets and doing its best to mitigate the problems they posed to government. In the nineteenth century, however, improvements in technology, communication, and administrative power afforded the Sublime Porte better control over nomadic tribes, limiting their ability to evade authority. At the same time, the influx of immigrants augmented the agricultural population, expanded settlements, and decreased the number and size of inaccessible, remote regions. Boxed in by these ever-shrinking frontiers, nomads had nowhere to hide.

The transformation of landed property rights in the nineteenth century occurred around the Mediterranean, where it exercised a major impact on the environment as well as on mobile

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pastoral populations. This development went hand-in-hand with the application of scientific forestry. Both systems were designed to reform, streamline, and modernize the process of land distribution, ownership, and management. Both were justified through rhetoric of environmental stewardship, conservation, and sustainable exploitation. Both were steered by commercial interests and politics of power as well as by altruistic motives. Finally, both were indicative of trends in governmentality. In the following chapter, I examine how these competing interests shaped French perceptions of Mediterranean pastoralism and the environment in the mid- to late nineteenth century, with a focus on the subject of natural disasters. As the remaining chapters will show, scientific forest legislation in the wider French Mediterranean continued to follow the path that the Forest Code of 1827 as well as nineteenth-century property regulations had laid for it, if unintentionally. It enriched the pockets of a select few at the expense of both forests and mobile pastoralists alike.
PART III: GROWTH AND TRANSFORMATION
CHAPTER FIVE: BAPTISM BY FIRE
MOBILE PASTORALISM AND NATURAL DISASTERS IN THE
NINETEENTH-CENTURY MEDITERRANEAN

Disasters without precedent are striking our country; it is not for me to
investigate their causes here; I will say only that one might find the main cause,
that which has generated all the others, in this attraction to material exploitation
[...] incompatible with the conservation of forests.

- Louis Tassy

In August of 1863, a series of fires spread through the lucrative cork-producing forests of
northeastern Algeria. Together, they destroyed over 160 square miles (42,000 hectares) of
woodlands, incinerating cork plantations as well as fields, vineyards, and pine forests. Although
the occurrence of fire was certainly nothing new to Algeria, this time was different. Not only was
this rash of wildfires* particularly violent, extensive, and destructive, but it was also the largest
to date to be attributed to the “malveillance” (malice) of the native population. In addition, it
was the first time the Algerian government formally charged native tribes with arson. Following
the blaze, cork concessionaires petitioned the government incessantly for compensation through
the imposition of “collective tribal responsibility” (responsabilité collective des tribus), a

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1 “Des calamités sans exemple ont frappé notre pays; il ne m’appartient pas d’en rechercher ici les causes; je dirai seulement qu’on trouverait peut-être la principale de ces causes, celle qui a engendré toutes les autres, dans cet entraînement pour les jouissances matérielles [...] incompatible avec la conservation des forêts.” Louis Tassy, Études sur l’aménagement des forêts, Troisième Édition (Paris, 1887), xxxii (Préface de la Deuxième Édition, 1858).
3 Prochaska, 240. Prochaska cites Marc 1930, 364-365, 435. Marc’s figures are also printed in Ford, 347.
*The term ‘wildfire’ can designate a fire of natural (non-human) origin, or a fire occurring outside (in nature). Throughout this work, I use the term in the latter sense.
measure that would punish all tribal members collectively for failing to identify the perpetrators of the fire. They were successful. The Algerian governor, Amiable Jean Jacques PéliSSier, agreed to fine local tribes a total sum of 150,000 francs in damages. Yet there was a snag. PéliSSier died in office the following year, leaving the fine unpaid. His successors promised to carry out this unfinished business on their arrival in office, but before anything could be done, Napoleon III, who had taken pity on the natives during his visit to Algeria in 1860, cancelled their fine.\(^5\)

In 1865, another spate of wildfires, the most destructive ever recorded up to that time, spurred cork concessionaires back into action. When in 1866 the government still had not imposed collective responsibility, one irate cork farmer warned that the natives would interpret this lack of punishment as an “encouragement.”\(^6\) Yet, as certain as some were that these fires were intentionally set out of malice, their actual cause was anything but clear. The government hesitated to act in the absence of clear proof, and the tribes remained unpunished.\(^7\) These incidents set the stage for a conflict between so-called indigenophiles and indigenophobes that would rage for the duration of the century. Natural disasters played a starring role in this ongoing battle, as colonists justified their contempt for native Algerians by blaming them for wildfires as well as other environmental calamities.

The clash between Algerian indigenophiles and indigenophobes on the battlefield of natural disasters is part of a broader Mediterranean story. In the nineteenth century, French scientific

\(^5\) Besson-Lecoustrurier. The cork concessionaires had obtained a formal promise from the future governor Marie Esme Patrice Maurice de MacMahon, prior to his arrival in office, that he would impose the fine (Besson-Lecoustrurier, 7). Napoleon III’s brief visit to the colony and its impact on his perspective is discussed in Chapter Four.


\(^7\) ANOM ALG/GGA/P62, Letter: Gouverneur Général to Général Commandant les Trois Provinces (Alger, 27 juin 1865).
treatises studied a range of environmental calamities in the Mediterranean region, from epidemics, locust plagues and earthquakes to floods, droughts and wildfires. Many viewed these occurrences as nature’s way of fighting back against the destructive practices of human civilization. From this perspective, sheep and goat grazing not only inflicted environmental degradation, but also had a direct or indirect hand in a range of environmental phenomena. For much of the Mediterranean, the incidence of natural disasters placed another nail in the coffin of mobile pastoralism. As the indictment of pastoralists migrated from science to administration, it motivated government officials to correlate environmental events with the movements and impact of shepherds and their flocks, and to initiate appropriate legislative reform.

Although the nature, extent, and impact of accusations against Mediterranean pastoralists varied from place to place, mobile pastoralists were increasingly held accountable for natural disasters in Provence, Anatolia, and Algeria during the nineteenth century. In France, natural scientists used the connections they had drawn between Mediterranean pastoralism and deforestation to indict pastoralists for a range of catastrophes. Events such as floods, mudslides, droughts, frosts, and harvest failure in Provence became justifications for the necessity of national forest protection. As such, they were also used as evidence of the destructive hand of mobile Mediterranean pastoralists. French and other Western European visitors to southwestern Anatolia made similar observations. In Algeria, indigenous pastoralists came to be associated with the


full range of these environmental incidents as well as with agricultural pests and plagues. Yet, all around the Mediterranean, it was the issue of fire that inspired the greatest animosity against mobile pastoral populations. In Provence and Anatolia, foresters, officials and scholars rebuked pastoralists for kindling occupational fires that had raged out of control; in Algeria, native nomadic tribes faced severe social and political consequences for their association with fire. By the late nineteenth century, the French colonial administration all but ceased to distinguish between arson and occupational fires, such as those set to burn brushland for pasture. Pastoralists were generally subjected to the same harsh punishments regardless of the nature of their offense.

Yet, even as they were blamed for an inordinate number and range of natural disasters, Mediterranean pastoralists were often among these events’ greatest victims. Whereas a major flood might cripple a farmer for one year by drowning his fields, the toll it took on livestock could ruin a pastoralist for life. Recognizing this vulnerability, officials trod with care in Provence and Anatolia, often balancing short-term relief with the long-term goals of sedentarization and conversion to agriculture. In Algeria, however, administrators tended to be less sympathetic. Under the powerful influence of the colonial lobby, some even viewed devastating events as convenient catalysts for the process of suppression and sedentarization. In all three cases, pastoralists were doubly punished for their association with natural disasters. Even as they struggled to recover from environmental devastation, narratives of their culpability fueled environmental legislation as well as sedentarization efforts. Throughout the Mediterranean region, a motley crew of foresters, natural scientists, lawmakers, officials, colonists, farmers, entrepreneurs, journalists, and members of the intellectual elite united in

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10 Brock William Cutler provides the most thorough investigation of natural disasters in French colonial Algeria, focusing on the disasters of 1866-1868 and their impact on administration. See Cutler, *Evoking the State.*
denouncing pastoralists for environmental disasters. These critics assigned them a new identity based on the presumption of their responsibility. In this way, Mediterranean pastoralists were, in effect, baptized by fire.

**A DISASTROUS CENTURY**

The nineteenth century witnessed an unprecedented number of reports on natural disasters in the Mediterranean region, often voiced in alarmist tones and sometimes linking such events to apocalyptic predictions. In addition to enduring the worst phylloxera crisis in history, which nearly destroyed the French reputation for fine wine, Provence suffered through locust plagues, scorching fires and famine, and was inundated by innumerable devastating floods. It also hosted multiple earthquakes. Across the sea, three major earthquakes shook Anatolia during the course of the century, and at least twenty tremors of an intensity of 5.0 or above were recorded in its Mediterranean coastlands alone. For the rural population, however, the impact of less dramatic disasters, such as recurring harvest failures, locust plagues, droughts, frosts, and epidemics, was undoubtedly worse. In Algeria, locusts and other pests nibbled incessantly at

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12 Harvest failures of 1845-1847 combined to cause the last great famine in French history, which hit the rural population particularly hard and contributed to widespread unrest during the French Revolution of 1848. See Whited 2000, 42.
13 Grégory Quenet has investigated the incidence and implications of earthquakes in France prior to the nineteenth century, making these events one of the relatively well-documented types of natural disasters in Provence. See Quenet, *Les tremblements de terre: Aux XVIIe et XVIIIe siècles La naissance d’un risque* (Éditions Champ Vallon, 2005).
14 T. Levent Erel & Fatih Adatepe, “Tarihsel Depremlerin Akdeniz Bölgesi Antik Kent Yaşamında İzleri” (Traces of historic earthquakes in the ancient city life of the Mediterranean region), *Black Sea/Mediterranean Environment* 13 (2007): 244-245. This record, while useful, is far from complete, and the intensity assigned to each event is approximate at best. In my own research, I have encountered numerous firsthand accounts of serious earthquakes not listed here, suggesting that the actual figure was much higher. For earthquakes in Anatolia prior to 1800, see Caroline Finkel and N. N Ambraseys, *The Seismicity of Turkey and Adjacent Areas: A Historical Review, 1500-1800* (Istanbul: M. S. Eren, 1995).
15 For the demographic impact of natural disasters in Anatolia and North Africa in the early modern era, see İnalcık and Quataert, 651-655. For natural disasters in the Medieval Ottoman Empire, see Gernot Rotter, “Natural
crops, while droughts and fires destroyed them altogether.\(^{16}\) Other parts of the Mediterranean, though they lie beyond the scope of this study, suffered no less.\(^{17}\)

These events gained growing attention as natural scientists, engineers, government officials, intellectuals, and amateur enthusiasts rushed to record, explain, and ultimately prevent them. The rising academic interest in environmental disasters in the early nineteenth century was due largely to the Enlightenment. Along with other natural phenomena, environmental disturbances were subjected to the scrutiny of a scientific community seeking to explain through reason events that had previously been attributed to God’s will.\(^{18}\) In addition, Enlightenment-era geological theories explained the earth’s development in terms of a series of violent catastrophes, such as earthquakes and floods. By the early nineteenth century, European geologists had begun to represent environmental change as a much slower and less dramatic process, but the idea of catastrophism remained popular in public and political spheres.\(^{19}\) Not only was it less threatening to strict interpretations of the Bible, but it also appealed to the dictates of human experience. To anyone who had witnessed the environmental ravages of a flood, the formation of torrents, the

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\(^{16}\) Cutler, 96-143.

\(^{17}\) Italy, for example, experienced two major earthquakes and multiple volcanic eruptions. See Damienne Provitolo, “L’évolution de la représentation des catastrophes naturelles en Méditerranée à travers la peinture. L’exemple des éruptions volcaniques en Italie aux XVIIIe et XIXe siècles,” in Les sociétés méditerranéennes face au risque – Représentations, edited by Bernard Cousin (Cairo: Institut français d’Archéologie Orientale, 2010). See also the other chapters in this volume, as well as the complementary text, Les sociétés méditerranéennes face au risque: disciplines, temps, espaces, edited by Gérard Chastagnaret (Cairo: Institut Français d’Archéologie Orientale, 2008); and Les sociétés méditerranéennes face au risque: Espaces et frontières, edited by Christian Velud (Cairo: Institut français d’archéologie orientale, 2012).

\(^{18}\) Grégory Quenet, “Des sociétés sans risques?” In Les sociétés méditerranéennes face au risque: disciplines, temps, espaces, edited by Gérard Chastagnaret (Cairo: Institut français d’archéologie orientale, 2008), 140. Quenet shows that this new perception of environmental disasters redefined the meaning of ‘risk’ for Mediterranean inhabitants of the eighteenth century, who applied it to the natural world.

\(^{19}\) Whited, Forests and Peasant Politics, 54.
movement of silt, rocks, and trees, or the radical transformation of the landscape, catastrophism made sense.

In addition, French positivism and other post-Enlightenment philosophies promoted the idea of progress as both the goal of all human society and the result of active and deliberate efforts (see Chapter Two). Over the course of the nineteenth century, the theories of positivism, progress, and catastrophism gained support within the European elite. Many used these perspectives to reinterpret environmental phenomena as the direct consequence of destructive human actions, rather than as unavoidable, naturally-occurring events. As such, these events threatened to destroy not only forests, harvests and houses, but civilization itself. By mid-century even the *mistral*, the violent wind that battered Provence each spring and fall, had been recast as “the child of men, the result of their devastations.”

The preponderance of alarmist reports makes it easy to assume that natural disasters were occurring more frequently in the early nineteenth century than they had previously, and perhaps they were. The waning of the Little Ice Age in the eighteenth and nineteenth centuries may well have produced floods of greater frequency and intensity, as well as the preponderance of other climate-related environmental disturbances. Moreover, as population density increased, environmental phenomena became more observable and more likely to affect human settlements,

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21 For advocates of this perspective, see Macklin and Woodward, 340; Simon, Clément, and Pech, 347; and Whited, *Forests and Peasant Politics*, 57. See also Chapter One. In contrast, Faruk Tabak suggests that the onset of the Little Ice Age led to endemic flooding throughout the Mediterranean region beginning in the mid-sixteenth century. See Tabak, 195-196. Likewise, Grove and Rackham have argued that the Little Ice Age brought “more frequent extreme weather and floods” to Mediterranean Europe, and that such occurrences declined following the retreat of these climatic conditions in the latter half of the eighteenth century (Grove and Rackham, 130-131).
while new technologies and communication networks informed a wider audience of their occurrence. Indeed, if we limit our definition of natural disasters to events affecting human populations, then they clearly have increased over the course of the modern era. At the same time, human actions did influence the incidence and intensity of ‘natural’ disasters. Soil erosion and the decline of forest cover, both human-caused, undoubtedly contributed to the appearance of floods, just as nineteenth-century environmental scientists claimed. Once European scientists, scholars, officials, and the broader public conceptualized natural disasters through the lens of human actions, however, the obvious next step was to find the guilty party. In Provence, Algeria, and Anatolia, mobile pastoralists became prime suspects.

**Natural Disasters in Provence**

In the naturally dry climate of Provence, it did not take long for an absence of rain to destroy a harvest. This problem intensified as the nineteenth century progressed, when the region’s principal natural watercourses, the Durance and the Rhône, were engineered to serve an expanding agricultural population. As these rivers snaked through Basse-Provence, farmers bled them with an ever-increasing number of irrigation canals, so that the rivers themselves began to look more like riverbeds. The end of the Little Ice Age probably also played a role in bringing back drier conditions to the Mediterranean in the mid- to late nineteenth century (see Chapter One). The result was frequent drought, which proved all the more devastating to the growing

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22 The human element is and always has been implicit in standard use of the term ‘natural disasters’. Newspapers do not report on hurricanes, earthquakes, avalanches, or floods unless they ravaged coastal towns, destroyed buildings, trapped people under snow, rocks or rubble, or at least exacted some human toll. Indeed, some scholars have even begun to suggest that in our ‘anthropocene’ world, humans are not just the necessary victims of natural disasters, but the cause. For example, Brett Walker has maintained, “Natural disasters are created by humankind and return to humankind.” See Walker, *Toxic Archipelago: A History of Industrial Disease in Japan* (Seattle; London: University of Washington Press, 2010), 42. As I show in this chapter, such an argument was common in the nineteenth-century Mediterranean, though not always with reason.
agricultural population. As water levels fell, fields dried up and crops withered.\textsuperscript{23} The effects were even worse for those with livestock. Drought often led to the decimation of a herd and the permanent ruin of its owner. Unable to feed their flock on the usual pastures, pastoralists sought other options. They begged local and regional officials for the right to graze their sheep exceptionally in the state and communal forests from which they had been banned.

The issue of emergency forest grazing generated contentious debate within the forest regime and in the broader bureaucracy of French government. In the 1870s, it became a polarizing case in the decision to transfer the direction of forests from the Finance Ministry to the Ministry of Agriculture.\textsuperscript{24} Speaking before the French National Assembly in 1873, one proponent of the shift explained how linking forestry to the Ministry of Agriculture would benefit pastoralists:

In France, there are sometimes years of drought when there is no fodder, and in these years one is absolutely obliged to open – to a certain extent – forests to livestock to prevent them from dying of hunger.\textsuperscript{25}

In practice, however, pastoralists received little support from either directing ministry. Local administrators were often sympathetic, but they lacked the authority to act. In the fall of 1869, the \textit{sous-préfet} of Arles forwarded the demands of his constituents to the prefect of the Bouches-du-Rhône, noting that a long period of “extreme dryness” had destroyed the Crau’s pastures and

\textsuperscript{23} For the description of a particularly devastating drought in 1896, caused by the drying up of the Durance River, see P. Carrière, Conservateur des Forêts, “Prosper Demontzey, Conservateur des Forêts,” 22 (BDR KSI 622). Originally published in \textit{Revue des Eaux et Forêts} 37 (1898). Carrière describes this drought as an isolated event, but he also attributes it and other environmental crises to the propagation of irrigation canals: “Au printemps de 1896, le dépit de la Durance vint à s’amoindrir au point de rendre insuffisant le fonctionnement des nombreux canaux d’irrigation qui sont dérivés du cours de cette rivière. Comme une longue sécheresse sévissait alors, une pénible crise s’en suivit” (22).

\textsuperscript{24} The direction of forest administration was ultimately transferred to the Ministry of Agriculture in 1877.

requesting permission for sheep to graze in the surrounding state forests that winter.\textsuperscript{26} In another case from 1881, a league of sheep herders threatened that unless the Municipal Council of Arles agreed to their demands, 400,000 beasts would die from “the disastrous state created by the dryness of our region.”\textsuperscript{27} Administrators seem to have considered each petition carefully, weighing local needs against perceived environmental costs. In a few rare cases, they acquiesced, though not in the examples given above.\textsuperscript{28}

When the region was not desiccated by drought, it seems to have been inundated by floods.\textsuperscript{29} Major floods heralded the new century in 1795 and 1802. In August of 1806, a monstrous storm rained hail the size of eggs, drowning riverbeds, fields and pastures, and destroying forests, vines, and olive trees.\textsuperscript{30} On November 2nd, 1840, the Rhône overflowed its banks, sinking the Crau in over eight feet of water. A witness surveying the normally verdant pastures of Arles reported that “only the tops of trees are visible.”\textsuperscript{31} The region barely had time to recover before it was hit by another flood in October of 1841.\textsuperscript{32} By one count, the hinterland of the Rhône suffered twenty-six floods from 1800 to 1856.\textsuperscript{33} In late spring of 1856, the Rhône valley was

\textsuperscript{26} BDR 7 M 258, Letter: Sous-Préfet d’Arles to Préfet des Bouches-du-Rhône (26 octobre 1869).
\textsuperscript{27} “l’état désastreux crée par la sécheresse dans notre région.” BDR 7 M 248 (Arles, 1881).
\textsuperscript{28} See for example, BDR 7 M 248: 1869-1870, 1881-1882 (Arles). According to this record, the state authorized forest grazing in response to extreme environmental conditions in 1840, 1843, and 1868. In 1893, another extremely dry year, the Minister of Agriculture offered financial assistance to Provençal farmers and approved the importation of foreign fodder. See BDR 7 M 105, Lettre du Ministre de l’Agriculture (mai 1893).
\textsuperscript{30} BDR 7 M 135: Agricultural Calamities, 1802-1896, First File.
\textsuperscript{31} “On n’aperçoit plus que les sommets des arbres.” BDR 7 M 135, Second File (Tarascon, 2 novembre 1840).
\textsuperscript{32} Ibid.
again submerged and the Camargue transformed into a great lake.\textsuperscript{34} Most of the floods that soaked Provence originated in the Southern Alps of Haute-Provence, where, as one scholar explained, “With steep slopes and such terrain, it is clear that the force of snow and rain, especially in the case of storms, must always have produced catastrophes in Haute-Provence.”\textsuperscript{35} Although these floods originated outside the Bouches-du-Rhône, this did not prevent them from destroying fields downstream, and uprooting houses and livestock. Following one particularly devastating flood in 1886, the farmers of Arles claimed that their prize pastures had been transformed into “veritable swamps,” which they predicted would leave 50,000 sheep without food for the winter season.\textsuperscript{36}

These events quickly gained national attention. As early as 1821, the Minister of the Interior sent a dispatch to France’s 86 departments asking for statistics on “the extraordinary floods to which France seems to be becoming more and more subject.”\textsuperscript{37} In the summer of 1856, following another severe flood, Napoleon III personally visited Provence and oversaw the construction of levees to minimize future damage.\textsuperscript{38} The incidence of floods also inspired major, popular treatises. In 1841, Alexandre Surell published \textit{Étude sur les Torrents des Hautes Alpes}. In this seminal work, Surell explains how floods develop in the Alps, ravaging the surrounding terrain and the land downstream:

\textsuperscript{34} Pierre de la Gorce, \textit{Histoire du second empire} (New York: AMS Press, 1969), II: 40-41. Cited in Whited, 58. The floods of 1855-1856, which devastated much of eastern and southern France, are often considered the worst of the century. For their influence on French forest legislation, see Chapter Six.

\textsuperscript{35} “Avec des pentes énormes et de pareil terrains, il est évident que l’action des eaux de neige et de pluie, en cas d’orage surtout, a dû produire de tout temps des catastrophes dans la Haute-Provence.” Allard, 169.

\textsuperscript{36} BDR 7 M 248 (7 décembre 1886).


Attached like a leper to the surfaces of mountains, [streams] erode their flanks, spewing them up on the plains in the form of debris. In this way, they create, through a long process of accumulation, these monstrous riverbeds, which grow constantly and threaten to wipe out everything.\(^{39}\)

Driving his point home, Surell describes these events as “the most tragic scourge” of the affected regions.\(^{40}\) Fifteen years later, Charles de Ribbe expressed similar sentiments in another frequently cited work, *La Provence au Point de Vue des Bois, des Torrents, et des Inondations Avant et Après 1789*, published in 1857.

Despite national interest in these catastrophes, local inhabitants received little relief. The levees constructed over 150 years ago by the emperor Louis-Napoleon did not save Provence from regular inundations in subsequent years, and they provided little relief for the pastoralists whose pastures or even herds had washed away. As in cases of drought, pastoralists frequently petitioned local officials for permission to use areas normally closed to grazing, namely, state and communal forests. Such petitions were very rarely granted, however, because they required the approval of the forest administration, something it was loathe to provide. As a case in point, victims of the 1886 Arles flood sent a request for exceptional grazing authorization in state forests all the way up the administrative hierarchy to the Minister of Agriculture, where it was ultimately denied.\(^{41}\)

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\(^{40}\) “le plus funeste des fléaux” (Ibid., iv).

\(^{41}\) BDR 7 M 248 (7 décembre 1886).
The Algerian Case

Unlike Provence, Algeria was rarely the victim of flooding, but there the risk of drought was ever present. There were also additional environmental hazards, including sickness and plague, famine, agricultural pests, and animal diseases (epizootics). In the second half of the nineteenth century alone, Algeria suffered from multiple famines, and destructive pests regularly plagued its fields and livestock. Catastrophes often seemed to hit rural inhabitants with combined force. In the crisis of 1867-1869, cholera, locusts, and famine united to wreak hardship on the overwhelmingly indigenous rural population. In 1897, a government report listed phylloxera, locusts (sauterelles), epizootics, and drought among recent events impacting native Algerians. Remarkably, the purpose of this report was to impose the principle of collective responsibility on Algerian tribes for a recent wave of wildfires, despite the probability that these same groups were themselves the fires’ worst victims.

Colonial officials occasionally took environmental conditions into account when dealing with the indigenous population. After locusts stripped the fields surrounding Constantine in 1887, the
government lessened fines for forest infractions. The next year, the province was hit by such a severe drought that the administration agreed to open up a portion of its woodlands to grazing for native Algerians’ livestock, admitting more than 87,000 animals into 84,000 hectares (over 300 square miles) of state forest normally closed to pastoral use. Following another season of unusual dryness in 1896, the Algerian governor-general approved temporary grazing in the forests of Tebessa, in the northeastern reaches of Constantine. His order allowed a total of over 115,000 sheep to graze in various parts of the woods.

Yet, as the forest conservator made a point of noting in his report on the 1888 case, “it was an exceptional year,” and this practice was far from common. More often, colonial observers either blamed native pastoralists for the desiccation of the Maghreb (see Chapter Two), or they advocated relegating pastoral tribes to Algeria’s driest regions. Some even argued that drier conditions were actually ideal for the practice of mobile pastoralism since this climate separated them from their sedentary ‘rivals’, and suggested that their mobility allowed them to escape periods of excessive heat or drought. A dry environment, argued one study, “while precluding cultivation, permit[s] the industry of pastoralism and husbandry to live, and sometimes to thrive.” Another tract, published by a prominent forest engineer, maintained that through reforestation and irrigation, the desert regions of Southern Algeria could be revived into a haven

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46 ANOM ALG/GGA/P60 (1887).
47 Combe 1889, 37. This is a relatively conservative ratio of animals to land. The French forest regime generally allowed two to four sheep per hectare, though the ratio could be significantly higher on the Crau and other choice pastures. In this case, the low ratio most likely reflects the forest regime’s concerns over damage to forest vegetation.
48 ANOM ALG/GGA/ 22K 10 (Tebessa, le 29 février 1896).
49 Combe 1889.
50 Reynard.
51 “À la lisière des pays agricoles et des pays désertiques sont des territoires qui, bien que ne se prêtant pas à la culture, permettent de vivre, et de vivre parfois assez largement, de l’industrie pastorale et de l’élevage.” Bernard and LaCroix, 6. See also Chapter One.
for colonization and settled pastoralism, an industry “so important for the future of Algeria.”

Although this idealistic project was never carried out, the colonial government gradually and systematically relocated mobile pastoralists to Algeria’s most parched and barren lands. By the late nineteenth century, they were exiled either to the remote reaches of the Hauts-Plateaux, or to the scorching sands of the Sahara. Natural disasters helped speed them on their way.

_Catastrophes in Nineteenth-Century Anatolia_

Natural disasters also significantly impacted the lives of nomads in Mediterranean Anatolia. Locusts made a regular appearance in the Eastern Mediterranean, chewing up fields and pasturelands. Turkish newspapers and administrative reports documented locust invasions throughout the century, with particularly devastating visitations in the 1850s, 1860s, and 1880s. In 1845, officials reportedly exterminated 200,000 _kiyya_ (okka), nearly 300 tons, of the insects. In 1879-1880, the British ambassador to the Ottoman Empire reported locust plagues throughout Anatolia. His colleague in Antalya added that locusts had destroyed harvests in the vilayet of Antalya for at least five years. The region, which had formerly exported grain, was forced to import it. In such desperate times, nomadic tribes suffered alongside their sedentary neighbors, since they depended on agricultural success for their own nourishment as well as that of their herds.

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52 Reynard, 7.
56 BNA FO 222/2, Letter: Satheral to Layard (Konya, 16 April 1880). See also other correspondence in this file.
57 BNA FO 222/2, Letter from Captain Stewart, Adalia (Antalya) Vilayet, 13 January 1880.
58 Ibid.
Drought, flooding, frosts, and hailstorms were frequent visitors to the Mediterranean domains of the Ottoman Empire.\(^{59}\) When these environmental factors conspired together, or when heavy snowfall hampered transportation, widespread famine could result. Such an event hit rural Anatolia with particular force in the early 1870s, precipitated by two years of brutal dryness.\(^{60}\) Riding near Ankara (“Angora”) in the late nineteenth century, the English adventurer Frederick Burnaby was struck by the persistent evidence of this famine. In his journal, he recounts the story of one inhabitant:

I was hospitably entertained by an old farmer. He bewailed the disasters caused by the Angora famine, which had been felt throughout all this district. The road from Angora had been blocked by snow for three months and a half. His cattle all died from starvation, his goats had also perished.\(^{61}\)

As Burnaby’s account shows, the shortage of food affected Anatolia’s livestock as well as its human population. One community whose chief industry was goat (angora) hair lost 60 percent of its goats, sheep, and cattle.\(^{62}\) South of Ankara in the vilayet of Konya, where mobile pastoralism comprised a major part of the regional economy, losses were even more dramatic. British consular reports from the early 1880s describe the devastation of livestock all across the


\(^{60}\) “Informations,” *L’explorateur: Journal géographique et commercial*, edited by Charles Hertz and Adolphe Puissant 1-6 (1875): 120. For an extensive account of the famine of 1873-1874, see *The Famine in Asia Minor: its history, compiled from the pages of the “Levant Herald”* (İstanbul: Isis, 1989). See also Shaw, II: 156; and Burnaby, 83.

\(^{61}\) Burnaby, 83. Burnaby travelled through Asia Minor in 1877.

\(^{62}\) Ibid., 66.
The famine had reduced one village’s former population of 70,000 cattle, sheep, and goats to no more than 4,000. The consul also noted the impact of this catastrophe on the byproducts of pastoralism. The manufacture and trade of carpets had all but stopped, as had transportation and communication between Konya and Antalya and other Mediterranean centers south of the Taurus Range.

Famine was often a consequence of periodic droughts. Indeed, droughts in Konya and Ankara in the early 1870s had contributed to the famine described so vividly in Burnaby’s account. These regions had also suffered from severe droughts in the 1840s. Indeed, Ottoman reports recorded droughts and famine in Anatolia in nearly every decade of the nineteenth century. Even when such events were localized, they tended to have a widespread effect. The years 1891-1893 witnessed extreme dryness throughout the peninsula, but this drought hit the inhabitants of Erzurum, a district in eastern Anatolia, with particular force. As the local population watched crops wither in their fields, many suffered from increasing economic hardship and the onset of famine. According to an official report in 1895, the drought had left 10,000 people in desperate circumstances. Yet, the drought’s effects were actually much greater. It inspired a wave of migration to other parts of the country, which placed additional pressure on the populations that already inhabited these spaces.
Even though nomads rarely wrote down their own perspective, they found other ways to express and respond to environmental stress. Years of famine, drought, plague, excessive heat or frost, and other calamities also witnessed a marked increase in brigandage, destruction, and open rebellion among the rural population, including nomadic tribes. Lawlessness prevailed in Antalya and along Anatolia’s southwestern Mediterranean coast in the late 1870s and 1880s, disrupting the moderate degree of stability that reform and consolidation had brought to the region in the 1850s and 1860s. In 1878, just a few years after the onset of famine, the tribes of the Adana region erupted into a full-scale revolt that lasted for years and was ultimately quelled only through the extensive use of military force.

Under such circumstances, the fate of local inhabitants became a topic of concern for Western observers in the region. The European press attentively followed the Erzurum famine and its consequences, and foreign diplomats worked with the Ottoman government to facilitate the arrival of provisions from surrounding states. Foreign officials also worried about the impact of natural disasters on mobile pastoralists. In the fall of 1879, Colonel Wilson, the British consul general for Anatolia, wrote a series of letters to various British and Ottoman officials requesting relief for a tribe stranded with its livestock in the Central Taurus Mountains. The tribe was accustomed to wintering in the nearby Adana plain, but this year it had been forbidden to do so, probably because the recent famine together with the arrival of refugees had placed additional

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72 Descriptions of such lawlessness often accompanied descriptions of famine in British consular reports of the mid-to late nineteenth century. See especially BNA FO 222/2; and BNA FO 78/2987.
73 BNA FO 222/2, Captain Stewart, Report from Adalia (Antalya) Vilayet, 13 January 1880.
75 Özdöğer, 94-95.
pressures on Adana’s hinterland. In this context, Ottoman officials no longer considered pasture a practical use of the land.

The central government had periodically offered assistance to its peasant population in the wake of natural catastrophes, so Wilson’s plea was not hopeless.76 Just a few years before, Sultan Abdulaziz had attempted to alleviate the impact of the famine of 1873-1874 through extensive provisioning and expense.77 The state also had provided relief for victims of earthquakes.78 Likewise, the Ottoman state fought locust invasions through mass pest extermination campaigns, though it did little else to prevent these occurrences, or deal with their social and economic ramifications. Nomads, however, derived little benefit from Ottoman aid initiatives that focused on urban or agricultural centers, and their exclusion may have been deliberate. As Wilson himself suspected, the state hoped that disrupting seasonal migration patterns would encourage nomads to abandon their peripatetic lifestyle. Even though he shared the state’s preference for sedentarization, Wilson maintained that such a system was “not the way to obtain the desired result.”79 He was certain that, with the onset of winter, the entire herd would perish, which would be ruinous for the tribe.80 The Ottoman administration’s failure to act, even in the face of such

76 Some scholars have observed that aid is mentioned less in official documents than one would expect, considering the sultan’s ideological role as protector of the poor. See Suraiya Faroqhi, “A Natural Disaster as an Indicator of Agricultural Change: Flooding in the Edirne Area, 1100/1688-89,” in Natural Disasters in the Ottoman Empire, 252; and Huri İslamoğlu-İnan, State and Peasant in the Ottoman Empire (Leiden; New York, Brill, 1994). Recent studies, however, have unearthed evidence of consistent state responses and disaster relief, rendering such observations somewhat moot.
77 Gül, 147-148. Foodstuffs were brought in from both domestic and foreign sources, including Russia and Iran. See also Burnaby, 83. According to Burnaby, however, “the roads were impassable, and the provisions could not reach their destination” (83).
78 According to the British consulate general, the sultan sent aid to victims of an earthquake in 1857 (BNA FO 195/55, Letter book, consulate general, 1857). However, Georges Perrot recounts a tremor of 1859 that left Bursa in ruins, following which the governor was left to fend entirely for himself in reconstructing the city. See Georges Perrot, Souvenirs d’un voyage en Asie Mineure (Michel Lévy frères, 1864), 67. See also Jean Vogt, “Sismicité Historique du Domaine Ottoman,” in Natural Disasters in the Ottoman Empire; and Gül, 144.
79 BNA FO 78/2987, Letter: Col. Wilson to Sir Layard (Sivas, 28 October 1879, copy No 33).
80 Ibid.
charges, is clear evidence of its support for the destruction of Anatolia’s mobile population. As in Algeria, natural disasters served that policy and expedited the process.

**Explanations: Deforestation, Pastoralism, and Environmental Devastation**

In a seminal treatise on French forestry and forest administration published in 1823, Jacques-Joseph Baudrillart seems to discern a form of karma in the effects of deforestation, observing, “Thus, man, after having destroyed the order established by nature, has himself fallen on the ruins that he prepared.” By the mid-nineteenth century, French scientists were clamoring to explain the supposed preponderance of natural disasters around the Mediterranean, and forest degradation was becoming a favorite refrain. A number of French *philosophes* and officials, struck by the incidence of devastating floods throughout the country, had begun to link erosion and flooding to forest clearing. “Under the pretext of favoring the cultivation of grain,” wrote an official in the Ministry of Agriculture in 1788, “one has carried the spade or the plow into lands which were destined to produce wood. The land of the slopes has been carried into the valleys; it has clogged the streams and rivers.” The French elite viewed mountain deforestation with particular alarm for its impact on lands and villages downstream. Administrators in the Isère department claimed that years of clearing had stripped the mountains bare and transformed rivers into dangerous flood zones, and they demanded the passage of a national law prohibiting clearing on hillsides steeper than 35 degrees. Joining in the fractious debates over forest management in the early Revolutionary era, one official from the Basses-Alpes begged the

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81 “ainsi l’homme, après avoir détruit l’ordre établi par la nature, est tombe lui-même sur les ruines qu’il avait préparées.” Baudrillart 1823, 4.
83 De Cheyssac, member of the Comité d’Agriculture, 1788. Quoted in and translated by Matteson, 289.
National Assembly to take immediate action. “Our mountains no longer offer anything but rocky soil,” he cried, “and forest clearing continues. Small runnels are becoming floods, to which many communities are beginning to lose their harvests, their herds and their houses.”

Local administration shows that the Parlement of Provence was keenly aware of this issue. Following a series of devastating floods, the Parlement issued an arrêté (decree) in 1767 requiring the construction of terraces “for holding up the earth” on every new field cultivated on a hillside. Despite this measure, erosion and flooding remained recurrent problems. Speaking before the Assembly of the Communities of Provence in 1780, one lawyer and environmental advocate pleaded for action. “In half of the province,” he declared, “the countryside is threatened by rivers and floods; it must be protected against overflowing by [constructing] embankments, and we must retain, through artificial means, the soil on inclines, which is always ready to break away.” The Comte de Villeneuve seemed to provide confirmation for this prediction, noting the presence of “plains crisscrossed with runnels formed since the destruction of forests” on his journey through Provence shortly after the turn of the century.

By the mid-nineteenth century, the association of deforestation, erosion, and flooding, particularly in the Mediterranean region, had gained a wide following among French scholars.

85 “‘Nos montagnes,’ écrivaient déjà les administrateurs des Basses-Alpes en 1792, n’offrent plus qu’un sol pierreux, les défrichements se continuent. Les petits ruisseaux deviennent des torrents. Plusieurs communes viennent de perdre leurs récoltes, leurs troupeaux et leurs maisons par des débordements.” Quoted in Allard, 53.
87 “Dans la moitié de la province, les campagnes sont menaces par les rivières et par les torrents; il faut se défendre par des digues contre les débordements, et retenir par artifice un sol penchant, toujours prêt à s’échapper,” Portalis, Assesseur of Aix and Procureur du Pays, speaking in the Assemblee des Communautes de Provence (1780). Quoted in Ribbe 1857, 11.
88 “Si la vue se baisse, elle se porte sur un plan incline que sillonnt les torrents formés depuis la destruction des forêts.” Villeneuve 1815, 3.
laymen, and state officials. At the same time, dominant narratives began to shift the blame for these catastrophes from logging, agricultural clearing, and other sources toward Mediterranean pastoralism, citing the effects of close grazing on the region’s precious, fragile forest resources.

Thus, pastoralists became the scapegoats, if indirectly, for all environmental changes and disasters associated with deforestation. The Baron de Ladoucette’s popular Historie, topographie, antiquités, usages, dialectes des Hautes-Alpes, published in 1848, demonstrates a mature form of this narrative:

Anything that could serve as a field or vineyard, regardless of its elevation, became successively the victim, either of the teeth of goats, or the hatchet and pickaxe of inhabitants. No longer retained by trees and plants, the rains, which sometimes fall here like torrents, would rush, dragging away earth and the detached stones of boulders; the ravines would grow, crisscrossing the countryside and lowering plateaus; each day their number continues to increase.

In this passage, goats share the blame for erosion with tree cutting and cultivation. Ladoucette’s description also illustrates a trend toward linking human and environmental factors in a vicious cycle of ecological decline. Similarly, in a frequently cited treatise on mountain deforestation, Du déboisement des montagnes, Adolphe-Jérôme Blanqui explains how “under the influence of deforestation,” ravaging floods “transform each day part of our four frontier departments into sterile solitudes.” Another scholar, in a study on the benefits of canals and irrigation, complements this observation by lamenting that “in regions of transhumant pastoralism the

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89 Notable scientific studies on this subject from the period include Ribbe 1857 and Surell, Etude sur les torrents des Hautes-Alpes (1841).
90 See Chapter Two.
91 “Tout ce qui pouvait servir à un champ ou à une vigne, quelle que fut son élévation, devint successivement la victime, soit de la dent des chèvres, soit de la hache et de la pioche des habitants. N’étant plus retenues par les arbres et les plantes, les pluies, qui parfois tombent ici comme des torrents, se précipitèrent, entraînant les terres et les pierres détachées des rochers; les ravins s’accrurent, sillonnèrent la contrée et abaissèrent les plateaux; chaque jour leur nombre s’augmente encore.” Ladoucette 1848, 5-6.
92 “ce fléau des Alpes […] qui transforme chaque jour en stériles solitudes une partie de nos quatre départements frontières.” Adolphe-Jérôme Blanqui, Du déboisement des montagnes (Paris: Chez Reynard, 1846), 27.
cultivation of the plain very often leads to the exaggeration of denudation in the mountains,” and he cites Provence as a case in point.⁹³

While erosion and flooding presented the most pressing and obvious environmental consequences of deforestation, scientists and scholars also linked forest cover to a range of other environmental elements, including the climate. The age of European exploration and colonization encouraged Europeans to draw causal relationships between climate and nature.⁹⁴ Overseas encounters raised awareness of the range of global landscapes, peoples and climates, leading French *philosophes* to seek correlations among these three factors. Pierre Poivre, a naturalist and administrator of French colonial Mauritius, drew on his own colonial experience to connect forest destruction to climate change. “The rain,” he claims in his description of the island in *Voyage d’un Philosophe* (1768), “which in this island is the only solution and the best that the earth can receive, follows forests exactly, stopping there and no longer falling on cleared land.”⁹⁵ The idea that forests promote rainfall, later called ‘rain shadow’ or ‘desiccation theory’, would become a popular element of theories linking deforestation to climate change. Many of the same Enlightenment figures who linked environmental elements to human development also investigated connections among forces of nature. The Comte du Buffon, whose *Histoire Naturelle* attempted to explain European superiority over other ‘races’ through climatic factors, also pioneered climatology in a subsequent work, *Époques de la nature*. In this text, Buffon,


⁹⁴ For different perspectives on the chronology and significance of this development, see Grove 1995; Radkau 2008; and Drayton.

⁹⁵ “La plus grande faute qui ait été commise dans cette isle, celle qui préjudicie le plus au succès de la culture, est d’avoir défriché les forêts par le feu sans laisser aucun bois de distance en distance dans les défrichemens. Les pluyes qui dans cette isle sont le seul amendement & le meilleur que la terre puisse recevoir, suivent exactement les forêts, s’y arrêtent & ne tombent plus sur les terres défrichées.” Pierre Poivre, *Voyage d’un Philosophe* (1768), 31.
observing that temperate zones generally enjoy greater forest cover than hot deserts, proposes that forests cool their environment by shading it from the sun.\textsuperscript{96}

Interest in this connection extended far beyond the scientific community. With reference to the Alps, Ladoucette remarked in 1820 “that the destruction of woods and thoughtless clearing have caused a change in the temperature,” and he reasoned that greater solar reflection on rocks and rugged mountains increased the summer heat, while in the winter, gusts of wind no longer impeded by forests brought a deeper chill.\textsuperscript{97} The central government showed concern for the impact of deforestation on the climate as early as 1822, when the Ministry of the Interior conducted a national survey designed to study this relationship. French departments were asked to indicate the extent of their forest cover as well as their perceptions of climate change, including increased cold, dryness, flooding, violent storms, and a decline in agricultural productivity.\textsuperscript{98} The results, at least for the Bouches-du-Rhône, were conflicted and inconclusive, but this did not stop the proliferation of theories linking environmental decline to dire forecasts about the effects of these changes.

As deforestation became an ever more popular and timely issue in the nineteenth century, interest in its impact on the climate increased apace.\textsuperscript{99} Not surprisingly, theories relating deforestation to climate change provided almost uniformly pessimistic – if not apocalyptic –


\textsuperscript{97} “que la destruction des bois et les defrichemens irréfléchis ont causé un changement dans la température, parce que la réverbération /des rayons solaires sur les rocs et les montagnes stériles augmente la chaleur en été, et que dans l’hiver, les courans du vent du nord n’étant plus rompus par les forêts, amènent des jours rigoureux.” Ladoucette 1820, c-ci.

\textsuperscript{98} BDR 7 M 163: Eaux et Forêts.

\textsuperscript{99} Grove and Rackham suggest that theories linking landscape and climate change arose to account for ‘the year without a summer’ (1816), when massive crop failures led to widespread famine (Grove and Rackham, 10).
forecasts about the climatic consequences of deforestation. Jacques Joseph Baudrillart, a prominent French agronomist, provided a typically dire admonition in 1823:

The destruction of forests is thus the natural result of the augmentation of the population and the progress of luxury and civilization. We will soon see that it is in turn the precursor of the decadence of nations and the appearance of deserts.  

Similarly, the French émigré François Trottier believed a thriving forest economy to be vital to the “physical and moral” health of its inhabitants, and he threatened, “The deforestation of a country is thus the most active cause of its depopulation.” For his contemporary, the French doctor Louis Alfred Becquerel, the “absence of wood in a country […] is the most certain sign of the passage of great conquerors, or an aging civilization or political turmoil.” Theories linking forestation to civilization gained wide acceptance in the nineteenth century, spreading from Western Europe to the United States and the world, and they had significant implications for French environmental policy in the Mediterranean.

In Algeria, declensionist narratives often went even further, combining concerns over deforestation, climate change, health and hygiene into arguments about race and civilization. Sickness was widespread among Europeans in Algeria in the mid-nineteenth century, and as settlers struggled to acclimate, they sought ways to explain their susceptibility. Hence,

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100 “La destruction des forêts est donc le résultat ordinaire de l’augmentation de la population et des progrès du luxe et de la civilisation. Nous verrons bientôt qu’elle est à son tour le précurseur de la décadence des nations et de l’apparition des déserts.” Baudrillart 1823, 3.
101 “le déboisement d’un pays est donc la cause la plus active de son dépeuplement.” François Trottier, Boisement et colonisation: Rôle de l’eucalyptus en Algérie au point de vue des besoins locaux de l’exportation et du développement de la population (Alger: Imprimerie de l’Association Ouvrière V. Aillaud et Cie, 1876), 26-27 (ANOM BIB AOM B6787).
103 Cutler, 144-188. See also Lorcin, 126-127; Ford, 349.
104 The frequency of illness and disease among settlers was discussed within the broader discourse on European acclimation to Algerian conditions, a popular issue. See Tocqueville 2001, 174-177; Becquerel, 309-312; and Bodichon, De l’humanité (Brussels: A. Lacroix, 1866), Vol. I: 176-183. For a scholarly perspective on this issue, see Lorcin, 127.
colonial discourse commonly blamed the native population for the environmental hazards of Algeria, deriding the unhygienic conditions, the heat and squalor, in which native Algerians – especially the pastoral ‘Arabs’ and their disease-ridden livestock – lived. French colonists commonly assumed that the Algerian climate exercised an impact on both the physical and moral characteristics of its inhabitants. In his “Essay on Algeria,” published in 1841, Alexis de Tocqueville contemplates the seemingly inevitable presence of illness in colonization. Though he supplies no clear explanation, he does observe that “after several years, when the land had been cultivated and the population had grown, people no longer fell sick,” in an oblique connection of agriculture and order to health and civilization. Tocqueville’s perspective was by no means unique. As the century progressed, the fashion of equating environmental features to civilization and health only gained popularity, particularly in the colonial context. Indeed, by the 1880s, French settlers were claiming “the beneficial influence of trees on the climate and on public health” as the primary purpose of forest administration in Algeria.

Those promoting tourism and colonization went to great lengths to dispel stereotypes associating Algeria with disease. The author of one mid-nineteenth-century guidebook acknowledged that fever had made “unbelievable ravages” in the early years of the occupation, for which he freely blamed the Arabs’ unsanitary habits. At the same time, his text reassures potential travelers that careful French management of the colony has since ameliorated this situation, making the

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105 This was a widely held belief among the nineteenth-century European elite. See Bodichon, I: 176-183; and Fillias, 14. See also Chapter Two.
108 Fillias, 10.
Algerian climate “exceptionally healthful.” As support, it quotes a doctor practicing in Algiers who insists, “No, Algeria is not a pestilential land! No, it is not fatal to the European!” Such exaggerated characterizations of Algeria’s supposed salvation from centuries of sickness are the exceptions that prove the rule. They affirm the presence of an epidemic of colonial narratives linking health, climate, and the indigenous population.

Narratives associating deforestation, climate change, and Mediterranean pastoralists achieved their greatest potency in the form of desiccation theory. This theory maintained that overgrazing dried up the soil, which in turn limited plant life so that earth held less moisture, and thus less was released into the air to return as rainfall. The ultimate result was a desert, the source of this theory’s alternate designation: desertification. Desiccation theory was widely promoted in Europe in the mid- to late nineteenth century. In colonial Algeria, concerns over water access and availability, the fragility of forests, the limited fertility of the soil, together with a propensity to vilify native pastoralists, made this theory particularly appealing. At its height, it seems to have been taken for granted by everyone from scientists, foresters, agriculturalists and administrators, to colonists and amateurs, though it appears to have been conspicuously absent from native voices.

Evidence of this narrative dates from the beginning of the French conquest. As early as 1838, a report on Algeria’s forests warned that overexploitation of the cork trees surrounding La Calle

109 Ibid., 10.
110 Quoted in Fillias, 11.
112 Ford, 350.
could easily transform “this green and wooded country” into “a sterile and burning desert.”

Others used desiccation theory to support the claim that the Algerian environment was once a verdant ‘granary of Rome’, boasting a temperate climate, fertile soils, and lush vegetation. According to this narrative, centuries of reckless forest destruction had desiccated this Mediterranean Eden. One source pointed to “traces of vegetation” on the southern foothills of Northern Algeria as evidence that “in the not too distant past forests extended right up to the desert.” Indeed, the Ligue du Reboisement, a powerful colonial lobby group formed in the 1880s, operated on the assumptions that “immense forests” had once covered Algeria, and that continued deforestation would drastically transform Algeria’s climate. Yet, the theory of desertification was used not just to lament past destruction, but also to promote the ‘reforestation’ and reclamation of degraded lands. From this perspective, the plantation of forests, even in the desert, would encourage regeneration and positive climate change.

Proponents of desiccation theory generally either singled out Arab nomads for the damages or blamed the entire North African population. In either case, they branded the indigenous population as poor environmental stewards. The use of this theory to advocate universal afforestation was particularly detrimental to mobile pastoralists in Algeria. In the colonial

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113 “cette contrée verte et boisée serait bientôt convertie en un désert stérile et brulant.” ANOM FM F80/81, Copy of letter from Conseiller d’État (signed Baude), to Ministre Secrétaire d’État de la Guerre (signed Bernard) (Paris, 24 avril 1838).

114 The term ‘granary of Rome’ is present in French colonial literature, but I owe Diana K. Davis for this usage. See Davis 2007.

115 “Les dernier contreforts du sud, aujourd’hui complètement arides, conservent quelques traces de végétation qui semblent indiquer qu’a une époque peu éloignée les forêts descendaient jusqu’au désert.” Bernard and LaCroix, 40.


117 Davis 2007, 63 and passim.
context, the narrative of desertification legitimized the French administration’s appropriation of Algerian lands, its subjugation of the native population, and its manipulation of the traditional economy.

In Anatolia, environmental catastrophes also took on additional meanings. Here, European observers used them to evaluate the Ottoman government and predict the future of the empire. Burnaby’s account blatantly blames the inability of Anatolia’s population to recover from years of famine on an oppressive system of taxation as well as on rural communities’ limited economic options.118 Similarly, European consular correspondence of the nineteenth century openly condemned Ottoman disaster management. Amid the crises of the 1870s, the British consul general for Anatolia fumed, “At no time in the past 25 years has the provincial government been so weak, outrage so rife and unchecked, anarchy so rampant, or the reins of authority so slack.”119 Likewise, Colonel Wilson, irate at the disregard of his efforts to save the tribe prohibited from wintering in Adana, surmised, “It is by such ill-endured measures that the Porte either ruins the people or forces them to become robbers.”120

Like many nineteenth-century European perspectives on the Ottoman Empire, these charges are much more representative of European negative preconceptions than of the actual state of Ottoman administration.121 As Ottoman records show, the sultan regularly supplied relief for the victims of catastrophes in the early modern and modern eras. Yet European accounts tended

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118 Burnaby, 66.
120 Ibid., Letter: Col. Wilson to Sir Layard (Sivas, 28 October 1879, copy No. 33).
121 As shown above, the Ottoman state did make concerted efforts to spare its population from the devastating effects of natural disasters, even if these efforts were not entirely successful.
either to ignore or to trivialize such acts, focusing instead on the disasters themselves and their apparent political, cultural, and religious connotations.

Others made even broader connections between environmental disaster and Ottoman administration. Baptiste Poujoulat, in his massive memoir-cum-encyclopedia of the Middle East, contends that through the Ottomans’ “decadence,” the lands of their domain “have become arid deserts in their hands.”122 In the eyes of another mid-nineteenth century French traveler, Georges Perrot, the connection between Ottoman administration and environmental degradation is even more explicit. In a memoir of his visit to Anatolia, he exclaims, “Nothing is sadder, in Asia Minor, than these vast deserts where it seems that the earth is waiting and calling the plow that fertilized it for so long,” and he laments the woes of a rural population forced to fight constantly against “poverty” and “bad government.”123 Earthquakes could generate even more strident criticism of the Ottoman state. For European missionaries, the series of earthquakes in nineteenth-century Mediterranean Anatolia was no coincidence. “This is really a voice of Heaven,” wrote the Church Missionary Record regarding a tremor in Cappadocia in 1835, “oh, that the inhabitants of these countries would listen to it!”124 Later, following a tremor in Izmir in 1880, a local Catholic mission noted suggestively that its constituents had escaped the disaster unharmed.125

123 “Rien n’attriste plus, en Asie Mineure, que ces vastes déserts ou il semble que le sol attende et appelle la charrue qui l’a si longtemps fécondé” (Perrot, 105).
The inhabitants of Anatolia seem to have conceptualized natural disasters in similar ways throughout the Ottoman era. One medieval eyewitness recounted a major drought by explaining, “God refused to let it rain for three months.”¹²⁶ Evliya Çelebi, in the account of his travels through the region, describes talismans constructed in Istanbul that successfully warded off the plague.¹²⁷ He also suggests tellingly that these talismans were damaged in the Byzantine era by earthquakes on the birthday of the Prophet Muhammad.¹²⁸ The Ottoman population continued to interpret catastrophes in religious terms through the nineteenth century. Indeed, when an earthquake hit the Dardanelles on August 9, 1912, many Turks felt certain that Allah was punishing them for the passage of the Constitution.¹²⁹ The European trend to codify and rationalize natural disasters did not influence Turkish perspectives until the early twentieth century. Not until the 1910s would the Ottoman government establish scientific commissions to investigate locust invasions.¹³⁰ Even then, in a notable point of connection with the development of scientific forestry half a century earlier, this initiative included hiring foreign experts.¹³¹ Nineteenth-century Ottoman reports, by contrast, focused on the symptoms of such events rather than their cause.¹³²

Many members of the Ottoman elite, moreover, tended to take to heart European critiques of Ottoman disaster relief, notwithstanding the inaccuracy of these claims. For self-conscious Ottomans, environmental catastrophes helped to crystalize impressions of the necessity and direction of reform. Because accusations of Ottoman weakness, corruption, backwardness,

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¹²⁶ Quoted in Rotter, 231.
¹²⁸ Ibid., I: 16-17.
¹³⁰ Gökmen, 134-144.
¹³¹ Ibid., 143.
¹³² See for example the reports quoted and cited in Erler, Gökmen, Özdeğer, Gül, and Yavuz.
despotism, and environmental devastation increasingly implicated nomads either directly or indirectly, the path to countering such charges appeared simple and clear. It required the sedentarization of tribes, which is what the Ottoman administration had been trying to do all along.
PASTORALISTS UNDER FIRE

_The Arabs are burning the brush, using this expeditious method to clear the land as quickly as possible without billhook or plow. The fire follows the direction of the wind, spreading from southwest to northeast. By day you see only wisps of smoke that you could mistake for fog. By evening flames appear again very clearly as the fire resumes its course; the horizon of the Sahel is lit up in a sinister way._

- Eugène Fromentin (1859)\(^\text{133}\)

In France, and throughout much of the nineteenth-century Mediterranean, the discourse on natural disasters was dominated by a single element: fire. Since time immemorial, wildfire has been a hallmark of Mediterranean lands. Consider the thick, fire-resistant bark of the cork and holm oak trees for evidence of how the very landscape has adapted to this ever-present force.\(^\text{134}\)

This region, with its hot, dry summers, strong winds, and combustible vegetation, is ripe for wildfires; a single flash of lightning or the smoldering embers of an abandoned campfire can be enough to set the countryside ablaze.\(^\text{135}\) Yet nineteenth-century French foresters rarely attributed fires to natural or accidental causes. Instead, they blamed human agents for the vast majority of the fires they encountered.\(^\text{136}\) There were compelling reasons to seek human culprits for wildfires in the Mediterranean region. First and foremost, humans were and remain a powerful incendiary force. Human actions and occupations have long depended on the controlled use of fire. Given this relationship, a Mediterranean wildfire, particularly in the summer months, is much more likely to have originated from a human source than from the rare instance of lightening. In the nineteenth-century context, moreover, finding someone to blame was often the first step in obtaining compensation for the losses occasioned by a fire and the costs of fighting it. Attributing fire to human causes, even in cases lacking a suspect, motive, or explanation, allowed


\(^{134}\) Prochaska, 230.


\(^{136}\) For statistics on causes of fires in late nineteenth-century Algeria, see Marc, 96. Cited in Prochaska, 242.
foresters, officials, and other investigators to accept and perpetuate common declensionist narratives. They blamed pastoralists for the preponderance of wildfires in the Mediterranean region and used fire control to attack the practice of Mediterranean pastoralism. This approach, evident to a limited extent in Provence and Anatolia, flourished in Algeria, where it became emblematic of the divide between colonizers and the colonized.

Throughout the nineteenth century, both the mainstream press and publications in French natural and applied sciences presented wildfire in a purely negative light, as a vicious, destructive, and deadly adversary. Indeed, if there was any fixture of the Mediterranean world that the French forest regime fought with as much passion as it did pastoralism, it was fire. In this age before organized fire crews and, perhaps more importantly, Western acceptance of fires as a necessary element of a healthy forest, fire-fighting and fire prevention numbered among French foresters’ principal tasks, and they took this responsibility very seriously. Many within and outside the forest administration considered the campaign against wildfires to be among its most noble, beneficent, practical and logical preoccupations.

Fire has always been an integral part of the Mediterranean landscape, both friend and foe to the region’s inhabitants. Pastoralists and farmers around this inner sea regularly burned brushland, forests, and fields to regenerate pasture and expand farmland, but they also shrank from the inexorable force of uncontrolled wildfires. In the early modern era, foresters, scientists, and scholars came to regard fire with unambivalent hostility. These diverse reactions are indicative of the myriad political, social, and cultural interests at play in the nineteenth-century Mediterranean. Fire offers a useful tool for examining and elucidating the connections and
distinctions in the application of French scientific forestry in Provence, Anatolia, and Algeria. It shows the aspirations and limitations of French forestry, as well as its manipulation by individuals and groups with various vested interests. In addition, this approach reveals intimate relations between this force and one of the forest administration’s other great foes, pastoralists, as well as foresters’ response to this relationship. Finally, it demonstrates that while the management of wildfires was developed as a useful and necessary corollary to forest administration in the driest, most fire-prone regions of continental France, it became, in France’s prize colony of Algeria, a tool for native suppression, resource exploitation and the legitimization of colonialism.

Fire around the Mediterranean

When it came to fire, Provence had no shortage of sensationalists. Ferdinand Allard, in his 1901 doctoral thesis on forestry in the region, vilifies wildfire as “the eternal enemy, the most terrible scourge of the forest lands of Basse-Provence.”¹³⁷ For another scholar it was “a plague that brings shame on our civilization.”¹³⁸ A third source called it a “calamitous curse.”¹³⁹ Accordingly, accounts of wildfires in the region described “murderous flames” of “frightening energy” that “would not cease to expand their ravages.”¹⁴⁰ The Revue des Eaux et Forêts, the annual publication of the French forest administration, provides a useful, if biased, record of the incidence of fire throughout the country in the latter half of the nineteenth century.¹⁴¹ In its reports, Provence appears with unrivaled frequency, and the editors comment liberally on both the gravity and the regularity of its conflagrations. One regional update in the journal’s 1867

¹³⁷ Allard, 13.
¹³⁸ Charles de Ribbe, Des incendies de forêts dans la région des Maures et de l’Estérel (Provence) leurs causes - leur histoire - moyens d’y remédier (Hyères; Paris: au siège de la Société Librairie agricole, 1869), 137.
¹⁴⁰ “Chronique Forestière,” Revue des Eaux et Forêts 3 (1864), 325.
¹⁴¹ The Revue was first published in 1862.
edition describes “the wildfires that devastate the forests of Maures and Esterel in the Var nearly every year.”¹⁴² Similar statements echoed throughout the scholarly community and the forest regime.¹⁴³

These accounts and epithets are no surprise given the substantial human, economic and environmental costs of these events, inhabitants’ vain attempts to extinguish them, and the regularity with which they occurred. But the antagonism of many scholars ran deeper, as they linked fire to long-term environmental effects. Some claimed that fire encouraged erosion and flooding by dislodging rocks and soil and destroying forests.¹⁴⁴ Others cited fire as a force of desiccation, claiming that the long-term practice of controlled burning in the Mediterranean had gradually transformed much of the landscape from timber forests into maquis. Emmanuel Morel adopts this theory in his 1935 study, Forest Fires in Southwestern France. “Under the influence of devastating fire,” he warns ominously, “the space occupied by maquis […] grows each year, and with it the dangers of new fires,” and he calls on his readers to help “check this disturbing evolution of the Mediterranean forest.”¹⁴⁵ Such studies implied that, if allowed to persist, fire ultimately would turn the entire region into a desert.

Yet, the French scientists, scholars, engineers and intellectuals who fought fire on paper were members of an educated minority, many of them residing in Paris rather than Provence. For the vast majority of Provence’s population, wildfires were an unpleasant but unavoidable reality, and

¹⁴² Revue des Eaux et Forêts 6 (1867), 267.
¹⁴³ See for example Ribbe 1869, v.
¹⁴⁴ Ribbe 1869, 45.
¹⁴⁵ Emmanuel Morel, L’incendie de forêts dans le sud-est de la France, étude de politique criminelle et de protection sociale (PhD Diss., Université d’Aix-Marseille: Faculté de Droit d’Aix, 1935), 30 (BDR KAPPA 1567).
the French forest regime’s efforts to prevent them, regardless of its success, often kindled conflict with the local population.

In the account of his mid-nineteenth-century journey through Anatolia, Baptiste Poujoulat recites a local proverb, joking that “the three great scourges of the Orient are the plague, fire, and dragomans.”146 As this saying suggests, wildfires were just as characteristic of Anatolia as Provence. As in Provence and Algeria, the long, hot, dry summers of Mediterranean Anatolia made the region particularly susceptible to wildfires, a condition augmented by the preponderance of highly combustible maquis scrubland.147 In another shared trait, mobile pastoralism represented a major portion of the economy along the Mediterranean coast and coastal mountains of southwestern Anatolia in the nineteenth century. Anatolia’s nomads, like those of Algeria and Provence, practiced occupational burning to clear land and regenerate pasture.148 Throughout the Mediterranean region, pastoralists traditionally burned grasslands regularly, sometimes as often as every few years.149 This practice encourages the regeneration of edible plants and shrubs, removes distasteful or poisonous vegetation, and hinders the growth of trees.150 Thus, Grove and Rackham have called burning for pasture “often as necessary to shepherding as ploughing is to farming.”151 In the nineteenth century, few other than the pastoralists themselves saw it this way. Indeed, colonial officials in Algeria were more likely to

146 “Les trois grands fléaux de l’Orient, dit un proverbe de ce pays, sont la peste, l’incendie et les drogmans.” Poujoulat, 396.
147 Grove and Rackham have argued that the combustibility of vegetation is evidence of “adaptation,” rather than “misfortune,” explaining, “It is their business in life to burn from time to time and to set back their less fire-adapted competitors” (Grove and Rackham, 219). Thus, it is no coincidence that Mediterranean vegetation seems both to promote fire and to recover quickly from it. See also Hughes, 9-10. Maquis is often described as pyrophytic, or adapted to a fire ecology.
148 White 2008, 93.
149 Hughes, 93; Grove and Rackham, 227. After a pasture is burned, it needs time to regenerate, so the burn cycle necessarily occupies multiple years. If left too long, however, occupational fires are much more likely to escalate out of control.
150 Grove and Rackham, 228-229.
151 Ibid., 229.
refer to this practice as “the deplorable habit of natives,” and some were even less considerate.  
Both occupational and accidental fires were commonplace in Anatolia, and pastoralists were among the primary perpetrators, following a general Mediterranean pattern.

Although southwestern Anatolia shared its predisposition to wildfires with Provence and Algeria, the state response to such events set this region starkly apart from French forestry’s other Mediterranean spheres of influence. Prior to the arrival of French forest experts in the mid-nineteenth century and the implementation of scientific forestry, the Ottoman state expressed little to no concern about the incidence of wildfires in its territory, unless they occurred in forests reserved for the Imperial Shipyard. In the mid- to late nineteenth century, the Ottoman administration made some attempts to regulate fires and punish perpetrators. For example, it prohibited open fires in many contexts. In addition, Article 164 of the Ottoman Penal Code of 1858 threatened arsonists with a life-long sentence of forced labor. In practice, however, fire remained relatively low on the nineteenth-century forest regime’s agenda in Anatolia, and these limited measures proved ineffective in checking the widespread incidence of fires. Indeed, some historians of Ottoman forestry have suggested that the use of fire for forest clearing actually increased in the second half of the nineteenth century, as the population expanded and sought increasing land for pasture, agriculture, and charcoal production. In any case, wildfires

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152 ANOM FM F801785, “Rapport a l’Empereur” (22 septembre 1863).
153 Dursun 2007, 39.
154 Ibid., 345.
155 For Ottoman anti-fire initiatives, see Orman Nizannamesi (1870); George Young, Corps de droit Ottoman: recueil des codes, lois, règlements, ordonnances et actes les plus importants du droit intérieur, et d’études sur le droit coutumier de l’empire Ottoman, Vol. VI (Oxford: Clarendon Press, 1906); Dursun 2007, 332. For a case involving a fire violation, see BOA A. MKT. UM. NO: 502/66 (1909), cited in Osmanlı Ormancılığ ile İlgili Belgeler, 135.
156 Koç 2005, 241. Koç cites as examples BOA A. MKT. UM. No. 125/16; and BOA A. MKT. UM. No. 122/44.
158 See, for example, Ali Kemal Yiğitoğlu, Türkiye’de Ormancılığın Temelleri, Şartları ve Kuruluşu (Ankara, 1936), 1-4. See also the critical analysis of Yiğitoğlu’s work in Dursun 2007, 8-9.
resulting from natural causes, imprudence, and arson continued unabated well into the twentieth century. In 1903, a British consul complained of “the havoc played by the frequent fires due to the ill-will of shepherds and woodcutters,” which he ascribed to the “negligence” of local authorities and the lax enforcement of forestry legislation.\(^{159}\)

As in Provence and southwestern Anatolia, forests burned readily in Algeria’s Mediterranean climate, particularly in the hot, dry summer when *sirocco* winds were blowing. Numerous fires occurred every year, with particularly great conflagrations every five to ten years, often accompanied by other natural disasters. For example, major conflagrations broke out in 1865 and were followed by a long period of drought, epidemics and locust invasions.\(^{160}\) Just as the country began to recover, these events were succeeded by another severe drought and devastating fires in the 1870s. Forest agents were responsible for preventing, fighting, and documenting fires, tasks which, considered together, often occupied much if not most of their time.

In Algeria, fires played a distinct role in French colonial society and administration. Here, fires were both more frequent and more costly (see Figure 5.1 below), which led French colonial foresters to view them with particular concern.\(^{161}\) The local response to French forestry also made Algeria a unique case. In Algeria, in contrast to Provence and other parts of France, many members of the local population actually welcomed the application of anti-fire legislation. These were, as a rule, European settlers, who often expressed greater anxiety and alarm over the prospect of wildfires than the forest officials who fought them. Some even complained that the

\(^{159}\) Consular Reports, No. 589, Foreign Office, May 1903, p. 24. Quoted in Young, 2; and Dursun 2007, 332.

\(^{160}\) ANOM ALG/GGA/P1, “18 septembre 1867: Rapport au Gouverneur Général.”

\(^{161}\) Wildfires in Algeria proved especially devastating for influential cork farmers, who consequently comprised many of the most outspoken voices against fires and against indigenous pastoral tribes, whom they held accountable. See my discussion of the cork boom in Chapter Four.
forest regime did not go further in its restrictions where native Algerians were concerned. Colonial hysteria over fire was rivaled only by its anti-pastoral rhetoric. François Trottier, a Frenchman who settled in Algeria in the 1870s and became a prominent forest advocate, listed native pastoralism and fire, together with cork exploitation, as “the three great plagues that we must fight” in Algeria’s forests. Another settler put it this way: “We have the choice […] between seeing the forest disappear immediately through fire or in fifty years by the abuses of pastoralism.” Whether they rated pastoralism or fire as a greater threat to the future of the colony, European settlers generally agreed that both scourges must be extinguished quickly, forcefully, and definitively; so much the better if they could be killed with a single stone.

Agents and Blame

The French forest administration’s devotion to the issue of fire in the Mediterranean is manifest in the massive paper trail it generated on this subject. All forest agents governed by the Central forest administration in France were required to document every fire that occurred in their jurisdiction. Thanks to this initiative, they left behind an extensive record of fires in Provence and Algeria, as well as other regions under French Administration, from minor burns covering less than a single hectare, to major conflagrations that spread throughout an entire region and took weeks to extinguish. For the forest administration, these reports provided valuable statistics on the incidence of wildfires, but, perhaps even more significantly, they attempted to elucidate the source of each fire.

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162 Trottier, 22.
163 Quoted in Bernard & LaCroix, 47.
<table>
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<th>Year</th>
<th>Number of Fires</th>
<th>Surface Area in Hectares</th>
<th>Damages in Francs</th>
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<td>55,172</td>
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**Figure 5.1** The Incidence and Expense of Algerian Wildfires, 1876-1899.\(^{164}\)

Emmanuel Morel’s study of wildfires in Provence opens by introducing man as “a powerful agent of destruction.”\(^{165}\) As his characterization implies, wildfires in the nineteenth-century Mediterranean were understood almost exclusively as a result of human actions. Hence, for the nineteenth-century French foresters who investigated fires in the Mediterranean region, the most

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\(^{164}\) ANOM ALG/GGA/P128. “Note sur les incendies de forêt en 1913.” Printed in Boudy, I: 641-642. See also Woolsey; Prochaska, 240-241; and Ford, 347.

\(^{165}\) Morel, 30.
fundamental challenge, and often the most vexing, was finding the culprit.\textsuperscript{166} The vast majority of fires documented by the nineteenth-century French forest regime were attributed to one of two causes: ‘imprudence’ and ‘\textit{malveillance}’. The meanings and frequency of these charges varied widely in different applications of French forestry around the Mediterranean.

In the jargon of French forestry, the designation ‘imprudence’ referred to any wildfire caused by a human agent accidentally, while ‘\textit{malveillance}’, in continental France, designated fires due to arson.\textsuperscript{167} Throughout the nineteenth century, imprudence was and remained the most common cause cited for wildfires in Provence, while the incidence of arson steadily declined.\textsuperscript{168} Out of seven fires reported in the Var department during the summer of 1867, six were attributed to imprudence, including one major conflagration, while only one was believed to be caused by arson.\textsuperscript{169} These proportions changed little in the second half of the nineteenth century. The only major transformation occurred with the development and spread of the railroad, which posed a significant new fire hazard due to sparks flying from locomotive smokestacks. Hence, in 1935, imprudence remained by far the most common cause of fires in Southwestern France, at 60 percent, but it was now followed by railroads at 25 percent, while \textit{malveillance} had sunk to 9 percent.\textsuperscript{170} Military exercises accounted for three of the remaining six percent, and wildfires attributed to natural causes continued to be virtually nonexistent.

\textsuperscript{166} Many fires remained unexplained, but a human agent was almost always assumed. See Dumoulin, 202.
\textsuperscript{167} See my discussion of this term below.
\textsuperscript{168} Allard, 132; de Ribbe, 35. According to de Ribbe, the incidence of arson, once the most widespread explanation for fires in France, was declining due to the effective amendment to the forest code in 1859. The details and impact of the Law of 1859 (\textit{loi de 18 juin – 19 novembre 1859}) are discussed in Chapter Six.
\textsuperscript{169} \textit{Revue des Eaux et Forêts} 6 (1867), 267.
\textsuperscript{170} Morel, Chapter II.
Imprudence was the most common explanation for fires in Provence in part because this category was so broad. In the case of Provence, this term was often used to describe occupational fires that had gotten out of control. For example, on July 16, 1867, a conflagration that ultimately attained 3,000 hectares of forest and caused an estimated 600,000 francs in damages began when strong *mistral* winds took hold of an attempted controlled burn in the communal forest of Gonfaron in the Var, started by a local farmer.\textsuperscript{171} The forester who documented this case severely rebuked the farmer for his carelessness, noting that he “had persisted in burning some pine branches despite the advice of his neighbors, despite the warning of the fire two days before, and despite the publication, renewed that very day, of prefectural notices prohibiting fires in the proximity of forests.”\textsuperscript{172} The farmer was most likely fined for his role in igniting the fire, but the report makes no mention of punishment.

Hunting was another common explanation for fires attributed to imprudence in Provence. Not only did hunters tend to light campfires, but the explosion of powder in a rifle shot often shot sparks that could easily start a fire. In one such case, a local inhabitant attested to having seen two hunters in the communal forest of Gémenos on October 30, 1867. A short time later, the resident noticed smoke coming from the very place where one of them had shot his gun.\textsuperscript{173} In his report, the forester notes the frequency of wildfires in the region and suggests, “It might be necessary, in order to avoid additional accidents, to completely ban hunting in forests.”\textsuperscript{174}

\textsuperscript{171} *Revue des Eaux et Forêts* 6 (1867), 267.
\textsuperscript{172} Ibid., 266-267.
\textsuperscript{173} BDR 7 M 219.
\textsuperscript{174} Ibid.
As these examples show, a variety of agents could be involved in fires attributed to imprudence in Provence. Prime suspects, other than arsonists, were those who used the land most extensively. Hence, shortlists of possible offenders generally included pastoralists, as well as hunters, lumberjacks and agriculturalists. In his 1935 thesis on forest fires in southwestern France, Emmanuel Morel reasons that fires are most likely to be caused by individuals who will benefit from their occurrence. He then asks, “Who are thus the people who could ultimately profit from forest fires? The list is easy to establish. They are shepherds, owners of insured forests, and timber merchants,” the last group presumably also for insurance purposes. Of these three groups, shepherds comprise by far the largest and most significant, according to Morel. As if his point were not clear enough, Morel also reserves explicit condemnation for the pastoralists, who he claims “have always been terrible enemies of the forest.” Thus, in the anti-incendiary scholarship of the period, pastoralists vied for the title of Provence’s ‘most wanted’.

Morel was not alone in his accusations against pastoralists. As recently as the eighteenth century, some Provençal communities were known to hold local shepherds collectively responsible when the perpetrator of a wildfire could not be identified. Although this punishment went out of fashion in the nineteenth century, villagers and local officials continued to view pastoralists with suspicion in cases of wildfire. The persistent presence of pastoralists among the usual suspects is particularly surprising given that that practice of burning for pasture had largely died out.

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175 Charles de Ribbe lists five human sources for fire: “1° la malveillance; 2° les bergers; 3° les fumeurs et les chasseurs; 4° les taillades; 5° les issarts” (De Ribbe 1869, 31). Other possible offenders, such as charcoal makers or brigands, were conspicuously absent from most studies on the sources of fire in this part of the Mediterranean, though they were included in other contexts, such as Italy, Greece, and Corsica.
176 Morel, Chapter II.
177 Morel, Chapter II.
178 De Ribbe 1869, 67.
Provence by the mid-nineteenth century, even as it remained commonplace in other Mediterranean settings. An absence of clear-cut court cases adjudicating such occurrences attest to its disappearance. Contemporary observers commented on this shift. As Charles de Ribbe notes in his 1869 study on wildfires in the Var department, this “savage process” was all but extinct in Provence. Yet, even de Ribbe includes pastoralists among his list of possible perpetrators – they come in second, just after arsonists. Why did pastoralists continue to make the cut, long after they had ceased to perform the actions that had implicated them? Part of the answer is certainly tradition: pastoralists had been blamed for fires since time immemorial, and old habits die hard. Yet an equally compelling reason may lie in developments taking place across the Mediterranean, where French forest agents faced both mobile pastoralism and wildfire in more violent and recalcitrant forms.

In June of 1840, when the French conquest of Algeria was far from complete and forest administration was virtually nonexistent, the French director of finance sent a letter to the governor of Algeria in which he expressed his concern for Algeria’s lucrative forest resources. “We are entering the season when the Arabs choose to set fire to brushland,” he wrote, addressing this tradition with reluctant resignation as “always and everywhere disastrous.”

This letter demonstrates that, from the dawn of the French occupation of Algeria, forest fires, native pastoralists, and environmental destruction were linked in an infernal chain. As the

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179 Ibid., 35-36.
180 Ibid., 31.
181 De Ribbe makes an explicit connection between shepherds in Provence and the contemporary practices of pastoralists in Algeria, stating, “On dénonçait beaucoup autrefois les bergers comme mettant le feu aux bruyères, pour renouveler les pâturages. L’Arabe fait de même en Algérie” (De Ribbe 1869, 35-36).
182 “Nous entrons dans la saison que les Arabes choisissent pour mettre le feu aux broussailles; cette manière d’exploiter toujours et partout désastreuse l’est encore plus dans le voisinage des Forêts.” ANOM F80981, Letter: Inspecteur Général Directeur des Finances (signed Maury) to Gouverneur Général de l’Algérie (Alger, 18 juin 1840).
century progressed, officials continued to hold native pastoralists responsible for wildfires in Algeria, but they no longer felt powerless to act.

While the environmental factors surrounding the prevalence of forest fires in Provence and Algeria were similar, French foresters and the administration responded to fires these two contexts in significantly different ways. In Algeria, the foresters’ reports blamed indigenous groups for the vast majority of fires, charging European settlers rarely and only in clear-cut cases. Accusations against them took multiple forms. Initially, most incidents of fire attributed to native Algerians were described through occupational burning. This practice, and European opposition to it, is part of a wider pattern of the Age of Imperialism. In many regions subjected to European colonialism, particularly those with a mobile pastoral society, colonists encountered native traditions of occupational burning and did their best to stamp it out. French Algeria was no exception, where French colonial officials remarked on the prevalence of this practice almost from the moment they stepped ashore. The finance director’s letter of 1840, quoted above, exhibits this perspective. Similarly, a colonial report on Algerian forests published in 1845 cites the native practice of burning woodlands to create pasture as the principal cause of existing deforestation and the greatest threat to the forests’ future. It cautions, “[We] must take urgent measures to prevent the system of devastation by fire used by the Arabs, a system which results in denuding immense spaces of land of all vegetation.”

Native Algerians used occupational fires in a variety of contexts, from the standard seasonal burning of pastureland to much more specific, local concerns. For example, one report on an

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183 See for example
184 See for example ANOM ALG/GGA/P1, ANOM FM F101785; ALG/GGA/P62; ANOM FM F10986.
185 ANOM ALG/GGA/P9a, “Statistique Générale,” March 14, 1845.
1854 fire explained that a local tribe had started the blaze deliberately to “get rid of the wild beasts that commit great ravages among its herd.” Yet, French foresters’ accounts of specific events suggest that the vast majority of fires set by native Algerians were campfires. Foresters’ logs are full of entries about surprising natives in the process of lighting or tending such fires in forest regime land. These reports indicate that Algerians either did not know that they were lighting fires illegally or did not care. The vast majority of such records are brief and banal, but they abound with descriptions of native perpetrators who refuse to give their name or run off when questioned.

The French inclination to blame natives for forest fires persisted throughout the colonial era, but it gradually gained a more sinister aspect. Accusations against natives grew sharper and more standard. One of the most outspoken critics of native practices was the French settler and commercial forest advocate, François Trottier. Trottier’s main undertaking was to experiment with the cultivation of eucalyptus in Algeria. He promoted this scheme in “The Role of the Eucalyptus in Algeria,” published in 1876, but the purpose of this pamphlet reached far beyond the subject suggested by its title. It preached passionately against native misuse of forest resources and the dangers of fire, which he considered the greatest challenges to forest preservation in Algeria. Trottier supported his conclusions with reference to the great French naturalists of the day: Dugied, Surell, de Bouville, de Ribbe, and others. At the same time, a subtle but significant shift occurred in the perspective of French foresters and other European

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187 See for example ANOM 22K/10.
188 Ibid. See also my discussion of conflicts between Algerians and foresters in Chapter Three.
190 Trottier, 22.
191 Ibid., 7.
settlers on natives’ relationship with fire. Influenced heavily by the rebellion of 1871 (see Chapter Four), foresters began to suggest that the fires they investigated had been set deliberately by native Algerians, not for any practical purpose, but as a vicious act of protest. Through such charges, the French colonial apportionment of native responsibility for fire ultimately crossed the line from ‘imprudence’ to ‘malveillance’.

*Malveillance* is a difficult word to translate, particularly in the colonial context. Although its official use corresponds roughly to that of ‘arson’, the meaning of the latter is more limited, and it fails to convey the sense of deliberate destruction, hatred, and vengeance evoked by ‘malevolence’, the English cognate of the French term. In Provence and throughout continental France, most accusations of *malveillance* included evidence of deliberate, malicious intent, even if this evidence was limited and even if the guilty party had not been identified. An 1867 fire in the Var department, which lacked any suspects, was attributed to *malveillance* because “it had occurred at the exact same place and time every year for four years.”

It also appears that this explanation might have been used occasionally out of convenience. In May of 1874, for example, a fire broke out in the Saint Savourin forest in the Bouches-du-Rhône, destroying a plantation of Aleppo pines. The regional forest inspector credited the fire to *malveillance*, but his report lacked any explanation of this description. Instead, he protested vaguely, “We have been researching the cause of this fire, but no one that we have questioned could give us any information that would lead us to the guilty parties.”

192 Ibid., 266.
193 BDR 7 M 192.
In Algeria, the term ‘malveillance’ gained new connotations. It was rarely used to describe fires that had been set by European colonists, but rather became a standard way of blaming local native populations. Moreover, its association soon reached beyond clear cases of protest and rebellion to cover all fires where a native hand was suspected. As the century progressed, charges of malveillance began to include fires caused by occupational burns or imprudence, without distinction.

A few major conflagrations in the late nineteenth century served to stoke settlers’ fears and kindle French foresters’ war against fire. The year 1865 was particularly devastating, with a total surface area of 160 hectares burned and damages calculated at two million francs. The worst rash of fires of the colonial era, however, occurred in 1881, when a total of 244 fires destroyed nearly 170,000 hectares at a cost of over nine million francs. French investigators associated nearly all of the fires that occurred during the year 1871, regardless of circumstance, with the major indigenous revolt of that year. One observer actually seemed to interpret the rebellion almost entirely in terms of native greed for pastureland:

This year, at the beginning of the hot season, the insurrection extended from Bougie to Calle. In order to gain pastureland and to distance themselves from the European element, which they fear, the natives took advantage of these conditions to set fire to forests. In this part of the Division, no measure can be taken to avert these disasters; they will unfortunately continue until the entire country succumbs.

194 ANOM ALG/GGA/P128, “Note sur les incendies en forêt.” Printed in Ford, 347. See also Figures 5.1 and 5.2.
195 Ibid.
196 ANOM MI MIOM/78.
These incidents not only helped to solidify the myth of native responsibility for fire, but they also nurtured broader stereotypes casting indigenous Algerians, and ‘Arab’ pastoralists in particular, as enemies of the earth.\textsuperscript{197}

By the end of the nineteenth century, the routine indictments of Algerian pastoralists had exercised such a detrimental effect on the native population that a few intrepid officials began to question their logic. In an 1887 letter to the governor-general, the prefect of Oran challenged the status quo by remarking that fires “should not necessarily be attributed exclusively” to native pastoralists. Rather, he reminded his correspondent that fires could equally be due to the imprudence of hunters or passers-by, and added meaningfully, “You are certainly aware, Mr. Governor, that forests have often been affected by fires originating in the agricultural fields of Europeans.”\textsuperscript{198}

Such arguments, however, fell on deaf ears. By this time, \textit{malveillance} had become the most common explanation for forest fires in Algeria. It was used by default when no explanation was evident. Thus, foresters who lacked clear evidence for the outbreak of a fire and under pressure to come up with some concrete source of every fire they investigated, tended to cite \textit{malveillance}. In a typical case, a fire that occurred on July 30, 1902, in the Circle of Tebessa was

\textsuperscript{197} For more examples of this stereotype, see my discussion of “Narratives of Deliberate Destruction” in Chapter Two.

\textsuperscript{198} “Il est à remarquer également que les causes des incendies ne doivent pas être attribuées exclusivement aux indigènes, qui trouvent leur principale ressort dans l’élevage de troupeaux. L’imprudence de chasseurs et de passants en a allumé plus d’un, et vous ignorerez pas non plus, Monsieur le Gouverneur Général, que les massifs forestiers ont été souvent atteints par des incendies qui avaient pris naissance dans des terrains cultivées des Européens.” ANOM ALG/GGA/P62, Letter: Prefect d’Oran to Gouverneur Général de l’Algérie (Oran, 12 août 1887). For another, similar critique, see Paulin Trolard, \textit{Incendies forestiers en Algérie: Leurs causes et les moyens de remédier à ces causes} (Alger: Ligue du Reboisement, 1892), ANOM ALG/GGA/P61. Trolard, no though friend of native pastoralists, agreed that they were too often blamed for forest fires, while other causes were overlooked or ignored (31).
described as cause “unknown, probably due to malveillance.” Indeed, forest agents were so eager to attribute fires to the malevolence of native populations that they could become quite baffled, and even frustrated, when there was no native population in the vicinity to blame. Just as fires continued to occur throughout the colonial era and despite (or because of) French efforts to prevent them, malveillance remained the favorite explanation of Algerian fires throughout the colonial era, which suggests that French relations with – and understanding of – the native population also made little progress.

When a charge of malveillance seemed excessive, foresters continued to blame natives for imprudence, but natives thus indicted still faced greater punishments than their European counterparts. Moreover, foresters’ detailed records of Algerian fires consistently implicate the actions of indigenous Algerians. By the late nineteenth century, fires attributed to Europeans, whether through imprudence or malveillance, had become the rare exception in Algeria. The investigation of a forest fire in the vicinity of Bône in 1902 clearly illustrates this shift. Not content simply to blame native perpetrators, the report quotes the president of a regional agricultural union, who declares, “Setting fires is one of the particular forms of native banditry, a protest against France’s possession of the forests, revenge for the trouble caused to their predatory habits.” The few cases against Europeans demonstrate the fallacy of narratives

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199 ANOM 22K/10.
200 See ANOM FM F80987. My research places fires blamed on European settlers at (very) approximately one percent or less of reported fires. This statistic is partly – but not completely – explained by the fact that Europeans tended to inhabit urban environments and thus were less likely to set occupational fires. Also, they had less reason to protest the administration. However, many settlers did pursue agriculture as well as other rural and woodland trades, such as tanning, charcoal making, and cork production.
201 Maudemain, president of the syndicat des agriculteurs de Guelma. Quoted in ANOM 9 X 121, Rapport de la Commission d’Enquête, Incendies de forêts en 1902 dans la région de Bône (Algiers: Franceschi, 1903), 103. Quoted in and translated by Prochaska, 239.
attributing all fires to native hands. They confirm that Europeans also interacted with the Algerian forest, and they were equally (if not more) capable of destroying it.²⁰²

**Fighting Fires: Prevention and Legislation**

In Algeria, as well as in Provence and Anatolia, local inhabitants were expected to help extinguish fires. The French penal code required everyone with usage rights in a communal forest to assist in the suppression of fires in that forest. Those who neglected to do so were charged with a substantial fine or even a prison sentence, and were deprived of access to the forest for up to five years.²⁰³ Local support was equally vital in Anatolia, where fire brigades did not appear until the 1890s, and even then were limited exclusively to urban centers.²⁰⁴ In French colonial Algeria, foresters’ accounts of fires always specified whether members of the local tribes had contributed to the fire-fighting effort, since their participation gave them some chance of clearing their names. In a small wildfire where *malveillance* was suspected, for example, the investigating forester was careful to commend the behavior of the local native tribe in his report. He explained, “The subdivision of Bône immediately sent native workers […] to the scene, whose zeal and activity immediately stopped the spread of the fire.”²⁰⁵ Whenever natives seemed hesitant to help fight a fire, however, they were even more likely to be branded as its instigators.

The French forest administration took a number of steps to prevent Mediterranean wildfires. One of its most basic elements of fire prevention was the ban. Fire bans were implemented in all

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²⁰² I found very few cases in which a European settler was indicted for a wildfire, but one example is in ANOM FM F⁸¹ 1785, Letter: Sous-Gouverneur to Ministre de la Guerre (23 août 1866).


²⁰⁴ BOA Yıldız Esas Evraki, 1/156-35/156/3, “Directions given by His Imperial Majesty the August Personage and Caliph Regarding the Prosperity, Progress, and Reinforcement of the Province of Trablus Garb.” Cited in Selim Deringil, “‘They Live in a State of Nomadism and Savagery’: The Late Ottoman Empire and the Post-Colonial Debate,” *Comparative Studies in Society and History* 45.2 (2003): 319, note 38.

²⁰⁵ ANOM FM F⁸⁰ 986, Letter: General Division of Constantine to Gouverneur-Général de l’Algérie (20 août 1857).
Mediterranean forests under the French forest regime, which included most communal and state forests in Provence, and all forests in Algeria. Fire bans customarily outlawed any use of fire in forest regime land, and they often limited access and other forms of exploitation as well. They usually remained in effect for the entire hot season, and sometimes longer. In the late nineteenth century, the fire ban in the Algerian province of Constantine lasted from the beginning of July until November. Notices advertising the ban were printed in French and Arabic.206 This was probably a genuine attempt to raise awareness among native Algerians rather than to prevent them from claiming ignorance, since French investigators usually found them guilty regardless.

The forest administration also fought fires through legislation, punishments, and fines. In Provence, fires attributed to imprudence generally resulted in fining the guilty parties, when their identity could be determined, according to the nature of their offense and the scale of the fire. Penalties for fires caused by imprudence were always lighter than those for cases of arson (malveillance).

In Algeria, few issues united and galvanized French colonial foresters and settlers more than their mutual concerns about fire. Punishments for indigenous Algerians for this and other forest offenses remained harsh throughout the colonial era, but Napoleon III had made some attempts to lighten the burden of the native population and promote more objectivity in assigning blame.207 Yet the rebellion of 1871, which coincided with the emperor’s fall from power, silenced any conciliation toward Algeria’s native population. It resulted in both greater bias

206 ANOM 22K/10.
207 This initiative went hand in hand with Napoleon’s support for native property rights and began with his visit to the colony in 1860. These policies often made their situation worse, however, as European settlers learned how to take advantage of the situation by forcing Algerians to accept poor, unproductive land in exchange for prime forests and territory with rich soils. See Ageron 1968. For a different perspective, see Georges Hirtz, L’Algérie nomade et ksourienne: 1830-1954 (Marseille, 1989).
against the native population and increasing freedom of action for European settlers in Algeria (see Chapter Four). The months of rebellion were indeed characterized by a rash of wildfires, many of them deliberately set by natives with no other weapon to fight against the occupying French. Yet before the dust of revolt had settled, it engendered powerful new narratives of indigenous destruction. In July 1871, an official report on the rebellion described the scene:

The rebel natives, overconfident in an impunity as bizarre as it is habitual, massacre colonists, pillage and set fire to forests, harvests, farms, and villages. The losses have already reached an enormous figure.  

For this official, the solution was clear. The colonial administration needed to teach the Algerian subject population that “the times have changed.” He added, “It is necessary that all the instigators of the revolt, regardless of distinction, receive a punishment proportional to their crimes.”

In the period that followed, European settlers blamed and punished the entire native population by burdening tribes with fines they could never afford to pay and further dispossessing them of ancestral lands. It was during this ‘settler colony era’ that the punishment of collective responsibility (responsabilité collective) was first imposed. In addition, this period witnessed an intensification of forestry legislation designed ostensibly to help prevent wildfires, but which in practice almost completely excluded native Algerians from the forest.

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209 Ibid.

210 “Il faut que tous les promoteurs de la révolte, tous ses chefs sans distinction, reçoivent un châtiment proportionné à leurs crimes.” Ibid.
The idea of collective punishment of tribes in Algeria originated in 1844.\textsuperscript{211} It was to be applied when one or more of the members of a tribe had committed an offense, and the tribe refused to identify the guilty party. Originally, it was only considered in cases of theft and murder and only as a last resort. Indeed, Thomas Robert Bugeaud, governor of Algeria from 1841-1847, called the law a “terrible” piece of legislation, and begged his officials to use it with “extreme moderation.”\textsuperscript{212} In keeping with the inclination of the settler colony era, a law passed on July 17, 1874, modified this designation to make the principle of \textit{responsabilité collective} more broadly applicable.\textsuperscript{213} In 1877, at the height of this period, tribes were first fined collectively for arson.\textsuperscript{214} Yet, if we judge the success of this measure by its ability to extract the requested payment, then it was never successfully applied, as no tribe ever paid off its fine.

Even as the indigenous population struggled to cope with the loss of property and usage rights, it became the target of amendments to forest legislation. For most of the colonial era, Algeria’s forests were governed by the same forest code promulgated and applied in France. In the case of fire prevention as with the regulation of forest use, the French Forest Code of 1827 proved ill-equipped to navigate the peculiarities of Algerian society. The French Code remained in effect throughout the nineteenth century, though the central forest administration permitted a few changes and additions. One of the most significant was a law passed July 1, 1874, ostensibly designed to prevent forest fires. This legislation appeared after particularly violent forest fires spread through Algeria from the mid-1860s to early 1870s, and was intended to quell heated

\begin{footnotesize}
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\item \textsuperscript{211} ANOM FM F\textsuperscript{80} 1785, Ministère de la Guerre: Cabinet du Ministre, “Application de la responsabilité collective aux tribus du territoire civil.” See also ANOM ALG/GGA/P62 for another early reference (1854).
\item \textsuperscript{212} Ibid.
\item \textsuperscript{213} ANOM ALG/GGA/P62, “11\textsuperscript{e} Section. Incendies. Responsabilité Collective. Procès-Verbaux de notification de propositions d’amendes collectives” (1877).
\item \textsuperscript{214} Prochaska, 241; ANOM ALG/GGA/P62, “11\textsuperscript{e} Section. Incendies. Responsabilité Collective. Procès-Verbaux de notification de propositions d’amendes collectives” (1877).
\end{itemize}
\end{footnotesize}
fears about fire danger.\textsuperscript{215} It was also a direct attack on indigenous groups, and it aimed to gratify public outcry against these groups following the 1871 rebellion. To this end, the law placed even greater restrictions on indigenous access to forests and increased penalties for infractions.\textsuperscript{216} It also targeted pastoralists explicitly. It banned grazing in burned forests for at least six years, apparently in an effort to discourage the practice of occupational burning.\textsuperscript{217} It also imposed the principle of collective responsibility for fires of undetermined origin.\textsuperscript{218} The penalization of indigenous pastoralism through the Law of 1874, presented as a response to a violent rash of forest fires, is instructive of the ways in which French colonial governmentality handled native groups. In times of real or perceived environmental crisis, indigenous pastoralists made convenient scapegoats, and reforestation became the catch-all solution.

The dubious intent of the 1874 law is also evident in the fact that, while it did succeed in further limiting indigenous rights, it ultimately failed to prevent or even reduce the occurrence of forest fires. On the contrary, forest violations and the number of annual forest fires actually increased in the late nineteenth and early twentieth centuries, as Figure 5.2 below shows. These fires were generally assumed to have human causes. Indeed, out of the total number of forest fires during the period 1886-1915 assigned a known or probable cause, 37 percent were categorized as intentional and over 50 percent were attributed to carelessness. The remaining 12 percent were described as accidental.\textsuperscript{219} None was ascribed to natural causes.

\textsuperscript{215} For reference to these episodes, see Figure 5.1 and my discussion above.
\textsuperscript{216} See ANOM BIB AOM B8056 for the Ligue du Reboisement’s debate on the application of this law and accusations that it did not go far enough to curtail native uses of forests. See also Davis 2007, 81-82; Boudy, I: 246-247.
\textsuperscript{217} Loi relative aux mesures à prendre en vue de prévenir les incendies dans les régions boisées de l’Algérie du 17 juillet 1874, Article 7. Printed in Estoublon and Lefébure, 436.
\textsuperscript{218} Ibid., Articles 5 & 6. Printed in Estoublon and Lefébure, 435-436. See also Boudy, I: 247.
Local Responses to French Fire Management

Most nineteenth-century inhabitants of the Mediterranean region spent the summer in constant anticipation of wildfires. Yet the French forest administration’s efforts to completely stamp out the threat of fire were not at all popular. The friction between forest agents and local residents was partly due to the way in which the former group conceptualized fires. Inhabitants of Provence understandably felt alienated by the policy of blaming a human agent, which effectively placed them all under suspicion, regardless of how much they had suffered from a fire or fought to extinguish it. In addition, fires prompted greater restrictions on forest use, increased fines for violations, and sometimes additional taxes to pay for damages or the services of forest agents. In effect, such legislation penalized all members of a community, guilty or not – just as in Algeria.

\[^{220}\text{ANOM ALG/GGA/P128, “Note sur les incendies de forêt en 1913.” Printed in Boudy, I: 641-642. See also Woolsey; Prochaska, 240-241; and Ford, 347. For documentation of fires in Constantine in 1895-1904, see ANOM ALG 22K/10. I have limited this graph to the period for which reliable figures are available, but it still should be considered with reservation, since the forest service’s growing authority probably made it aware of more fires as the century progressed.}\]

Figure 5.2 Annual Number of Fires Reported in Algeria, 1876-1912.
In Provence as throughout France, few local inhabitants appreciated the measures taken by the central forest administration to preserve forest resources from the dangers of fire. These terms must have seemed particularly frustrating and offensive when they were applied to forest-regime lands that were not actually forests at all, but rather maquis or wasteland. Instead, most preferred their own traditional methods of preventing and coping with fire to those imposed by Nancy school graduates. Like all residents of Provence, pastoralists depended on access to forests, and anti-fire legislation restricted their movements and livelihood. The preponderance of cases of forest violations by this group throughout the nineteenth century shows that many chose to disregard forest regulations when they felt it necessary, hoping that they would not get caught. Another, more dramatic local response to French forestry was to fight fire with fire, protesting forest fire prevention measures by deliberately setting forest fires. In some parts of France, arson became so widespread that local administrators begged the forest regime to relax its legislation, hoping for relief from fires set in protest. In the long run, however, arsonists gained nothing and the forest suffered even more.

While the residents of Provence voiced legitimate complaints about French policies on wildfires, the greatest victims were undoubtedly native Algerian pastoralists. In contrast to their European counterparts, their livelihood depended not only on access to forests, but to fire as well. Thus, many responded to French forest legislation simply by ignoring it. Throughout the colonial era, indigenous Algerians continued to violate fire bans and other forest legislation aimed at fire prevention, even though most would have found the forest administration’s terms of punishment

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221 Matteson, 375.
222 Ibid. Arson continued to occur in Provence throughout the nineteenth century, but it was not a major source of fires. See my discussion above and Ribbe 1869, 35.
for such infractions, including significant fines, forced labor, and dispossession, to be particularly severe. Why did natives persist in acting contrary to the forest administration? First, these violations were certainly deliberate in some cases, as the forest administration suggested. As in Provence, local inhabitants weighed the dangers of getting caught with the rewards – or necessity – of forest exploitation. Other cases, however, suggest that native Algerians became aware of their infraction only when they were caught and accused, and then only vaguely. From their perspective, they were using property that they and their tribe had exploited for generations, in the same way that it had been used for hundreds of years. Moreover, the boundaries between state forests and tribal land were often unclear, and, as in Provence, the ‘forest lands’ that were supposed to be protected were often not forested at all, sometimes completely lacking in trees of any substantial size.

Some native Algerians sought more active ways to protest the French regime. They too used fire as a tool for opposition, rebellion, and destruction, setting fire to monuments of French power and oppression. Algerian use of fire as protest increased markedly in the last quarter of the nineteenth century. It would be impossible to determine exact figures for the increase in native arson during this period because the incidence of false accusations undoubtedly increased as French officials grew more eager to blame the natives. A few typical cases can illustrate the situation. In July 1878, a fire in the military territory of Batna, Constantine, destroyed part of the local forest house, including most of its grain stores, before it could be extinguished. The military commander administering the region reported the incident to the governor-general with
the recommendation that the two forest agents residing there be relocated immediately, for their own safety.\textsuperscript{223}

Incidents such as these reinforced the most pejorative stereotypes of French colonists against the native population, drawing the latter into a self-fulfilling prophecy and generally making their situation even worse. In this context, European settlers adopted a righteous stance, expanding forest and property legislation that unabashedly targeted the native population. The latter, in turn, grew ever more impoverished, dispossessed, and desperate.

\textit{The Legacy of Fire Management in the Mediterranean}

Despite similarities in environmental and human ecology among Provence, Algeria, and Anatolia, forest fire management in these three contexts varied in key ways. The contrast between French colonial foresters in Algeria and the approach of the Ottoman administration in Anatolia is particularly conspicuous. It shows clearly that, in Algeria, fire prevention became much more than just good, ‘scientific forest’ sense. First, by presenting native Algerians as poor environmental stewards, it justified the colonial enterprise. Second, by limiting forest access and exploitation, it allowed European settlers to promote their own interests and further subjugate native ones. In broader terms, just as fire had long been a tool of shepherds and farmers around the Mediterranean and around the world, fire control became a tool of empire. In a basic, physical sense, it facilitated colonial control of subject populations by punishing them for customary practices. It also served French imperial governmentality in a deeper ideological sense, by legitimizing these very punishments.

\textsuperscript{223} ANOM ALG/GGA/P60, Note pour Monsieur le Conseiller d’État Directeur Général des Affaires Civiles et Financières, Gouverneur Général Civil de l’Algérie; de l’État-Major Général, Section des Affaires Militaires, Section des Affaires Indigènes (Alger, 3 August 1878).
The specter of wildfires continues to haunt the Mediterranean world today. In Antalya and along the southwestern coast of Turkey, fire remains an ever-present threat. In 2008, an extensive conflagration burned for several days, destroying a large portion of the forests near Antalya. The situation is much the same in Algeria. Here, European settlers, forest agents, and government officials railed against the prevalence of forest fires throughout the colonial era, and throughout the colonial era, fires continued to burn. Colonial efforts seem to have failed to change local practices, and Algerians still view forest fires as a form of protest.\footnote{Prochaska, 229. When Prochaska asked a local inhabitant about a blaze in the forest of Edough, the man replied enigmatically, “Some say it’s bandits,” explaining, “Perhaps they don’t like the government.”} Likewise, foresters’ initiatives in managing, preventing, and fighting fires ultimately had little impact.

This story ends differently in Provence, where local administrations now close or limit access to state forests during the summer months. Forest zones are labeled according to current conditions and their susceptibility to fire. Under these terms, forests are either closed completely to pedestrian traffic or open only during restricted hours. Perhaps due to the hefty fines (up to 3,750 Euros) for violations, forest restrictions are remarkably well observed.\footnote{Code forestier (current), Article R322.5. Online at: \url{http://www.legifrance.gouv.fr} (accessed 29 March 2013).} While this system may seem extreme, it has succeeded in greatly reducing the outbreak of fire. The last major forest fire in the \textit{Grande Site Sainte Victoire}, a forest preserve just east of Aix-en-Provence, occurred nearly a quarter of a century ago, and with the typical speed of Mediterranean regeneration, its traces are now all but invisible to the untrained eye.\footnote{The last major fire occurred in 1989, burning 5,000 hectares. “Charte Forestière de Territoire Sainte-Victoire,” (November, 2006), 15. Online at: \url{http://www.grandsitesaintevictoire.com} (accessed 29 March 2013).}

The historical role of fire and its value in the Mediterranean ecosystem remain the subject of debate. Many Mediterranean policy makers and scholars alike continue to view fire exclusively
in a negative light.\textsuperscript{227} A. T. Grove and Oliver Rackham, writing in 2001, commented on this prejudice in the media, noting how “Mediterranean newspapers are recounting the area of forests and other lands ‘destroyed’ in conflagrations.”\textsuperscript{228} Scholarship often perpetuates the same bias. Michael Williams, in \textit{Deforesting the Earth: From Prehistory to Global Crisis}, published in 2003, presents long-term grazing practices and controlled burns as primary agents in the degradation of the Mediterranean environment.\textsuperscript{229} Specifically, Williams and others, noting that the Mediterranean region once benefited from extensive forest cover, blame the age-old practice of occupational burning for the development of the \textit{maquis} vegetation that now covers much of Provence, Southwestern Anatolia, Northern Algeria, and other Mediterranean lands.\textsuperscript{230} Other scholars have challenged this theory, suggesting that the practice of brush burning was relatively rare, at least in Europe, and that it therefore cannot account for such significant ecological changes.\textsuperscript{231} At the same time, contemporary studies have produced compelling evidence for the value of fire in the natural process of regeneration, forest health, and the prevention of major conflagrations.\textsuperscript{232} Grove and Rackham have characterized fire as “a natural part of many Mediterranean ecosystems,”\textsuperscript{233} pointing out that “‘fire control’ may mean reducing the frequency of the sort of fires that can be controlled, while increasing the severity of big, uncontrollable

\textsuperscript{228} Grove and Rackham, 217.
\textsuperscript{229} Williams 2003, 12.
\textsuperscript{230} Ibid., 77; Dursun 2007, 31; Hughes, 10. Indeed, Hughes suggests that frequent fire actually may lead to the degeneration of \textit{maquis} into \textit{garrigue}.
\textsuperscript{231} Phillips and Phillips, 16-17. See also the perspectives of ecologists discussed in my Introduction and Conclusion.
\textsuperscript{233} Grove and Rackham, 218.
Thus, in an ironic turn, contemporary foresters are now returning to the practice of prescribed fire, over one hundred years after they fought so fiercely to stamp it out.

**CONCLUSION: DISASTERS BY NATURE AND DESIGN**

The unprecedented number of floods, droughts, climate shifts, and other environmental catastrophes reported throughout the Mediterranean in the nineteenth century provided rarely appreciated benefits for the French forest administration. Such events, along with the widespread belief that they were occurring more frequently, served to justify stricter legislation and to legitimize foresters’ self-image as protectors of the earth and its human populations. In addition, even when they admitted that these disasters were ‘natural’, foresters and other critics used them to incriminate or subjugate Mediterranean pastoralists. By linking these occurrences, even indirectly, to mobile pastoralism, the French forest regime gratified its distaste for the practice. Meanwhile, locust plagues and other devastating environmental calamities that could not be attributed to pastoralists, even by a stretch of the imagination, still served to cripple them alongside their sedentary peers.

The case of wildfires belongs to the broader history of natural disasters, but it is also distinct. In contrast to many of the events listed above, fires in the nineteenth-century Mediterranean were not considered natural. French scholars, foresters, officials, and colonists all viewed them as the direct result of human actions. They also blamed pastoralists explicitly. French approaches to forest fires differed widely in Provence, Anatolia, and Algeria, and the evidence suggests that

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234 Ibid., 217.
235 For a general study of the French forest administration’s recent return to traditional, local methods of forest management, see Matteson. For such developments around the world, see Pyne.
236 Simon, Clément and Pech, 347.
politics played as great a role in these distinctions as environmental and societal realities. Fighting fires was a major element of French forestry in Provence and colonial Algeria because scorched forests represented lost resources and revenue for France or French citizens. Wildfires in Provence may also have wounded national pride, since Provence was romanticized in the French national memory as a sweet, safe, calm, and picturesque place, if somewhat parochial. At the same time, the French forest regime’s lack of confidence in the environmental stewardship of the local population led it to treat Provence as an internal colony of sorts. Mobile pastoralists in Provence were denounced for their perceived roles in past and present fires, but they were not the only targets, and most were not affected, let alone ruined, by the punishments imposed.

In Anatolia, meanwhile, the French Forest Mission hardly concerned itself with fires. While wildfires did occur frequently in the Mediterranean region, they were not a major issue for the Ottoman Administration, and thus not relevant for its French employees. Moreover, French foresters had enough trouble implementing the aspects of scientific forestry they chose to apply to Ottoman Turkey. Regulating wildfires on the vast, poorly governed frontiers of the empire would have been extremely difficult, if not impossible. Perhaps most importantly, French interests in the Ottoman State remained, at least superficially, diplomatic. France would have reaped no clear, direct benefit from successful fire prevention in Mediterranean Anatolia, as it did in Provence and Algeria.

In Algeria, however, forest fire regulations had to do with much more than resource management or other environmental concerns. In the Algerian case, accusations took on a racial dimension, providing additional fodder for the demonization of the native population and the justification of
the French imperial mission. Through their association with fire and other environmental catastrophes, Algerian pastoralists – and to a lesser extent mobile pastoralists in other Mediterranean contexts – were recast in a novel, more ominous light. While natural disasters furnished the basis for this ‘baptism by fire’, it achieved its effect purely through human hands.
CHAPTER SIX. THE FOREST FOR THE TREES
PASTORALISTS AND FORESTERS UNDER THE
FRENCH FOREST REGIME, 1827-1903

Forest conservation is one of the primary concerns of societies, and, consequently, one of the primary tasks of governments. All of life’s necessities are connected to this conservation: agriculture, architecture, nearly all industries seek in forests sustenance and resources that cannot be substituted.

- Jean-Baptiste Sylvère Gaye (c. 1827)¹

The mid-nineteenth century might well be considered the golden age of French scientific forestry. By this time, French forestry had begun to exercise a measurable impact on the Mediterranean landscape within and beyond the borders of France. French foresters had successfully instituted regimes of scientific forest management in southern France, Corsica, Algeria, the Ottoman Empire, and beyond. These initiatives had won French forest science considerable international prestige. Both colonial powers and domestic governments regularly consulted French foresters in their implementation and development of forest management programs around the world. The British forest agents destined for India completed their forestry education in France.² In the mid- to late nineteenth century, French foresters traveled to such far-flung places as Greece, Switzerland, Denmark, Romania, Madagascar, Yemen, Arabia, Vietnam, Turkestan, and Indonesia.³ They conducted extensive studies on forestry and forest legislation in diverse contexts, from Norway to Hungary, to Japan.⁴ French foresters expressed particular interest in the progress of forest administration in Mediterranean states that shared a mobile

¹ “‘La conservation des Forêts,’ dit-il, ‘est un des premiers intérêts des sociétés, et, par conséquent l’un des premiers devoirs des gouvernements. Tous les besoins de la vie se lient à cette conservation; l’agriculture, l’architecture, presque toutes les industries y cherchent des aliments et des ressources que rien ne pourrait remplacer.” Jean-Baptiste Sylvère Gaye, Vicomte de Martignac, to the Chamber of Deputies (Paris, c. 1827). Quoted in Ferdinand Allard, Les forêts et le régime forestier en Provence, thèse pour le doctorat (ès sciences politiques et économiques) (Aix-en-Provence: A. Rousseau, 1901), 60 (BDR KAPPA 366).
³ See the Revue des Eaux et Forêts 29, série 2 (1890): 37-38, 137, 424, 564.
⁴ ANOM ALG/GGA/P1, 6th File: Documents sur forêts; Ibid., Seventh File: Législation forestière étrangère.
pastoral tradition, such as Spain and Italy, and in colonial contexts, such as India. While French foresters increasingly gained international appointments, France’s national forest school at Nancy became an international destination for forestry education. Geoffrey Pinchot, often considered the father of American forestry, studied there before returning to the United States to become the country’s first professional forester.

In the second half of the century, the French forest administration, emboldened by this success, shifted its focus away from the goal of sustainable, commercial exploitation that had motivated the 1827 code as well as earlier legislation. Instead, it pursued the broader aims of preservation and afforestation. Citing the desperate state of environmental degradation in the Mediterranean region, French foresters began to preach afforestation (*reboisement*) and scientific forest management (*aménagement*) everywhere – in wastelands, pastures, and inhabited spaces as well as uninhabited woodlands. As part of this ethic, French foresters promoted the idea of a forest unencumbered by the destructive presence of man. In their campaign to preserve and reserve ‘the forest for the trees’, they grew progressively less concerned with the interests and needs of local inhabitants, communities, and economies.

The policy of recreating the forest as a space outside the human realm placed significant new constraints on the lives of mobile pastoralists in Provence, Algeria, and Anatolia. Despite important political, administrative, and cultural differences, moreover, these populations responded to nineteenth-century forest administration in strikingly similar ways. As I show in

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5 ANOM ALG/GGA/P1. The seventh file contains an extensive report on Spanish forest legislation in the mid-nineteenth century. India, like Algeria, had pastoral nomads accustomed to grazing their livestock in forests. These similarities made Indian forest administration a useful point of comparison for foresters in Algeria, who would have been acutely aware of Indian conditions due to France’s role in developing scientific forestry there.

this chapter, they did not submit willingly to their new legislative constraints. Rather, the implementation of French scientific forestry in all of these Mediterranean contexts set the stage for a protracted battle among pastoralists, foresters, and a range of other interested parties.

Although this struggle played out in distinct ways around the Inner Sea, it included a number of common characteristics. In all three cases, mobile pastoralists resisted, protested, and fought back in a variety of ways, forcing the forest administration to alter and supplement its basic code with amendments, modifications, and exceptions. A host of new and sometimes unlikely allies rallied support for the forest administration against pastoralists. Proto-conservationists preached reforestation as the key to environmental and human salvation, but so did commercially-minded colonists, as well as legislators attempting to curb the incidence and effects of natural disasters. Others, sometimes even foresters themselves, took the side of Mediterranean nomads against the forest regime. This push-pull of French forest legislation would lead to dramatic transformations not only in the Mediterranean landscape, but also in the practice of pastoralism around the Mediterranean. What emerged in Provence, Algeria, and Anatolia at the turn of the twentieth century was the product of negotiation among administrators, foresters, communities, and the environment.

CONSOLIDATION AND COMPROMISE IN FRENCH FORESTRY, 1827-1870

The decades following the promulgation of the French Forest Code of 1827, which saw the implantation of French scientific forestry throughout the Mediterranean, also illuminated both the strengths and weaknesses of this system. Although the 1827 Forest Code was much more successful in its application than previous forest legislation, it was also far from perfect. It instantly generated hostile and lasting opposition from the traditional enemies of forest
regulations, including not only pastoralists but also peasants, local communities, and regional administrations, who derided it for robbing them of revenue and customary rights. At the same time, the code also drew criticism from the ranks of forestry experts, environmentalists, property owners, and interest groups for not going far enough to safeguard French forests. From a third perspective, logging outfits and other commercial enterprises protested the code’s failure to prime forest parcels for exploitation as well as its restrictions on their activities. Furthermore, the implementation of the code quickly led to the appearance of various weaknesses, deficiencies, and lacunae that all parties agreed needed to be fixed. Together, these concerns drove the revision and transformation of French forest legislation throughout the second half of the nineteenth century.

For their part, French foresters home and abroad quickly discovered firsthand the difference between policy and practice. Their occupation often brought them into conflict with the needs, aims, and interests of local and regional administrations, forcing them to temper and scale back many of their projected goals. In another way, they also felt pressure from mobile pastoralists. In Provence, shepherds, farmers, and local officials commonly worked together against the forest regime. Even in Algeria and Anatolia, where indigenous pastoralists enjoyed little political clout, they succeeded in challenging foresters’ objectives and forcing them to compromise. In all three cases, foresters continued to view the traditional practices of Mediterranean populations as backward, unsustainable, and environmentally destructive, but for the moment they had no choice but to negotiate and to bide their time.
The French Forest Regime in Provence, 1827-1859

In its efforts to reconstruct French forests, the forest administration found little local support. The initiatives of the forest regime were greeted with grudging resignation at best, and at worst, with open hostility. From the perspective of the local population, forest legislation placed unnecessary and unjust limitations on the use of communal forests. The burden, it was argued, fell hardest on the poorest sectors of the population, which depended on forest use and products. Forest agents, as the forest regime’s representatives in the field, received the brunt of the blame. Local inhabitants generally treated them as meddling outsiders. If foresters complained of local ignorance and unsustainable forest use, then locals were just as quick to cast these supposed ‘experts’ as impractical academics lacking hands-on experience and awareness of local conditions and traditions. The 1827 Forest Code also altered the relationship between shepherds and farmers. Because it concerned all types of communal land use, it targeted both groups. As a result, it helped them put some of their differences aside, at least temporarily. Indeed, the woodland encounters of the mid-nineteenth century often united communities – peasants, pastoralists, and local officials – against a common foe, the forest regime.

Forest agents had little means of defense against this tide of local opposition. Despite improvements, forest surveillance remained inadequate, a situation in some ways worse than nothing because it invited aggression and abuse. Moreover, the forest regime effectively reduced incentives for local inhabitants and communities to police their neighbors when it accepted the responsibility and the profits of forest protection. In the field, forest agents were isolated and

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7 A particularly dramatic case was the so-called “war of the demoiselles” in the Pyrenees of 1839-1842. See Peter Sahlins, Forest Rites: the War of the Demoiselles in Nineteenth-century France (Cambridge, MA: Harvard University Press, 1994); and Tamara Whited, Forests and Peasant Politics in Modern France (New Haven: Yale University Press, 2000), 40-43.

8 For more on clashes between peasants and the state over the implementation of the Forest Code of 1827, see Whited, Forests and Peasant Politics; Simon, Clément, and Pech; and Matteson.
vulnerable, and forestry remained a dangerous job throughout the nineteenth century. During the period 1841-1890, at least eleven forest guards died “violently” in service annually throughout the nation. Nonetheless, the abundance of nineteenth-century court records related to grazing violations in Provence suggests that forest agents were attempting to enforce these laws, but that inhabitants were not respecting them. Indeed, those accustomed to violating grazing regulations with impunity were all the more outraged when they were caught.

French forest agents encountered particularly staunch and persistent local resistance over grazing restrictions. One of local inhabitants’ initial targets was Article 110, which prohibited the introduction of sheep and goats into communal forests. This article also allowed for the authorization of sheep grazing “in certain locations, by a special royal ordinance.” Immediately after the passage of the 1827 Forest Code, many municipalities in Provence seized on this clause, clamoring for concessions, exceptions, and exemption from the forest regime. Their justification was the necessity of pastoralism to their economy. As the mayor of one Provençal village put it, “the denial of this authorization would deprive the town of revenue and produce a negative effect, and the owners of herds would not know where to lead them to pasture.”

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9 Corvol 1987, 185.
10 Illegal grazing on common land, a violation of Article 199, was the most common forest offense in Provence. Dumoulin 2002, 196.
11 “Le pacage des brebis ou moutons pourra être autorisé, dans certaines localités, par des ordonnances spéciales de Sa Majesté.” Code forestier (du 21 mai 1827), Articles 78 & 110.

360
In the years following the promulgation of the code, most of the pastoral communities of Provence did gain permission to graze sheep on communal lands. Yet the process of authorizing and regulating pastoralism was not a seamless one. The forest code’s requirement that commons be reserved exclusively for local use presented a special challenge for foresters, who frequently complained that pastoralists were exploiting the commons for profit. Indeed, the inhabitants of Roquefort were accustomed to inviting pastoralists from nearby La Ciotat, a coastal town limited in communal pasture, onto their land, which provided Roquefort with a considerable part of its annual revenue. Apparently, such practices were so widespread that the forest regime threatened to discontinue granting concessions altogether. Well-aware of what this would mean for his constituency, the Prefect of the Bouches-du-Rhône reminded the mayor of Roquefort in a stern letter dated March 11, 1830, of the terms of the concession:

This last prohibition has been reiterated by multiple decisions of the Minister of Finances, who rejects the demands of various communities for the sole reason that the Municipal Councils, in requesting the right of pasture, have envisioned this right in the context of revenues that they hope to gain by obtaining it, a benefit completely contrary to the spirit of the exception that they are requesting.

Pastoralists used the vehicle of concessions to fight and foil the forest regime in other ways as well. They often exceeded the maximum number of sheep authorized on communal land or grazed their herd beyond accepted boundaries, hoping that forest agents would not notice.

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13 See for example BDR 167 E 2N 1 (Les Baux); BDR 150 E 1N 2 (Roquefort-la-Bédoule); BDR 7 M 249 (Ceyreste and Gémenos); and BDR 174 E N 3 (Egyalières).
14 BDR 150 E 1N 2.
15 For a similar request to rent out communal pasture by the mayor of Roquevaire, see BDR 7 M 250.
16 “Cette dernière prohibition m’a été renouvelée par plusieurs décisions de S.E. le Ministre des Finances qui rejettent les demandes de diverses Communes, par le seul motif que les Conseils Municipaux, en sollicitant les facultés de pacage, n’ont envisagé ce droit que dans le rapport des revenus qu’ils espéraient en retirer en l’affermant, acquis en tout-à-fait contraire à l’esprit de l’exception quelles sollicitaient.” BDR 150 E 1N 2, Letter: Préfet to Maire de Roquefort (Marseille, 11 mars 1830).
Local governments in Provence often turned a blind eye on these activities and generally sided with their constituency in cases of forest disputes, commonly underreporting annual grazing figures and going above the head of the regional forest administration to petition the prefect.\footnote{For a few examples, see BDR 150 E 1N 2, Letter: Préfet to Maire de Roquefort (Marseille, 23 janvier 1835); and BDR 150 E 1N 2, Letter: Préfet to Maire de Roquefort (Marseille, 12 août 1842).} This local political support for pastoralism comes as no surprise, considering that many of the mayors and members of municipal councils throughout Provence also possessed flocks of their own.\footnote{This detail is supported by the presence of their names on municipal pastoral registers.} Likewise, some of the prefects who presided over the Bouches-du-Rhône department expressed more sympathy for pastoral interests than they did for the forest code that they had sworn to uphold.\footnote{Christophe, Comte de Villeneuve is one example. See Chapters One and Two.} From the perspective of this largely pastoral society, reforestation seemed nothing more than an unnecessary burden that would bring, in the words of one community, “great hardship to [its] inhabitants.”\footnote{BDR 7 M 163: Roquefort, c. 1842.} Others complained that the forest regime was too strict and that its agents were unsympathetic to local concerns. “The iron hand of the employees of the forest administration has weighed on us for too long,” warned the mayor of Gémenos, a small town just east of Marseilles, in 1856, “such abuses will not be tolerated by the sage government of our Emperor [Napoleon III].”\footnote{“Depuis trop longtemps la main de fer des employés de l’administration forestière pèse sur nous, le sage gouvernement de l’Empereur ne peut tolérer de tels abus.” BDR P 5-22, Gémenos, délibération du Conseil municipal, 5 Décembre 1858. Quoted in Dumoulin 2002, 21.}

Unable to escape forest administration, communities sought ways around it. While local authorities denied mismanagement of their communal forest, they also understated its economic potential for logging in the hope of preserving access to pasture.\footnote{Simon, Clément, and Pech, 338-339.} In addition, they regularly underreported forest exploitation. Forest agents noticed. In a typical case from 1870, the mayor...
of the village of Barbentane (near Avignon) was accused of withholding the names of sheep owners who grazed their flock in the communal forest.\(^\text{23}\) In another example from the mid-nineteenth century, the regional forest inspector of the Bouches-du-Rhône expressed exasperation regarding failed attempts at reforestation. In a letter to the prefect, he described an act of vandalism in the community of Orgon, in the west of the Bouches-du-Rhône, where a new plantation of healthy saplings had been destroyed in protest by “parties unknown.”\(^\text{24}\) The forester complained, “This unfortunate incident may well be due to the opposition of the municipal authority, which fears a reduction in pasture land. It must be admitted that we will encounter there a most unwelcome resistance.”\(^\text{25}\)

Some communities succeeded in liberating their forests altogether from the oversight of the forest regime through a process called ‘distraction’.\(^\text{26}\) In 1872, the administration approved the distraction of certain forest parcels belonging to the town of Egalyiers (north of Avignon), totaling about seven percent of the town’s communal land.\(^\text{27}\) This sanction followed years of persistent petitioning by the mayor, who claimed that the liberation of this territory was necessary to “come to the aid of poor farmers.”\(^\text{28}\) Distraction, however, caused problems of its own. In 1854, the forest administration freed 740 acres (just over a square mile) of communal

\(^\text{23}\) BDR 7 M 248.
\(^\text{24}\) BDR 7 M 163, Seventh File (1840).
\(^\text{25}\) “Il est à craindre, Monsieur le Préfet, que ce mauvais résultat soit dû à l’antipathie de l’autorité municipal qui craint de voir réduire l’étendue des terroirs livres au parcours. Nous rencontrions, là, il faut en convenir, une résistance fâcheuse.” Ibid.
\(^\text{26}\) See Dumoulin 2002, 63. Requests for distraction were granted only exceptionally. More typical was the Finance Minister’s callous response to a request by the sous-préfet of Arles to liberate certain commons in the village of Mouriès (east of Arles). The minister denied the request in no uncertain terms, warning that in any land freed from the purview of the forest regime, “complete destruction” would result. BDR 7 M 249, Letter: Ministre des Finances to Sous-Préfet d’Arles (Paris: 9 novembre 1869).
land in the coastal village of Ceyreste, but when pastoralists tried to lead their herds to this new pasture, they found it surrounded by protected areas, making it impossible to gain access legally.\textsuperscript{29} For many forest advocates, moreover, \textit{distraction} was the antithesis of sound forest management. Commenting on this practice, Louis Tassy rhetorically asked how local communities could be trusted to protect their own forests against personal interests and infractions, when even the central administration, “with all the authority invested in it” still did not always succeed.\textsuperscript{30}

Petitions for the removal of certain territories from the forest regime belonged to a broader campaign accusing it of inaccurately or unfairly designating territory. This problem was due largely to the ambiguity of the forest code, which obscurely claimed for the forest administration all lands “susceptible to maintenance.”\textsuperscript{31} Interpreting this phrase to mean annual cuts, plantations, and commercial exploitation, the inhabitants and officials of villages throughout Provence protested that parts or all of their ‘communal forests’ did not fit this description, since they lacked commercial value or potential. By the mid-nineteenth century, the growing cacophony of complaints became too much for the central forest administration to ignore. In 1849, it decided to launch a critical review of all forests placed under the forest regime in the wake of the 1827 Code. In a genuine effort at impartiality, the review was conducted by a mixed


\textsuperscript{30} “Si, comme tant de gens le désirent, les Forêts communales étaient remises à la libre disposition des conseils municipaux, c’en serait fait d’elles: comment voudrait-on en effet que les conseils municipaux pussent les protéger longtemps contre l’individualisme, puisque le gouvernement central, avec toute l’autorité dont il est investi, n’y réussit pas toujours?” Louis Tassy, \textit{Études sur l’aménagement des forêts}, Deuxième Édition (Paris, 1872), ix-x.

\textsuperscript{31} “susceptibles d’aménagement ou d’une exploitation régulière.” \textit{Code forestier (du 21 mai 1827)}, Art. 90. See Chapter Three.
Although it had little impact, this initiative demonstrates that the French forest service was concerned about its public reception and that it recognized the need for adjustment and improvement in the application of forest legislation. It also shows that both foresters and pastoralists played an active role in the development and administration of communal lands during the course of the nineteenth century.

At the same time, the forest administration quickly realized that some of its measures were unenforceable, and it began to redirect its efforts towards more reasonable goals. Hence, the period following the application of the 1827 Forest Code in France was marked not only by clashes between forest agents and local communities, but also by compromise and accommodation. In Provence, this approach prevailed through the 1850s, while the new forest regime consolidated its authority and restructured its approach. In combatting mobile pastoralism in Provence, French forest agents found themselves facing a powerful foe. While they certainly fought back, they were sometimes forced to admit defeat.

In addition to granting exceptions in public forests, the forest regime backed away from its original claims over private forests. According to the terms of the 1827 Forest Code, forest agents enjoyed many of the same powers in privately-owned forests as in state and communal forests. This provision did not sit well with landowners previously empowered by the Code Napoleon to exercise free rein throughout their property. One clause proved particularly irksome: the prohibition of sheep and goats in private forests. Many landowners drew considerable profit from pastoralists, especially in the wake of the shrinking commons. Like public communities,

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33 Code forestier (du 21 mai 1827), Art. 78.
owners had the right to petition for concessions from the forest regime, which would then
determine which, if any, parts of their forest were suitable for grazing. In practice, this was a
process that neither proprietors nor foresters enjoyed, and it seems that both sides tacitly chose to
ignore it. Finally, in 1866, the General Director of Forests published an act, followed by a
memorandum in 1868, formally sanctioning for this attitude of disregard. It effectively stated
that Article 78 would remain valid but would not be enforced.34

Even more representative of the forest regime’s adaptation over the second quarter of the
nineteenth century was a law passed in 1859 that included several amendments to the forest
code.35 The 1859 law responded to complaints of peasants and small-scale pastoralists. It
authorized forest agents to ignore or abandon minor cases that they considered not worth
pursuing.36 It also enabled them to compromise with transgressors by lowering the fine in cases
where the accused proved unable to pay.37 Previously, insolvent offenders had been thrown into
a debtor’s prison. Under the new system, a shepherd caught grazing his herd illegally but unable
to pay the standard fine associated with the violation, might be given the option to pay less or to
convert part of the sum into an obligation of labor.38 In addition, the law relaxed the strict
imposition of incarceration in cases of forest violations or insolvency.39 There were practical
motives behind these measures. Far from adding to the revenue of the forest regime, the former
system had actually cost it money. In formulating the 1859 law, the forest administration
reasoned that some profit was better than none. It also observed that prison time was “no

34 BDR 8˚ PER 124, Tome III (1874): “Circulaires 82-145 (1868-1873),” Circulaire 82 (23 mars 1868). This
memorandum also cites the 1866 verdict determining this act: Arrêt du 12 juin 1866 (affaire Heraud).
35 Loi du 18 juin-19 novembre 1859. Printed in J. B. Duvergier, Collection complète des lois, décrets, ordonnances,
règlements, avis du Conseil-d’État (Paris: Directeur de l’Administration, 1859), 386.
36 Dumoulin 2002, 177.
37 Ibid., 176-179.
38 Duvergier, 394-397.
39 Ibid., 395.
substitute for monetary penalties.\[^{40}\] Thus, in some ways, the 1859 law presented a softening of the forest regime toward local communities, but other clauses had the opposite effect. Much of the law dealt with the preservation and protection of private property, which by this time constituted well over half of the forested lands of France.\[^{41}\] By favoring private property, the 1859 law encouraged the diminution of communal forests. Moreover, it increased foresters’ authority and powers of enforcement.\[^{42}\] In this way, it foreshadowed an impending era of repression.

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*The French Forest Regime in Algeria, 1838-1870*

The trials and challenges of forest administration in Provence were mirrored across the sea in Algeria. As discussed in Chapter Three, most of the problems that French foresters initially faced in colonial Algeria stemmed from limitations in French authority. Throughout the period of conquest, civil unrest and the modest extent of French control placed severe boundaries on the application of the forest code, while continual French campaigns disrupted stability and effective administration. Forest agents grumbled incessantly about their powerlessness and begged for more support and manpower, to little avail.

It was not until Louis-Napoleon Bonaparte came to power following the Revolution of 1848 that the central government of France began to take an active interest in colonial affairs. As emperor, Napoleon III declared the conquest of Algeria complete. He instituted civilian rule, temporarily ending the suzerainty of the military, and made Algeria officially part of France. In the realm of

\[^{40}\] Ibid., 395.

\[^{41}\] Ibid., 398, footnote (*). See also p. 404. In 1859, forest administration counted 5,497,460 hectares of private forest in continental France, out of a total 8,804,504 hectares of woodlands.

\[^{42}\] Duvergier, 393; 395. See also Dumoulin 2002, 175.
forest administration, the consolidation of French control theoretically gave colonial foresters greater oversight and powers of enforcement.

Throughout this period, the Algerian forest regime remained attached to the central administration in Paris, and it continued to be governed by the French Forest Code of 1827. At the same time, it developed certain characteristics specific to the colonial context. In contrast to France, where the administration of forests was conducted exclusively by members of the forest service in a strict hierarchy of authority, forest administration in Algeria involved non-forestry personnel, such as the governor-general, members of the Bureaux Arabes, and the rural police. It also included indigenous guards alongside French ones, and the precariousness of colonial authority in many regions required special considerations and training. In addition, France’s ignorance of Algerian forests set the colonial forest regime apart from its metropolitan counterpart. As in continental France, the forest regime governed all lands designated as forests. Yet, when the French administration made this declaration in 1851, very little was known about the extent or nature of this territory. Surveying forests, a minor responsibility for domestic foresters, kept colonial agents busy through the early twentieth century. Finally, the colonial context called for special considerations toward Algeria’s indigenous population. In certain cases, this meant the toleration of pastoralism in environments in which it normally would have been prohibited. It also meant the creation and imposition of unique forms and terms of punishment, such as forced labor, dispossession, and the principle of collective responsibility of tribes.

43 See Décret relatif à la centralisation et à l’organisation du service des forêts, et à leur soumission au régime forestier du 27 septembre 1873, Article 2. Printed in Estoublon and Lefèbure, 421.
Nonetheless, these distinctions seem minor given the significant social, political, and ecological differences between Algeria and continental France, and it is surprising that the French administration did not better cater to the Algerian context. The French Forest Code of 1827 and its subsequent modifications remained far from effective in protecting Algeria’s woodlands. Trees disappeared at a staggering pace during the first thirty years of the French occupation.\textsuperscript{44} During the conquest, the military placed the greatest strain on forests, as it liberally exploited the privilege of commandeering firewood and timber as needed. In the 1850s and 1860s, the commercial enterprises of cork harvesting and clear-cutting overtook this role. Later in the century, railways made substantial contributions to deforestation. Compared to these forces, native Algerians’ impact on forests was almost negligible, though they were frequently and increasingly held accountable.

During the first forty years of the French occupation of Algeria, the forest regime not only failed to check the destruction of Algerian forests, but it also was only marginally successful in restricting the activities of indigenous groups. The forest regime continued to struggle with the same weaknesses that had paralyzed it in the 1830s. Indeed, in the 1880s, the grievances of the colonial forest administration regarding the shortness of its staff were much the same as in the 1840s. In 1889, the Algerian forest conservator wrote to the governor-general to complain that many forest guards assigned to supervise native activities had been requisitioned for other tasks.

\textsuperscript{44} Reliable statistics on Algerian forests were not available until the late nineteenth century, though the extent of forest cover in 1830 has been estimated as high as 5 million hectares. In his report on Algerian forests in 1872, Louis Tassy calculated the colony’s total forest cover at 2,084,379 hectares. See Louis Tassy, \textit{Service forestier de l’Algérie: Rapport adressé à M. le Gouverneur de l’Algérie (5 août 1872)} (Paris: Impr. de A. Hennuyer, 1882), 5. This would suggest the disappearance of some 3 million hectares in the first 40 years of colonization. This is clearly an exaggeration, but losses were no doubt considerable. Contemporary scholars have suggested that the greatest amount of deforestation occurred in the period 1890-1940. Paul Boudy estimates that one million hectares disappeared during this period. See Boudy, 4: 559. Cited in Davis 2007, 169. For more recent perspectives on these figures, see Shaw 1981, 392; and Davis 2007, 11, 169.
“in one of their vast domains, and the Arabs know how to profit from it.”  

He adds, in a dramatic touch, “The destruction grows and the forests suffer.”  

The fact was that, despite significant incentives for employment, the Algerian forest administration had failed to attract the number and quality of foresters it desired.  

One observer calculated that the ratio of guards to forests theoretically placed each in charge of at least 10,000 hectares (39 square miles) of land.  

In reality, guards were required to work in pairs for security reasons, and many areas were neglected out of necessity. The already sparse ranks of Frenchmen who joined the Algerian forest service were spread thinly across a vast range of tasks as well as territories, and their limited numbers constantly forced their superiors to play triage. In addition to their myriad duties as foresters, they were expected to guard the frontier and offer military service as needed.  

As if understaffing were not enough of a problem, the complexities of colonial administration continued to make forest service in Algeria a much more difficult, dangerous and discouraging job than in metropolitan France.  

In addition, the transition from military to civil administration in the second half of the century brought with it a host of new obstacles for the forest regime. Even in areas with adequate surveillance, foresters found many clauses of the 1827 Forest Code impossible to enforce. Some complained that the practice of imposing fines for forest infractions was ineffective in cases involving indigenous Algerians because they either could not or would not pay. Others

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45 ANOM ALG/GGA/P60, Letter: Conservateur des Forêts to Gouverneur-Général de l’Algérie (Constantine, 5 juin 1889).  
46 “En même temps les préposés sont enlevés pour la surveillance des travaux jusqu’ici fait imparfaits à celle de leurs vastes triages et les arabes savent en profiter. Les délits augmentent et les forêts en souffrent.” Ibid.  
47 There seems to have been a substantial amount of corruption and poor performance within the forest service, particularly in Algeria. See ANOM FM F80982, Letter: M. Marcotte (Ministre des Finances) to conservateurs des forêts (Paris, 6 octobre 1833); Ibid., Letter: 28 October 1833.  
48 Tassy 1882, 15.  
49 Woolsey, 106.
challenged the alternative punishment of forced labor. According to a colonial forest conservator, the innate recalcitrance of native Algerians led them inevitably to shirk their duties:

In Batna, the attempt continues, but it has not been successful up to this point. The results are not encouraging. The natives, who are by nature very disobedient, refuse to complete the assigned tasks, and despite the efforts and measures taken by the agents, we have achieved nothing.\textsuperscript{50}

Instead, he recommended the imposition of fines, claiming that most natives preferred to pay in cash anyway. For others, it was the inherent laziness of the Arab race that prevented forced labor from being an effective policy, but the verdict remained the same.\textsuperscript{51} In cases of pastoral violations, a third option for punishment, the practice of sequestering livestock, generated equal criticism. It seems that this penalty was no more expedient in Algeria than in France. In multiple cases, animals mysteriously disappeared after being confiscated, causing forest agents great embarrassment and forcing them to drop charges against the owner.\textsuperscript{52}

As discussed in Chapter 5, even the policy of \textit{responsabilité collective des tribus} was subject to rebuke, not only by the members of the accused tribes, but also by members of the French intellectual elite and high-ranking officials in the central administration.

As these examples suggest, many critiques of colonial forest administration arose from assumptions of the innate inferiority of colonial peoples. This ideology, so prevalent in the age of New Imperialism of the mid- to late nineteenth century, went hand-in-hand with French governmentality. In another imperial age, Tacitus observed, “It is in the nature of men to hate

\textsuperscript{50} “À Batna, l’essai continue mais n’a pas été heureux jusqu’ici. Les résultats sont peu encourageants. Les indigènes en général fort insoumis refusent de faire les taches données, et malgré les efforts et les mesures des préposés et des Agents on n’aboutit à rien.” ANOM ALG/GGA/P60, Letter: Conservateur des Forêts to Gouverneur-Général de l’Algérie (Constantine, 5 juin 1889).

\textsuperscript{51} French colonial era accounts commonly typified Arabs, especially shepherds, as lazy. See for example Fillias, 62; and Charles Carteron, \textit{Voyages en Algérie: Tous les usages des Arabes, leur vie intime et extérieure, ainsi que celle des Européens dans la colonie} (Paris: J. Hetzel, 1866), 104, 114, 182, 283-284, and 290.

\textsuperscript{52} ANOM FM F\textsuperscript{982}, Circulaire, Marcotte (Ministre des Finances) to conservateurs des forêts (Paris, 23 juin 1834).
those whom we hurt."\textsuperscript{53} As new technologies and modes of repression allowed industrialized European states to exercise ever more power over other parts of the world, racist narratives justifying the colonial enterprise accordingly solidified and spread.\textsuperscript{54} In the context of French Algeria, the denigration of native inhabitants helped to legitimize French expressions of violence, domination, and subordination against them. Forest administration thus represented a crucial element of the imperial \textit{mission civilisatrice}, while claiming to save the earth to boot.

One of the most pressing and contentious questions for the forest regime in Algeria, and of colonial rule in general, was how to deal with native pastoralists. Even as French colonial administrators condemned mobile pastoral tribes for environmental destruction, they also recognized the challenges and dangers of imposing strict anti-pastoral legislation. Not only would such regulations win the state more enemies, but they might well be impossible to enforce. These concerns were exacerbated by the application of the French forest code, designed for uninhabited forests, to the woodlands of Algeria, many of which were populated by indigenous tribes.\textsuperscript{55} At the same time, the government struggled to balance criticism and sanctions against indigenous pastoralists with encouragement for European agro-pastoral enterprises. While it condemned the pastoralists for impractical and unsustainable use of the land, it sought actively to promote European ventures in animal husbandry.\textsuperscript{56} Yet, these two activities were much easier to distinguish in the abstract than in legal documents that were

\textsuperscript{53} "proprium humani ingenii est odisse quem laeseris." Quoted in Drayton, 225.

\textsuperscript{54} For an analysis of the evolution of this ideology of inferiority and its role in European colonial regimes of the New Imperialist era, see Drayton, 224-238.

\textsuperscript{55} See Chapter Three.

\textsuperscript{56} See for example ANOM FM F\textsuperscript{80}730, Letter: M. Poussin to Secrétariat-Général du Gouvernement, Direction des Affaires civiles de l’Algérie, 3\textsuperscript{e} Bureau (18 avril 1857).
ostensibly race-blind.\textsuperscript{57} Such complex and sometimes contradictory aims often stymied efforts to impose the French forest code in Algeria.

Despite the great divergence of opinions about French forest administration among colonial officials, foresters, settlers, and indigenous Algerians, most of them agreed on one thing. They shared a critical appraisal of the implementation of the French forest code in Algeria as well as the conviction that major modifications were necessary. As forest administration continued to stagnate into the late nineteenth century, it inspired rising criticism and fervent calls for reform.

\textbf{French Scientific Forestry in Anatolia, 1857-1870}

Across the Mediterranean in Anatolia, forestry initiatives were receiving similarly mixed reviews. In 1870, Adolphe Bricogne reported on the success of the Ottoman forestry mission in optimistic terms. “I am pleased to observe,” he wrote, “that the work begun twelve years ago, by our excellent director Monsieur Tassy, is on the path of prosperity.”\textsuperscript{58} He and his colleagues had indeed made significant steps toward implementing French scientific forestry in the Ottoman Empire. In their first few years of service, the members of the French forestry mission undertook a number of initiatives. They began by establishing the first Ottoman forest institute, which opened its doors in 1857 to a handful of students plucked from the ranks of Ottoman administration.\textsuperscript{59} Three years later, the school released its first graduates, and the Ottoman press

\textsuperscript{57} The colonial treatment of Algerian pastoralism was further complicated by French perceptions of indigenous society, which French colonial-era studies generally divided into Berbers and Arabs. Many officials and colonists equated Arabs with mobile pastoralism (and Berbers with settled agriculture). Thus, they often referred to indigenous pastoralists and Arabs interchangeably. They also used Arabs’ association with pastoralism to justify the marginalization of this group. See Chapter Two.

\textsuperscript{58} “Je suis heureux de constater que l’œuvre commencée, il y a une douzaine d’années, par notre excellent chef M. Tassy est en pleine voie de prospérité.” Adolphe Bricogne, “La mission forestière en Turquie,” \textit{Revue des Eaux et Forêts} 9 (1870), 223.

bragged that the empire now possessed nine capable agents who, “when a contingent of guards is placed under their command, will be able to manage 100,000 hectares of forests to good effect.”

Bricogne reported that the school was continuing to prosper in 1870, and by the year 1878, it had granted degrees in scientific forest management to 58 Turkish graduates.

Meanwhile, Louis Tassy had published *Études sur l'aménagement des forêts* in 1858, which was translated into Ottoman Turkish soon after and became the primary textbook for Ottoman education in forestry. This book introduced to its Turkish audience many precepts inherited from German forestry. It promoted the idea of ‘sustained yield’; stressed statistics, surveys, and classification; and navigated various management techniques, from monoculture plantations, to coppicing (*baltalık*) and clear cutting. Yet, the text’s attention to environmental degradation in Mediterranean lands, largely at the hands of pastoralists, was uniquely French, though it remained relevant in the Ottoman context.

The French mission also helped to craft the Ottoman Empire’s first independent forest bill in 1861. In many ways, the content of this bill reflected its French influence. It reminded Ottoman

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60 “Au reste, neuf agents forestiers, quand on aura place sous leurs ordres le personnel de gardes nécessaire, pourront gérer utilement 100,000 hectares de forêts.” *Journal de Constantinople*, 8 January 1860. Quoted in “Chronique forestière: École forestière de Constantinople,” *Annales Forestières* 20 (1861).


62 Louis Tassy, *Études sur l’aménagement des forêts* (Paris, 1858). On the application of this work in Ottoman forestry education, see Dursun 2007, 182. The book was translated into Turkish in 1861. This translation can be found in: BOA A. DVN. MHM. 33/97 (1278/1861); and BOA A. DVN. MHM. 33/99 (1278/1861). Cited in Dursun 2007, 181.

63 Tassy 1858. See also Dursun 2007, 181, 184.

64 See for example Louis Tassy, *Études sur l'aménagement des forêts*, Troisième Édition (Paris: Octave Doin, 1887), l-li (Préface de la Première Édition, 1858). I refer to the 1887 edition here, but in terms of forestry education and its attitude toward Mediterranean pastoralism, the 1887 edition was very similar to the original 1858 version. The main difference in subsequent editions was the addition of a fifth section on forest management in France.
subjects that trees could be cut or removed from state forests only with a proper license.\footnote{Ottoman Forest Bill of 1861, Art. 39. Printed in Dursun 2007, Appendix 2, pp. 413-414.} It prohibited grazing in certain forest areas, and it outlawed lighting fires.\footnote{Ibid., Articles 50-51, 53; Dursun 2007, 414.} For these and other infractions, the bill enumerated a range of penalties, including fines and incarceration. Like other legislation of the Tanzimat era, the 1861 bill was designed with the profit of the state in mind, but it also set the terms for a hierarchical organization of forestry personnel similar to the forest regime in France.\footnote{Dursun 2007, 198-200.} In addition, the bill paved the way for the passage of much more comprehensive forest legislation.\footnote{Ibid., 216.}

The effort to survey Ottoman forests was also well underway by the late 1860s, and it had begun to yield promising results. Surveys completed in 1866-1877 suggested that the empire still contained extensive and varied forest reserves.\footnote{Louis Bricogne, \textit{Türkiyede Ormancılık Heyeti}, translated by Fahri Bük (Ankara: T. C. Ziraat Vekâleti, 1940 [c. 1877]). 7. Cited in Dursun 2007, 189. See also Dursun 2007, 189-197.} The forest administration was most interested in studying the timber resources of the empire’s European provinces because of their relative marketability, but it conducted surveys of forests throughout Anatolia as well. In the late 1860s, Anatolia’s total forest cover was estimated at nearly three million hectares, or twice that of Ottoman Europe.\footnote{Dursun 2007, 195.} Anatolia’s population density, which was on average much lower than that of the empire’s European provinces, further offset this figure. Such encouraging statistics did not make French foresters any less concerned about the fate of Ottoman forests. Rather, they grew even more convinced of the importance of protecting this valuable resource for the future of the
Ottoman state, and, as France remained a customer for Ottoman timber, their own national future as well.\textsuperscript{71}

Yet, beyond these limited achievements lay a host of frustrations. The directors of the forest mission struggled to recruit students for the forest institute, and those they found were often less than ideal. According to Bricogne, few of the students entering the school spoke French, and the majority possessed no more than a basic understanding of arithmetic without any other scientific background.\textsuperscript{72} Financial limitations prevented the Ottoman state from securing positions for most of the Turkish graduates of the new forest school, even as members of the French mission begged for more manpower.\textsuperscript{73} In addition, since the 1861 bill was never applied, it proved meaningless. It represented merely a wish list or guideline for future legislation. Perhaps the greatest frustration for members of the French forest mission, however, was their strict relegation to commercial matters. The Ottoman state’s interest in forestry was driven exclusively by the desire to maximize forest profitability. For the Frenchmen in its employ, this meant that the lofty principles of conservation and reforestation were off the table, at least temporarily.

The French were under no illusion regarding the challenges of their post. Even before the establishment of their mission in Istanbul, the \textit{Annales Forestiers}, the predecessor to the \textit{Revue des Eaux et Forêts}, had discussed the prospect of harnessing Turkish forests with serious reservations. “Considerable difficulties and obstacles must be overcome in order to take

\textsuperscript{71} French consumption of Ottoman timber declined considerably over the course of the nineteenth century, but in the 1890s France was still importing boxwood and other exotic varieties from Turkish lands. Moreover, many considered the weakening empire a potential future supplier for timber as European sources dried up. “Tarifs et Douanes,” \textit{Revue des Eaux et Forêts} 30.5 (1891), 259.
\textsuperscript{72} Bricogne 1870, 223. For the role of the language barrier in the Ottoman forest school, see Özkan Keskin, “Osmanlı Ormancılığ’ın Gelişiminde Fransız Uzmanların Rolü,” \textit{Tarih Dergisi} 44 (2006), 128.
\textsuperscript{73} Adolphe Bricogne, “La mission forestière en Turquie,” \textit{Revue des Eaux et Forêts} 15 (1876), 363; Dursun 2007, 182.
advantage of [Turkish] forests,” warned one article on the subject. Nevertheless, its author urged that “improvements can and must be attempted,” and he counseled his countrymen to proceed cautiously, noting that “not without excessive prudence will we succeed in planting in Turkish forests the seeds of European forest science.”

The French foresters who traveled to Istanbul a few years later seemed to take these words to heart. They accepted their limited role with little outward complaint, while embracing petitions for environmental reform in France and plotting for future change.

**FORESTERS STRIKE BACK: REFORESTATION AND REPRESSION, 1860-1890**

*My friend, the most pleasing task in the mission of the forester is to create forests. For my part, I constantly devoted all of my efforts to populating the lands under my direction. Today, it gives me pleasure to think that I increased the wooded area of France by 4,000 hectares. Make it your goal to be able to say the same someday!*  

- Charles Vial to Prosper Demontzey

In the second half of the nineteenth century, a number of developments irrevocably shifted French foresters’ approaches toward Mediterranean pastoralism and the environment. In France, deforestation had become the subject of escalating alarm. The early initiatives of the forest regime came increasingly under fire, and a wider, more heterogeneous body of critics began to press for reform. Advocates of reforestation focused on two main goals for forest administration: stricter legislation and better enforcement. At the same time, the governments of metropolitan France, colonial Algeria, and Anatolia were discovering new tools and technologies for

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surveillance, control, and repression. Provincial and peripheral regions that had once been the exclusive domain of mobile pastoralists were now being harnessed to the demands of the state. Together, these factors ushered in a new regime of repression that would guide French forest policy to the end of the century.

In 1841, Alexandre Surell published the influential study *Étude sur les Torrents des Hautes Alpes*, which linked deforestation in the Alps to erosion and flooding downstream.\(^7\) Surell’s account not only characterizes mountain deforestation as “the most disastrous of disturbances,” but it also champions the value of alpine forest resources.\(^7\) Although Surell recognizes the need for cutting and clearing in an alpine economy, he reasons, “In order for the mountains to be habitable, they must be forested.”\(^7\) In the decade that followed its publication, Surell’s work inspired growing interest in mountain reforestation among the French elite. This issue became a central topic of debate in the French Scientific Congress as well as in the halls of Parliament.\(^9\) Reforestation legislation was proposed in the 1840s and 1850s, though it failed to pass.\(^8\)

Then, in 1855 and 1856, a series of particularly destructive floods swept through the country, inundating the Rhône delta and other lowlands. These vivid environmental calamities seemed to validate Surell’s words, and they heralded a fresh wave of support for the cause of afforestation

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\(^7\) Alexandre 1841. A second edition of Surell’s work appeared in 1870, following the passage of the 1860 law. See also Whited, *Forests and Peasant Politics*, 56; Simon, Clément, and Pech, 338; and my discussion of this work and its impact in Chapter Five.

\(^7\) “la plus désastreuse des perturbations” (Surell 1870, 273).

\(^8\) “Concluons: pour que les montagnes soient habitables, il faut que les montagnes soient boisées” (Ibid., 272).

\(^9\) BDR 7 M 163.

\(^8\) Corvol 1987, 321, 330-331; Louis Tassy, *La Restauration des Montagnes: Étude sur le Projet de Loi Présenté au Sénat* (Paris: J. Rothschild, 1877), 1-2. Tassy claims that such legislation was proposed only in 1845 and 1852, but according to Corvol, bills appeared in 1843 and 1847.
and reforestation (French forestry rarely distinguished the two).\textsuperscript{81} Charles de Ribbe pioneered the movement with his 1857 publication, 	extit{La Provence au Point de Vue des Bois, des Torrents, et des Inondations Avant et Après 1789}. Though Ribbe’s study makes his debt to Surell clear, it goes much further in decrying the effects of alpine deforestation and promoting administrative reform. As Ribbe admits in his Introduction, the work was written “in the state of mourning produced by the latest floods,” and its purpose was as much political as it was scientific.\textsuperscript{82} He cites the “necessity of modifying many aspects of the Forest Code” and claims for the work the goal of putting the administration of forests “back on the path to a solution.”\textsuperscript{83} For Ribbe, mountain deforestation represented the root cause of environmental decline. Many others agreed. As the century progressed, a growing number of French scientists, foresters, policy makers, and environmental advocates dedicated themselves to this issue.

The campaign for mountain reforestation gained a major victory with the Mountain Reforestation Law, passed nearly unanimously by the Corps Législatif and approved by Napoleon III on July 28, 1860.\textsuperscript{84} Framed as an effort to prevent alpine flooding and the formation of torrents, this law posed as a direct response to recent environmental catastrophes.\textsuperscript{85} As the first piece of French legislation focused exclusively on reforestation, it was also something entirely without precedent. The law adopted a two-pronged approach to reforestation. On one hand, it encouraged


\textsuperscript{82} “écrit sous l’impression de deuil produite par les dernières inondations.” Charles de Ribbe, 	extit{La Provence du point de vue des bois, des torrents, et des inondations avant et après 1789} (Paris: Guillaumin et Cie, 1857), 6.

\textsuperscript{83} “Puissance-t-elle aider à mettre sur la voie du remède, dans l’œuvre importante de réforme qui devra modifier plusieurs dispositions du Code forestier!” (Ribbe 1857, 9).

\textsuperscript{84} Whited, 	extit{Forests and Peasant Politics}, 59.

voluntary efforts at re- and afforestation by providing growers with seeds, saplings and subsidies. On the other, it required the forest administration to institute projects wherever “the public interest demands that reforestation work be made mandatory, for reasons of the state of the soil and the dangers it poses to lands below." As those who promoted the law explained, it was designed to employ the twin tactics of reward and coercion; it rewarded inhabitants for cultivating forests, and, when they did not, it forced them to do so.

One of the most renowned and enthusiastic spokesmen for the law of 1860 was the forester Prosper Demontzey. In his youth, Demontzey had been counseled by Charles Vial, a family friend and fellow forest agent, to “create forests” everywhere he could. A self-described “reforester” (“reboiseur”), Demontzey clearly took these words to heart. After graduating from the Nancy school in 1852, Demontzey entered the forest service in Algeria, where he remained for ten years. He then spent the rest of his career in Provence, migrating from Nice, to Digne, to Aix-en-Provence, where he became conservateur of the Bouches-du-Rhône in 1877. Throughout his life, he made it his goal to make a measurable impact on the state of French forests. In his obituary, a colleague recalled, “Reforestation, for him, was everything!” and affirmed that the great forester had subordinated all other duties to this single cause.

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87 “Dans le case ou l’intérêt public exige que des travaux de reboisement soient rendus obligatoires, par suite de l’état du sol et des dangers qui en résultant pour les terrains inférieurs.” Loi relative au reboisement des montagnes du 28 juillet 1860, Art. 4. Printed in Deville and Rez, 171.
90 “Pendant toute ma carrière de reboiseur, je me suis fidèlement rappelé l’exhortation du père Vial !” Ibid.
91 “Le reboisement, pour lui, c’était tout! À cela, il subordonnait le reste.” Ibid., 18.
Demontzey’s experience on both sides of the Mediterranean convinced him even more of the importance and urgency of mountain forest management. In both Algeria and Provence, he worked eagerly to enforce the 1860 law. He also defended it through literary tracts. In 1878, he published Étude sur les travaux de reboisement et de gazonnement des montagnes. Demontzey developed the text in response to the French forest director general’s call for proposals for practical approaches to mountain reforestation and replanting; it won first prize. In his Introduction, Demontzey counters objections to the law by signaling its numerous and continuing successes:

In the many parts of France’s mountain regions where reforestation, whether voluntary or obligatory, has been undertaken, the young forests that exist today present and maintain the most categorical refutation of the allegations of those miserable spirits who denied it the possibility of birth, life, and advancement.

Through his own efforts, Demontzey gave testimony to these words. Until 1877, he had directed efforts to minimize flooding in the Basses-Alpes, successfully limiting the impact of several major storms. For the duration of the century, he continued to promote mountain reforestation both through his career in forestry and through a range of publications on this theme. These works embodied his faith in the practical application of law as well as his love of trees.

92 ‘Gazon’ means grass, turf or lawn. ‘Gazonnement’ refers to seeding, fertilizing, tending, and replanting grass. Hence, the title translates roughly to “Study on the work [being done] to reforest and replant the mountains.”
93 Demontzey 1878, i.
94 “Sur tous les points des régions montagneuses de la France ou des reboisements, soit facultatifs, soit obligatoires, ont été entrepris, la jeune forêt existant aujourd’hui présente et maintient la réfutation la plus catégorique des allégations des esprits chagrins qui lui avaient refusé la possibilité de naitre, de vivre et de se développer” (Demontzey 1878, vi).
95 Carrière, 199.
96 Demontzey published numerous other works on this theme, including: Traité pratique du reboisement et du gazonnement des montagnes (1882), La restauration des terrains en montagne au pavillon des forêts (1889), Le reboisement des montagnes et l’extinction des torrents (1891), and L’Extinction des torrents en France par le reboisement (1894); and Les Retenues d’eau et le reboisement dans le bassin de la Durance (1896). In addition, his Étude sur les travaux de reboisement et de gazonnement des montagnes was republished in a German translation in 1880. Demontzey retired from the forest service in 1893, at age 62. He died just five years later, in February 1898. See Carrière, 193-222.
If Demontzey’s devotion to reforestation made him something of an idealist, he was also relatively pragmatic. *Étude sur les travaux de reboisement et de gazonnement des montagnes*, as the title suggests, treats both the project of mountain reforestation as well as that of replanting or regenerating mountain pastures. In the second half of his book, he acknowledges the importance of the pastoral industry to France’s alpine regions. Rather than seeking to snuff it out, he explores ways to minimize its damage to forests and its role in the formation of torrents. In a departure from most of his colleagues, Demontzey maintains that transhumant pastoralism is less harmful than the “indigenous” pastoralism practiced among mountain populations without migration.97 “The transhumant [herd],” he reasons, “does not arrive in the mountains until the vegetation is full and the soil has regenerated […] and leaves before the great autumn rains.”98 He contrasts his characterization with native animals, “which in winter leave no respite for the smallest patch uncovered from snow and roam different parts of the mountains, according to the season, in the most unfavorable conditions for soil stability and the conservation of grassy vegetation.”99 In general, Demontzey favored confining pastoralism to certain regions beyond the target zones of mountain reforestation initiatives. Even in this restricted sphere, he argued that the practice should be transhumant and limited to three sheep per hectare, a small number by any account.100 This prescription was hardly music to pastoralists’ ears, but it was much more sympathetic than the perspectives of many foresters and legislators, who had already ceased to concern themselves with the welfare of Mediterranean pastoralists at all.

97 See for example Tassy 1877, 14. See also my discussion of bias against transhumance in Chapter Two.
98 “Le transhumant, qui n’arrive sur la montagne qu’au moment où la végétation est en pleine activité et ou le sol s’est raffermi, qui ne parcourt que les pelouses sur les versants les moins rapides, et qui part avant les grandes pluies d’automne, est beaucoup moins destructeur de la montagne que l’indigène, qui ne laisse en hiver aucun répit au moindre versant dégarni de neige et parcourt les différents étages de la montagne, suivant les saisons, dans les conditions les plus défavorables pour la stabilité du sol et la conservation de la végétation herbacée” (Demontzey 1878, 253).
99 Ibid.
100 Ibid. In comparison, the Forest Code of 1827 had recommended a cap of two to four sheep per hectare. See Chapter Four.
Demontzey’s study of mountain reforestation received mixed reviews, largely because it appeared in an atmosphere of mounting opposition to the law of 1860. Some contended that the law’s restriction of pastoralism and the costs of its obligatory reforestation projects were too great a burden for local populations to bear.¹⁰¹ Not only was the law unpopular with the masses, but the press derided it as idealistic, infeasible, and impossible to enforce.¹⁰² Many in the French scientific elite argued that it did not go far enough. They also pointed out that a lack of local acceptance together with insufficient surveillance and manpower were preventing the law from being effectively applied. Perhaps most importantly, the law, which had been instituted on a trial basis, expired in 1870, and the turbulent political climate of this and subsequent years delayed discussion of a successor. The campaign for sound mountain reforestation legislation continued. In the mid-1870s, it acquired an enthusiastic new champion: Louis Tassy, one of the founders of Ottoman scientific forestry, who had gained prominence on his return from Istanbul in 1868, and had just completed a review of the Algerian forest regime.

Tassy rivaled Demontzey in both his familiarity with the Mediterranean region and his passion for afforestation. Tassy was born in Aix-en-Provence, and when he retired to his native town in 1875, Demontzey was stationed there as forest conservator of the Bouches-du-Rhône. Tassy’s career as a forest agent had taken him to Anatolia, Corsica, and Algeria. He shared with Demontzey acceptance of the narrative that Mediterranean landscapes were tragically degraded and deforested, but he went much further than his colleague in his criticism of forest legislation and the impact of pastoralism. Indeed, the zeal with which Tassy fought for mountain

¹⁰¹ Tassy 1877, 17. Tassy examines such perspectives, then refutes them.
¹⁰² Demontzey 1878, vi.
reforestation and administrative reform following his retirement more than compensated for the discretion, caution, and compliance his post in the Ottoman service had required.

In the debate that followed the termination of the Mountain Reforestation Law of 1860, Tassy rebuked the program for its expense and for not going far enough.103 His treatise *La Restauration des Montagnes*, published in 1877, presents a direct assault on the forest regime’s management of the mountain reforestation project. He blames it for softening its stance toward pastoralists and other mountain dwellers by financing reforestation and re-pasturing projects, rather than penalizing them for the poor environmental practices that had degraded the land in the first place.104 He also chastises forest agents for handing the reins of reforestation to communities and thus limiting the scope of obligatory reforestation initiatives.105 Summarizing his assessment, he accuses the French forest director-general of confusing local interests with the public good.106 In general, Tassy uses the text to inculpate mountain dwellers for unsustainable land use, erosion and flooding, and the destruction of France’s dwindling forest resources. In this and subsequent publications, his recommendations promoted the preservation of forest resources for future use, as well as the protection of communities downstream from the environmental consequences of deforestation, such as droughts and floods. He pursued these long-term environmental goals, however, at the expense of contemporary local economies both in the mountains and on the plain.107 Indeed, for Tassy, the mission of the forest service was ultimately to save forests, not people. He continued to press this point into the final years of his life.

103 Tassy 1877, 16.
104 Ibid., 69.
105 Ibid.
106 Ibid., 33.
107 See for example Tassy 1877, 14. Others of Tassy’s publications on the same theme include *Réorganisation du Service Forestier* (Paris: Typographie A. Hennuyer, 1884), *État des Forêts en France* (Paris: Octave Doin, 1887), as well as two more editions of Tassy’s *Aménagement des forêts*, published in 1872 and 1887 respectively. Each
The relentless lobbying of Tassy and other prominent forest advocates throughout the 1870s eventually succeeded in gaining the attention of lawmakers. The result was a new piece of legislation, the Law on the Restoration and Conservation of Mountain Lands (Loi Relative à la Restauration et Conservation des Terrains en Montagne), passed April 4, 1882. This new text repeated many characteristics of the 1860 law. It retained the idea of “public utility” as a prerequisite for maintenance, and it permitted the state to claim lands where such a need was identified. Like its predecessor, it was inspired largely by underlying fears of floods, and it aimed to protect lands from environmental catastrophes.

The 1882 law also differed from its precedent in a number of points. In some ways, it was more expansive. Whereas the Mountain Reforestation Law of 1860 had focused exclusively on planting and replanting trees, the new law supported other projects promoting ‘conservation’ and ‘restoration’ as well. In addition, it governed not just forests but pastures and the pastoral industry, which gave it a much broader application. Yet, the law was also more limited in its scope. It concentrated reforestation efforts in critical areas and encouraged agriculture, orchards, and the regrowth and fertilization of mountain pastures (gazonnement) in others. Moreover, it no longer left the designation and implementation of restoration work to the discretion of forest agents. Rather, it required that the “public utility” of each prospective project be determined by a

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110 Loi Relative à la Restauration et Conservation des Terrains en Montagne, Art. 1.
111 Ibid., Articles 12-15.
vote of the local municipal council.112 In this way, the law reflected its political context. Promulgated in a new era of universal suffrage, it evinced the administration’s concern for the support of rural constituents, a significant portion of the population.113 As its proponents explained, the law’s liberal approach to environmental management made it much more practical and enforceable than the law of 1860.114

Purists slandered the law as a dirty compromise with local interests, particularly pastoralists.115 In État des Forêts en France (“the state of French forests”), which appeared in 1887 and remained influential long after, Louis Tassy demanded more intensive and extensive mountain forest “restoration.”116 Dramatizing the pitfalls of the law, he claimed that if it was not reformed, “there will be, in ten years, no more question of mountain reforestation,” since the French administration would have surrendered its ability to protect what few forests remained.117 Yet Tassy’s concerns proved unwarranted. In practice, reforestation and soil conservation programs continued to take precedence over the needs and livelihoods of local residents in the Alps and other regions. The law’s promise to work with pastoralists rarely bore out in reality, as foresters and pastoralists disputed the meaning of sustainable practices. In addition, the law continued to embody the forest regime’s trend away from commercialism toward conservationism.118

112 Ibid., Art. 2.
113 Corvol 1987, 343; Raphaël Larrère, and Olivier Nougarede, L’Homme et la Forêt (Paris: Gallimard, 1993), 86.
116 Tassy 1887. Cited in Corvol 1987, 379. See also Tassy 1877. For more on mountain depopulation, see Lucien-Albert Fabre, L’exode montagneux en France (Besançon: Impr. de Jacquin, 1908).
117 Tassy 1887, 111.
Reforestation in Provence

In Provence, the effects of the 1860 law were immediate. Requests began to pour in for reforestation subsidies in the 1860s and 1870s, and foresters went to work ‘reforesting’ not just denuded mountain sides, but the Provençal coastal countryside as well.\(^{119}\) Indeed, despite its stated focus on ‘mountain’ reforestation, this campaign exercised a major influence on the relatively flat lowlands of the Bouches-du-Rhône department. Over the next twenty-five years, the issue of reforestation gradually gained precedence over other local matters of environmental legislation.

Foresters’ evident preference for trees over people did not win them friends among the pastoralists of Provence. In general, the residents of the Midi gave reforestation initiatives an icy reception.\(^{120}\) The laws of 1860 and 1882, by empowering the forest regime to impose mandatory plantations, generated even greater antagonism between foresters and local populations, as the public rarely considered reforestation measures to be in their ‘interest’, notwithstanding foresters’ claims. As a result, many continued to ignore new regulations and violate grazing restrictions.\(^{121}\) In addition, a number of fires in newly planted forests suggest that some went even further to protest reforestation projects. Yet, in fires attributed to arson, the culprits always


\(^{120}\) See Ministère des Finances, Administration des Forêts, Reboisement des montagnes: Compte-rendu des travaux de 1862 (Paris: Imprimerie Impériale, 1863), BDR 7 M 163. This booklet also contains forestation figures for various departments in Provence. See also BDR 7 M 163, Circulaire: “Reboisement des montagnes – gazonnement” (1864). In the latter, for example, the French forest director-general presents the law of 1864 (gazonnement) as a compromise with pastoralists in Provence who opposed the 1860 law: “Un certain nombre d’habitants de cette région, voués entièrement à l’industrie pastorale, n’ont pas vu sans appréhension les travaux du reboisement s’effectuer sur des terrains consacrés au parcours. Cette appréhension s’est manifestée par des oppositions dont le Gouvernement a voulu faire disparaître.”

\(^{121}\) For grazing violations throughout Provence in the 1870s and 1880s, see BDR 7 M 192: “Direction générale des forêts: Activités (1871-1909), Marseille.”
Local administrators generally shared their constituents’ resentment toward the forest regime. In 1886, the mayor of Pierrefeu objected that efforts at afforestation were having a detrimental effect on residents and robbing the community of essential revenue. Characterizing the forest agents assigned to his village as “strangers to the country, its vegetation, and its forest lands,” he maintained that their work, whether deliberately or through ignorance, had “completely failed […] to respond to our wants, our needs, and our modest advice based on the evidence of experience.”

The impact of the law was even greater among the Alpine communities of Haute-Provence. In addition to echoing the complaints of those on the plain, mountain peasants protested their loss of key pastures. They had been accustomed to grazing sheep in forests destroyed by flooding or fire. Now, even these refuges were closed to them, as well as a host of other protected spaces. The process of mountain depopulation was already well underway when the mountain reforestation project reached these regions, and the law of 1882 effectively sealed the fate of an already diminishing mountain population. By the turn of the twentieth century, most mountain villages supported only a small fraction of their former population. It thus comes as no surprise that mountain reforestation was most successful in the Basses-Alpes, where foresters managed to expand forest cover by 40,000 hectares, more than twice the amount in the High

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122 BDR 7 M 192, File 2: “Inspection d’Aix, cantonnement d’Aubagne, 1871-1874,” Fire in Saint Savourin forests attributed to malveillance (15 May 1874). See also Chapter Five.
123 “L’objet en est un projet d’aménagement de notre forêt communale dressé par des agents venus des extrémités de la France, étrangers au pays, à ses cultures, à ses terrains forestiers […] Ces agents, fort savants sans doute en théorie et en beau langage forestier, leur travail le prouve, ont absolument négligé, par ordre ou involontairement, de s’inspirer de nos vœux, de nos besoins, de nos modestes conseils basés sur les données de l’expérience.” BDR 112E 2N 5 (Gémenos), Third File: Commune de Pierrefeu, Toulon, Var; Letter: Maire (V. Maurel) to Conseiller Général (2 avril 1886).
124 For a detailed look at reactions to the law in Savoie, see Whited, Forests and Peasant Politics, 85, 103-121.
127 See Fabre 1908; and Ibid., L’exode du montagnard et la transhumance du mouton en France (Paris, 1909).
Alps or other mountain departments. In this way, the mountains of Haute-Provence effectively became the empty forested spaces that foresters had long envisioned them to be.

In the mid- to late nineteenth century, a number of developments facilitated foresters’ tasks and muted local resistance. As discussed in Chapter Four, the expansion of agriculture, aided by new technologies, helped to marginalize pastoralism throughout Provence. In addition, the national trend of urbanization conveniently reduced the potential number of forest users – and abusers – in rural areas, while in other places increasing population density made mobile pastoralism progressively less feasible. At the same time, the arrival of railroads and other transportation networks improved communication and access to previously remote regions. These changes made it easier for foresters to carry out their duties and more difficult for pastoralists to elude them.

The most crippling blow to Provence’s pastoral industry, however, was the wool crisis. In 1860, France signed a commercial treaty with England lowering import duties. Following its implementation, French imports of English wool doubled. Although French exports of wool also rose, the price of wool plummeted. During this time, rising competition from Australia, Spain, as well as the internal market of Algeria were already placing substantial pressure on French sheep farmers. The reentry of American cotton following the conclusion of the Civil War dealt

128 Metailie, 101-103; Larrère and Nougarede, 86.
129 The Cobden-Chevalier Commerce Agreement of 1860.
another crushing blow to the French wool trade. These circumstances precipitated a crisis that haunted French wool producers through the duration of the nineteenth century. Pastoralists suddenly found themselves forced to sell fleeces at a fraction of the cost of maintaining their herd, and these circumstances put many sheep farmers out of business. Mountain dwellers were hit particularly hard, and these economic troubles helped to drive many inhabitants toward commercial centers on the plain. As a rule, only large commercial enterprises were able to survive. They did so by shifting their focus from wool to meat production, a trend that has continued to characterize Provence’s sheep farming industry to the present day. Sheep farmers still complain that the expense of shearing their sheep outweighs the profit they gain from it. Clearly, the age of the Golden Fleece has passed.


131 This development also affected the French timber trade. See Paul Arnould, “Les forêts industrielles (Landes, Sologne),” in Les sources de l’histoire de l’environnement: le XIXe siècle, 8.


133 Orange and Alambert, 35-36.


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<td>1910</td>
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**Figure 6.1** Changing Prices of French Wool, 1850-1910.\(^{136}\)

Over the same period, the small-scale shepherds and farmers who typically utilized communal lands all but disappeared.\(^{137}\) Increased forest surveillance meant that mobile herds were under close supervision, and any transgression – which could be as little as a wayward sheep – could mean the loss of one’s herd and consequently one’s livelihood. The stakes had risen, and many pastoralists simply felt they could not afford to take such chances. In Provence, transhumant shepherds now struggled to find an acceptable migration route. Many switched to the use of private land. Private landowners were generally less strict in regulating grazing, but renting their property was expensive, and increased use placed greater strain on these lands. Other pastoralists chose to adopt sedentary shepherding, stabling their sheep rather than facing the new challenges and risks of mobility. Thus, the lush *coussouls* of the Crau and the verdant pastures of Haute-Provence, both of which had formerly spent most of the year in unencumbered regeneration, were now used extensively year round (see Figure 6.2). This intensified exploitation had a much greater environmental impact.

\(^{136}\) After Orange and Alambert, 35.

The transformation of the pastoral industry made forest legislation much easier to enforce. Without significantly reducing the amount of livestock raised throughout Provence, the wool crisis moved the industry outside of the forest regime and thus beyond the concern of forest agents. Likewise, the declining number of small-scale pastoralists allowed foresters to better regulate and negotiate with those who remained. In many communities, the forest regime reconciled itself to the presence of the few shepherds who still used communal forests, and it relaxed restrictions. In the community of Les Baux-en-Provence, for example, communal grazing occurred alongside reforestation projects throughout the 1880s and 1890s.\textsuperscript{138}

\textbf{Figure 6.2} The Crau in the 1930s.\textsuperscript{139}

\textsuperscript{138} BDR 167 E 2N1 (Les Baux-en-Provence).
\textsuperscript{139} BDR 6 Fi 12205: Plaine de la Crau.
Reforestation and Repression in Algeria

The debate over reforestation reached across the Mediterranean to colonial Algeria, sharing many of the same features and even common figures. In 1872, Louis Tassy conducted a state-sponsored review of the Algerian forest regime. He concluded that Algerian forests, rather than improving under the French occupation, had actually “grown more impoverished,” and he blamed the colony’s over-exploitation and lack of regulation.140 Part of the problem, in his view, was the state’s willingness to relinquish control to the hands of its populace. “Our legislators made a mistake,” he claimed, “when in Algeria, despite repeated warnings, they allowed the creation of communal and private forests.”141 He also chided the colonial government for reducing funding for its forest administration at a time when he believed a significant increase was crucial.142 Tassy’s widely publicized report helped to convince much of the colonial population that forestry in Algeria was in desperate need of reform. In the final quarter of the nineteenth century, Tassy was cited liberally as support for a variety of perspectives on Algerian forests and forest administration.

Following the promulgation of the Law on the Restoration and Conservation of Mountain Lands in France, the question of its implementation in Algeria generated intense and protracted debate among the colonial population. Opposition to the law united typically divergent groups. Many argued, with considerable justification, that Algeria’s physical, environmental, political, and social differences made the law inapplicable to the Algerian case. Some maintained that the law’s focus on erosion and flooding was irrelevant in Algeria, where drought was a much more

140 Tassy 1882, 4.
142 Ibid., xxv.
significant concern. While acknowledging the importance of reforestation, one inhabitant implied that such regulations should cater to Algeria’s specific nature:

In Algeria, it is not the fear of floods and their disasters that council us to conserve forests and mountain pastures, it is the necessity of safeguarding easy and abundant access to springs, the greatest resource in a hot land, much more than the fear of minor floods; in this latitude, it is the beneficial influence of trees on the climate and on public health.\textsuperscript{143}

To clarify his stance, he added, “Limited exclusively to mountains, [the law] would not be able to address the main concerns of our colony.”\textsuperscript{144} Others branded reforestation as infeasible and suggested that the funds allocated for the project would be better employed in preventing the deforestation of massifs still “covered with trees” than in facing the challenges of a “difficult reforestation.”\textsuperscript{145} Still others suggested that forest legislation in Algeria was already too strict and called for more independence from the France’s central forest administration.\textsuperscript{146} One spokesman for this perspective argued that local knowledge far outweighed the dictates of “the young forester,” and invoking Tassy’s report as support, claimed that state control of forests had only made matters worse.\textsuperscript{147} Finally, advocates for native rights expressed concern that the law would further limit the movements of pastoral nomads.\textsuperscript{148}

On the other hand, certain contingents of colonists became staunch supporters of the law and pressed incessantly for its application in Algeria. One of the most vocal, persistent, and powerful

\begin{itemize}
\item \textsuperscript{143} Ligue du Reboisement de l’Algérie: De la promulgation en Algérie de la loi du 4 avril 1882, La conservation & la restauration des terrains en Montagne, Extrait du bulletin no 25 (Alger: Imprimerie Casabianca, 1883), 510. ANOM BIB AOM B8056.
\item \textsuperscript{144} “Limitée aux montagnes exclusivement, elle ne pourrait dans notre colonie faire face à des nécessités de premier ordre” (Ibid.).
\item \textsuperscript{145} ANOM FM F\textsuperscript{80}1787.
\item \textsuperscript{146} Such complaints were common in the mid- to late nineteenth century. See for example the anonymous “Note sur les forêts de l’Algérie” and the opposing response in ANOM ALG/GGA/P1.
\item \textsuperscript{147} ANOM ALG/GGA/P1, “No 2035: Chambre des députés, cinquième législature, session de 1892, Annexe au procès-verbal de la séance du 2 avril 1892: Rapport,” 5.
\end{itemize}
proponents of this cause was the Ligue du Reboisement de l’Algérie.149 In 1881, a union of conservationists, entrepreneurs, agriculturalists, and other colonists formed the league as a political pressure group promoting the preservation of Algerian forests.150 The Ligue du Reboisement was, however, much more than a forest advocacy group. It was also a conduit for the French colonial mission. Paulin Trolard, who served as president for the league’s 23-year existence, argued unabashedly that “Algeria must be populated almost entirely by [the] French.”151 The league’s literature and initiatives highlighted connections between forestry and the colonial enterprise. In the first issue of its annual publication, Bulletin de la Ligue du Reboisement de l’Algérie, Trolard dramatically reminded his readers that “every deforested country is condemned to death!”152 He also drew direct comparisons between France’s colonization of Algeria and North Africa’s occupation by Rome, asking, “Can one deny that the French occupation is marching inevitably toward its end; and that one can already fix the moment when it will have the same fate as the Roman occupation?”153

The league focused the blame for environmental devastation on a single target: pastoralists.154 Its literature explicitly targeted the indigenous population, projecting and exploiting racial

149 For more discussion of this organization, its members and objectives, see Davis 2007, 108-123; and Ford. Ford describes the league’s initiatives with the phrase “the violence of environmentalism,” which she borrows from Ajay Skaria, who uses it to describe tensions between the British and tribal populations in colonial India (Ford, 361-362). Cites Ajay Skaria, Hybrid Histories: Forest, Frontiers and Wildness in Western India (Oxford: Oxford University Press, 2001), 192.
151 Paulin Trolard, La colonisation et la question forestière (Alger: Casabianca, 1891), 15. Quoted in Davis 2007, 120.
154 This view was accepted beyond the league as well, but other sources often cited fires and clearing as well. For example, a pamphlet published in 1885 enumerates three main sources of deforestation in the following order: fire, pasturing, and clearing. Catalogue des collections exposées à l’exposition universelle & internationale tenue à Anvers en 1885 (Alger, 1885), 35 (ANOM BIB B6902). On the other hand, the French forest regime tended to agree with the League. See for example “Les forêts Algériennes,” Revue des Eaux et Forêts 19 (1892).
prejudices. In his 1882 address, Trolard warned his readers, “Within hours, the incendiary Arab threatens to rob us of the few forests spared by the teeth of his flock.” In a later publication, he called for the “fixation to the soil of these three or four million nomads who use and abuse the pastures that still exist.” Not everyone agreed with the organization’s policies and claims. One critic described Trolard’s presentation of history as “fantastical and exaggerated.” Yet, the Ligue du Reboisement was anything but a fringe organization. Its members included foresters, government officials, scientists and scholars, as well as rich and powerful colonists. In 1905, even the governor-general of Algeria joined its ranks. It enjoyed a substantial amount of influence and well-placed support, and its recommendations for the colony’s environmental administration carried significant political clout.

Following the implementation in France of the Law on the Restoration and Conservation of Mountain Lands in 1882, the league began to petition actively for its application to Algeria. In its Bulletin, the league cited Tassy’s report as support. Describing him as “a high official whose competence is beyond doubt,” Trolard referred to his estimate of the economic potential of Algeria’s forests if they were efficiently and effectively managed. League members also responded to specific arguments against the implementation of the 1882 law in Algeria. Dismissing charges of its unsuitability, Trolard declared, “If this law did not already exist, it would have to be created expressly for Algeria,” and he asked his compatriots how they expected

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155 Trolard 1882, 2.
156 Trolard 1891, 77. Quoted in Davis, 120.
159 ANOM ALG/GGA/P59. See also Davis 2007, 111-113.
to achieve reforestation without the law’s support. Trolard’s defense of the 1882 law exposed an additional and perhaps deeper motive as well. He implied that, through the idea of ‘public utility’, the law could assist the state in acquiring lands that had been accorded to indigenous groups. Thus, it would further marginalize these groups while providing the colonial population with new territory for settlement and exploitation. Trolard and his compatriots, moreover, knew that the law would be relatively unfettered by the local politics that hindered its success in the metropole. In continental France, each prospective project struggled to win the electoral consent of the local population; in colonial Algeria, natives had no vote.

As the Ligue du Reboisement’s support for the law of 1882 demonstrates, the matter of mountain restoration became much more than an environmental concern in the Algerian context; it also carried weighty social, racial, and political consequences. Paradoxically, even as the ‘settler colony’ regime that dominated Algeria in the late nineteenth century proved detrimental to Algerian forests, it also used the vehicle of scientific forestry and narratives of environmental degradation to justify continued expropriation and dispossession of the indigenous population.

In the end, neither the 1860 nor the 1882 law went into force in Algeria. Initially, the colonial government struggled to resolve debate on the issue through compromise. A series of memoranda dispatched to regional officials in 1883-1884 paid lip service to the cause of mountain reforestation and encouraged voluntary initiatives. Then, in response to continued

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162 Ibid., 528.
163 See Corvol 1987, 369. Corvol addresses the role this distinction played in the application of forest legislation.
164 Circulaire du gouverneur général relative aux plantations d’arbres, 15 septembre 1883; and Circulaire du gouverneur général portant établissement d’un programme général de reboisement, 7 février 1884. Printed in Estoublon and Lefébure, 621, 627.
lobbying by the Ligue du Reboisement and other voices, the central forest administration passed a new law specific to Algeria on December 9, 1885.\(^{165}\) The law was presented as a revision of the fire law of July 17, 1874 (see Chapter 5), but it treated a much broader range of issues related to Algerian forest management.\(^{166}\) It attempted to clarify the application of the Forest Code of 1827 to the Algerian case. Accordingly, it addressed circumstances particular to Algeria, including the sale and exploitation of cork forests, and it placed special emphasis on grazing restrictions and penalties for violations.\(^{167}\) Finally, the law aimed to satisfy proponents of the mountain restoration project by authorizing state expropriation of territories for the “public utility.”\(^{168}\) As in continental France, this designation could be used to promote restoration or reforestation, but it also applied to the protection of water sources and other places where the administration deemed “public health” to be at risk.

These initiatives temporarily mollified the Ligue du Reboisement’s call for stricter forest legislation, but they ultimately satisfied no one. As members of the league were quick to point out, the law of 1885 was poorly and sparsely enforced.\(^{169}\) On the other hand, it justly upset arabophiles by threatening to further dispossess the native population. If anything, the law of 1885 served to exacerbate the controversy surrounding forest administration in Algeria. Indeed,

\(^{165}\) Loi relative à l’aménagement et au rachat des droits d’usage dans les forêts de l’Algérie, aux exploitations et abus de jouissances dans les bois des particuliers, à la police des forêts et au reboisement (du 9 décembre 1885). Printed in Estoublon and Lefèbure, 665. See also Davis 2007, 81–82.


\(^{167}\) Loi du 9 décembre 1885, Articles 1, 6, & 9.

\(^{168}\) Ibid., Articles 12 & 13.

\(^{169}\) For example, in 1887, league members claimed that pasture abuses remained widespread and rebuked the colonial government for failing to enforce the new law. See “Pâturages dans les bois,” Bulletin de la Ligue du Reboisement 6 (1887), 1264.
while the debate over mountain reforestation divided Algerian settlers, it also united them against the central government and pushed them along the road to independent forest administration.

*Forestry and Sedentarization in Anatolia*

The transformation of the French forest regime in the final decades of the nineteenth century and the challenges it faced in Provence and Algeria paralleled similar developments in Anatolia. Like the French, the Ottoman state attempted to deal with forest misuse, violations, and overexploitation through bureaucratization and legislation. Likewise, mobile pastoralists became a major target of Ottoman forest legislation. The Frenchmen who cultivated scientific forestry in the Ottoman Empire helped to marginalize the practice of mobile pastoralism in Anatolia both directly and indirectly, and their impact was immediate. Shortly after the arrival of the French forest mission in 1857, the administration began to frame accusations against nomads in new, environmental terms. In 1858, it ordered the resettlement of tribes that had damaged public forests to “more suitable areas.”

Although French foresters continued to exercise a prominent role in Ottoman forestry through the 1870s, the empire’s forest administration gradually became authentically Turkish. The forest school began to furnish more – and more competent – graduates to work under and alongside French engineers. In 1869, the forest service gained its first Turkish general director, Aristidi Baltacı. Adolphe Bricogne later praised him as not only the first to hold this office, but

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171 A timeline of names, terms, and portraits of those who held this office is available on the website of the Turkish Forest Directorate. See T. C. Orman Genel Müdürlüğü, “Geçmişten Günümüze Orman Genel Müdürleri,” Web: http://www2.ogm.gov.tr/genmud/gmudlist.htm (accessed 16 April 2013).
“possibly the best.”

During the same period, the organization and responsibilities of this growing cadre of Turkish forestry personnel were codified in a series of formal instructions and legislative acts.

On January 14, 1870, the Ottoman state instituted forest legislation (*Orman Nizamnamesi*) designed to provide a legal basis for the forest regime. The 1870 document reflected the influence of the French foresters who helped to craft it. It incorporated elements of scientific forestry and in many ways echoed the French Forest Code of 1827. It formalized the establishment of a bureaucratic forest administration under the Ministry of Trade, presented guidelines for the forest school, specified restrictions on forest use and access, and standardized penalties for infractions.

It distinguished four types of forests: state (*miri*), *evkaf* (pious foundations), communal, and private. Certain forests were set in reserve for commercial, naval, and other state use, and customary rights were enumerated in others. The rights and privileges allowed in Ottoman forests, however, were generally much more extensive than in France. Under certain conditions, the regulation allowed communities to exploit their local

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174 *Orman Nizamnamesi* (1870), Articles 1, 19-20, 27. Printed in Bekir Koç, “1870 Orman Nizamnamesi’nin Osmanlı Ormancılığına Katkıları Üzerine Bazı Notlar,” *Ankara Üniversitesi Dil ve Tarih-Coğrafya Fakültesi Tarih Bölümü Tarih Araştırmaları Dergisi* 24.37 (2005): 251, 253-254. See also J. V. Thirgood, *Cyprus: a Chronicle of Its Forests, Land, and People* (Vancouver: University of British Columbia Press, 1987), 85. The administration of *evkaf* forests posed a particular challenge for the Ottoman state as the religious establishment fought state control, which it considered secularization. However, through an addendum to the forest law passed in 1876, the forests of pious foundations were brought under the same administration and regulations as other types of forests (Dursun 2007, 265-269).
woodlands for timber for municipal construction projects, to burn charcoal, to graze livestock, and to gather firewood, deadwood, and other forest products.\textsuperscript{176}

One of the principal goals of the 1870 legislation was to discourage the use of forests as pasture.\textsuperscript{177} Prior to its passage, this practice was widespread and largely unregulated.\textsuperscript{178} In general, grazing had been restricted only in certain forests destined for imperial or naval use, though in theory all state forests were protected.\textsuperscript{179} The 1870 document continued to allow grazing in woodlands, but it placed a number of restrictions on the practice. Indeed, five of the document’s fifty-two articles dealt with grazing regulations, and five others enumerated penalties for infractions.\textsuperscript{180} Like the French code, it limited the number of beasts admitted as well as the permitted locations, and it required the registration and taxation of herd owners.\textsuperscript{181}

The 1870 \textit{Orman Nizamnamesi} remained the basis of Ottoman forest legislation and the administration of pastoralism well into the twentieth century.\textsuperscript{182} In subsequent years, the administration supplemented this document with number of amendments designed to clarify or modify certain clauses, and set up a special commission headed by Yusuf Ziya Pasha, the general director of forests from 1873-1874, to investigate further improvements. In the years 1871-1876

\begin{thebibliography}

\bibitem{176} \textit{Orman Nizamnamesi} (1870), Art. 5. Printed in Koç 2005, 251. See also Dursun 2007, 216-217; and Sarah Elizabeth Harris, \textit{Colonial Forestry and Environmental History: British Policies in Cyprus, 1878—1960} (PhD Diss., University of Texas – Austin, 2007), 181-182.


\bibitem{178} See Chapters One, Three and Four.

\bibitem{179} Koç 2005, 244.

\bibitem{180} For usage regulations, see \textit{Orman Nizamnamesi} (1870), Articles 5, 13, 14, 15 & 16. For penalties, including fines and confiscation of animals, see Ibid., 30, 43, 44, 45 & 50. Printed in Koç 2005, 251-257. See also Koç 2005, 245.

\bibitem{181} Ibid. For the law’s limitations on grazing access, see also Dursun 2007, 282.

\bibitem{182} A new, more extensive forest law replaced it in 1917, though the later was based on this precedent. See \textit{T. C. Orman Genel Müdürlüğü} (OGM), Web: \url{http://www2.ogm.gov.tr/} (accessed 16 April 2013).

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alone, the commission added six additional regulations to the legislation of 1870.\textsuperscript{183} In 1876, the government published instructions reorganizing the Ottoman forest administration into a complex, hierarchical bureaucracy.\textsuperscript{184} For the first time, forest inspectors and guards were assigned to provincial posts throughout the empire. They represented a first step in bringing environmental exploitation in far-flung regions under state supervision and control. Finally, the forest directorate was transferred from the Council of Public Works to the Ministry of Finance, a move that reflected the Ottoman state’s continued focus on the commercial potential of its forests, rather than on conservation.\textsuperscript{185} Back in France, observers cheered the proliferation of Ottoman forest legislation, claiming that it would “offer a solid basis for agents’ operations and commercial transactions from now on.”\textsuperscript{186}

In reality, however, these measures proved far from sufficient for the effective implementation of forest management.\textsuperscript{187} The legislation of the 1870s failed to change traditional practices in part because of its relatively tolerant stance. In contrast to the French forest code, Ottoman legislation chose to regulate and restrict customary rights, rather than banning them completely. Equally problematic was the forest service’s continued lack of sufficient personnel, which prevented even these mild restrictions from being enforced. The ordinance of 1876 divided the entire empire among just four head forest inspectors. A single one of these inspectors was expected to survey and oversee the provinces of Aydın, Konya, Adana, Syria, as well as the Aegean

\textsuperscript{183} Dursun 2007, 217.
\textsuperscript{184} “Bi’l-Cümle Orman Memurlarının Suret-i Tertib ve Veza’ifine Da’ir 51 Maddelik Talimat,” Düstûr 2. Tertib, Vol. IV (7 Mart 1292/19 March 1876); Takvim-i Vakayi, no. 1843, 14 L 1293/2 November 1876. Cited in Dursun 2007, 205.
\textsuperscript{185} Dursun dates this move to 1876 (Dursun 2007, 205), but an official document from 1886 suggests that the move of the Forest and Mine Administration to the Ministry of Finance occurred then. See BOA Y.A. Res. NO: 36/14 (1886). Printed in Osmanlı Ormancılığı ile İlişki Belgeler, III: 41.
\textsuperscript{186} Adolphe Bricogne, “La Mission Forestière en Turquie,” Revue des Eaux et Forêts 9 (1870), 224.
\textsuperscript{187} For a broader discussion of the achievements and limitations of the 1870 regulation, see Koç 2005, 231-257; and Dursun 2007, 217-218.
Islands. Even with a staff of sub-inspectors, guards and day laborers assisting him, this was a daunting task. When the century reached its final decade, there were just 60 officials in the forest service assigned to the entire province of Konya, 46 in Adana, and a mere 17 in Syria. In addition, in a weakness common to Tanzimat reforms, the forest service was still forced to operate under a meager budget, which crippled its every effort to expand its operations, authority, and influence.

These problems quickly became glaringly apparent. Members of the French mission were, as a rule, hesitant to criticize Ottoman forest administration. As one agent delicately explained, “Our scruples restrain us from judging that of which we are a part.” Yet, although French observers publicly praised the 1870 regulation, they also condemned its limitations in private. Citing the rights and privileges it gave local communities, they worried that its implementation might actually expedite deforestation. Turkish foresters also joined the assault. Looking back from the early twentieth century, the forest inspector Ali Riza commented that the law lacked the elements necessary for “good protection and orderly administration.” The pitfalls of its legislation and the limitations of its administration would plague Ottoman forestry for the duration of the century.

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189 Y. PRK. OMZ. 1/33 (29 B 1308/10 March 1891); Tevfik Güran, ed., Osmanlı Devleti’nin İlk İstatistik Yılığı 1897 [First Statistical Yearbook of the Ottoman Empire], Historical Statistics Series, Vol. 5 (Ankara: Devlet İstatistik Enstitüsü, 1997), 181. Cited in Dursun 2007, 207. By this time, the French forest service in Algeria, which many also considered to be woefully understaffed, included six forest officers and three hundred fifty-five forest guards in the province of Constantine alone (ANOM ALG/GGA/P5).
190 Dursun 2007, 204. The forest regime’s budget increased considerably in the 1870s, but it remained much lower than the sum its directors claimed necessary.
191 “Nous sommes retenus par le scrupule de nous poser en juges, dans une question ou nous sommes parties.” De Montrichard, “Une Excursion en Asie Mineure,” Revue des Eaux et Forêts 12 (1873), 85.
192 De Montrichard, “L’Île de Chypre,” Revue des Eaux et Forêts 13 (1874), 39. Cited in Harris, 183. Article 5 was the subject of particular criticism, and three of the six modifications to the 1870 legislation in the years 1871-1876 dealt specifically with this clause (Dursun 2007, 217).
Yet, the shortcomings of the Ottoman forest regime did not prevent it from exercising a subtle but significant effect on the mobile pastoralists of southwestern Anatolia. As in metropolitan France and French colonial Algeria, scientific forest management in the Ottoman Empire gained assistance from the new tools of the modern state, which helped to counterbalance legislative and administrative weaknesses. The passage of the Land Code of 1858, despite its negative impact on forests, had already given the forest regime a significant advantage in dealing with pastoral tribes. The influx of refugees, which had gained steam following the Crimean War, only increased in the 1870s in the wake of the Russo-Turkish War of 1877 and unrest in the Balkans. In addition, 1865, the year of Tassy’s reappointment to the Ottoman Council of Public Works, witnessed the creation of the Fırka-i İslahiye, the largest military operation in the Ottoman settlement campaign. In the period 1865-1869, this impressive putsch led to the submission and sedentarization of tribes throughout the empire. Its impact on the province of Adana was particularly profound. Together, these factors progressively marginalized the empire’s nomadic population. In the face of such pressures, many chose to settle, and those who remained mobile lost the power to evade and resist administration.

The weak, impoverished bands of nomadic pastoralists that foresters encountered in rural Anatolia the late nineteenth century were hardly a force to be reckoned with. Thus, in the

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194 See Chapter Four.
Ottoman context, scientific forestry merely helped to justify and to expedite the transformation of Mediterranean pastoralism. By casting mobile pastoralism as a destructive and inefficient use of land, the French forest mission supplied Western validation for the settlement campaigns that the Ottoman state had been attempting for hundreds of years. In addition, the forest administration provided additional pressure for nomads to adopt a sedentary lifestyle. By banning these pastoralists from the woodlands that lay along migration routes, it criminalized the act of transhumance.

Because it was so poorly enforced, Ottoman forest administration ultimately had little practical impact on the sedentarization of nomadic tribes. Fortunately for the Ottoman state, a combination of other concurrent factors performed that task much more swiftly and effectively. Yet, beyond its physical, legal threat of punishment, the law provided justification for the sedentarization process, particularly from the perspective of powerful Western critics. Thus, even if it failed to intimidate Anatolian nomads, Ottoman environmental legislation succeeded in gaining the Sublime Porte the approval necessary for its brutal sedentarization campaign.

**MEDITERRANEAN FORESTS AND PASTORALISTS AT THE TURN OF THE TWENTIETH CENTURY**

*New Perspectives on Pastoralism in Provence*

In the early twentieth century, the French forest service stepped back to reevaluate its mountain restoration project. It had been forced to temper its goals considerably. The project originally had aimed to extend France’s forest cover by 1.2 million hectares. By 1925, however, it had
reforested little more than one tenth of that amount. Still, it had succeeded in turning the tide of deforestation; forests were advancing slowly but steadily across France. The program’s persecution of pastoralism had also seen results. In Provence, the mountain reforestation project and, more broadly, the French forest administration, had largely eliminated pastoralism from woodlands as well as from many other parts of the Mediterranean landscape.

Even in view of its modest achievements, some members of the French intellectual elite suggested that the project may have gone too far. To them, the hysteria that had driven the campaign for mountain reforestation looked very different with the benefit of hindsight. Although many continued to express fears of unchecked deforestation, environmental catastrophes, and the demise of civilization, a few scientists and even foresters began to challenge the narrative of Mediterranean environmental decline. Together, they wondered aloud whether France had actually been as deforested as they had been taught to believe.

Similarly, select observers began to question the culpability of local inhabitants in environmental decline. Watching the toll that mountain reforestation had taken on the alpine population and economy, a small but influential faction of foresters expressed new-found sympathy and support for pastoralists. This perspective owed much to the mid-nineteenth-century forester-sociologist Frédéric Le Play, one of the first and only nineteenth century French foresters to study the relationship between forests and their social milieu. The forest conservator Felix Briot adopts

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198 Larrère and Nougarede, 89. Ultimately, the 1882 law proved much more effective than the law of 1860. Ten years into the mountain reforestation project, in 1870, only 20,000 hectares had been reforested. By 1925, this figure had increased to 178,000 hectares.
200 See Kalaora 1986; and Frédéric Le Play, Des forêts considérées dans leur rapport avec la constitution physique du globe et l’économie des sociétés (undated manuscript placed in the Bibliothèque de l’Institut catholique, Paris).
this perspective in *Les Alpes françaises*, a critical study of forest administration and the Alpine economy, published in 1896. In his text, Briot maintains that his own firsthand experience contradicts prevailing narratives:

> After having compared the successive states of our Alps over the period of 30 years, visiting foreign Alpes, and examining more closely all parts of the chain, I am persuaded that the predominant ideas regarding the abuses of exploitation committed by the population were certainly exaggerated.\(^{201}\)

Briot elaborates on this theme throughout his work. In stark contrast to other forest agents of the time, he paints mountain peoples as “in reality so wise, so intelligent and diligent.”\(^{202}\) He advocates working with them to recreate the agro-sylvo-pastoral society that, for much of the previous century, his colleagues were trying so hard to destroy.

The geographer Lucien-Albert Fabre went even further in his support for pastoralists. His work, though little known, includes over 76 volumes devoted to mountain economy, rural life, and botany.\(^{203}\) A few titles suggest his perspective: *La fuite des populations pastorales françaises* (*The Flight of French Pastoral Populations*), *L’exode du montagnard et la transhumance du mouton en France* (*The Exodus of the Mountain Dweller and Sheep Transhumance in France*), and *Les territoires sylvo-pastoraux du département de la Côte-d’Or* (*The Sylvo-Pastoral Lands of the Côte-d’Or Department*). Fabre became one of the most ardent proponents of a sylvo-pastoral economy, as well as one of the greatest critics of reforestation efforts that disregarded local populations. “We spend more than three million per year to bandage the earth’s wounds without ever attacking the harm at its source,” he wrote, referring to the desperate economic state

\(^{201}\) “Après avoir comparé les états successifs de nos Alpes a trente ans d’intervalle, visité les Alpes étrangères, et examiné plus attentivement toutes les parties de la chaine, je me suis persuadé que les idées régnantes sur les abus de jouissance commis par la population sont certainement exagérées.” Briot, iv.

\(^{202}\) “Ces populations, en réalité si sages, si intelligentes et laborieuses” (Ibid., vi).

\(^{203}\) Puyo, 627. See also CARAN F\(^{10}\)1855: Fabre (Lucien-Albert).
of mountain peoples. Fabre’s perspective presented difficulties for his career as a forest agent, but it won him considerable distinction in the scientific community, and it helped spread interest in a more humanistic approach to forest science. A handful of other foresters, geographers, and scholars joined Briot and Fabre in reassessing the environmental impact of pastoralism in Provence. These forester-sociologists formulated the ideal of a practical, harmonious agro-sylvo-pastoral economy. They challenged the prevailing perception of mobile pastoralism as a devastating force, and they introduced the suggestion that it might be, on the contrary, the most economically viable and environmentally sustainable use of certain Mediterranean ecosystems.

A similar reconceptualization of mobile pastoralism infiltrated the popular literature of Provence during this period. No sooner had shepherds and sheep retreated from the realm of common daily experience, than they began to reappear in romanticized form in the works of Frédéric Mistral, whose famous poem Mirèio was discussed in Chapter One. Other prominent Provençal authors and poets of the mid-nineteenth to mid-twentieth centuries, including Alphonse Daudet, Marie Mauron, Émile Zola, and Jean Giono, took up their pen in support and celebration of this tradition. These writers recast pastoralists as gentle, noble, solitary, and wise, praising their innocence and simplicity of life. Their characterizations often echoed the narrative of the Noble Savage that had influenced European colonial perceptions over a century earlier. They drew inspiration from Biblical pastoral imagery as well, but they applied this timeless narrative to a specific time, place, and cause. In other ways as well, their works depicted a bygone, idealized provincial society predating the imposition of modern institutions and the central state. By

205 Puyo, 628. Indeed, Puyo suggests that Fabre’s outspoken views may have prevented him from ever attaining the title of conservator. He served in the forest service until 1913 and retired as an inspector. CARAN F 1855.
206 Among the more famous were Buffault, Auguste Calvet, and Emile Trutat (Puyo, 627).
treating shepherds as Noble Savages and by protesting Provence’s incorporation into the central state, these literary figures implied that the internal colonization of Provence was complete.

**Fin-de-Siècle Algerian Society and the Forest Code of 1903**

In Algeria too, the fin de siècle brought new environmental and political perspectives to the fore. The debate over mountain reforestation had arrived against the backdrop of the settler colony era, when colonial rights triumphed at the expense of the indigenous population and the environment. In the final decades of the nineteenth century, the majority opinion still cast Mediterranean pastoralism as “the worst enemy of [Algeria’s] forests.” Yet, both the forest administration and the settler colony era came increasingly under fire. In Algeria as well as in the metropole, many began to believe that the French colonial mission had taken a grievous wrong turn, and they worked actively to put it back on track.

Legislators and foresters alike had expressed concern over the fate of indigenous groups, at least on paper, throughout the colonial era, but colonization had always trumped the indigenous cause. Officials were often hard pressed to resolve conflicts between native inhabitants and settlers. As the commander general of Setif, a town in northern Constantine Province, put it in a letter to the regional forest inspector in 1895, the challenge was to “safeguard native rights without compromising the interests of the state and the future of its forests.” Even for a true indigenophile, this was no easy task. In the late nineteenth century, however, local resistance to the politics of the settler colony era gained a few influential allies.

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208 ANOM ALG/GGA/P6, “Reconnaissance définitive et délimitation des forêts de l’Inspection de Sétif [Constantine]” (1895).
First, Algerians began to feel the impact of the revisionist perspectives on pastoralism sweeping the higher echelons of the forest administration and scientific circles in France. Louis Trabut, a respected botanist, professor of natural history, and doctor practicing in Algiers, was one of the earliest scientists to challenge prevailing views on native pastoralism in the colonial Maghreb. In 1891, he and Auguste Mathieu, the French forest conservator of Oran, conducted an official investigation of that province’s Hauts-Plateaux. Their report painted the region as a model “pastoral steppe” unsuitable for agriculture or other industries. They countered common characterizations of native tribes as ignorant, noting, “Native pastoralists don’t have any of the science one learns in school, but, living in daily contact with nature, they benefit from personal observations and tradition.” The authors even suggested that natives could make better use of this environment than European settlers. Finally, they agreed that the region had suffered from environmental decline, but they blamed colonists more than natives.

Support for indigenophiles also issued from the central government in France. In the spring of 1892, a commission headed by Jules Ferry, former French prime minister, arrived to investigate accounts of colonial exploitation of the environment and the native population. Ferry’s report presented a harsh critique of the colonial government and forest administration. He branded the government’s approach to indigenous affairs a “policy of oppression,” and he called for more

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210 Trabut & Mathieu, 40.
211 “Les pasteurs indigènes n’ont point la science qui s’acquiert dans les écoles, mais, vivant en contact journalier avec la nature, ils profitent d’observations personnelles ou traditionnelles.” Ibid., 2.
212 Ibid., 42.
213 Ibid., 86.
enlightened administration and oversight. “The interests of indigenous people,” he wrote, “must to no degree be abandoned to the European element.” As a result of this investigation, the governor-general was forced to resign, and the settler-friendly Warnier Law was finally suspended after a reign of 20 years. Needless to say, the prescriptions of the metropole only sharpened the lines of debate on the future of the colony. Paulin Trolard fired back with a forecast that the Senate’s initiatives would ultimately doom Algeria’s native population, claiming “With your own hands, senators, you will have dug their grave.”

As if to prove Trolard right, the colonial lobby obstinately blocked every effort by the new governor-general to change the status quo, and the years following the Jules Ferry Commission consequently witnessed little improvement in the state of indigenous affairs. But if Ferry’s efforts to reform colonial politics ultimately fell flat, his commission did succeed in gaining serious political consideration for the subject of Algerian forest legislation. In his report, Ferry had argued strongly in favor of an independent Algerian forest code that would take into account Algeria’s distinct environmental and social characteristics. Ferry was particularly concerned about the regulation of forest grazing, which he maintained was “for the forest dweller, one of the necessities of life.” He and the other members of the 1892 senatorial commission agreed that neither the French Forest Code of 1827 nor the law of 1885 was appropriate for the Algerian case. In the fall of 1892, they created a committee within the colonial administration to develop a

216 “Il ne fallait abandonner a aucun degré à l’élément européen les interets du peuple indigène.” Quoted in Ageron 1968, I: 454.
217 Davis 2007, 99, 118. For my discussion of the Warnier Law, see Chapter Four.
218 For the French forest administration’s opposition to the commission’s findings, see “Les forêts algériennes. Réponse au rapport de M. Jules Ferry,” Revue des Eaux et Forêts 31 (1892).
219 Paulin Trolard, La question forestière algérienne devant le Senat (Alger, 1893), 57. Quoted in Ford, 358.
new forest bill specific to Algeria.\textsuperscript{222} This development was greeted with enthusiasm by various sectors of Algeria’s European population, but each had distinct notions of what such a law would entail.

The idea of creating an Algerian forest code had been voiced at various times since the beginning of the colonial era, but it had never been pursued.\textsuperscript{223} In the 1870s, however, a number of developments had served to place this subject in the public eye and to rally support among the colonial population. The 1871 Revolt was instrumental in this process.\textsuperscript{224} The ensuing rash of forest fires had been particularly devastating for cork concessionaires. Convinced of the culpability of ‘malevolent’ indigenous tribes, they reproached the forest administration for failing to take punitive action. Many officials agreed. A report published in 1874 cited the vast cost and extent of the damages as evidence of the urgent need for an Algerian forest code. Repeating a common complaint, it argued, “The forest code […] was not written for Algerian forests. A special law is necessary.”\textsuperscript{225}

Interest in an independent forest regime gained speed following Louis Tassy’s investigation of the Algerian forest administration. Even before completing his report in 1872, Tassy had won renown through his work for the Ottomans and his publications on forestry and mountain

\textsuperscript{222} Ageron 1968, I: 460.
\textsuperscript{223} In my archival research, I discovered discussions of creating an Algerian forest code as early as 1842, though it is likely that this subject was raised in 1838, when the Algerian Forest Service was created, or even earlier. See ANOM ALG/GGA/P1, “Règlements forestiers Algériens & de la promulgation du code forestier.” See also other documents in this file for debate on this subject throughout the nineteenth century.
\textsuperscript{224} See Chapter Four.
\textsuperscript{225} “le code forestier, bien que la jurisprudence de la cour de cessation le déclare applicable à l’Algérie, n’a pas été écrit pour les forêts algériennes. Il faut une loi spéciale.”\textsuperscript{225} Rapport fait au nom de la commission par M. Ernest Picard, le 8 juillet 1874. Printed in Estoublon and Lefèbure, 434.
Although he did not recommend the detachment of the Algerian forest service from French supervision, the European settlers cited the problems he described as support for this cause. Following the publication and public distribution of his report in 1882, Tassy’s name was used freely to endorse the liberation of the Algerian forest regime along with a wide range of other perspectives. Indeed, by 1885, the governor-general of Algeria was using the report, which he characterized as an example of “declarations made by very competent men,” to support his claim that the forest service was jealously guarding non-forested land that should be opened up to colonial exploitation.

Throughout the late nineteenth century, settlers and colonized alike vigorously protested the application of the French Forest Code, calling for independent forest legislation. Yet the nature of their complaints varied significantly. Colonists tended to maintain that the code was not harsh enough toward natives, though they also occasionally complained that it restricted their use of land necessary for cultivation and exploitation in general. Indigenous groups, and those who claimed to speak for them, such as the Bureaux Arabes, argued that the strict application of the code cut them off from lands they had used and depended on for generations, thus condemning them to a miserable existence. In both of these perspectives, the land and its forests in particular occupied center stage. Both sides expressed strong convictions about the environment, its history, and its relationship to human agents.

By the late nineteenth century, most French Algerians agreed that no number of amendments or modifications to the 1827 French Forest Code were sufficient to adapt it to the Algerian case, but

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226 Tassy 1882.
227 ANOM ALG/GGA/P8, Gouverneur Général de l’Algérie, “Minute de la lettre écrite” (27 avril 1889).
they disagreed over the form that an independent code should take. Many French settlers and colonial administrators supported the perspective of the Ligue du Reboisement, which argued strongly in favor of a code that would impose strict forest regulations, especially with respect to pastoralism and other indigenous practices. By contrast, others, including numerous officials from metropolitan France, began to promote the relaxation of forest laws and greater latitude toward native traditions.

After a tedious process of development and review, Algeria finally received an independent forest code in 1903. Public opinion of the code was generally favorable. For French settlers and Pieds-noirs, it represented a powerful symbol of freedom from the French central government. Internationally, forest experts judged the code to be well-suited to its environment, while maintaining an exemplary balance between conservation and commercial exploitation. The American forester Theodore Woolsey was so impressed with the code that he took the trouble to translate it into English so that it could be appreciated by a wider audience.

The Algerian Forest Code maintained the ethic of its French model, tailoring it to the Algerian case. Superficially, the code seemed to recognize and accept the practice of indigenous pastoralism. It tempered some of the previous legislation’s provisions to account for local circumstances. It reauthorized grazing in woodlands, a practice that had persisted throughout the colonial era despite being banned by the French Forest Code of 1827, and it referred specifically to Algeria’s range of livestock: cattle, camels, sheep, and goats. Yet the overall impact of the

228 See for example Estoublon and Lefébure.
229 Woolsey included an English translation of the code in his study of French forestry. See Woolsey, 161-208.
230 The Algerian Forest Code of 1903, Section VI, Articles 53 & 63.
new code on nomadic pastoralists was resoundingly negative.\textsuperscript{231} Its conditions for grazing were even more elaborate than in France. The right of pasture could be granted only where both the civil administration and the forest service agreed that it was “an absolute necessity to the inhabitants” and then only in certain designated cantons.\textsuperscript{232} In addition, the passage of the law stripped pastoralists definitively of free access to communal pasture.\textsuperscript{233} Instead, sheep and goat grazing were banned from communal woods, and shepherds were compelled to rent their pastures.\textsuperscript{234} The law also targeted native Algerians by maintaining the state’s right to expropriation for the “public utility.”\textsuperscript{235} It imposed penalties, including fines, imprisonment and forced labor, for illegal grazing as well as for the broadly defined crime of ‘deforestation’, which could be committed through “excessive exploitation.”\textsuperscript{236} Through such measures, the law presented new challenges for Algeria’s native pastoral population.

The situation of native Algerians in the early twentieth century made the new legislation’s impact all the more dramatic. By this time, many indigenous pastoralists had already lost their land, their livestock, and their livelihood. In the final decade of the nineteenth century, the Algerian-owned sheep population had fallen by 25 percent.\textsuperscript{237} In 1911, the number of sheep owned by native Algerians was half of what it had been in 1870, while the population of European-owned sheep doubled in the same period.\textsuperscript{238} Moreover, indigenous pastoralists had all but disappeared from the more fertile regions of Algeria. Through forest and property legislation

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\textsuperscript{231} In Resurrecting the Granary of Rome, Diana Davis describes the law as “notably harsh on pastoralists” (Davis 2007, 120).
\textsuperscript{232} The Algerian Forest Code of 1903, Articles 63 & 66.
\textsuperscript{233} Ibid., Articles 60-63.
\textsuperscript{234} Ibid., Art. 53, 89 & 91.
\textsuperscript{235} Ibid., Art. 76, 106-108.
\textsuperscript{236} Ibid., Art. 104, 177 & 187.
\textsuperscript{237} Ageron 1968, I: 563.
\end{flushleft}
as well as the persistent efforts of the colonial population, they were relegated to the sparsely vegetated Hauts-Plateaux, the Atlas, and the Sahara. This shift was, paradoxically, due in part to the very efforts of sympathetic scientists to promote an indigenous agro-sylvo-pastoral economy. Although Trabut, Mathieu, and other scholars mimicked their colleagues in France by challenging mainstream anti-pastoral narratives, their work had a considerably different effect on colonial Algeria. It inspired a new approach to the problem of mobile pastoral tribes. In the late nineteenth and early twentieth century, a growing body of scholars, scientists, and colonial officials promoted the Hauts-Plateaux as a haven for pastoralism. From an administrative perspective, this region seemed to promise an outlet for population pressure, indigenous unrest, and environmental stress. Accordingly, the government began systematically relocating indigenous groups from across Algeria to these dry, sparsely vegetated plateaus.

As early as 1906, one critic recognized the potential of the Algerian Forest Code to “impede the movements of the natives.” Indeed, the law had sought successfully to relegate indigenous pastoral groups to places where the forest administration believed that they would do the least environmental harm. The close of the nineteenth century thus marked the definitive retreat of pastoralism from the fertile Tell. Looking back on this transformation, a Bedouin poet later wrote, “From our spacious tents, we have made miserable huts; from our immense herds, we now have a few beasts.” In this way, Algerian nomads, it seems, had finally been ‘civilized’.

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239 See for example Lehuraux 1931.
240 Boukhobza, 157-160.
242 Boukhobza, 145.
243 “De nos tentes spacieuses nous avons fait de misérables huttes, de nos immenses troupeaux nous avons fait quelques bêtes, ou vas-tu toi qui te déplaces, et pourquoi restes-tu, si tu veux te fixer?” Quoted in R. Montagne, La civilisation du désert (Paris, 1947), 47.
This resettlement process had environmental consequences as well. Unlike the fertile Tell region, the Hauts-Plateaux host only meager grasslands, and water sources are scarce.\textsuperscript{244} Pastoralism in this region requires more space and effort, and it yields less profit. The herds of the Hauts-Plateaux require nearly four times as much pastureland as those of the Tell.\textsuperscript{245} Crowded onto less-productive terrain and denied the possibility of transhumance, native pastoralists quickly depleted the ecological potential of their new home.\textsuperscript{246} One scholar has summarized this story by remarking, “The degradation of the best pastures by the expansion of agriculture led to a greater overexploitation of the poorest pastures.”\textsuperscript{247} In this way, the myth of pastoral environmental destruction became a self-fulfilling prophecy.

\textbf{The Legacy of the French Forest Mission in Anatolia}

As in Algeria, the lives of pastoral tribes in southwestern Anatolia changed dramatically during the second half of the nineteenth century. Their fate also diverged from that of mobile pastoralists in Provence, Algeria, and other parts of the Mediterranean. By the 1880s, a combination of factors had achieved the effect of greatly reducing the number, status, and independence of nomadic tribes. The role of environmental administration, though not insignificant, was less prominent in this transformation than property legislation, sedentarization campaigns, the arrival of refugees, and other changes associated with the modern Ottoman state. Ironically, it was in Anatolia, where forest legislation exercised much less of a direct effect on pastoral groups than in Provence or Algeria, that the marginalization and sedentarization of Mediterranean mobile pastoralists probably enjoyed the greatest success.

\textsuperscript{244} See Chapter One.
\textsuperscript{245} Boukhobza, 43.
\textsuperscript{246} Ibid., 143, 146. Likewise, Woolsey implied that forest grazing along the coast was tolerated because sufficient rainfall allowed the forests to recover, but he feared that the High Plateau and the rest of Algeria were most at risk of deforestation due to grazing because of less rainfall (Woolsey, 88).
\textsuperscript{247} Boukhobza, 299.
In the nineteenth century, Ottoman policy toward nomads changed swiftly as the government bureaucracy developed the means and the justification to extend control over its mobile population. Thus, in the late 1850s, the Ottoman administration abruptly dropped its conciliatory tone toward nomads and stepped up sedentarization efforts.\textsuperscript{248} In the second half of the nineteenth century, tribes throughout Anatolia were settled through a combination of voluntary submission, coercion, and occasional violent confrontations.\textsuperscript{249} As many as 20,000 nomads throughout the empire died in the settlement campaigns of 1868-1890.\textsuperscript{250} Tribes seen as dangerous or politically threatening were prime candidates for sedentarization, as were those who ranged on or near trade routes, areas affected by agricultural expansion, or valued resources such as forests.\textsuperscript{251}

Many members of the tribal population who had not been settled by force chose to settle voluntarily for economic reasons or government incentives.\textsuperscript{252} By the early twentieth century, tribes often included both mobile and sedentary members, and in many parts of Anatolia, the tradition of nomadism was well on its way to extinction. Nonetheless, much of Anatolia remained sparsely populated well into the twentieth century, and those who chose to maintain their mobile lifestyle gradually retreated into these peripheries. Even regions with a substantial or growing agricultural population, such as the sancak of Antalya, often continued to provide seasonal pasture for mobile pastoralists. In the late nineteenth century, even as improvements in transportation and communication, together with the expansion of agriculture and the arrival of

\textsuperscript{249} For a chronicle of the violent process of sedentarization in Adana, see Gould 1973.  
\textsuperscript{250} Gould 1973, 208-209. See also Kasaba 2009, 116. By way of comparison, Kemal Karpat has estimated the entire population of the Ottoman Empire in 1893 at 17,388,562 people. See Karpat 1978, 274.  
\textsuperscript{251} Köksal, 473.  
\textsuperscript{252} Ibid.
refugees, transformed the city of Antalya and its environs, multiple yörük tribes still inhabited the surrounding hills and mountains.\textsuperscript{253} They remained, though in much smaller numbers, three quarters of a century later, when anthropologists and human geographers arrived to record their daily habits and traditions.\textsuperscript{254} As these scholars recognized, their subjects were the last representatives of a way of life on the eve of extinction.

In the late nineteenth century, a number of forces reshaped Anatolian nomads’ relationship to their environment and assisted sedentarization efforts. The development of transportation contributed to rural population growth and agricultural expansion in rural Anatolia, and it exerted growing pressure on nomads and on forests.\textsuperscript{255} The camel’s reign of over a thousand years was challenged by the train.\textsuperscript{256} The construction of railroads required forest clearing and timber, and trees became locomotive fuel during coal shortages.\textsuperscript{257} The improvement of transportation led to increased security and administration of the countryside, which in turn fueled rural agricultural and industrial settlement.\textsuperscript{258} Communities that quickly appeared along railway lines also exploited the surrounding forests for local use or trade, and as security increased, they grew progressively less wary of settling in regions previously dominated by nomadic tribes.\textsuperscript{259} The


\textsuperscript{254} Xavier de Planhol, a French human geographer, was one of the earliest to study the yörük. He published \textit{De la Plaine Pamphylienne aux Lacs Pisidiens: Nomadisme et Vie Paysanne} in 1858. Even earlier, the celebrated French ethnographer Arnold van Gennep had studied folklore among the yörük. A number of studies appeared in the 1960s and 1970s. See for example the works of Jean-Paul Roux, John Kolars, Wolf-Dieter Hütteroth, Daniel Bates, and Douglas Johnson.

\textsuperscript{255} Hütteroth 1974, 24.

\textsuperscript{256} See Bulliet; Planhol 1958, 133; and Donald Quataert, \textit{The Ottoman Empire, 1700-1922} (New York: Cambridge University Press, 2000), 117-124.

\textsuperscript{257} Bates 1973, 10-11.

\textsuperscript{258} Hütteroth 1974, 22.

\textsuperscript{259} Planhol 1958, 125; Hütteroth 1974, 22.
decline in camel transport dealt a particularly significant blow to nomads who supplemented their income by raising camels for overland transportation and by leading caravans.

The railroad facilitated the exploitation of Anatolia’s resources. Transportation systems brought agricultural, commercial, and industrial enterprises to the remote countryside and the mountains. Advances in irrigation and technology allowed peasant farmers to extend the range of agriculture above and beyond the plains into areas previously frequented only by nomads. Likewise, mining operations expanded during this period, placing an additional strain on forest resources and on nomads. The proximity of forests was a major consideration in the location of mines, which required timber for mineshaft construction and charcoal for smelting.\textsuperscript{260} As mines burrowed ever deeper into the mountains of Anatolia, they began to appear along traditional migration routes and to draw from forests long used by nomads.

Likewise, irrigation and drainage efforts began to open the marshy coastal plains of southwestern Anatolia to increasing cultivation, while the mass production of cheap quinine reduced the threat of malaria. Land previously abandoned to pasture was requisitioned for agriculture. Indeed, these developments have made the region south of Adana, at the eastern edge of the Mediterranean, “one of the most productive and densely populated parts of Turkey,” according to one account.\textsuperscript{261} While cultivation increased, the practice of nomadism all but ceased.\textsuperscript{262}

\textsuperscript{260} Dursun 2007, 175.
\textsuperscript{261} Dewdney, 25.
\textsuperscript{262} Dewdney provides statistics for livestock husbandry in Turkey in 1965: 13 million cattle, 20 million goats, 33 million sheep (similar numbers of cattle and sheep to UK), 1.2 million horses, 2.2 million mules/donkeys, 45,000 camels; relatively low yields in Turkish livestock farming (vs UK), general increase in cattle and sheep, decline in goats (Dewdney, 107). For the expanse of agriculture at the expense of grazing land and its effects, see Dewdney, 118.
The forest administration, meanwhile, was still struggling to gain solid footing in the final years of the nineteenth century. By 1878, the French mission had served its term, and the remaining French foresters returned to France. For the duration of the century, the management of Anatolian forests fell into Ottoman hands.  

For the Ottoman state, this was a period of intense administrative problems. The empire suffered from environmental disasters (see Chapter Five), a severe economic crisis, a growing national debt, wars, rebellions, and nationalist unrest. The oppressive and paranoid sultan Abdülhamid II, who reigned from 1876 to 1909, met these and other challenges through callous repression and autocratic rule. Yet, even as he sought to tighten his grip, the administration of this vast and cosmopolitan empire slipped steadily out of his control, and the forest regime was no exception. Efforts to create stricter forest legislation seemed to lead only to more violations. Court records adjudicating forest abuses indicate that forest regulations were to some extent enforced, but also that they were often disregarded. Foresters were censured for mismanagement or outright corruption. As members of the Ottoman elite debated new initiatives, directions, and solutions for forest administration, the Empire’s forest cover declined steadily.

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263 Keskin, 141; Kutluk 1957, 185-186. In the late nineteenth century, German foresters began to exercise an influence on Turkish forestry. Germany’s role increased during the First World War, and German experts remained through the interwar era (Keskin, 141).

264 Scholars often describe the period 1873-1896 as a period of widespread depression. The Ottoman Public Debt administration, run by European creditors, was established in 1881.


266 See for example BOA ŞD. NO: 530/20 (1901), which reiterated penalties for illegal tree cutting in forests; and BOA ŞD. NO: 520/17 (1312/1894), regarding a case from Antalya. Printed in Osmanlı Ormancılığı ile İlgili Belgeler, III: 79, 83. Other late nineteenth-century documents in this volume regard the indictment of violators, suggesting better enforcement, and present a growing amount of legislation promoting the preservation and regrowth of forests.

267 Dursun 2007, 356-357. Most of the documents Dursun cites deal with illegal or inappropriate granting of land parcels by forest agents. On the unlawful granting of title deeds to forests and pastures, see also BOA ŞD. No. 528/5 (1317/1900). Printed in Osmanlı Ormancılığı ile İlgili Belgeler, II: 77-78.

In the twentieth century, Turkish forestry finally found its stride. The forest administration was revised extensively through sweeping legislation in 1917, 1920, and 1937. In 2011, the current Turkish Forest Law (law no. 6831) was nominated for the prestigious international policy award “Visionary Forest Policy.” Today, Turkey’s forests cover nearly 30 million hectares, equivalent to 27 percent of the country’s surface area. That figure is just four percent lower than France’s current forest cover. By contrast, only two percent of Algeria is forested. Antalya holds the most extensive old growth forests of any province of Turkey, at 1.1 million hectares (4,200 square miles). Adana’s forest cover, while less extensive, is impressive nonetheless. With approximately 900,000 hectares of high and coppice forests combined, it reflects that area’s agricultural role.

The Turkish forest administration never forgot its debt to France. Tassy’s influence on Ottoman forestry was particularly profound. Turkish scholarship still refers to the Ottoman forest institute established in 1857 as the “Tassy School.” In a late-nineteenth century tribute to his achievements, the general director of forests in France recalled how fondly Tassy’s Turkish colleague, the minister of public works, had remembered him. “You would have been proud like

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273 Ibid. This is, of course, largely due to the fact that the majority of the country’s surface area lies in the Sahara Desert.
274 T. C. Orman Genel Müdürlüğü, Forest Atlas, 8, 11.
275 Ibid.
me,” he declared, “to have heard with what expressions of respect and affection this foreigner, while retaining his oriental solemnity, displayed regret to have lost Monsieur Tassy.”

The forests of Anatolia suffered immense strain during the nineteenth century, though their greatest antagonists were not goats or nomads, but agriculture, industry, and the railroad. Late nineteenth-century European observers were correct to consider the nomadic treatment of forests they witnessed as destructive, but they were wrong to assume that such treatment was standard and entrenched. What they saw was the final attempt of a desperate, dwindling nomadic population to exploit the marginal lands remaining as pasture, not a long-term tradition. Although nomadism did not disappear entirely from Anatolia in the nineteenth century, it began an irreversible course of decline. The ultimate success of the Ottoman campaign against nomads owed much to European biases against pastoralism, which allowed Ottoman officials to cast sedentarization as environmental progress and a step toward modernity, despite its tragic effects on a major portion of its population.

CONCLUSION

In the mid-nineteenth century, French forest policy underwent significant transformations. Whereas early scientific foresters’ efforts were aimed at achieving sustainable exploitation, their successors pursued the more ambitious goal of environmental preservation. They strove to transform forests into constructed ‘natural’ spaces, to reserve the forest for the trees. Through these actions, they became true conservationists avant la lettre. Yet this new ethos developed

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278 Planhol 1958, 48.
alongside a largely antithetical concern among certain foresters for the impact of forest science on human communities and economies. Mediterranean pastoralists played an integral role in both of these developments. On one hand, those convinced of pastoralism’s environmental destruction pursued policies of protection, preservation, and reforestation with ever more enthusiasm, intensity, and success. On the other hand, the marginalization of pastoralists through these very measures led others to challenge prevailing narratives of their environmental impact and to advocate for their cause. The impact of these developments reached far beyond the borders of France, affecting administration, societies, economies, and environments throughout the Mediterranean world.

Throughout its Mediterranean application, French scientific forestry generated friction with local populations. Increased grazing restrictions combined with better enforcement made the logistics and preparations for seasonal migration more difficult and more complex. These circumstances forced mobile pastoralists in Provence, Algeria, and Anatolia to retreat to more marginal lands or settle as farmers. The tradition of mobile pastoralism had emerged in the Mediterranean region more than a millennium before largely because its land could not sustain constant, heavy grazing. Now these trends would pose new challenges for the Mediterranean environment, forcing both its ecology and its economy to adapt.

Even where reforestation was successful, French scientific forestry’s focus on this single goal led it to lose sight not only of its human constituents but of its environmental charges as well. Through their occupational zeal, foresters ultimately failed to see the forest for the trees, sacrificing much of the traditional diversity of Mediterranean woodlands for monoculture plantations of Aleppo pine, cork, eucalyptus, and other fashionable stands of invasive species.
Reforestation efforts quickly reversed the trend of deforestation, but at a significant cost. The new homogenized forest was less robust and more susceptible to insect invasions, climate change, and other environmental factors.\textsuperscript{279} The cultivation of alien species required constant maintenance, and in some cases, these interlopers actually promoted environmental disasters, rather than averting them. Artificially developed and no longer self-sufficient, Mediterranean woodlands became dependent on the foresters who sustained them.

\footnote{\textsuperscript{279} Lowood, 342; Radkau 2012, 108.}
CONCLUSION: SHEEP TO THE SLAUGHTER?
THE TRANSFORMATION OF MEDITERRANEAN PASTORALISM
IN THE NINETEENTH CENTURY

Give these Indians little farms, survey them, let them put fences around them, let them have their own horses, cows, sheep, things that they can call their own, and it will do away with tribal Indians.

- Gen. George R. Crook (1879)

A Mediterranean Story

Throughout these pages, I have endeavored to expose both connections and distinctions, trends of continuity and change, inherent in nineteenth-century encounters of mobile pastoral groups and foresters in Provence, northern Algeria, and southwestern Anatolia. I have consciously presented this history and the pastoralists engaged in it as ‘Mediterranean’. This label might seem presumptuous, given the substantial cultural, social, political, economic, and environmental distances separating my three case studies, not to mention the many places around the Mediterranean Sea that my study ignores. Nonetheless, I stand by my description. The term ‘Mediterranean’ may be overused, but it is not meaningless. This sea has long formed a very real, practical bond among the diverse peoples, states, and cultures inhabiting its coasts. It connects their economies through trade, and it brings related climatic systems to their shores. The Mediterranean environment continues to link surrounding cultures through similarities in diet, architecture, industry, economy, lifestyle, language, and more. In the past, these ties were even stronger. Moreover, the very variability of the Mediterranean world – its dramatic topography, diverse vegetation, vicissitudinous climate systems and rainfall patterns, multitude of states and societies – might itself be characterized as a common feature.

The intersection of mobile pastoralism and French scientific forestry in the nineteenth century added new dimensions to this Mediterranean connection. At the turn of the century, most of the inhabitants of these three places were active participants in local agro-sylvo-pastoral societies. Over the following decades, all witnessed the development and implementation of ‘scientific’ forestry as well as the propagation, evolution, and solidification of narratives condemning their traditional lifestyle. They responded to these challenges in similar ways: through petitions, infractions, protest, arson, vandalism, violence, and, ultimately, adaptation.

The foresters who led the campaign against mobile pastoralists in these three contexts also shared certain features. First and foremost, they were French, and they had graduated from a school that taught them to believe in the ideal of lush, dense woodlands and the evils of sheep and goats. Through the lens of such narratives, the environments and economies of the Mediterranean world appeared especially impoverished. In Provence, Algeria, and Anatolia, French foresters proudly took up arms in defense of this cause by promoting reforestation and anti-pastoral legislation. Though the success of their war on deforestation varied considerably, by the turn of the twentieth century, one of their main goals had come to pass. In all three places, pastoralism had lost its former value, and it no longer played a central role in society. Many pastoralists had given up their peripatetic ways, while those who clung to their mobility had retreated into the periphery. This longstanding bastion of the Mediterranean economy had finally broken down.
Yet this study is not simply a tale of two factions. Indeed, both pastoralists and foresters were players in a broader web of French governmentality. The nineteenth-century French government used forest administration to regulate people as well as forests, and it helped to bring France’s mobile populations in Provence and Algeria under the control of the state. Perhaps even more significantly, French scientific forestry provided a vehicle for the legitimization of state initiatives against mobile pastoral groups in the French Empire and in other applications of French forestry, including Ottoman Anatolia. Moreover, both foresters and states received considerable assistance from trends in industrialization and urbanization that spurred the transformation of Mediterranean pastoralism and the marginalization of mobile pastoral groups.

This story also has revealed important distinctions in the cases of Provence, Algeria, and Anatolia. Each context represents a unique complex of relations among local pastoralists, foresters, and the state. In geographical terms, French forest agents were closest to home in Provence, but even here local inhabitants often regarded them as foreigners, while foresters responded by disparaging native customs as primitive and environmentally destructive. Through legislation, rhetoric, enforcement, and reforestation, the forest regime played a crucial role in the gradual consolidation of French central authority and French nationality in Provence.

The French state used forest administration as a more explicit tool of empire across the sea in Algeria, where scientific forestry served both to subjugate native populations and to validate their subjugation. At the same time, French colonists took advantage of their distance from Paris to exercise greater influence over the colonial forest regime, manipulating it to serve their ends. Foresters, for their part, struggled to balance their understanding of the environment with this
powerful colonial lobby and with state demands. In contrast to Provence, where their perspective was typically representative of the central administration, forest agents in Algeria often found themselves at odds with both settlers and the state. They ultimately succeeded in driving native pastoralists from more fertile regions, only to watch the country’s forests disappear at the hands of cork farmers and other colonial entrepreneurs.

Anatolia represents a third model. Here, French imperialist interests were only vaguely defined. The French forestry mission allowed the French state to exercise a form of soft power over the Ottoman Empire as well as to increase its international reputation as a torchbearer of modern science. In practice, French foresters found themselves virtually powerless under the direction of the Ottoman government apparatus. In their view, their hosts lacked the interest, flexibility, and finances to successfully implement forest management reform. Yet, under their watch, mobile pastoralism retreated much more quickly in southwestern Anatolia than in any of its other Mediterranean contexts. French foresters could hardly take the credit for this change, which involved a convergence of factors as well as the sedentarization initiatives of the Ottoman state, but they could celebrate its results. Unfortunately for them, by the time the marginalization and sedentarization of Mediterranean pastoralists were nearly complete, at the turn of the twentieth century, it was already becoming obvious to many that this campaign had been, at least in environmental terms, a serious mistake.

**The Environmental Legacy of Nineteenth-Century French Scientific Administration**

In recent years, ecologists have begun to reassess the nature of environmental change in the Mediterranean region. Land degradation is difficult to measure, but many scientists argue that it is now developing at a much faster pace than ever before, and that the specter of desertification is
finally becoming a reality.\(^2\) In any case, it is clear that the Mediterranean environment is in flux, and that humans have a major hand in its ongoing changes. At the same time, scientists have developed new perspectives on the impact of sheep and goat grazing in Mediterranean ecosystems. Though they continue to recognize the potential of grazing to stimulate soil erosion and land degradation, most now agree that traditional pastoral systems were not a major factor in past environmental degradation.\(^3\) Moreover, many ecologists have argued convincingly for the essential role of grazing in the life-cycle of Mediterranean vegetation, which has co-adapted with sheep and goats.\(^4\) In general, scientists today recognize the value of grazing and controlled burns in limiting wildfires. As recent studies have shown, grazing exercises a pruning effect on vegetation that increases its nutritive value while limiting the extent of fire-prone biomass.\(^5\) In places where the current environmental impact of sheep and goats is significant, it is usually due not to grazing but to \textit{over}-grazing. In these regions, often of marginal or already degraded soils, the density and intensity of pastoral consumption exceeds the vegetation’s rate of regeneration.\(^6\) Notably, these are the very characteristics of the grazing regimes that nineteenth-century administrators created when they banished pastoralists to the Hauts-Plateaux in Algeria, crowded them onto the Crau in Provence, or forced them to settle in Anatolia. In these and other contexts, contemporary scientists, engineers, and officials are working to undo or mitigate the environmental damage of systems that their predecessors put into place over a century ago.

\(^2\) For a review of these arguments, see Thornes 2009, 563-566; Allen, 204; and \textit{Mediterranean Desertification: A Mosaic of Processes and Responses}, edited by N. A. Geeson, C. M Brandt, and J. B. Thornes (Chichester, UK: John Wiley & Sons, 2002).
\(^3\) Grove and Rackham; Davis 2007; \textit{The Physical Geography of the Mediterranean}; G. Enne et al., “Agro-pastoral Activities and Land Degradation in Mediterranean Areas: Case Study of Sardinia,” \textit{Mediterranean Desertification}, 71-81. For a different perspective, see Hughes 2005, 119.
\(^4\) Allen, 203; Wainwright, 173; Davis 2007, 184.
\(^5\) Enne et al., 75.
\(^6\) Ibid., 75.
Economists also have begun to develop new management strategies that take into account the inherent instability of ecosystems. Rather than viewing livestock populations in terms of a rigid carrying capacity, as they did in the past, contemporary scholars now view ecosystems as in a state of ‘non-equilibrium’, continually reshaped by human and natural disturbances.\(^7\) From this perspective, the relative adaptability of mobile pastoralism makes it a more appropriate and practical use of certain dynamic environments than unirrigated agriculture or other economic systems. Its environmental impact is also minor compared to that of sedentary pastoralism or agriculture.\(^8\) Likewise, common property regimes have proven more effective than private landownership in regions of limited annual precipitation or of high annual rainfall variability (CV), where the risk burden of environmental disturbances is too great for a single individual to bear.\(^9\) All of these factors have made mobile pastoralism particularly well-suited to the Mediterranean environment, especially before the increase in population density in the mid- to late nineteenth century.\(^10\) Thus, contemporary science has resurrected and redeemed many of the very practices that nineteenth-century French forest science fought so bitterly to destroy.

**Evolving Narratives of Mediterranean Pastoralism**

A number of ideological factors propelled the campaign against Mediterranean pastoralists through the nineteenth century. In the application of scientific forestry to Provence, Algeria, and Anatolia, French administrators were influenced by standards of environmental legislation set in other states, especially Prussia and other German principalities. The French forest mission to the

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\(^8\) Naimir-Fuller and Turner, 22-23.

\(^9\) Ibid., 33; Melissa Leach and Robert Mearns, “Environmental Change & Policy,” in *The Lie of the Land*, 12-13. See Introduction for my explanation of CV, the coefficient of annual rainfall variability.

\(^10\) Naimir-Fuller and Turner, 22; Horden and Purcell, Chapter III; Grove and Rackham; Davis 2007.
Ottoman Empire provided an ideal opportunity for France to maintain its international reputation as a Great Power and to secure economic and intellectual assets abroad. Likewise, growing concerns about deforestation throughout Europe spurred the French state to capitalize on the forest resources of continental France as well as its colonies. Even in the Ottoman Empire, a prime exporter of timber, French foresters were motivated in part by the prospect of provisioning. Throughout its Mediterranean application, French scientific forestry also embodied the interests of empire. It helped to extend French power and authority into new realms, and it facilitated the expansion of the French state in the lives and minds of its constituents. In Algeria, the process of dispossession and oppression of indigenous groups represented a deliberate effort by the colonial administration to bury native culture and society under a new French colonial state. Even at home in Provence, the imposition of national forest administration formed a type of internal coloniza

The institutions and individuals who promoted and carried out this mission were motivated not solely by self-interest, but also by the ideals of progress, civilization, and environmental preservation. Foresters, officials, and laymen firmly believed in narratives blaming pastoralists for Mediterranean deforestation and other forms of environmental destruction. They accepted these narratives in part because they stemmed from observable facts: forests were disappearing at a staggering pace and sheep and goats do exercise a visible environmental impact. Yet these narratives surfaced, spread, and solidified largely because they proved necessary in the achievement and validation of the imperial mission. The systematic subjugation and sedentarization of Mediterranean pastoralists confirms the power of the anti-pastoral narratives

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11 For other versions of this argument, see especially Alain Mahé, *Histoire de la Grande Kabylie, XIXe-XXe siècles* (Éditions Bouchene, 2001); Boukhobza; Ford; Julien; Cutler; Sivak; the works of Robert Ageron; and the works of Diana K. Davis.
that legitimized this process. As in other contexts of soft and hard imperialism, and other applications of French forestry around the Mediterranean, European environmental perceptions ultimately sealed the fate of mobile pastoralists in the nineteenth century. In all of these cases, this story involved much more than the simple imposition of imperialist values, science, and culture. It was a process of negotiation whose effects on French forestry and administration were equally profound.

**The Transformation of Mediterranean Pastoralism**

By the early twentieth century, mobile pastoral traditions had faded from many parts of the Mediterranean. In Provence, flocks of sheep had surrendered to orchards, vineyards, and forests of Aleppo Pine. For a handful of large-scale commercial farmers in the vicinity of Arles, the pastoral industry was thriving. Yet, many of them kept their livestock on the plain year-round, and nearly all of those who still engaged in transhumance now shipped their herds to summer pastures by train.12 In Algeria, most indigenous pastoralists had been relegated to the Sahara and the Hauts-Plateaux, where they lost not only their ancestral lands but also the option to migrate seasonally.13 Westerners who encountered them dismissed them as “malnourished and poorly dressed.”14 Meanwhile, European settlers, inspired by the success of Australian wool, arrived in increasing numbers to compete with them, sometimes occupying the very territories that native pastoralists had been forced to relinquish. Mobile pastoralism was also disappearing from the Eastern Mediterranean. In southwestern Anatolia, nomadic tribes had lost much of the freedom and fortune that had once made their lifestyle appealing. Required to rent pastures for little less

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12 Later, the use of trucks would replace trains.
13 Boukhobza, 8.
than their total profits, limited to ever more marginal lands and sinuous migration routes, and under increasing supervision by suspicious state officials, many nomads chose to settle. By many accounts, those who maintained their mobile habits had become, like their Algerian counterparts, a pitiful bunch indeed. “Roving over barren districts,” wrote an American observer of the yörük in 1905, “the members of this group are true half-starved human products bred in areas of defective food supply.” In the 1940s, Fernand Braudel also noted this change:

Today nomadism – which no longer exists around the Mediterranean in its residual state, it is true – consists of the knot of about ten people who might be seen round a fire at nightfall in one of the outer suburbs of Beirut; or at harvest time in Algeria, a few camels, sheep and donkeys, two or three horses, some women dressed in red, and a few black goat-skin tents amidst the stubble; or in the plain of Antalya, in Pamphyilia to the south of Taurus, about twenty tents, sometimes, but not often arranged in a horse shoe, the relic of a tradition which is slowly disappearing.

In all three cases, this transformation was due in part to legislative measures. In Provence, the forest regime gradually tightened its grip on communal grazing over the course of the nineteenth century. During the same period, changes in landed property rights restricted the extent of common land available, encouraging privatization and the rental of pastures. Together, these factors helped drive Provence’s age-old custom of forest grazing to the point of extinction by the turn of the twentieth century. Likewise, forest administration in late nineteenth-century Anatolia was also targeting the traditional practices of nomadic tribes, though with limited results. Meanwhile, the sedentarization campaigns of the 1860s and 1870s had succeeded in breaking down the regional autonomy of nomadic tribes and either compelling them to settle or forcing them toward the empire’s shrinking frontiers.

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15 Planhol 1958, 125.
18 See Chapter Four above.
Legislation exercised a particularly marked impact on nomadic pastoralists in Algeria, where it was relatively unencumbered by political resistance from these groups. Through the application of the French Forest Code of 1827 and its subsequent amendments, the Warnier Law of 1873, the Fire Law of 1874, and the Algerian Forest Code of 1903, indigenous rights and access to pastureland were slowly extinguished.\textsuperscript{19} During this period, Algeria’s sheep population remained relatively stable, but that was due largely to the entrance of European settlers into the market.\textsuperscript{20} Nonetheless, the broader picture still suggests the gradual decline of this industry. By 1960, Algeria’s total sheep population had fallen to five million, less than half of its size in 1885.\textsuperscript{21} Moreover, colonial pressures succeeded in transforming not only the lifestyle of mobile pastoralists but also native Algerians’ perceptions of it. By the early decades of the twentieth century, native Algerians viewed the profession of shepherd “as a social abasement […] exercised by the poorest members [‘\textit{les plus miserables}’] of the tribe.”\textsuperscript{22} Many native farmers expressed this sentiment by joining the Ligue du Reboisement.\textsuperscript{23}

Throughout this work, I have endeavored to show that the nineteenth-century transformation of pastoralism was not simply a tale of exploitation and expropriation, of the triumph of the state. As even Augustin Bernard and Napoléon LaCroix, two enthusiastic proponents of sedentarization, acknowledge in their 1906 study \textit{The Evolution of Nomadism in Algeria}

\textsuperscript{19} See Chapters Four, Five, and Six, respectively.
\textsuperscript{20} See Chapter Six.
\textsuperscript{21} Ryder, 249.
\textsuperscript{22} “La profession de berger, que les indigènes aises considèrent comme un abaissement social, est exercée généralement par les plus misérables de la tribu.” Study of M. Trouette, inspecteur du service de l’élevage. Quoted in Lehuraux, 227. See also Comite des Travaux Historiques et Scientifiques, \textit{Bulletin de la section des sciences économiques et sociales} (Paris: Imprimerie Nationale, 1931), 42, 51.
\textsuperscript{23} Lists of current members, including their full name and occupation, were printed in the \textit{Bulletin de la Ligue du Reboisement}. 435
(L’évolution du nomadisme en Algérie), “No more than the English Parliament can, as the proverb goes, change a man into a woman, a legislative measure cannot make a barbarian civilized, a nomad sedentary.”

Rather, this process also required the confluence of a number of other factors, including developments in transportation, technology, communication, population expansion, and the transformation of the global wool market, as well as the agency of Mediterranean pastoralists themselves.

Although the nineteenth century did not spell the end of Mediterranean pastoralism, it did represent a watershed in which mobile pastoralists struggled against increasing marginalization. By the turn of the twentieth century, the encounters and conflicts between forest agents and Mediterranean pastoralists had significantly affected the course of forest administration. In Provence, Algeria, and Anatolia, reforestation projects were slowed, aborted, or left on the drawing board. Faced with local resistance to forest legislation, many forest agents proved susceptible to bribery or compromise, while the more dedicated – or persistent – feared for their lives.

Despite the challenges of industrialization and urbanization, as well as the desires and best efforts of their detractors to remove them, mobile pastoralists have persevered all around the Mediterranean to the present day. In Algeria, tribes still range in the periphery, resisting administration and sedentarization. In southwestern Anatolia, I had the privilege to meet some of the region’s last remaining nomads, even if I did not appreciate it at the time. In Provence, the practice of transhumance by foot has actually regained appeal in recent years. Locals seem to

24 “pas plus que le Parlement d’Angleterre ne peut, dit un proverbe, changer un homme en femme, une mesure législative ne peut changer un barbare en civilisé, un nomade en sédentaire.” Bernard et LaCroix, i.

25 Prochaska, 229-230.
enjoy the sight of passing herds enough to tolerate the resulting traffic jams, and they value the meat of transhumant over stabled sheep.\textsuperscript{26} Today’s shepherds are often urban dwellers seeking a return to nature or captivated by the romanticized past of their trade.\textsuperscript{27} To this day, Provence continues to celebrate its past. Pastoral festivals are held seasonally along traditional migration routes, and the imagery of sheep and shepherds grace postcards, placards, art and sculptures throughout the region. Through these vestiges, Mediterranean pastoralism remains an immemorial tradition.

\textit{Conclusion}

Although I have used the cases of Provence, Algeria, and Anatolia to illustrate the role of environmental legislation in the nineteenth-century transformation of pastoralism, this tale is not unique. The fate of mobile pastoralists, Frenchmen, and forestry in the Mediterranean is representative of the political implications of ‘science’ and environmental policy around the world. It provides one example – and there are many – of the ways in which, throughout history, power relationships have been determined and contested on environmental terms.\textsuperscript{28} As General George Crook’s recipe for pacifying Indian tribes (quoted above) suggests, this theme is as representative of American history as it is of the Mediterranean region. It seems particularly

\textsuperscript{27} Tolley, 76.
pervasive in empires and colonial contexts, but it is much more universal. It is indicative of the pressures and challenges that nomads and other subaltern peoples around the world have faced in the past and continue to face today.

In past ages, rulers of empires boasted of their ability to conquer and destroy rival groups. This is no longer the case. Even in the nineteenth century, the French state seemed to need institutions and ideologies, such as those provided by scientific forestry, to rationalize its brutal, imperialistic campaign. What was true for European powers of the ‘New Imperialism’ has become even more relevant in today’s post-colonial world. Most contemporary humans and states rightly celebrate the ideals of freedom and equality, and recoil instinctively at the thought of prejudice, unwarranted violence, and repression. Yet these evils persist, often at the hands of self-described ‘modern’ states and institutions. Like our French predecessors, we too have developed filters that allow us alternatively to justify, treat, or ignore unpleasant realities. We may never escape these narratives, but we should do our best to be cognizant of them and their impact on the human and natural world. In hindsight, nineteenth-century French forest policy ultimately harmed both. Likewise, contemporary narratives may well prove detrimental to human society and to the environment. If that is the case, we need to change course before it is too late.
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