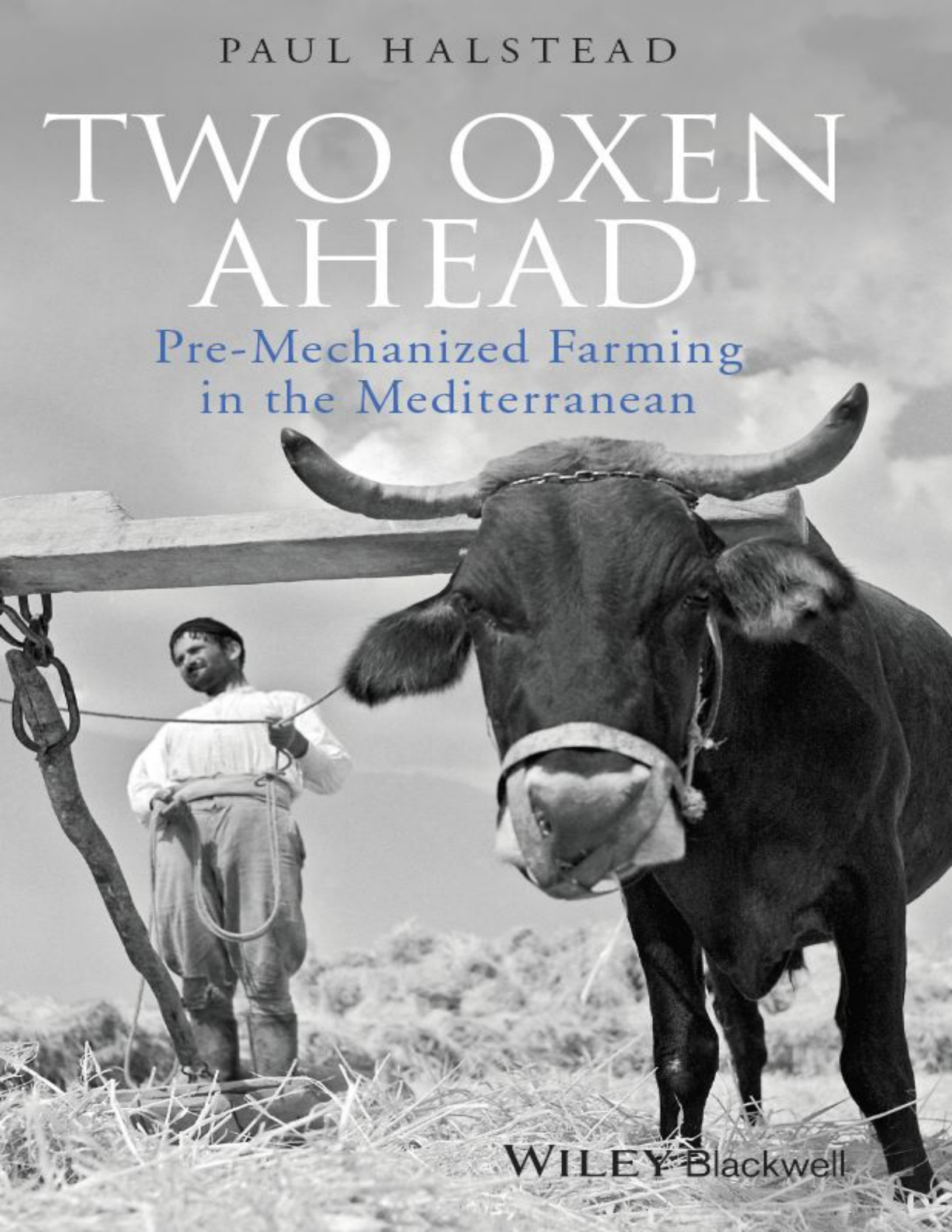
PAUL HALSTEAD

TWO OXEN AHEAD

Pre-Mechanized Farming in the Mediterranean



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Preface

This is a study of how Mediterranean farmers grew crops and raised families before mechanization and industrialization. With the ultimate aim of enriching ancient historians' and prehistorians' understanding of Mediterranean farming societies in the distant past, it explores pattern and diversity in the practices and decision-making of twentieth-century premechanized farmers. Much of this book is based, therefore, on first-hand observation of and interviews with residents of the Mediterranean countryside (Chapter 1).

Anthropologists often disguise the identity of informants and host communities, but real toponyms are used here to place agricultural practices and decisions in their ecological and social context. Informants were not asked deeply personal questions, although some volunteered sensitive information about themselves or neighbors. Many would happily have been named in print, but most have been more or less anonymized, occasionally out of discretion, but mainly because it would be confusing to name them all. Those named are identified by first names, for brevity, and sometimes by pseudonyms to differentiate between homonymous neighbors. A few informants are named frequently, because they were important sources and to place what they said in the context of their particular circumstances or life history. Informants did not sign "informed consent" forms. Some, whom I had known for decades, would have treated any such request with disbelief. Others I met for the first time when I "interviewed" (i.e., talked with) them, and any invitation to sign a printed form would have ended our acquaintance before it began. A few were illiterate, some had failed eyesight, and several

died before I thought of writing about what they told me. Informants often provided greatest insight when they strayed from the preplanned questions that a consent form would have covered. None of the information used was intentionally acquired by subterfuge.

Acknowledgments

To my largely elderly sources, named and unnamed, I am deeply indebted for generously sharing their time, knowledge, and, often, food and drink. In northern Greek Assiros, the barber, Fotis Alexiou, introduced customers by occupation (“current goat herder,” “retired pig farmer”), while my regular evening companion in the *kafenío*, Apostolis Papafotiou, invited to our table experts in whatever aspect of rural economy had caught my interest. Introductions were similarly provided in north Greek Paliambela and Kolindros by Yannis Stangidis; in central Greek Tharounia on Euboea by Giorgos Palogos (“Skantzouris’”); on southern Greek Kithira by Despina Isaakidou; on Crete by Stavros Amianakis, Gerald Cadogan, Angeliki Karagianni, Spiros Liapakis, Yannis Papadatos, Antonis Vasilakis, and Kostas Venianakis; in Tuscan Garfagnana by Mariangela Filippi; around Haute Provençal Sault by Jean-François Devaux; in Asturias by Valentina Palacios; and in Andalucian Zuheros by Leonor Peña-Chocarro. Companions in information gathering included Bill “ethnokafenologist” Alexander, Amy Bogaard, Artemis Brofidou, Mike Charles, Pat Collins, Jack Davis, Michele Forte, Angelos Gkotsinas, Eleni Hatzaki, Valasia Isaakidou, Glynis Jones, Ingrid Mainland, Vaso Tzevelekidi, Tony Wood, and, as infant passports to households closed to unaccompanied adults, Georgina and Huw Halstead. Directly or indirectly, the Arts and Humanities Research Council (and preceding AHRB), British Academy, Institute for Aegean Prehistory, Natural Environment Research Council, King’s College Cambridge, University of Cambridge Faculty of Classics, University of Cincinnati, and University of Sheffield funded fieldwork. The British School at Athens library, Gennadius Library (American School of Classical Studies at Athens),

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1

Introduction

Mediterranean Farming between Longue Durée *and Contingency*

For the last 8000–10 000 years, the peoples of the Mediterranean have overwhelmingly subsisted on cultivated plants and domestic animals. Historians and archaeologists have studied ancient farming for insight into changing economy, society, and landscape, but available evidence has significant limitations. Literary sources assume much background knowledge and, to varying degrees, address moralizing or romantic content to elite readers. Iconography is selective and poses problems of distinguishing normal practice from rare innovations or fantasy. More mundane archaeological evidence (tools, seeds, bones) is potentially more representative and socially inclusive but provides ambiguous traces of many practices, a fragmentary picture of farming regimes, and at best circumstantial insight into why people farmed in particular ways. Scholars have drawn extensively on recent "traditional" (nonmechanized, preindustrial) farming, therefore, to infer uses of tools (e.g., Byzantine digging implements – Bryer, 1986), practices (e.g., Roman harvesting methods – Spurr, 1986), land-use regimes (e.g., Bronze Age cereal–olive–vine polyculture – Renfrew, 1972), or production parameters (e.g., area yields for classical Greek grain crops – Gallant, 1991) for which

direct evidence is lacking or ambiguous and to identify likely rationales for documented practices (e.g., nonspecialized, classical Greek oil- and wine-processing facilities reflecting limited production for market – Foxhall, 2007).

Many accounts of traditional Mediterranean farming overgeneralize, however, or conversely highlight local customs, and few explore the balance between "practical" and "cultural" influence on methods. Moreover, detailed studies of particular aspects (e.g., tillage, reaping) may obscure the extent to which decisions shape outcomes and choices at subsequent stages of the agricultural cycle. The *relevance* of traditional farming to the past also requires critical consideration. Emphasis on relatively *timeless* constraints (e.g., Semple, 1932; Blanchard, 1945; Grigg, 1974; Braudel, 1975) of environment (e.g., low rainfall), technology (e.g., "primitive" wooden plows) and perhaps know-how (e.g., presumed ignorance of crop rotation) has encouraged uncritical extrapolation to antiquity. Traditional practice was highly variable, however, and demonstrably shaped also by medium-term historical contingencies (e.g., land tenure, markets – Silverman, 1968; Halstead, 1987; Forbes, 1993) and cultural preferences and by short-term tactical decision-making. These influences must be disentangled to enable judicious use of recent practices as analogies for the past.

This study attempts an overview of traditional Mediterranean farming practice and a critical evaluation of its potential to illuminate ancient farming. It explores what recent farmers did and how, why, and with what consequences. For reasons of space, it concentrates on staple Old World grain crops, dealing briefly with fruit, fiber, oil and vegetable crops (primarily where relevant to farmers' overall cropping decisions and rotation practices), and livestock (primarily as aids to or beneficiaries of arable farming). Geographically, it focuses on Greece, with patchier

coverage of the northwest and eastern Mediterranean to encompass greater ecological and cultural diversity; inclusion of upland Asturias on the Atlantic façade of northwest Spain, characterized by wet summers, offers a useful contrast with typically Mediterranean regions of mild, rainy winters and hot, dry summers.

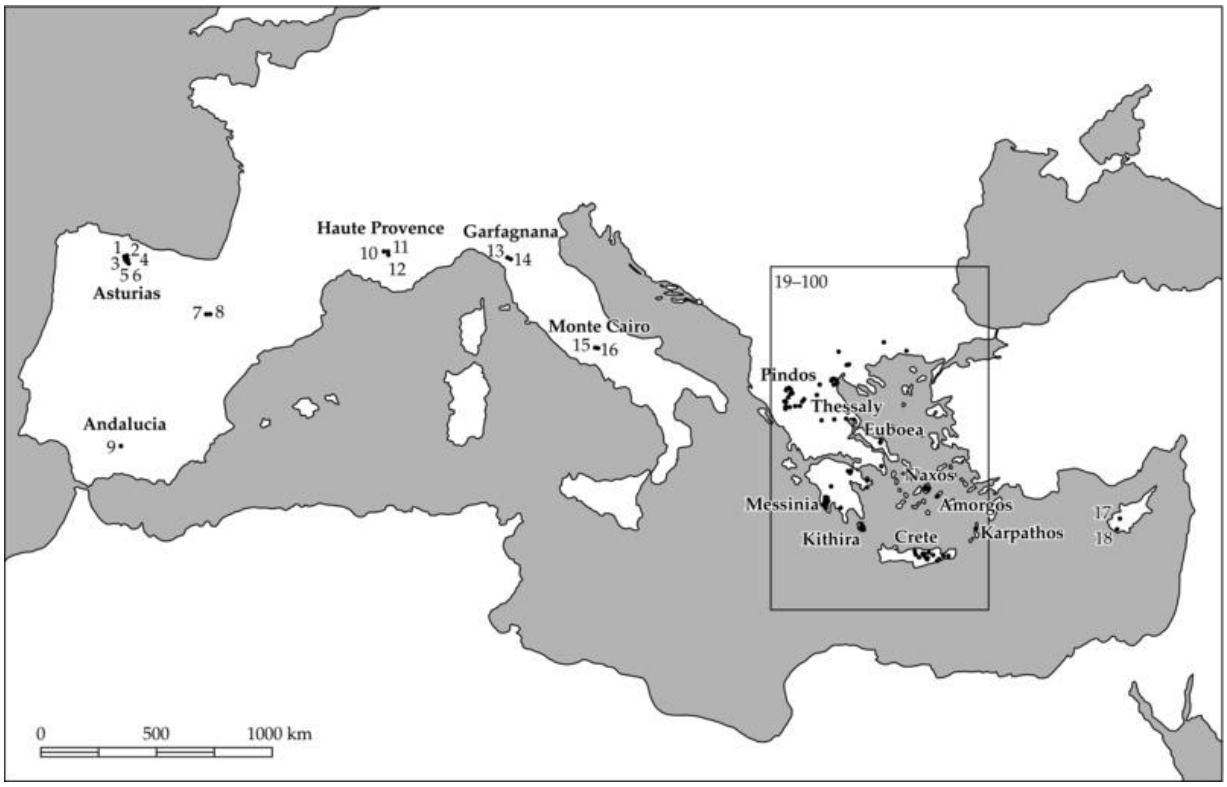
Evidence is drawn partly from published agronomic, ethnographic, and folkloric studies but in large measure from firsthand observations and oral-historical accounts, because this makes accessible a substantial body of original information and facilitates contextualized exploration of farmers' decisions. These observations and oral histories were collected over four decades in Spain, southern France, Italy, Cyprus, and especially Greece (Figure 1.1). Much of this information is a by-product of ethnoarchaeological projects, investigating whether particular farming practices leave distinctive material traces: crop processing in the Greek islands (Jones, 1984); irrigation in northern Spain (Jones *et al.*, 1995); intensive "gardening" of pulses in central Greece (Jones *et al.*, 1999) and cereals in Asturias (Charles *et al.*, 2002); extensive einkorn growing in Provence; and woodland management in northwest Greece (Halstead and Tierney, 1998; Smith, 1998). Much has also been gathered during archaeological fieldwork in Greece, with subject matter depending on local land use, informants' experiences, and my evolving interests.

1.1 Fieldwork

Many interviewees expressed delight at finding someone interested in their experiences. A farmer on the Greek island of Amorgos solicited questions to prolong breaks in the *kafenío*, while his son sweated on the threshing floor. One May in Khionades on the mountainous Greek–Albanian border, a blind woman of 85 initiated conversation from

behind closed shutters. She had outlived her husband, siblings, and children and, other than periodic shouted exchanges with a housebound neighbor, I was her first social contact since the previous summer. In northern Greek Assiros, the neighborhood grandmothers regularly invited me for morning coffee, entertaining me (and themselves) with half-forgotten dialect words and customs or embarrassing stories about male villagers. Conversely, some individuals were reluctant to recall grinding poverty or civil war. Others were wary of a stranger but perhaps relented on seeing friendly exchanges with neighbors. As an outsider, being foreign was sometimes advantageous in that curiosity was attributed to eccentricity or ignorance rather than official snooping. Once, mention of an émigré mutual acquaintance, who had not written home for months, proved difficult, but normally introductions from an insider greatly eased information gathering. Frustratingly, women carers occasionally limited access to housebound individuals, out of embarrassment for their decrepitude, misplaced concern that they would bore me, or fear of their revealing family secrets – often already heard from neighbors.

Figure 1.1 Map of Mediterranean Europe, showing locations described by informants. Key: 1. Zureda, 2. Tiós, 3. Xomezana, 4. Carraluz, 5. Piñera, 6. Llanos de Somerón, 7. Ambel, 8. Borja, 9. Zuheros, 10. Mollans-sur-Ouvèze, 11. Brantes, 12. Sault, 13. Piazza al Serchio, 14. Castiglione di Garfagnana, 15. Casalattico, 16. Monforte, 17. Gerakies, 18. Kouklia, 19. Neo Sidirokhori, 20. Prasinada, 21. Mouries, 22. Lazarades, 23. Skafi, 24. Assiros, 25. Mavrorakhi, 26. Kastania, 27. Kolindros, 28. Paliambela, 29. Aiginio, 30. Kitros, 31. Nea Trapezounta, 32. Agia Paraskevi, 33. Aetomilitsa, 34. Fourka, 35. Khionades, 36. Likorakhi, 37. Pigi, 38. Plikati, 39. Agios Minas, 40. Aristi, 41. Dikorfo, 42. Mavrovouni, 43. Ligopsa, 44. Zitsa, 45. Metsovo, 46. Kipourio, 47. Kranea, 48. Kanalia, 49. Prodromos, 50. Sesklo, 51. Vizitsa, 52. Zoodokhos Pigi, 53. Manikia, 54. Tharounia, 55. Markopoulo, 56. Arkhaia Nemea, 57. Dervenakia, 58. Methana, 59. Mikines, 60. Karitaina, 61. Asoutaina, 62. Iklaina, 63. Khora, 64. Kinigou, 65. Kontogoni, 66. Korifasio, 67. Makraina, 68. Metaxada, 69. Milioti, 70. Palaio Loutro, 71. Potamia, 72. Tragana, 73. Stoupa, 74. Aroniadika, 75. Frilingianika, 76. Kastrisianika, 77. Mitata, 78. Potamos, 79. Filoti, 80. Kourounokhori, 81. Melanes, 82. Potamia, 83. Kolofana, 84. Agia Semni, 85. Aloides, 86. Ano Asites, 87. Anogia, 88. Arkalokhori, 89. Arkhanes, 90. Kalo Khorio, 91. Knossos, 92. Miliarisi, 93. Skalani, 94. Pinakiano (Lasithi plateau), 95. Anatoli, 96. Mirtos, 97. Pakhia Ammos, 98. Stavrokhori, 99. Vasiliki, 100. Olimbos.


Haute Provence
Garfagnana
1 2 4
3
5 6
Asturias
10 11
12
13 14
7 8
Monte Cairo
15 16
19–100
Pindos
Thessaly
Euboea
Andalucia
9
Naxos
Messinia
Amorgós
17
18
Kithira
Crete
Karpathos
0
500
1000 km

Ethnoarchaeological projects, involving systematic sampling of plant or animal specimens from fields, threshing

floors, and barns, required completion of standardized questionnaires, but most “interviews” defied close control. In the mountains of northwest Greece, a Vlach herder and anthropologist’s father had firm ideas on note-taking (“that is important, write it down”). Some informants overestimated my interest in warfare (men) and miraculous icons (women), but often such lack of discipline proved invaluable, because my questions reflected the limits of my understanding and the most revealing “answers” were unsolicited.

The words of Mediterranean farmers, like those of academics, cannot be treated uncritically. Sometimes participant observation provided a check and, wherever possible, multiple oral sources were compared. Once, a recent interviewee reacted angrily to my asking his neighbor the same questions, but most informants seemingly attributed such behavior to slow learning. While conversations with one person at home were easiest to follow, group discussions, as with the old men outside the cobbler’s workshop in Assiros, revealed who embroidered their experiences – for dramatic effect or in a misguided attempt to be helpful. It was often clear from context whether answers were pessimistic (“life was hard in the old days”) or optimistic (“I had the best-fed and most powerful oxen in the village”), and generalizations were easier to evaluate when leavened with specific examples (“in 1934, when it did not rain from October 18 to March 18, we only harvested 20 loads of wheat”), the accuracy of which was often confirmed by other informants. A common response to questions, as Binford found among the Nunamiut, was “it depends” (Binford, 1978; also Forbes, 1992, 92), and the contingent nature of decisions and their outcomes accounts for many apparent discrepancies between informants. Thanks to the close interest that Mediterranean farmers take (for sound reasons – Section 7.4) in neighbors’

activities, informants could often identify differences of needs or means that might account for such discrepancies.

Given the rapid pace of technological, economic, political, and social change in the twentieth-century Mediterranean, it is essential to establish a chronological framework for oral histories – despite the tendency of elderly informants to use "recently," "the year before last," or even "the day before yesterday" to refer to events 50 or 60 years ago. A positive consequence of this logarithmic perception of time is that informants' memories focus on adolescence and early adulthood rather than providing a pastiche of experiences throughout their lifetimes. Informants in their 90s and occasional centenarians thus provided vivid firsthand accounts of life near the beginning of the twentieth century, even if they could not remember breakfast on the day of interview. Indeed, one 90-year-old, close as a teenager to a centenarian grandfather, provided oral history reaching back in two steps to the early nineteenth century. The building of oral histories with time depth from informants of successive generations is invaluable in revealing how "traditional" agricultural practices have altered with changing circumstances. Fortunately, most informants distinguished readily between experiences as members of their parental household and subsequently as independent householders. Women especially linked experiences to the life cycles of close kin ("I was breast-feeding my son when we first harvested that field") and could recall or calculate dates of births, marriages, and deaths. Men routinely recalled whether experiences pre- or postdated military service or work abroad. For both men and women, war and civil unrest provided indelible temporal signposts. Insofar as interviews could be stage managed, therefore, the first step was to establish a potted biography for the informant, identifying areas of firsthand expertise and events (marriage, military service) that could date experiences.

1.2 Scales of Analysis

Variability in traditional farming is explored in turn through the *annual* cycle of grain production, from tillage and sowing (Chapter 2) to harvest (Chapter 3) and processing for storage or consumption (Chapter 4); then the *interannual* cycle of practices such as crop rotation and manuring (Chapter 5); and finally the *generational* cycle of shifting balance between households' consumption needs and available labor, land, and livestock (Chapter 6). Attention is drawn to how decisions on a generational and interannual scale inform those taken during the annual crop production cycle and how the latter shape choices at subsequent stages of this cycle. Diversity of practice is explored in terms of *cultural* "ways of doing" and *practical* adjustment to circumstances, the latter on timescales ranging from the timeless *longue durée* through the medium-term *conjoncture* to the short-term *événement* of Braudel (1975). Each chapter examines the contexts and consequences of alternative practices (e.g., tillage with hoe or plow, yoking of oxen or cows), offers order-of-magnitude estimates of costs and benefits (e.g., speed of tillage or reaping, fodder requirements of draft animals), and suggests how this information might shed light on ancient Mediterranean farming, drawing examples from the earliest Neolithic to Greco-Roman antiquity. Although largely dealing with very practical matters, much of this book is concerned with human decision-making. Chapter 7, therefore, discusses how traditional Mediterranean farmers acquired information and skills, how they made decisions, and the extent to which they were rational actors making predictable choices, before assessing the potential of traditional farming to provide relevant and illuminating analogies for the distant past. Because traditional farming was not timeless, the

temptation will be resisted to write agricultural history just from recent analogy.

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2

Working the Earth

Tillage and Sowing

“What does ‘farmer’ mean?” Alexis answered his own question: “two oxen ahead and one ox behind”; in Greek, *vódhi* (ox) symbolizes stupidity rather than strength. At 81, Alexis was lame and his sight failing. He no longer had draft animals and his tools gathered cobwebs in the barn, but he enjoyed reenacting his craft. He yoked virtual oxen to a wooden ard that “scratched” a furrow, rather than turning the soil like a modern plow, in the dirt road outside the barber’s shop in north Greek Assiros. He paced out a 10 m-wide strip for broadcast sowing, marked the edges by plowing a single furrow, and then walked up one edge and back down the other, pulling imaginary seed from a double bag on his shoulder and casting it 5 m towards the middle of the strip. From time to time, he reversed the bag on his shoulder to keep the weight of unsown grain balanced. Then, he walked up and down the middle of the strip, casting seed towards the edge. He maintained a steady rhythm by synchronizing hand movements with paces. “That’s how we ‘locals’ sowed.” Thracian refugees from European Turkey, who arrived in the 1920s, sowed by casting alternately left and right and, he reckoned, achieved less even coverage; he could identify “locals” and Thracians from afar by their sowing rhythm.

After stopping for a real cigarette, he plowed the strip to cover the seed before birds could rob it; migratory flocks of

geese were a particular worry. He placed the iron share tip of the ard at the start of the first furrow. Then, with one hand steering the ard from behind and the other brandishing a goad that doubled as a spatula for scraping mud off the share, he trudged up and down the sown strip. As he walked, he called instructions to the oxen to keep straight and then turn at the end of the field, where he lifted the ard and positioned it to start the next furrow. He reckoned the oxen pulled the ard back and forth 15–25 times to cover over the 10 m-wide “sowing,” with furrows overlapping to avoid leaving untilled strips in which weeds would grow and compete with the crop. If the ground was heavy, he kept stopping to scrape mud off the share. “Next, if possible, you harrowed the field, but the animals were slow and the weather was a problem. We started plowing in October, as soon as the first rains softened the ground, but we could not work when the ground was wet and, by early December, frost often made the ground too hard.”

As dusk fell, Alexis pulled up a chair. “Then, from late January, when the weather allowed, we plowed the fallow fields.” Each year, half of the fields were sown with wheat and half left fallow. “We plowed the fallow in one direction and then a second time, after it had rained, crosswise. Before April or May, we plowed a third time, in the same direction as the first. If you had good animals, you plowed four or five times.” In March to May, some fallow fields were planted in summer crops (e.g., maize, sesame), and once these were harvested, the fields should be plowed again. The number of plowings grew as Alexis warmed to his theme. Other elderly villagers claimed that earlier generations had plowed *nine* times, citing a false folk etymology for *niáma*, the word used in many parts of Greece to denote tilled fallow or the first plowing of the fallow period. However exaggerated, these accounts underline the value placed on repeated plowing of fallow –

echoed by the Cretan and Cypriot term for tilled fallow (*kalourgiá*, *kalourká*), which literally means “good working.”

Alexis’ reenactments were somewhat idealized – he had not been the most thorough farmer. Much of his performance is echoed, however, for sound practical reasons, in descriptions of ard plowing elsewhere in Greece (e.g., Loukopoulos, 1983, 182–183) and the wider Mediterranean (e.g., Palmer, 1998). The characteristic back–forth movement is necessary for effective tillage with an ard (Forbes, 1982, 215). A sowing strip about 10 m wide is widespread, as is the explanation that 5 m is a practicable distance over which to scatter seed and that throwing seed from both edges and perhaps also the middle achieves even broadcasting. The length of sowing strip is more variable but limited by size of field, strength of draft animals, and the need to cover seedcorn promptly; farmers feared not only robbing by birds but also interruption by rain or snow. At Anogia in highland Crete, a man had just sown a terrace far above the village and was plowing in the seed, with his pregnant wife behind breaking clods with a pick when she announced that her waters had broken. He helped her onto the donkey and told her, “hold tight [to the unborn baby!] and hurry”; he followed down the mountain as soon as he had covered the seed. Fear of interruption before the job was complete, coupled with the slowness of plow animals, strongly favored sowing small strips, enabling cropping decisions to be taken on a much smaller scale than with mechanized agriculture (Section 6.5).

Despite many common features in the tillage and sowing of fields for Old World cereals and pulses, there are also important variations in several interrelated aspects: the type of tool used for tillage and what (or who) provides the labor to operate it, how often and when the ground is tilled, and the method and timing of sowing. Some of this variability is found in Alexis’ Assiros and some further afield.

2.1 Two-Oxen Households in Paliambela

The lowland hamlet of Paliambela lies 45 km southwest of Assiros, below the town of Kolindros. The workforce of a Turkish agricultural estate occupied Lotzano, as it was then called, until the early twentieth century, when the area was incorporated within the Greek state and a syndicate from Kolindros bought the land. A few estate workers remained in Paliambela and were joined in 1922 by Thracian refugees from European Turkey. The Thracians had fled their homes temporarily a few years previously, but in 1922, knew they were leaving for good. “My father loaded my mother and us girls on the oxcart with the chickens, hand-mill, loom, cooking utensils, sickles, and two sacks of grain. Then, he emptied the remaining sacks, drained the wine barrels, and turned loose the rest of the animals. As we pulled away, one sack of grain fell off the cart.”

In Thrace, most of the refugees had been farmers with their own plow oxen. For the first few years in Paliambela, they were landless and several families shared the abandoned two-room houses of the estate workers. They survived by plowing and harvesting for “local” landowners and, once they accumulated some cash, by renting a few fields to cultivate on their own account. In the late 1920s, each family was allocated 3–4 ha of land, depending on the number of children. The more industrious households rented, and eventually bought, additional fields so that they cultivated up to 5–6 ha of autumn- or winter-sown cereals and pulses and perhaps 1–1.5 ha of summer crops (e.g., maize). Nikos, born in 1929, orders two glasses of *tsípouro* (the north Greek equivalent of Italian *grappa*) before filling in some details. “Our fathers all had a pair of oxen. With one good pair, you could not sow more than 50–60 *strémmata*

(5–6 ha) of winter crops, because every field had to be plowed twice: after the first rains, to break the stubble, and then crosswise after sowing, to cover the seed. After that, to break clods and make the field level, we harrowed with a bundle of wild pear branches – it has very tough wood." The Paliambela Thracians had too little land to sow only half of their fields every winter (as Alexis had done in Assiros). Fallowing was limited to the small area of summer crops, and most stubble fields were plowed only once, at the end of summer, before being sown again.

The Thracians used oxen for plowing and carting the harvest, whereas "locals" in Paliambela and many in Kolindros, perched on a hill, favored horses and mules for plowing as these served as pack animals on steep paths, carrying produce from distant fields and transporting merchandise over the hills to the town of Veria. Thracians and "locals" agreed that oxen plowed more thoroughly than horses or mules. Some "locals" also used oxen, but the refugees regarded a pair of oxen as a source of pride and, in their first years in Paliambela, these animals must have been the only material sign of their status as *farmers*. The first generation of Thracians maintained and, when necessary, replaced these costly assets, although initially they cannot have used them fully.

As Nikos' generation entered their teens, surpluses produced with oxen enabled some purchases of additional fields. By the 1950s, however, those born in Paliambela were marrying and setting up separate households, leading to subdivision of landholdings. Nikos stayed with his father, to accumulate property for his sisters' dowries, and continued plowing with oxen. Many of his contemporaries, starting independent households with only 1–2 ha of fields and lacking the cash to rent more, could not maintain oxen and started plowing with cows. Like horses and mules in Kolindros, draft cows had uses other than plowing – in this