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LIN FOXHALL

Olive Cultivation in Ancient Greece  
Seeking the Ancient Economy



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## OLIVE CULTIVATION IN ANCIENT GREECE

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# Olive Cultivation in Ancient Greece: Seeking the Ancient Economy

LIN FOXHALL

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*Ostinato vo' seguire*  
*La magnanima mia impresa...*  
(Marco Cara, 1470–1525)

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## Abbreviations

A useful illustrated multilingual glossary of technical terms associated with oil and wine production can be found in Amouretti and Brun 1993: 588–95.

|                         |   |
|-------------------------|---|
| Aesch.                  | Aischines   |
| Andoc.                  | Andokides   |
| Ar.                     | Aristophanes  |
| <i>Ach.</i>             | <i>Acharnians</i>   |
| Arist.                  | Aristotle   |
| <i>Pol.</i>             | <i>Politics</i>   |
| [Arist.]                | Pseudo Aristotle  |
| <i>Ath. Pol.</i>        | <i>Constitution of the Athenians</i>  |
| Athen.                  | Athenaios   |
| Cato                    |   |
| <i>RR</i>               | <i>De re rustica</i>  |
| Columella               |   |
| <i>RR</i>               | <i>De re rustica</i>  |
| Dem.                    | Demosthenes   |
| [Dem.]                  | Pseudo-Demosthenes  |
| Hes.                    | Hesiod  |
| <i>WD</i>               | <i>Works and Days</i>   |
| Hipp.                   | Hippocrates   |
| <i>Reg.</i>             | <i>Regimen</i>  |
| Hom.                    | Homer   |
| <i>Il.</i>              | <i>Iliad</i>  |
| <i>Od.</i>              | <i>Odyssey</i>  |
| Htd.                    | Herodotos   |
| <i>IG</i>               | <i>Inscriptiones Graecae</i>  |
| <i>Inscr. v. Mylasa</i> | Blümel, W. (ed.) (1987). <i>Inschriften von Mylasa</i> . Vienna: Österreichische Akademie der Wissenschaften. |

|                  |   |
|------------------|---|
| Is.              | Isaios  |
| LSJ              | Liddell. H. G., Scott, R., and Jones, H. S. (1968). <i>A Greek–English Lexicon</i> . Oxford: Clarendon Press. |
| Lys.             | Lysias  |
| Pl.              | Plato   |
| <i>Leg.</i>      | <i>Laws</i>   |
| <i>Resp.</i>     | <i>Republic</i>   |
| Plin.            | Pliny the Younger   |
| <i>Ep.</i>       | <i>Letters</i>  |
| Plut.            | Plutarch (references to works which are names denote biographies in Plutarch's <i>Lives</i> )                 |
| <i>Mor.</i>      | <i>Moralia</i>  |
| SEG              | <i>Supplementum Epigraphicum Graecum</i>  |
| SIG <sup>3</sup> | Dittenberger, W. (1960). <i>Sylloge Inscriptionum Graecarum</i> (3rd edn). Hildesheim: Olms.                  |
| Simon.           | Simonides   |
| Soph.            | Sophokles   |
| <i>OC</i>        | <i>Oidipous at Kolonos</i>  |
| <i>Philoc.</i>   | <i>Philoktetes</i>  |
| Theophr.         | Theophrastus  |
| <i>Char.</i>     | <i>Characters</i>   |
| <i>CP</i>        | <i>Causes of Plants</i>   |
| <i>HP</i>        | <i>History of Plants</i>  |
| Thuc.            | Thucydides  |
| Varro            |   |
| <i>RR</i>        | <i>De re rustica</i>  |
| Xen.             | Xenophon  |
| <i>Mem.</i>      | <i>Memorabilia</i>  |
| <i>Oec.</i>      | <i>Oikonomikos</i>  |

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## Introduction

### 1.1. THE SCOPE

Columella (*RR* 5.8.1) called the olive ‘the first of all trees’, and then went on to praise its flexibility. The key point is that the tree can thrive when incorporated into many diverse agricultural and economic regimes. It can, and does, compose a major sector of many more agronomic systems than I have been able to document here. This study is centred upon the place of the olive in the agricultural regimes and economies of Classical, and to a much lesser extent, Archaic, Greece, between the sixth and third centuries BCE. The cultivation of the olive offers the opportunity to explore the intricate relationships between social and cultural values, agricultural practices, the development and adoption of technology, and the workings of the economies of Classical Greece—aspects of the ancient world which are sometimes studied in isolation from each other. This work presents a case study of one aspect of ancient agriculture at the core of economic life which is emblematic for understanding what is distinctive about economic activity in the world of Classical Greece.

Inevitably, much of the available literary and other written evidence documents the farms of wealthy land owners, especially in Attica. Among these written sources, however, some valuable epigraphical and archaeological evidence comes from elsewhere in Greece, outside Athens and Attica. Epigraphical sources raise special problems (see Ch. 2.1.3). Often it has been necessary to consider material beyond the period which constitutes my major focus, or to stray into the cultivation and processing of other crops, particularly the vine. This is particularly the case for the archaeological evidence,

especially the important body of material generated by the archaeological surveys of the past thirty years, where features associated with olive cultivation and oil production can be difficult to date with any precision. Written sources, too, cover a broad time range, and their applicability outside their immediate and contemporary context is problematic. I am only too well aware that even within the comparatively narrow limits of this study there are topics that have been glossed over or ignored—hence Ptolemaic Egypt is excluded because of its distinctive ecological setting and agronomic regimes. Other sections might appear to stray far from the Classical period, or even the olive tree itself. However, there is a coherent argument about the relationships between agricultural practices and the larger economies into which they are integrated, which encompasses what might seem at first glance to constitute an eclectic selection of material.

The primary aim of this work is to explore specific olive-growing regimes in their full social, economic, political, and environmental contexts. Part of the process of understanding these contexts is to set them in a comparative chronological framework, thereby highlighting what is distinctive about how farmers in later Archaic and Classical Greek poleis utilized the olive. Assumptions about the role of the olive in Greek farming and economies have sometimes taken precedence over rigorous investigation in the scholarly literature. On occasion this has led to truth by repetition. My larger purpose, considering the olive as a kind of extended case study, is to enlarge our understanding of how specific agronomic and economic activities underpinned the functioning of Greek cities, and how they were in turn shaped by Greek social and political values.

I have not dealt with Roman olive cultivation, pressing, and processing, in any detail. This is for a different reason: from the work of Drachmann (1932) to White (1984), the phrase ‘ancient oil mills and presses’ has generally meant *Roman* ones. They are, consequently, well studied and documented in almost all parts of the Roman world where the vine and olive were grown, though the work of Brun (1986; 2003; 2004a; b; 2005) and of Mattingly and Hitchner (Mattingly 1988a; 1988b; 1988c; 1993; 1996a; 1996b; Mattingly and Hitchner 1993; Hitchner 1993) in Tripolitania deserves special mention. I have, however, considered various problems connected with classical Greek olive processing in some detail, since

Greek presses are less well understood, and have too often been interpreted in relation to Roman ones.

This last point is symptomatic of many studies of Greek agriculture; that many interpretations are actually extrapolations from Roman evidence. There are two serious difficulties with this methodology, which I have raised repeatedly throughout this work. The first is that the economic and political setting, and concomitantly the magnitude, of Roman agriculture is completely different from anything the classical Greek world ever saw. This is surprisingly often overlooked (Amouretti 1986; Lohmann 1993: 209–15). The question of scale had a profound effect on the whole agronomic system, right down to the pruning of olive trees and the details of propagating young plants; the impact was qualitative as well as quantitative. It also had a profound impact on the kinds of processing technologies which were adopted, and how they were employed. Certainly, it is clear that higher levels of production were achieved in the Roman world, and in Chapter 6 this is explored in more detail, though whether this increased production was always ‘more efficient’ is less clear.

Secondly, the olive will grow in a wide range of environmental conditions, but it does not behave the same way, and thus cannot be treated the same way, in all areas (Mattingly 1996b: 214). This is, of course, true of other cultigens as well, but the olive’s very adaptability makes it easy to neglect the effects of ecological differences on cultivation strategies and techniques. So, for example, olive trees seem generally to have been kept relatively short on the farms of wealthy Greeks, while Roman Italian trees were much taller. Part of the explanation for this probably lies in the fact that in much of Italy large trees were not so likely to suffer badly from water stress as in much of southern Greece. The interplay between ecological and what one might broadly call ‘cultural’ factors (encompassing social, political, and economic realms) in shaping agricultural regimes is thus also a recurring theme in this study.

For my understanding of the ecological and environmental parameters I have drawn heavily on my own fieldwork experience in Greece and southern Italy, and even more heavily on the ethnographic fieldwork and sound advice of Hamish Forbes, who is frequently acknowledged in these pages. This is not to say that modern cultivation

systems provide all the answers for ancient farming; most certainly they do not (Horden and Purcell 2000: 177–8), and I have pointed out many differences in the course of this work. But a firm understanding of modern farming techniques and conditions keeps one firmly aware of the limits of the possible, and brings the disparities between the present and the past into the foreground.

The concentration on the wealthiest sector of society is partly because of inherent biases in the sources; ancient ‘peasants’ are like post holes—you can see the places where they ought to have been, but frequently the evidence for their existence is only indirect. This is arguably the case even in the archaeological record (Pettegrew 2001; Foxhall 2001). The paucity of source material, and often its ambiguous nature, also reduces our view of what must have been a variegated socio-economic spectrum to a crude dichotomy of rich and poor. Wealthy landowners were, after all, the ones who controlled the larger share of the primary means of production—land—even in classical Athens (Foxhall 1992; 2002). This is likely to have been even more emphatically the case in non-democratic cities. Although I have tried to consider the cultivation strategies of less well-off farmers, it is very difficult to know how the other half really lived.

Finally, it has proven impossible to write an account of the techniques of olive cultivation without some analysis of the other crops with which they were grown and the economic setting of the agricultural whole. This has entailed some reconsideration of ‘the ancient economy’ to take account of what must after all have been the practical realities of everyday life for a large sector of the population of the ancient Mediterranean. At the heart of this analysis is the re-assignment of the household to its rightful place in the explanation of ancient economic behaviour: at the front. Finley’s work still forms the foundation on which much contemporary research on the economic history of the ancient world is built, although many new and exciting directions have emerged in the past fifteen years (Cartledge *et al.* 2002). But, with few exceptions (Hanson 1999), most research has started from the top down, with high-level institutions such as credit, banking, trade, labour, and all the things that economic historians of more modern periods regularly tackle. I started from the bottom up, with the practical realities and constraints of farming, and the view has proven to be quite a different one.

## 1.2. THE OLIVE TREE

The olive seems to be native to the Mediterranean basin. Pollen and charcoal evidence show that it was present by the mid-Holocene, well before the Neolithic period (Grove and Rackham 2001: 162). The two types of the species of olive now common in the Mediterranean (*Olea europaea* L.) are the normal domesticated olive (*Olea europaea sativa*) and the oleaster, commonly known as the ‘wild’ olive (*Olea europaea oleaster* or *Olea europaea sylvestris*). The two are completely inter-fertile, so although the olive and the oleaster may represent different varieties, it is unjustified to distinguish them at species level (Pansiot and Rebour 1961: 21; Forbes and Foxhall 1978; Mattingly 1996b: 216; Grove and Rackham 2001: 49). Most of the so-called ‘wild’ olives seen in the Mediterranean today are probably only phenotypically wild. Given that 1) the olive is both wind and insect pollinated, so genetic material spreads itself over a very wide area; and 2) the tree has probably been domesticated since at least 6500 BP (approximately 5457 BCE), it is extremely likely that genotypically, there are no truly wild olives left in the Mediterranean. In classical antiquity in areas where the olive had long been cultivated it is equally likely that many, or even most, ‘wild’ olives were in fact genetically mixed. In this work ‘wild’ is always in inverted commas, to indicate this difficulty of genotypic identification.

Olive trees are very long-lived, and very resilient, especially in the face of drought. Although the tree will grow in tropical areas, it will not fruit without a cool spell in winter in which to rest. It can survive temperatures in excess of 40° C, but is severely damaged by frost at temperatures below -7° C (Pansiot and Rebour 1961: 40–1). For this reason, as well as the late start to the growing season at higher elevations, the olive does not normally thrive at high altitudes, though its precise altitudinal limits vary considerably across the Mediterranean region (Pansiot and Rebour 1961: 43–4; Mattingly 1996b: 215). On Methana, for example, olives will not do well above around 500 m while in the North African Maghreb cultivation is viable at over 1000 m (Mattingly 1996b: 215). The tree needs a great deal of light and therefore prefers southern exposures, but is not particular as regards soil (Pansiot and Rebour 1961: 44). Nitrogen, and, to a lesser



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