

## INTRODUCTION

International Olive Oil Council (IOOC) statistics for the 2004/2005 season gave the number of olive trees in the world at 789 million, 95% of which were growing in the Mediterranean. Olive oil was being produced in Spain (40%), Italy (20%), Greece (16%), Tunisia (8%), Syria (4%), Turkey (4%) and Morocco (3%). Throughout the Mediterranean olive oil production is an important branch of modern agriculture and it was even more important in antiquity. To no surprise, the list of modern olive oil producing countries matches that derived from the research of various historians, epigraphers, papyrologists, archaeobotanists and archaeologists, studying the ancient sources as well as archaeological material. The history of olive oil production in antiquity affords deeper insight into the foundations of ancient economy, the social organization of rural and urban life, and their interlocking. It also enables more detailed studies of intra- and interregional trade exchange. So much has already been written regarding olive oil production in Roman and Byzantine Syria–Palestine that taking up the matter again may seem daring at the very least, but it is hoped that the results presented in this volume will not only justify the undertaking but also highlight the potential of this topic of research and the importance of the ever-growing body of related evidence.

Roman and Byzantine Syria–Palestine were selected as a geographical and temporal frame for this study and the choice merits an explanation. There is every reason to think that the concept of the lever-and-weight press was invented probably in the Bronze Age and underwent continuous improvement all through the Iron Age. But it was the Hellenistic and even more explicitly the Roman period that witnessed a series of technological improvements, including the introduction of large crushers, windlasses

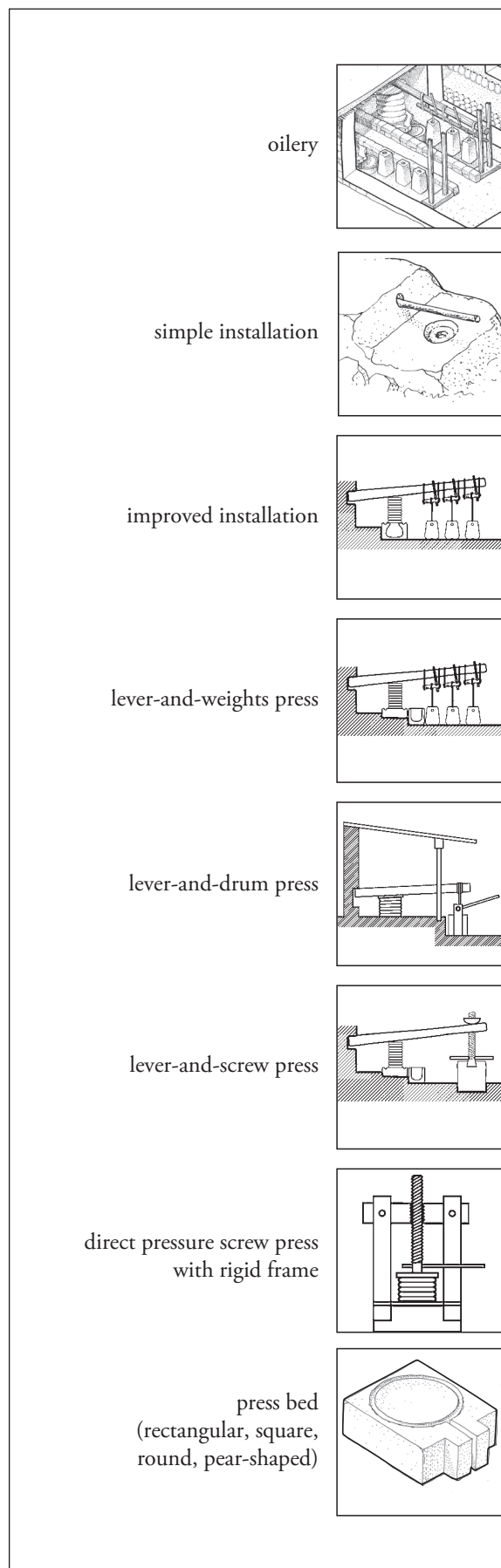
and, especially during the late antique period, screws attached to sophisticated stone weights, facilitating pressing operations. Oil production appears to have peaked in Byzantine times and continued through the early Islamic period with regionally differentiated capacity. No significant change was noted in the next few centuries of Ottoman rule in the East, the unchanged facilities proving a technological complacency with tested oil press types. Thus, the evidence taken into account in the present study covers a period from the 3rd century BC to the 9th century AD, roughly a millennium of the most intensive oleoculture in the region.

The term Syria–Palestine has been used to denote the geographical scope of the study. For some it may be somewhat elusive, but it describes with fair precision the geographical and historical unit existing between the Mediterranean coast, Cilicia, the upper courses of the Euphrates and Tigris, the Syrian and Arabian deserts and the Sinai. It also avoids clichés, like “the Levant”, hardly applicable to the Roman or Byzantine East, which could have come into play taking into account the multitude of terms used by scholars. Syria–Palestine was used in this meaning, that is, as a term describing all of the Near East, with Syria, Phoenicia, Arabia and Palestine, by William Dever in *The Oxford Encyclopaedia of Archaeology of the Near East*, where it pertains to earlier historical periods. This is also the more familiar term for me, employing as it does words used in sources as the names of Roman provinces. We should not, however, confuse it with the Roman province of Syria Palaestina, created after the fall of the Bar Kochva revolt (AD 132–135), that is, during the 2nd and 3rd century AD was mostly associated with former Iudaea. These administrative divisions were maintained during the entire 2nd century AD, the province being split in its northern part into

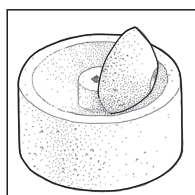
Syria Coele and Phoenice under Septimius Severus. At the end of the 4th century AD the region witnessed more administrative reform, which created Dioecesis Orientis divided into several provinces. At the beginning of the 6th century these included three Palestines, Arabia, Phoenicia and the Syrian provinces, Cyprus, Cilicia and Isauria.

The inventory of oil installations in the Catalog and in the online resource follows a different scheme, arranging the installations by their location within the boundaries of four modern countries. Such an arrangement seemed most obvious seeing as the data for these inventories were obtained in excavations and surveys conducted separately in Syria, Lebanon and Jordan. The list of installations from the territory of Israel and the Palestinian Authority was a natural continuation of the assumed system. Nonetheless, my description and interpretation of the finds has taken into consideration historical and geographical divisions of these lands into regions familiar to their ancient inhabitants, such as Galilee, Samaria and Judea.

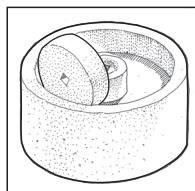
This volume opens with a synthesis of the issue of oil production in Roman and Byzantine Syria–Palestine (Chapters One to Four), based on data which is for the most part presented in the Catalog, where new evidence from Syria, Lebanon and Jordan is gathered along with previously published information on installations from Palestine, updated to include new discoveries made already after Rafael Frankel’s extensive publication (Frankel 1999). It contains an abundance of data for astute verification by readers of the author’s conclusions. Corrections will surely follow, as will hopefully new and incisive observations. Thus, the catalog part of the book and the online resource with which it is strictly connected is, in a way, a “work in progress”, an open text inviting further study, amendments and supplementing, engaging scholars in adding to existing lists and their creative remodeling. Needless to say, it was not possible to take into account each and every installation hitherto uncovered, but every effort has been made to gather as many



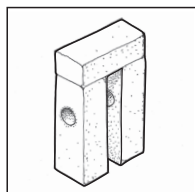
*Elements of oil installations*



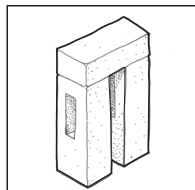
concave crushing basin (*trapetum*) with crushing stones



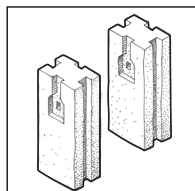
crushing basin with flat bottom surface (*mola olearia*) and crushing stone



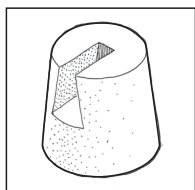
perforated piers



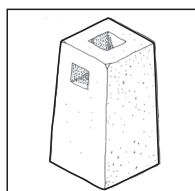
slotted piers



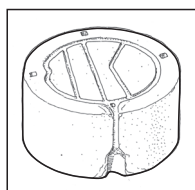
grooved piers



screw-weight



weights, beam weights or counterweights



small press bed

as possible. The body of evidence presented is surely sufficient for drawing credible conclusions.

The first four chapters were meant to present the production of olive oil against the widest possible background in an attempt, metaphorically speaking, to build — in the words of Gordon Conway — “the house of functions”, a tool for assessing the functions of agroecosystems (Conway 1987). Five groups of agroecosystem functions can be distinguished: ecological, productive, economic, social and cultural. Studying each of these functions, all being parts of the living environment, allows for a better understanding of interrelations between its various elements, including our main interest — agriculture, central to this study for its association with the olive tree.

The days are long gone when archaeologists or ancient historians could ignore the influence of natural environment on history of civilization and on human activities reflected in economy, consumption and trade exchange. Immutability of the rural landscape was replaced by discussion of the interrelations between ecology and economy. Agriculture was a foundation of the ancient economy and oleoculture was a major component. This study is centered upon the place of the olive in the agricultural regimes and economies of Roman and Byzantine Syria–Palestine, investigating them in environmental, technological, social and, whenever possible, economic contexts. Thus, its objectives must be multiple.

It will be seen from an overview of the various sources on oleoculture in Syria–Palestine (presented in Chapter One) that the evidence has ripened toward a revision. A new critical assessment of the issue is encouraged by the considerable progress made in scholarship over the past few decades in the Mediterranean, creating the opportunity for a more balanced view of the subject, which had been skewed so far in favor of the thoroughly studied ancient Palestine. Thus, the present study aims on the one hand to supplement the fundamental works of Olivier

Callot and Rafael Frankel, who considered the material evidence and analyzed the data from a technological point of view. Their treatment of typological questions has lost little of its relevance, hence there is no need to challenge their findings. Indeed, there is a growing need for a synthesis of the information from Syria and Palestine and a comparison with new evidence collected by the author from Lebanon and Jordan. This should help in painting a general picture of oleoculture in the region, the universal as well as the particular. On the other hand, the results of extensive research conducted on oil production in other regions of the Greco-Roman world provide sufficient room for interregional comparisons, enabling a more profound understanding of the Levantine case.

The objectives of the study have been pronounced to be multiple, hence the presentation of phytogeography of the tree and the archaeobotanical evidence for the olive in the region (Chapter Two), which are important for the study of olive cultivation, its origins and variability across time and space. Testing the interrelation between crops, soils and rainfall has contributed significantly to resolving the long-standing discussion of climate change in the Mediterranean and its presumed relevance to oleoculture in Syria and Palestine in antiquity.

Aspects of oil production have been discussed relevant to a review of oil installations specific for each of the geographical and chronological units (Chapter Three). There is a potential wealth of details pertaining to ancient technology to be gleaned from a thorough consideration of the data. Typological differentiation between the historical and geographical regions may evince improvements deriving from a local technological tradition or else imported from abroad. Archaeological evidence suggests that the basic concept of the press with wooden press beams and counterweights is deeply rooted in the Near Eastern tradition, but was later improved by the introduction of, for instance, the screw-weights invented in other

regions of the Mediterranean, most probably in Greece or Italy. Considering the ubiquity of oil installations in the studied region, it is likely that readers will be able to suggest sites missed by the author despite his far-flung query search, but these should not affect the conclusions in general.

The social context of oil production is an important aspect of ancient life, as it had bearing upon the lives of all social groups in Roman and Byzantine Syria–Palestine. An analysis of the location of oil facilities, whether in rural or urban areas, could reveal information of wider social importance (Chapter Four). Were they connected to private estates, situated in the center of agglomerations or, on the contrary, located on the outskirts? Who were their owners: communities or individuals, rulers or religious organizations? Of equal importance are the economics of olive oil production and distribution logistics. A consideration of these issues leads to a discussion of the profitability of installations and of the labor-intensity of the processes involved, as well as various other aspects of commerce and consumption. The most interesting question of all, however, is the character of oleoculture in Syria–Palestine. Was subsistence the main goal or was there enough surplus production to enable its commercialization?

The method of presentation takes on importance in view of the patchiness and insufficient nature of the available evidence. For the sake of clarity and intellectual discipline, the author has engaged first in deconstructing the image based on accessible sources, discussing the evidence anew and presenting his own reconstruction of the picture. The path from the general to the particular and in reverse, from a case study to a broader, regional perspective, which can be compared to zooming in on an image, has given the opportunity to look at oleoculture in Syria–Palestine from different angles: olive cultivation and production on a macro- or microregional scale, oleoculture seen from the perspective of a single producer, merchant and consumer — all these angles

should contribute to an overall picture that takes a new look at well known facts. The evidence has been rearranged and refreshed by taking into consideration data from previously neglected regions and putting them in a proper historical context and it is only to be hoped that the undertaking will not have proved overtly too ambitious in the first place.

One aspect remains to be commented on with regard to oil facilities, namely, their apparent affinity to wine-producing installations. Seen from the technological point of view, as well as consumption and symbolic associations, wine and oil production were al-

ways considered as two sides of the same story. Thus, authors have repeatedly described the material evidence for both together. The ambiguity of some types of installations leaving space for doubt regarding their actual use, and the fact that many of them were situated close to one another, added to the impression — which will not be diffused here — of their inseparability or at least some sort of affinity. But what was true of the early phases of wine and oil press development, led in the Roman period to a more accentuated difference between the sophisticated devices, despite great similarities in the technological procedures used.