

# De tornos y tornillos: Tecnologías de prensado de la uva y la aceituna en el mundo romano y tardoantiguo

By Yolanda Peña Cervantes (Arqueologías Históricas 1). Granada: Comares 2023. Pp. xxiii + 212. ISBN 978-84-1369-507-5 (paperback) €21.85.

REVIEWED BY TAMARA LEWIT

This new volume by Peña Cervantes surveys the technologies used across the entire Roman empire for one of its most important and widespread productive processes. The making of wine and oil was indispensable to Roman society. Wine and other grape-based drinks were essential to the diet of all groups and ranks, including children, soldiers who drank vinegar-like *posca*, and enslaved people who drank a beverage made from water-soaked grape skins. Fine wine played a central role in displays of wealth during the *symposium/convivium*, and wine making itself could be viewed in a theatrical fashion as entertainment for the elite, as demonstrated by the richly built wine treading areas facing triclinia recently discovered at Villa Magna in southern Lazio and the Villa of the Quintilii outside of Rome. Wine production demanded year-round labor and industrial and commercial activities involving extensive sections of the population, and its importance was reflected in major festivals of the ancient calendar. Beyond diet, wine was universally used for medicine and in religious practices. Wine constituted the most fundamental offering to the gods, poured in daily libations to household deities and as an essential element of sacrifices. It played a role in rites of passage and funerary rituals. Olive oil was similarly vital to Roman society. It was a significant component of the diet, as well as the main source of lighting when used as lamp fuel. Oil was also important to funerary rituals, and molecular analysis reveals the use of scent-infused oils in both cremations and burials. In daily life, oil was an invariable accompaniment to a visit to the baths. Both wine and oil became central to Christian practices in late antiquity. The wine of the eucharist was a fundamental part of the liturgy, and oils were used in rituals such as ordination and baptism, and were burned in altar and church lights.

Despite the indispensable roles of wine and oil in society, scholarly debates about technical innovation in the Roman empire have paid surprisingly little attention to the technologies used to produce them. Although

it is possible for either to be made without complex machines—for example, by simply treading grapes on a rock surface—in the Roman world, commercial and larger-scale production entailed the use of specially built spaces and vessels, specialized components such as stone press beds and mills, and wooden machines that exerted pressure to extract additional grape juice or oil after the process of grape treading or olive milling. Such machines ranged from the small to the enormous (some reaching heights of 3 m and lengths of around 10 m), and they were worked by a wide variety of mechanisms incorporating the winches (*tornos*) and screws (*tornillos*) of the title. Some were made entirely of wood, leaving traces—if any—only in the form of pits and trenches. Others are well attested by the remains of stone piers and bases, press beds, and massive counterweights. In the past three decades, a large body of archaeological data relating to the designs and use of these machines has been uncovered. They have nevertheless been poorly understood by historians of technology. Notably, historical discussions perpetuate a false evolutionary framework first introduced in 1932 by Aege Drachmann (*Ancient Oil Mills and Presses*, Levin & Munksgaard) and embedded in historiography by Robert Forbes in 1955 (*Studies in Ancient Technology*, E.J. Brill). A prime reason is that archaeological findings have been published in individual excavation or field survey reports, or in the form of strictly regional studies, such as that by Tomasz Waliszewski (*Elaion: Olive Oil Production in Roman and Byzantine Syria–Palestine*, Warsaw University Press 2014), with the exception of Rafael Frankel's valuable but brief 1999 summary of then-known data in the western and eastern Mediterranean (*Wine and Oil Production in Antiquity in Israel and Other Mediterranean Countries*, Sheffield Academic Press, 88–98). Until now, the only empire-wide survey of the archaeology of press technologies across all regions, with interpretative discussion of the implications for our historical understanding of technical innovation and diffusion, was the

masterful *Archéologie du vin et de l'huile dans l'Empire romain* (Paris 2004)—compiled exactly two decades ago by Jean-Pierre Brun, to whom the current work is dedicated and who has authored its preface. Peña Cervantes' 2023 volume is thus a most welcome and timely contribution to our understanding of technologies that were central and essential to Roman and Late Antique life. Written in Spanish, the book is richly illustrated with clear and meticulous diagrams, reconstructions, plans, maps, color photographs, and images of relevant ancient mosaics, sculptures, and paintings.

The first chapter introduces the range of wine- and oil-making technologies used across the empire. The main areas of scholarly investigation and debate are outlined, as well as archaeological methods for identifying technical elements. Archaeologically “silent production” (149), using less technically complex systems that leave little physical trace, is discussed with reference to ethnographic and comparative evidence. This is followed by a systematic survey of recent archaeological discoveries relating to oil and wine making, with chapters on Hispania, Mauretania Tingitana, Gaul, Italy, Istria and Dalmatia, Africa and Mauretania Caesarensis, Egypt, Greece and Asia, Cyprus, and the Levant. Each chapter is prefaced with a short historiographical analysis of work in the region prior to the 21st century. A detailed discussion of pressing technologies is followed by a section on “other equipment and spaces linked to wine and oil making,” outlining finds relating to oil mills, wine fermentation methods and containers (such as half-buried *dolia defossa*), and construction of floors, vats, and spaces. Most chapters also provide a short section on “religious and propitiatory aspects of production,” noting altars and inscriptions (both pagan and Christian) associated with wine or oil making. Six tables compare key typologies across regions, such as the presence of different forms of fermentation vessels, construction methods, and designs of counterweights.

The book concludes with two analytic chapters exploring the origins and diffusion of innovations and reflecting on the diversity of technologies used across different regions—a crucial point almost invariably ignored by historians commenting on the patterns of innovation in the Roman world. Chapter 12, titled “52 Words of Pliny the Elder” (referring to Plin., *HN* 18.74.317), addresses this debate directly. Insightful reflections on different motivations for the choice of technologies move the discussion well beyond simplistic references to “efficiency” or “improvement” to encompass speed of pressing, volume, workforce requirements, construction

costs (in both materials and labor), durability and reduction in breakages or mechanical failure, ease of operation and of repair, quality of product, local traditions, and cultural value. Peña Cervantes stresses that no one system or technology for pressing is superior to others, the choice depending on many factors and the specific needs of the producer. She also rightly highlights the local, social, and psychological factors that influence the use of technologies in preindustrial societies.

The title—incorporating the world of late antiquity as well as the Roman empire—reflects the body of available archaeological data. In addition to finds from the Roman period, wine and oil presses of the fourth to sixth centuries CE are also examined, especially for the eastern Mediterranean, where this was a major period of both production and technological change. As the title indicates, this does not purport to be a book on wine and oil in Roman and Late Antique society. For qualities, varieties and flavors, transport and commerce, the uses of wine and oil and their by-products, symbolism and social significance including in Christianity, we will continue to refer to other works such as Brun's *Le vin et l'huile dans la Méditerranée antique: Viticulture, oléiculture et procédés de transformation* (Errance 2003). On the other hand, its scope is less limited than the title might imply, as the volume encompasses not only pressing technologies but all aspects directly relating to production, including fermentation methods and oil milling, and the religious and ritual elements that the ancient producers would have considered as essential as their machines.

This book will be of great value to specialists working on wine and oil production in any region, providing robust and up-to-date material for comparison. Those working on economic life and labor in the Roman empire will benefit from the window that it offers into a major component of rural working life. It will also be of interest to anyone exploring everyday religion and ritual in the empire, both before and after the spread of Christianity. It is essential reading for any scholar working on technologies or issues of innovation in the Roman world, and it is to be hoped that the archaeological evidence and analysis offered will finally and definitively override the legacy of Drachmann's 1932 interpretations, which have lingered so persistently in historiography.

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