coins, both Koan and foreign, allow Höghammar to assess contacts farther afield. The important Hellenistic theme of *asylia* (inviolabilty) is also addressed in order to situate Kos within the new environment of the Hellenistic world, where *poleis* were juggling their own interests and their relations with kings.

Kokkorou-Alevras, Grigoropoulos, Diamanti and Koutsompou drill more deeply into Koan matters with a paper devoted to the site of Halasarna. Their study, primarily based on ceramics, suggests that local products were traded extensively overseas throughout the classical period, and they argue for the importance of the port and its trade in forging the development of the surrounding region over the longue durée. A wider-ranging paper by Bouras follows, in which she considers harbours in the Aegean more generally, although with a focus on the Roman imperial period. Literary sources might imply the separation and isolation of islands; archaeological evidence indicates networks and hierarchies of harbours within the region. The discussion of the more esoteric geographic sources—above and beyond Strabo and Pausanias—is particularly useful.

The remaining papers shift the focus west to the Central Mediterranean. Lindhagen continues the theme of the integration of ports and inland communities with a study of Narona in Dalmatia, stressing the role of its geographic location in the development of the port over time. The emphasis on Narona's importance as a centre of the wine trade is a welcome and important contribution to our knowledge. Lentini, Blackman and Pakkanen offer a study of the Sicilian port of Naxos in the fifth century BC. The precise location of the port was unknown until the recent discovery of a series of shipsheds. It now seems clear that the harbour was within the city walls and close to the *agora*. Thus it served two purposes: a naval base and an important trade node.

With the final three papers, we come to Italy. Two excellent papers consider the port system of Rome. Boetto's contribution considers the river port of Ostia at the mouth of the Tiber and the maritime harbour of Portus on the nearby coast, before moving on to look at the river port within the city of Rome itself. Boetto concentrates on the archaeological evidence and, importantly, she examines the interaction between rivers and canals; it is a pity that this paper does not incorporate more of the readily available literary and documentary evidence—this is where an important contribution could be made. Simon Keay's paper on Portus extends its focus to

wider Mediterranean connections and, especially, the harbours of Hispalis, in Spain, and Lepcis Magna in Africa. He addresses some important issues: the capacity of ports, state involvement in port activities, the volume of shipping between ports and the economic integration of the Mediterranean. These topics would be ambitious for a monograph, let alone a paper, but they do indicate the direction in which future research might head. Again, however, it should be stressed that archaeological evidence alone does not provide the full picture. Finally, Malmberg considers the port of Ravenna on the Adriatic coast as a naval base, commercial centre and regional capital. It was Augustus who first developed Ravenna as a naval headquarters, and its importance grew through to its heyday in the High and Late Empire. As with all ports, geographic location was key, and while Ravenna enjoyed an excellent and commanding coastal location, it also benefited from good riverine communications with its immediate hinterland and beyond; canals extended these communications. Strabo has important things to say about this region, but his observations are oddly absent here.

Overall, this volume offers a range of important papers on commerce and communication in the classical Mediterranean. The presentation of the volume is impressive and it is particularly well illustrated—the use of colour plates is very welcome and should be noted by other publishers. While certainly making an important contribution to our knowledge, the volume also shows that future research must better integrate the archaeological and written evidence.

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SAM LUCY & CHRISTOPHER EVANS. Romano-British settlement and cemeteries at Mucking: excavations by Margaret and Tom Jones, 1965–1978. 2016. xiii+466 pages, numerous colour and b&w illustrations, tables. Oxford & Philadelphia (PA): Oxbow; 978-1-78570-268-6 hardback £40.



The excavations at Mucking are famous in the history of British archaeology. The fieldwork, undertaken between

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1965 and 1978 on a gravel terrace perched above the marshes of the northern shore of the Thames estuary in Essex, was pioneering both for the scale of work—hitherto rarely seen—and for its aspiration to hand-excavate all archaeological features. In the event, about 75 per cent of features were fully investigated, although some parts of the site received only cursory examination as fieldwork failed to keep pace with the encroachment of a gravel quarry. As far greater proportions of features were excavated than would be the case with a commercial archaeological project today (where the sampling fraction for ditches rarely exceeds ten per cent and is often much less), the work led to the recovery of artefact assemblages of considerable size (140 000 sherds of pottery for instance). Such quantities of material culture posed inevitable logistical challenges for the post-excavation programme, and reporting on Mucking, as with so many major excavations of the 1960s-1980s, proved difficult to complete and had largely stalled when the present authors picked up the project afresh in 2007. Until now only a site atlas and the Anglo-Saxon evidence had been published, but this volume, and its companion on the prehistoric evidence (reviewed in Antiquity 355, Gosden 2017), now complete the series. This report is an excellent achievement that displays considerable insight and that successfully rehabilitates Mucking into the recently reinvigorated field of Romano-British rural archaeology.

The scale of the investigations makes it possible to appreciate the relationships between an extensive rural farmstead, five associated small cemeteries and a series of pottery kilns. Pottery production seems to have been a facet of the late Iron Age settlement, and activity continued unbroken into the Roman period. Copies of Claudian bronze coins suggest that the Mucking site was engaged in some manner of economic contact with the Roman state in the decades immediately following the conquest in AD 43, perhaps via the supply of agricultural produce, or salt manufactured on the coastal marshes. Significant restructuring of the site's layout occurred in the closing decades of the first century AD, and seems to go hand in hand with a reorganisation and intensification of pottery production. The new site layout included a timber granary and a rectangular structure with an apsidal end set within a large rectangular enclosure. Such apsidal structures have been found on a small number of other sites in Essex, and it is not always apparent whether they were roofed buildings or open enclosures, or what function(s) they performed (the apsidal end has encouraged some to consider a religious interpretation, although on very little hard evidence). While the Mucking structure does look like a roofed building (the authors suggest that its walls may have been built from cob), another example from Monument Borrow Pit near Rochford was clearly an open enclosure as it was defined by 2m-wide ditches; some were seemingly buildings and others were enclosures. A residential function is suggested at Mucking and, if the large quantity of artefacts contained in the backfill of a nearby well were derived from this building, the residents were of some status.

Occupation at Mucking continued until the mid to later third century AD; from the mid second to the third quarter of the third century, the kilns formed part of the South-Eastern Reduced Ware industry that supplied pottery to the military garrisons of northern Britain, doubtless distributed by ship up the east coast. The pottery probably formed a small fraction of cargos dominated by foodstuffs and perhaps salt (salterns have been excavated recently within 2km of Mucking at Stanford Wharf). It is unfortunate that the biological record from Mucking is so poor; we can reconstruct little of its agricultural base due to the poor survival of animal bone, and also because few of the bulk samples collected were processed for the recovery of plant macrofossils (the soil samples are still retained by the British Museum, so in theory they could yet be analysed). It may be telling that significant occupation at Mucking came to an end at around the same time that South-Eastern Reduced Wares ceased to be supplied to the northern frontier, where the garrisons switched to more local suppliers. Conceivably it was the loss of the northern military market that led to the virtual abandonment of the farmstead after centuries of occupation.

An aspect of this report that will probably be much discussed relates to the presence of fourth-century AD Roman pottery in the upper fills of some ditches and the backfills of Anglo-Saxon *Grubenhäuser* in association with coarsewares in the Anglo-Saxon tradition. Very little other fourth-century activity has been found on the site, and the question arises of whether certain elements of the late Roman ceramic repertoire were used by inhabitants of the Anglo-Saxon settlement alongside Germanic-inspired wares. If so, and issues of residuality cloud the matter, it invites discussion of the start date of the *Grubenhäuser* settlement at Mucking. While a date around the middle of the fifth century was favoured previously, a reappraisal

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of the cemetery evidence suggests that some burials could date to the early to mid fifth century. It is widely, although by no means universally, believed that Roman pottery ceased to be produced or to circulate to any degree within a decade or so of AD 400 in Britain. If the earlier to mid fifth-century date is upheld for the start of the Anglo-Saxon settlement, this implies continued production and circulation of some categories of Roman pottery rather later than has hitherto been commonly thought. An alternative interpretation, and the one favoured on balance by the authors, is that the Anglo-Saxon occupation actually started in the late fourth century when Roman pottery would have been more plentiful, which carries with it wider implications about the context of the 'Anglo-Saxon' settlement. The Mucking evidence makes an important contribution to the renewed debate concerning how long Roman pottery production continued into the fifth century, and will surely be widely discussed and critiqued in this context.

This volume ably demonstrates the value of not giving up on important excavations that have remained unpublished for decades. While such investigations inevitably show their age in certain respects, most commonly in the approaches to environmental archaeology, reports such as this demonstrate that important evidence endures and deserves to be properly disseminated and debated. The authors have done us a great service by bringing this final volume on the excavations at Mucking to such an excellent conclusion.

## References

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PATRICK F. WALLACE. 2016. Viking Dublin: the Wood Quay excavations. 592 pages; 550 colour and b&w illustrations. Newbridge: Irish Academic; 978-0-7165-3314-6 hardback €70.

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The massive excavations undertaken between 1974 and 1981 by the National Museum of Ireland in the area of Wood Quay, Dublin, at the heart of one of northern Europe's most intriguing early medieval towns, are a cornerstone of Viking Age archae-

ology. The extensive excavated area comprised substantial parts of at least 14 urban plots ('yards') in a densely built-up area with a well-preserved, 3m-deep stratigraphy with evidence for about 600 buildings distributed across 14 chronological levels from the early tenth to the twelfth centuries AD. The extraordinary evidence for house plans and areas, combined with the remarkable preservation of organic materials and a rich environmental archive, and with a wealth of artefacts of every kind, from toy boats to artisans' trial pieces, and with a finely meshed stratigraphy, has allowed researchers to follow the development of Ireland's first urban community in high-definition detail. The results are documented in the fascicules of the series Medieval Dublin Excavations 1962-81, and have been reviewed in a host of books and papers.

The volume under review presents a synthesis by the researcher who directed the excavations as well as the subsequent decade-long research programme. According to the subtitle, the book concerns the Wood Quay excavations, but it is in fact based on a larger group of some 20 major area excavations undertaken at Wood Quay, Fishamble Street and St John's Lane. The author also seeks to incorporate evidence from subsequent excavations of early Dublin.

Despite its inviting format and a wealth of attractive illustrations, this is far from a coffee-table book. Nor is it a book written for a general archaeological audience. From the first page of the opening chapter, it assumes firm knowledge of the topography and streetscape of modern Dublin; of Irish medieval history and the vocabulary that goes with its study; of the personnel and sites of Dublin's archaeological research history; of the technicalities of urban archaeology; and of the general study of the Viking Age (which, for Dublin, is considered to continue up to AD 1169, p. xiii).