

of centuries-old trees, as Jennifer Moody states in a subsequent chapter (“Veteran and Sacred Trees in Modern and Minoan Crete”, Ch. 26). A complex reconstruction of the diversity of the ancient floral landscape of Crete is offered from botanical data and Minoan imagery, that show that trees were symbolic agents in the social world, deep-rooted in rites and rituals, of which the oldest ones (the “Veterans”) might have acquired special symbolism and devotion. The selection of examples and illustrations is generous and instructive.

More unusual is Peter M. Day’s ethnographic final study entitled “You Can Take the Potter Out of the Plain, but You Can’t Take the Plain Out of the Potter” (Ch. 27) which introduced two itinerant patterns in Eastern Crete for the purposes of understanding potters’ learning contexts and mobility, as well as their social position and status (their biography), and the way in which a potter embodies a traditional way of making a pot (the way in which he has learnt and understood it), even if his life and his different trajectories force him to adapt to new technical means. The observations are successfully tested with petrographic analyses. Perhaps it would have been helpful to offer a general framework of the particular research problems related to ceramic ethnography.

Overall, while remaining true to Jeffrey Soles’ primarily concern - the Minoan world -, this *Festschrift* offers a diversity of approaches over a large array of subjects, periods and methods, and both editors are to be congratulated on producing a magnificent, well-edited and certainly coherent volume that pays a real and impressive tribute to the honorand’s contribution to Aegean archaeology, providing another crucial reference point for understanding prehistoric societies.

LAURA E. ALVAREZ  
WIENER ANSPACH VISITING SCHOLAR 2022-24  
(POST-DOC),  
UNIVERSITY OF CAMBRIDGE COLLEGE RESEARCH  
ASSOCIATE  
lea48@cam.ac.uk

**Yannick Boswinkel, *Labouring With Large Stones. A Study into the Investment and Impact of Construction Projects on Mycenaean Communities in Late Bronze Age Greece*. pp. 195, 44 figures (25 colour), 42 tables, 6 appendices. Leiden: Sidestone Press, 2021. ISBN 978-94-6428-010-4 (hardcover); 978-94-6428-009-8 (softcover), £40; 978-94-6428-011-1 (e-book). £120 hardcover, £40 softcover.**

This study began as a PhD Dissertation, defended at Leiden in 2021, and it retains very much of that character. It is concerned essentially with a single question: did investment in large-scale projects, particularly the monumental ‘Cyclopean’ fortifications, overstrain the economies of the major Mycenaean centres and thus lead to the decline of Mycenaean civilisation, as has been argued by some specialists? A clearly set out series of research questions focuses on the labour costs involved in these constructions, reflected in the quantity of person-hours required, and the impact these costs would have had on ‘the communities in which they were constructed’ (p. 25). In summary, the questions concern how high the costs in labour were at the stages of construction; what the characteristics of the fortifications were and how this affected construction; what the costs tell us about the structure of Mycenaean society and how its wealth was distributed; and whether the construction of the monuments was a local, regional or interregional affair. These questions are considered with a concentration on two individual examples, the fortifications of Mycenae and of Teichos Dymaion in Achaia.

The first chapter after the Introduction, titled Late Bronze Age Greece, but really only about the Mycenaean world, presents fairly conventional views that are beginning to seem a bit outdated. These include the position of the palace within ‘palace societies’, on which once current views have been exposed to considerable revision in some recent discussions; the common tendency to assume that what can be worked out as the system of social organisation in one palace society, that controlled from Pylos, is generally applicable; and the tendency to speak of various features such as the megaron-centred palace and ‘Cyclopean’ fortifications as if they are typically ‘Mycenaean’ without qualification. Yet there is not a trace of ‘Cyclopean’ fortification at Pylos, to my knowledge, nor is there evidence for any kind of fortification at other important sites such as Orchomenos,

Dhimini (major, if not 'palatial'), and the new and definitely 'palatial' site at Ayios Vasileios in Laconia. At this last site a megaron suite has yet to be identified, as remains the case still at Thebes. B. is also ready to reject (rightly, in my opinion) the theory that the Mycenaean world or at least the most important parts of it were united in a single Mycenaean political system presided over by a 'Great King' based at Mycenae. But he does not seem to allow for the possibility that the 'state' of Mycenae was nevertheless very important. Following Sherratt, he completely understates the evidence relating to contacts between the Hittite world and Ahhiyawa. The evidence of the Hittite texts, though fragmentary, shows that a succession of Hittite kings had to take Ahhiyawa seriously, at least partly because of already established contacts between Ahhiyawa and the principalities of western Anatolia, that continued into the period of Hittite dominance.<sup>1</sup> If one believes (as I do) that Ahhiyawa was the power centred on Mycenae, there is nothing to preclude believing that the rulers of this power might have been influenced by their foreign contacts to compete with and impress their fellow rulers in the Near East, as well as in the Aegean, with magnificent fortifications. But B. apparently does not want to see Mycenae as dominant even in the central Argolid, though to my mind it is highly unlikely that Mycenae and Tiryns (to which he makes very little reference) could have existed as great centres in potential opposition to each other; they make much better sense as two focuses of a single system, that in fact began to be fortified in the 'Cyclopean' style at much the same time. Any decisions to build such fortifications, or other structures such as the bridges and terrace-walls in the (probably later) road system identified as radiating from Mycenae,<sup>2</sup> would thus have been considered in a context far beyond that of the individual 'community' of Mycenae.

Teichos Dymaion also seems a questionable choice. It is an isolated site on the northwest tip of the Peloponnese, where the wall is notably well preserved but not much is known about the settlement within it.<sup>3</sup> It cannot even be assumed that the whole territory bounded by the wall was occupied, as was certainly not the case at the known fortified site of Krisa, for instance. Although little is known of the distribution of Mycenaean settlement in this part of the Peloponnese, it is remote from

evident focuses of Mycenaean settlement in western Achaea and Elis, so that Teichos Dymaion seems most unlikely to have been a regional centre. That it could have been established by an external power does not seem impossible, since the same must surely be true of Gla in Boeotia, where there can be no question of there having been a settlement of any ordinary kind, although evidence of scattered structures outside the central compound but within the walled area has been identified recently.<sup>4</sup> If it was established by an external power, the motive for building at this remote spot can only be speculated about; but it is a reminder (like the relatively recent discovery of Ayios Vasileios) of how little we actually know for certain about political arrangements within the Greek mainland.<sup>5</sup>

Chapter 3, 'The fortifications of Mycenaean Greece', contains only a fleeting reference to the existence of earlier fortifications preceding the great 'Cyclopean' examples in date, and makes no mention of examples of undoubtedly late Mycenaean date that are not 'Cyclopean' in style (as at Eutresis). The origins of the 'Cyclopean' style also do not seem to be discussed at all (in contrast with e.g. Loader 1998),<sup>6</sup> nor is the use of the style for other major structures, particularly the drainage system of Lake Copais.<sup>7</sup> The most substantial part of the book is to be found in the following chapters, that deal with the case studies, the methodology followed, the data collected, and calculations of the labour costs in each stage of the process. The final Chapters 8-9 interpret the results and draw general conclusions.

Where this study does seem exemplary is in the amount of measurement and calculations that have been used in assessing the labour costs, and the very careful methodology employed in discussing all the factors affecting construction. Photogrammetry was used to create 3D models of much of the wall areas studied (pp. 87-90), which aids in their much more accurate description and analysis. In Ch. 7 a range of figures in person hours, man days, or oxen hours is calculated for each of the stages in the process which have been discussed in the preceding chapters, from acquiring the material (i.e. stone blocks and rubble), its transport, preparation of the base for the wall and what methods could have been used to build it, with input from ancient and modern sources of information and studies. This includes comparison

<sup>1</sup> All this is discussed in detail in Dickinson 2019a, cf. also 2019b: 39, 45-6.

<sup>2</sup> See Hope Simpson and Hagel 2006, Ch. 2, section 1.

<sup>3</sup> I must admit here that I am unfamiliar with publications concerning recent research at the site, to which B. makes useful references.

<sup>4</sup> Dickinson 2014: 153.

<sup>5</sup> Cf. Dickinson 2014: 158, 2019b: 42 for a suggestion of how Mycenaean Greece might have appeared in terms of political organisation.

<sup>6</sup> I here declare an interest; the PhD work on which Loader 1998 is based was conducted under my supervision.

<sup>7</sup> See especially Hope Simpson and Hagel 2006, Ch. 3.

with some domestic structures of Mycenaean date (still rather elaborate by comparison with e.g. the houses of Mycenaean Nichoria, which may be more like those of an average settlement). Interestingly, the figures that B. concludes for the time needed to build the walls at Mycenae and Teichos Dymaion seem considerably lower than those estimated by Loader for a single face of the walls at Tiryns, Midea, and Gla.<sup>8</sup> I do not feel competent to make any judgement on who is right, but feel bound to comment that, although wide ranges are allowed for in B.'s calculations, the question of how long any labour force could have been expected to work over a prolonged period or even in a single day, especially in the hotter parts of the year, might have received more explicit attention. Nevertheless, the discussion of all the factors involved in the process of building the walls contains a great deal of value.

It does seem necessary to comment that the determination to concentrate on Mycenae as a single community, without considering its likely political position and wider control, and on the period of the wall-building only, entails a refusal to consider the potential relevance of the prior history of building at Mycenae and in the central Argolid generally. The clearest body of evidence for this is provided by the unrivalled sequence of tholos tombs at Mycenae (there were also early tholos tombs of substantial size at Tiryns and several other sites), which demonstrate the development of increasing skill in building monumental structures; there are also indications of some kind of impressive building beneath the later palaces at Mycenae and Tiryns, and there might have been some early kind of fortification at Mycenae, as has certainly been identified on the Aspis at Argos, of transitional Middle to Late Bronze Age date.<sup>9</sup> With all this evidence for building in stone on a substantial scale, it seems inherently likely that something like a body of specialists in this skill would have developed in the central Argolid, incorporating persons familiar with all stages of the work from quarrying and if necessary shaping blocks and transporting them to setting them in place. Since a lot of this will have involved heavy labour,<sup>10</sup> it seems quite possible that this body will have included specialised labourers (even slaves), who would necessarily develop experience in the most efficient ways of handling the great stone blocks at various stages.

Certainly, when extra labour was needed for a really big project, like the fortification of Mycenae and Tiryns, it seems more likely that a team of persons ready to commit to the project long term would have been recruited (as seems to have been done for Egyptian pyramids)<sup>11</sup>, than that, as suggested by B. (who does allow for a core of professionals), extra labour was recruited through periodic levies from the general population. These could hardly be removed from the agricultural work that will have occupied most of them for any great length of time, certainly not at harvest times, and would probably require much training and direction, which would have to be repeated for each new levy. Of course, a specialised body of workers would have to be fed and perhaps given some minor form of remuneration, but it seems likely that this would have been the case with *corvée* labour also. In this connection, it seems worth commenting that B. appears to be confused about who held land in a palace society and might in his view have been liable for some form of public service like this (p. 142); the Linear B documentation gives no reason to suppose that the land-holding group was confined to an aristocratic elite, although such a social stratum does seem to have existed.<sup>12</sup>

B.'s general conclusion is that, even with the restriction to 'community' labour that he works with, the construction of the great fortifications should not have placed an undue strain on the economy of the centres that chose to do it. The conglomerate facades that were part of the later changes to the original circuit at Mycenae would have been 'expensive' in terms of person-hours etc., but these have always been interpreted as for display, not unexpected if Mycenae was the capital of Ahhiyawa. It would have been interesting to attempt to apply the calculations to Gla, apparently built to control the rich land produced by draining part of Lake Copais, and the associated drainage system, since as noted above this must have been organised by some external power (most likely Orchomenos, much closer to Lake Copais than Thebes). It may ultimately have proved impossible to maintain, but exists as a reminder that leading Mycenaean principalities could take on projects very likely to have demanded heavy resources. But evidence for involvement in monumental projects is not universal in Mycenaean Greece, while indications of a severe and relatively sudden 'decline' are; if this

<sup>8</sup> 1998, Appendix 3. She also offers measurements relating to the construction of the drainage works at Tiryns and in the Lake Copais region in Appendix 4.

<sup>9</sup> Papadimitriou *et al.* 2015: 163.

<sup>10</sup> French 2002: 56.

<sup>11</sup> Information in Wikipedia under 'Egyptian pyramid construction techniques'.

<sup>12</sup> Cf. Dickinson 1994: 84–5 for some comments, probably now antiquated.

involved economic factors, this may only have been part of the story, as B. deduces.

It remains only to comment favourably on the impressive quantity of figures, tables, and other illustrations provided to support the calculations and general argument, and on the detail and carefulness of the discussion, which must be taken into consideration in all future studies of this kind of topic. But the lack of an index must be regretted; this is probably normal and to be expected in a PhD Dissertation, but is not helpful in a book, in which one does not wish to have to search widely for possible comments on a particular site or topic of debate.

OLIVER DICKINSON  
DURHAM UNIVERSITY, UK  
Otpkdickinson@googlemail.com

- Dickinson, O. 1994. *The Aegean Bronze Age*. Cambridge: Cambridge University Press.
- Dickinson, O. 2014. The mainland Bronze Age: the search for pattern., *Pharos* XX.1: 143-59.
- Dickinson, O. 2019a. The use and misuse of the Ahhiyawa texts, *Studi micenei ed egeo-anatolici* N.S. 5: 7-22.
- Dickinson, O. 2019b. What conclusions might be drawn from the archaeology of Mycenaean civilisation about political structure in the Aegean? in J.M. Kelder and W.J.I. Waal (eds) *From 'LUGAL.GAL' to 'Wanax'. Kingship and Political Organisation in the Late Bronze Age Aegean*: 31-48. Leiden: Sidestone Press.
- French, E. 2002. *Mycenae, Agamemnon's Capital. The Site in its Setting*. Stroud: Tempus Publishing Ltd.
- Hope Simpson, R. and Hagel, D.K. 2006. *Mycenaean Fortifications, Highways, Dams and Canals. Studies in Mediterranean Archaeology CXXXIII*. Sävedalen: Paul Åströms Förlag.
- Loader, N.C. 1998. *Building in Cyclopean Masonry. Studies in Mediterranean Archaeology and Literature, Pocket Book 148*. Jonsered: Paul Åströms Förlag.
- Papadimitriou, N., Philippa-Touchais, A. and Touchais G. 2015. Argos in the MBA and the LBA: A reassessment of the evidence, in A.-L. Schallin and I. Tournavitou (eds) *Mycenaeans up to date. The archaeology of the north-east Peloponnese - current concepts and new directions* (Skrifter Utgivna af Svenska Institutet i Athen, 4°, 56): 161-84. Stockholm.

**Daniel R. Turner, *Grave Reminders. Comparing Mycenaean tomb building with labour and memory*. pp. 309, 87 figures (30 colour), 12 tables, 3 appendices. Leiden: Sidestone Press, 2020. ISBN 97890-8890-9849 (hardcover); 97890-8890-9832 (softcover); 97890-8890-9856 (e-pdf). £135 hardcover, £45 softcover.**

This study began as a PhD dissertation, conducted at Leiden in 2016-20 as part of the SETinSTONE project headed by Prof dr Ann Brysbaert, to which Y. Boswinkel's *Labouring With Large Stones* (reviewed in this volume) also belongs. Dr. Turner came to his subject with a considerable background in field archaeology, mainly in the USA, but apparently no prior knowledge of Aegean Bronze Age or specifically Mycenaean archaeology, although wide reading has given him quite good understanding. But his priority is not really to discuss the ancestry and development of the types of Mycenaean tomb (although he does include comment on this, on which more later). Rather, he wants to consider what would have been required in terms of time, labour and resources to construct the multiple-use types, particularly chamber tombs – a process which he terms generically 'earthmoving' – and he is interested in the part played by memory in the continuing construction and use, over long periods, of such tombs and the cemeteries in which they were grouped. He has much to say about the problem of establishing general standards for pre-industrial labour rates, drawing on multidisciplinary material from different world cultures, and he tests the standards that he has calculated, which include generous allowances of error because of the multiple uncertainties involved, against a chosen sample of Mycenaean tombs. In the course of this, he provides copious data on his use (with a collaborator) of photogrammetry to map the tombs and establish accurate measurements of their volume, an obviously basic element in calculations of the amount of work required to construct them and the time that it would have taken. The shaping of the tomb entrances and chambers and, in the case of stone-built tombs, of the blocks used to build them will have added to the time needed, and will naturally have varied, depending on the amount of care taken, thus introducing further uncertainties into the calculations.

Overall, this is a praiseworthy attempt to consider topics not often discussed in detail. The calculations produced seem reasonable and form a necessary