

REVIEW

Production and exchange of stone tools: prehistoric obsidian in the Aegean by Robin Torrence xiii + 255 pp., 56 illus., 35 tables. New Studies in Archaeology, Cambridge University Press, 1986. Price twenty-seven pounds -50, hardback.

The title of Robin Torrence's masterly reworking of her doctoral thesis belies its breadth and significance. The study extends beyond the Aegean to the world in a conspectus of lithic raw material procurement and exchange in both prehistoric and ethnographic contexts.

A valuable overview of recent analyses of exchange processes serves as a prelude to one of the cornerstones of the work. Proceeding from the premise that, the more profit-oriented an exchange system is, the more efficient production within it will be, Dr. Torrence describes various means by which efficiency might be achieved in lithic procurement and reduction; defines their probable archaeological expression; and examines their incidence among modern and recent stone-quarriers and -workers. The level of correlation between some of the measures of efficiency and the social and commercial contexts in which the practitioners operate(d) is impressive.

The theoretical framework so established is used to examine the Neolithic and Bronze Age obsidian quarries of Sta Nychia and Demengaki on the island of Melos, and the distribution of their products. In addition to applying her criteria of efficiency, Dr. Torrence assesses the annual person-hours likely to have been expended at the quarries, and examines the occurrence of material from them in settlement contexts elsewhere in the region.

The results repay what must, despite a carefully designed sampling strategy, have been a vast input of her own labour. The density and nature of waste at the quarries seems, when viewed in the perspective of the many centuries during which they were worked, to represent an expenditure of no more than 133 person-days per year for both. Unsystematic extraction, lack of a specialised tool-kit, low levels of standardisation in working methods and in debitage, low estimated annual production of macrocores (the main product), and evidence for the export of unmodified nodules all point to unorganised, non-commercial exploitation. Direct access by obsidian-users to the sources is inferred. The conclusion is supported by examination of industries from settlement sites elsewhere in the Aegean, which show little fall-off in flake size with distance from the quarries, suggesting that much of the material was collected at little marginal cost, perhaps in the course of fishing expeditions.

These conclusions weigh heavily against traditional views of the exploitation of Melian obsidian as a major commercial undertaking, which contributed to the development and prosperity of the city of Phylakopi.

A possible misgiving is that the ethnographic record, one of the foundations of Dr. Torrence's approach, is irremediably flawed and fragmentary. Adequate anthropological and technological accounts exist for only a handful of stone-working societies out of what was once a whole world-full. If more of

them were better-documented, would the present correlations between society, economy and technology still obtain?

Whether they would or not, Dr. Torrence has driven home the practical point, all too often forgotten, that the superficially vast bulk of debitage which characterizes mine, quarry and workshop sites can actually be generated at relatively little cost in time and labour. The temptation to infer commerce, even industry, from bulk alone has to be resisted. How the material was worked is at least as important as how much of it was worked. On the general level, she has provided a model of the construction of theory appropriate to the data and of its realistic application, and has demonstrated the need to view lithic procurement and distribution in their complete human context rather than as a specialised aside to settlement archaeology. She has forced us to put down the calipers and think.

Frances Healy February 1987