WORK IN PROGRESS

In the Lecture Program of the Societies of the Archaeological Institute of America in 1977-1978, the following are scheduled:

Papers delivered during a series of international seminars arranged by the Canadian and Swedish Archaeological Institutes in Athens during the academic year of 1976-77: Hector W. Catling and Richard Jones: "Late Minoan II Bronzes from the Unexplored Mansion at Knossos"; Ioannis A. Sakellarakis: "Cycladic Elements at Arkhanes"; Erik Hallager: "The Palace of Knossos in the Late Minoan Period."


CORRESPONDENCE

To the Editor: - I would like to add a word on a Minoan standard unit.

In Nestor 939 van Leuven proposed water, seawater or wine as a calculation agent, while (olive) oil has been proposed as well. I will try to consider the relationship of these materials to the Minoan foot.

If Graham's calculation of the Minoan foot (30.36 cm) is correct, and if a cubic Minoan foot (cm³) was a standard value, a cm³ of fresh water is most likely to be the standard, containing then: 27,983.71 cm³, or 27,983.71 kg/litres at 4°C Centigrade. (As a matter of fact, this is a temperature quite unthinkable in Cretan regions, but up to 10°-theoretically acceptable for water drawn from wells—a loss in weight in kg/l is negligible. The progressive loss of 1 gram/litre per 5 degrees Centigrade becomes effective from 15°C Centigrade upwards.)

The difference between this calculated value and an "ideal" weight of 28,000 kg is negligible, hardly traceable in the smaller units more frequently used in daily life, and only 16.29 gr. or 0.06 percent for the master unit.

The Zakros pithos could contain 556 l + 11 percent, or 617.16 l as a maximum. If containing 22 cm³, we find a difference between this calculation and the calculated value of 617.16 l, i.e. 22 times 27,983.71 l = 1,518.38 litres only.

But of course, Graham might be mistaken. If the Minoan foot were 30.366 cm instead of 30.36, the cm³ would be 28,000.304 cm³, thus almost exactly the "ideal" weight. But, as I think, it is rather unlikely that in these remote days measuring and calculation were of such a high standard.

The specific weight of wine is unknown to me, but I guess it varies to some extent, depending on region and year. Wine as a candidate should be omitted.

Seawater as a standard unit should be rejected as well. In the eastern Mediterranean its present specific weight is 1,039 kg/l at 4°C Centigrade, or 29,075.074 kg/cm³. Even when boiling—obviously very impractical for a standard unit—the seawater exceeds the desired 28,000 kg by 0.571362 kg.

Chadwick's standard of 28.8 kg/l is even more problematic. Fresh water is not heavy enough, seawater still too heavy. To approach the margin, it had to be heated to somewhere between 55 and 60 degrees Centigrade (1 cm³ seawater at this temperature: 28,795.244 kg), a temperature even harder to achieve exactly than that of boiling water. And, above all, still very hot, still very impractical.

Oil, with its specific weight around 0.92-0.94 kg/l, complicates the matter still more. It would change the Minoan foot considerably. If 28 kg/cm³ is the weight, the foot had to be 30.99859 cm long, and for the 28.8 kg/cm³ weight as much as 31.2908 cm.
If however, the Minoan standard weight were 28.8 kg and Graham's foot were correct, the substance sought for should have a weight of 1,029.701 gr/cm³. The only substance I could find, with 1,030 gr/cm³ at 20 degrees Centigrade almost matching the mark, is hydrochloric (muriatic) acid of 64.433 percent concentration, the manufacturing of which will perhaps have surpassed the technical possibilities of the Minoans and Mycenaeans.

Problems after problem, question after question arising from material readily available to everyone. "No values can be proven with the data available from the tablets" (Thornes, in Nestor 857). "The probable moral is that the conclusions of all scholars, whether in the Field or in the Museum, are like those of the Critics, hypothetical" (Kennay, though on another purpose—in Nestor 756).

Weserdrorfer, Strasse 8 D - 1000 Berlin 26 Yours, &c.
Yours, &c.
Anton Boskamp
30 September 1977

To the Editor: - D. A. Was' interesting extension of my comment on Minoan measures (Nestor 1139, 1116) leaves a few doubts. The khoinix vessel dimensions which I proposed are exterior, and do yield the interior volume ratio of 1/36 if the vessel wall and bottom are about 1 mm thick (cf. fine Kamares ware made when such units arose). His own explanation for the factor of 36 presupposes that of 120, and some research opposes his cubit in size and relation to the foot: D. Preziosi, AJA 71 (1967) 193. The Pylian foot is based on frescoes and was surely imported—if at all—to, not from, the mainland, since Hagia Triada is earlier and could well have used a foot unequal to Graham's (which is based chiefly on architecture at other sites, and is not 'larger' than the Pylian). The rule of 5/6 does not quite agree with the metriotes of 28.8 and 32.4 liters; its relevance depends on regarding the Zakros unit as a 'kleisus,' and on stating the kleisus of PY Fr 1184 in terms of Linear A khoinikes (another import?). I might add (at the risk of libel: cf. Nestor 1148) that unless these people wore truly heroic shoes, what we call a foot may have been a cubit anyway.

11 Parklands
Blandford Forum, Dorset
Yours, &c.
Jen van Leuven
9 October 1977

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CLIPPINGS