## The Graeco-Roman economy in the super long-run: lead, copper, and shipwrecks

## François de Callataÿ

"One of the major gaps in the study of Greek economic history is the lack of reliable statistical data, and the consequent impossibility of any detailed statistical approach to the subject."

M. M. Austin and P. Vidal-Naquet,

Economic and social history of ancient Greece (London 1977) 28

Graeco-Roman antiquity suffers from a defect which constitutes an ultimate handicap for the historian: the almost total loss of documentation. Of course, the ancient world was able to develop numerous, effective tools for writing. We can no longer think that Egypt and its papyrus records are a peculiar phenomenon, for we have writing tablets from Vindolanda, lead contracts from various parts of the Graeco-Roman world and especially north of the Black Sea, and a receipt from the purse of an Indo-Greek treasury. From the forts of Britain to central Asia, the Graeco-Roman world depended upon copious record-keeping. Whereas yesterday it was a matter of showing that Egypt was not just an exception, today it is necessary to supply evidence if one wishes to argue that Egypt was an exception. Yet the bulk of these documents have entirely disappeared. The Greek world, like the Roman, offers the historian only a few series of statistics that permit him to escape these tendencies, but they are often ambiguous and open to a wide degree of interpretation.

Recently, however, some fields have developed where it is possible to consider the overall performance of the Graeco-Roman world over many millennia. This advance, which even a quarter-century ago would have appeared most unlikely, is largely the accomplishment of geophysicists and glaciologists — virtual extraterrestrials for those who believe that L'Année Philologique or Dyabola constitutes the inventory of any and all useful knowledge about antiquity; their major discoveries remain little known and little discussed by all but a few scholars<sup>6</sup>

## The production of lead

From the start of the 1960s, C. C. Patterson (who lived from 1922 to 1995) undertook to exam-

Cf. W. V. Harris, The inscribed economy (JRA Suppl. 6, 1993); J. Andreau et al., La mémoire perdue. A la recherche des archives oubliées, publiques et privées, de la Rome antique (Paris 1994); D. Harris, "Freedom of information and accountability: the inventory lists of the Parthenon," in R. Osborne and S. Hornblower (edd.), Ritual, finance, politics. Athenian democratic accounts presented to David Lewis (Oxford 1994) 213-25..

A. K. Bowman, Vindolanda. The Latin writing-tablets, vol. 1 (London 1983); id., The Vindolanda writing-tablets: Tabulae Vindolandenses II (London 1995).

See the conspectus by Yu. Vinogradov, "The Greek colonisation of the Black Sea region in the light of private lead letters," in G. R. Tsetskhladze (ed.), *The Greek colonisation of the Black Sea area* (Stuttgart 1998) 153-70. In just a few years the number of these documents doubled: the author counts 10 private letters on lead for the north coast of the Black Sea (Olbia 5, Berezan 2, Nymphaeum, Phanagoria, Mt. Zhivakhov), 4 for the Western Mediterranean, and just 4 from the rest of the Greek world.

This receipt (14 x 6.25 cm) on leather dates from *c*.170 B.C. It comes from the treasury of king Theos Antimachos. It is now in the Ashmolean Museum (inv. EA 1994.79). See the full discussion in *Nomismata Chronika* 16 (1997).

For example, the sources relating to prices in the Hellenistic period from Delos, Babylon and, to a lesser extent, Delphi.

K. Greene, The archaeology of the Roman economy (London 1986) 170; J. Lambert, Traces of the past: unraveling the secrets of archaeology through chemistry (Reading 1997); M. Kelly, "Division of labour in the Long Run: evidence from small change," Univ. of Dublin 2001, internet publication; A. I. Wilson, "Machines, power, and the ancient economy," JRS 93 (2002) 1-32.