Water, oxygen isotopes, and immigration to Ostia-Portus

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"Soft" and "hard" data on immigration

In the 2007 issue of the *American Journal of Physical Anthropology*, a journal which I suspect few classicists consult on a regular basis, a group of scholars led by T. L. Prowse published an interesting contribution to our understanding of certain demographic phenomena at Portus, the deep-sea harbour of imperial Rome.[1] The article is of interest to those who work on aspects of material culture and ancient history, both because of the subject matter and because of the methodology of the team, which will be new to many. A principal conclusion of the study is that a considerable amount of immigration to Portus took place during the Imperial period. This is not a new insight, obviously, but Prowse and her team reached their conclusion based on an isotopic analysis of dental enamel from the cemetery of Isola Sacra, which has not been studied before from this perspective.[2] Furthermore, the authors claim that their evidence indicates that immigrants to Portus included not just men of working age, but young people as well: "migration was not limited to predominantly single adult males … but rather [was] a complex phenomenon involving families".[3]

The following discussion will examine the way in which the dental material was made to yield this conclusion. It will also consider a number of associated issues, including the water supply of Rome, Roman slavery, the transition from childhood to adulthood, and the epigraphic evidence from the Isola Sacra cemetery. None of these issues was considered in the study, but they are important for the interpretation of the data derived from the isotopic analysis of the dental enamel.

The present article was also written in the belief that it is worth devoting some attention to the use of, and the difference between, so-called 'soft' and 'hard' data in the humanities. The scientific analysis of dental enamel from the Isola Sacra cemetery obviously produces 'hard' data, and, inasmuch as it involves the study of the physical remains of a past human population, it is potentially of broad general interest. It represents the kind of work that might be published in a scientific journal of wider circulation and impact, such as *Nature* or *Science*. Such contributions are especially welcome in the current academic climate, which tends to give preference to 'hard' over 'soft' research.[4]

Because the study by Prowse *et al.* was largely based on the methods of natural science, the results are published in the form of numerical data. Although both the research and the results are presented with commendable clarity, this kind of presentation, employing tables, formulae and numbers, tends to repel (or at least disconcert) many scholars who

1 Prowse *et al.* 2007.

2 Several other articles by the same team, however, deal with material from the Isola Sacra: Prowse *et al*. 2004, 2005 and 2008, the last of which appeared after the one under consideration here.

3 Prowse *et al.* 2007, 510 (abstract).

4 A single example: the Academic Ranking of World Universities drawn up by Jiao Tong University in Shanghai (http://www.arwu.org), one of the most prestigious academic ranking systems, does not include any field in the humanities in its survey, and few in the social sciences. Among scholarly journals only *Science* and *Nature* are counted.