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Measurements of Distance in the Greek Historian

This paper will present some preliminary results of an investigation into how ancient Greek historians used numbers to describe distances. A survey of the statistical profiles generated by a long-term study of number use in the Greek historians provides the basis for some interesting comparisons of this aspect of a selection of Greek historical texts (principally, Herodotus, Thucydides, Xenophon's *Anabasis* and *Hellenica*, and Diodorus). There are, first of all, significant similarities between them, some obvious (e.g., the habit of computing longer distances in terms of days travelled, while shorter distances were measured in units based on the length of various human body parts), others less so (e.g., the fact that a high proportion of the measurements of distance greater than 10 in all the texts studied are multiples of 10). But the differences between the texts are no less interesting: e.g., numbers applied to distances are qualified (by expressions such as "about", "more than", "only") more frequently in some works than in others; the frequency of numbers relating to distance is significantly higher in some works than in others. The comparative analysis of these data can thus both illuminate the general mindset of these ancient Greek authors with regard to the measurement of distance and suggest some conclusions about the historiographic methods and interests of individual historians.

Thus the purpose of this paper is not to join in the chorus of criticism that has been levelled at the accuracy of ancient measurements as a result of the increasingly exacting scrutiny facilitated by modern technology (for a particular example see C. Rubincam, *JHS* 121: 77-90). Rather it proposes an approach that studies ancient measurements of distance in the general context of the quantification practices of various Greek historians. The methodology of the larger project to which this paper belongs involves coding every instance of a number (written in words or in symbols) in a given historical work, so as to capture a standard constellation of features: the type of number (cardinal, ordinal, numeric compound, non-explicit number, fraction), the subject category to which it refers (TIME, DISTANCE/SIZE, MILITARY, POPULATION, MONEY, MISCELLANEOUS), and whether and how it is qualified (by an approximating expression ["about"], a comparative expression ["more than"], an alternative form of words ["two or three"], or an emphatic expression ["only"]). By this means a statistical profile of number use can be drawn for each work, and comparisons can be made between them.

The statistical profiles resulting from the analysis outlined above will be presented, in graphic form (on a handout), along with some conclusions based on these data concerning how each historian used numbers in describing distances. It will be argued in general that in this area, as in so many others, modern scholars have often made insufficient allowance for the major differences of practice and mentality between ancient writers and ourselves. The ancient Greeks were very poorly equipped with precise measuring units. One result of this was a higher tolerance for approximation in measurements, which can be seen in the relatively low rate of qualification of numbers.