Editor's Preface to the Two Papers on Chronology and Dating

Dating ancient records of, say, astronomical data or historical events, has always been a central problem. And certainly the currently more or less accepted dates and chronologies are by no means as certain as, for instance, our high-school textbooks would like to make us believe. This applies, among other things, to the dating of the justly famous star catalogue in the Almagest, cf. Section 1 of the first of the two papers that follow for more details on this point.

One of the authors of the two papers that follow, A. T. Fomenko of the Moscow State University, recently introduced new empirico-statistical methods in chronology. These methods use ideas from geometry and statistics, and an essential feature is that they are based on mathematical models concerning the genesis of the historical records available and concerning the errors that can occur in them. Together with his colleagues, V. V. Kalashnikov and G. V. Nosovsky, Fomenko has applied these methods and further geometrical-statistical ideas to the dating of the star catalogue in the Almagest and other star catalogues. These methods have also been applied by him to other historical dating problems such as the chronology of dynasties and other chunks of history. These papers (cf. references [7–12] of the first of the two papers below, in particular paper [8]: The jump of the second derivative of the moon's elongation) have given us new tools to examine these questions of dating historical documents and events, and they have infused the field with new vigour.

When thus applied, the results are startling, to say the least, and they appear to be practically unassailable. Moreover, other techniques, by other Moscow statisticians, yield compatible results. In any case, being as solidly and mathematically based as they are they are, and also because of their coherence, these outcomes and methods deserve very serious consideration by historians, by statisticians, by mathematicians, and by any other kind of scientist or scholar who may on occasion be faced with the problem of matching various time-ordered sequences of data coming from different sources. And that really means just about every thinking person. In Moscow, the challenge has been taken up (but so far nowhere else as far as I know) and at least three different groups comprising some 25 scientists are now dealing with the statistics and mathematics of chronology.

A complete detailed treatise on the subject is planned to be published in 1990). These two papers can be regarded as an introduction to these matters (and as an

appetizer for all of these authors' work in this direction (so far, mostly only available in Russian).

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