Sabetai Unguru

Rewriting the History of Greek Mathematics

Born in 1931 in Podul — Iloaiei, Romania. Studied Philosophy, Philology, History and Mathematics at the University of Iasi (Jassy), where he worked as an Assistant in the History of Mathematics. Left Romania in 1961 for Israel, where he taught History and Mathematics till 1966, when he went to the USA to study the history of science and mathematics (Ph. D., University of Wisconsin, Madison, 1970). Taught in the States till 1983, at the University of Oklahoma. Member, The Institute for Advanced Study, Princeton 1977-1978. Professor at Tel-Aviv University since 1983 and Director of the Cohn Institute for the History and Philosophy of Science and Ideas since 1991. Has published books and articles primarily in the areas of ancient and medieval mathematics, optics, and natural philosophy. — Address: The Cohn Institute for the History and Philosophy of Science and Ideas, Tel-Aviv University, Ramat-Aviv 69978, Israel.

The luxury of a fellowship at the Wissenschaftskolleg, coming in the footsteps of a sabbatical at the *Herzog-August-Bibliothek* in Wolfenbüttel, caused me to dream of writing (1) a Brechtian play on the groves of academe and (2) a series of articles on Pythagorean mathematics, Apollonius, Archimedes and Diophantus, to be collected, together with other, already published, articles in the field, in a book entitled *Historical Studies in Greek Mathematics.*

All I have produced of the play, leaving out the selection and organization of the materials, is a title: *It's Academic!* Of the articles, on the other hand, I wrote "Greek Mathematics and Mathematical Induction" (to appear in *Physis,* vol. 2, 1991) and spent most of the rest of my time on a study of Apollonius's *Conica* that may eventually result in a monograph on the study of conic sections in Greek antiquity, methodologically supplanting Zeuthen's great study *Die Lehre von den Kegelschnitten im Altertum.*

It is my contention that it is not only possible to discuss the *Conica* non-analytically, but that doing so is both necessary **and** enlightening. Though Zeuthen's book is a must, the best and most thorough investigation of the

problem to date, I believe it has all the wrong insights and that these "insights" should be abandoned and replaced by an analysis of the text that refuses to apply to it non-Greek mathematical criteria. It is not enough that the history of mathematics deals with the universal, atemporal, essential content of disembodied mathematical ideas, their quintessence, distilled essence, as it were; to vindicate its historical character, it must concentrate on and ferret out the peculiar, specific, idiosyncratic parameters and limits within which a given mathematical culture operates. For a history of Greek mathematics worthy of the name, it is precisely a consideration of those features that make it Greek — that is, of supreme importance in historical analysis.

In addition to an incipient study of the *Conica,* I have also finished editing *Physics, Cosmology and Astronomy, 1300-1700: Tension and Accommodation* (Kluwer Academic Publishers, 1991) and put the finishing touches on and read proofs of *Witelonis Perspectivae Liber Secundus et Tertius, A Critical Latin Edition and English Translation of Books II and III of Witelo's Perspectiva with Introduction, Notes and Commentaries,* to appear in the Series *Studia Copernicana* in October 1991.

Besides this I wrote book reviews, refereed articles, read research proposals and dissertations, and engaged in a plethora of other time-consuming university activities, from which supposedly I should have been free. I also had my share of invited talks (Göttingen, Tessaloniki, Joannina, Corfu), conferences and associated travel, and personal misfortune that, together with Saddam Hussein's war, took a toll of my time. This is not an excuse for what seems to me low productivity, but rather a factual, dry litany.

It is, however, clear to me that my time in Berlin was a time of grace and benevolence. Should I have to single out the main elements that made it so, a condemnable undertaking to be sure, I would mention the *Empfang* and Barbara Sanders, on the one hand, and the Library and its staff, on the other. Without these two institutions it is hard for me to see how the Kolleg could fulfill its singularly distinctive function.

It seems to me appropriate at this juncture to quote Italo Calvino. In his *Lezioni Americane: Sei proposte per it prossimo millennio,* Calvino relates a Chinese story. This appears at the end of the Memo on Quickness:

> *Tra le moite virtù di Chuang-Tzu c'era l'abilità nel disegno. Il re gli chiese it disegno d'un granchio. Chuang-Tzu disse che aveva bisogno di cinque anni di tempo e d'una villa con dodici servitori. Dopo cinque anni it disegno non era ancora cominciato. "Ho bisogno di altri cinque anni", disse Chuang-Tzu. Il re glieli accordà. Allo scadere dei dieci anni, Chuang-Tzu prese it pennello e in un istante, con un solo gesto, disegnd un granchio, it più perfetto granchio che si fosse mai visto.*