SUMMARIES OF ARTICLES

Periodization in the History of Classical Mathematics

Roshdi RASHED

The dichotomy between « medieval » and « modern » is considered as the principal tool for periodization in the history of mathematics. In this paper the author does examine this dichotomy and study it in the light of progress in our knowledge of Arabic mathematics between the IXth and the XVIth centuries. The author argues that there is a coherent picture of the configuration of mathematics between the IXth and the XVIIth centuries, and shows that the resulting periodization cannot be adapted to the framework of the above mentioned dichotomy.

The Rôle of Maragha in the Development of Islamic Astronomy : A Scientific Revolution before the Renaissance

George SALIBA

This article disputes the traditionally held view regarding the periodization of Arabic science. It asserts, with reference to on-going research and to recently published results, that the period after the twelfth century, traditionally held to be a period of decadence, should be really assessed as the period when revolutionary results in Arabic astronomy were reached. The importance of the astronomical research which was conducted at the Maragha Observatory during the latter part of the thirteenth century is now fully appreciated especially by those working on the mathematical aspects of Copernican astronomy, where they see Copernicus himself as the last member of the Maragha astronomers.

*Periodization of the East Asian
History of Science*

Shigeru NAKAYAMA

In periodizing the history of science, several criteria are useful, such as internal paradigm changes and changes in external social institutions. Taking all of these into consideration, I would like to suggest a new way of periodizing the East Asian scientific tradition based on the characteristically historiographic approach to each period : 1. Orientalist phase, 2. historical phase, 3. comparative phase and 4. modern phase, with a hope that it could be applicable to other cultural domains as well.

Emergences of Philosophy in the Middle Ages

Jean JOLIVET

Philosophies which are particular to Christianity and to Islam respectively have been formed in different ways. The writings of Boethius and of his followers reveal how latin medieval thought, in its aims and literary format, continues to extend themes, outlines and methods developed in late antiquity. A strictly medieval philosophy (including theology) only appears towards the end of the eleventh century, when language itself became an object and privileged means of speculation. In the Islamic world, by contrast, one can observe successively the theological rise of the kalâm (second H./eighth century A.D.) and the strictly philosophical rise of the falsafa (third H./ninth century A.D.).

*« The Vicissitudes of the Facial Angle »
and the Beginnings of Craniometry (1765-1875)*

Claude BLANCKAERT

The method for measuring the facial angle was invented by P. Camper during the 1760's. This method of measuring precisely the variations in the prognathism of the upper jawbone, was expected to furnish an objective criterion for clearly distinguished facial features of different peoples. Camper admitted a gradation of the angular aperture from the Negroe and Mongolian races up to the idealized prototype of Antique Greek Beauty. The facial angle being rapidly overestimated as a physiognomonic technique capable of explaining the differences, whether physical, psychic or cultural, between individuals and nations, was soon

invoked by Lavater, Cuvier and Geoffroy Saint-Hilaire to legitimate the ideological notion of hierarchy of races. Towards 1840 the modalities and techniques of measurement became increasingly diversified : this fact testifies by itself that anthropologists were engaged in a critical evaluation of their methodology. As a consequence the semiology equation between the facial aperture and intelligence, already challenged by Gall, was progressively discredited by the anatomical examination of skulls and by the results provided by the calculation of racial means. Finally in 1874, P. Topinard provided definitive proof that the original evaluations had been false, and, by the same token, that the idea of a scale of races was inept.

A New View of Scientific Rationality

John WATKINS

A summary of the view of scientific rationality presented in the Author's Science and Scepticism (Princeton : University Press/London : Hutchinson, 1984).