AN ANNOUNCEMENT ON A GENERAL HISTORY OF ASTRONOMY

The International Astronomical Union in cooperation with the International Union for the History and Philosophy of Science is sponsoring the preparation of a four volume *General History of Astronomy*, General Editor : M. Hoskin (England). The break-up of the various volumes is as follows : Volume 1 will deal with the astronomy of antiquity upto Copernicus (Editor : O. Pedersen, Denmark). Volume 2 is supposed to cover the work of Tycho Brahe, Kepler, Galileo, Newton and his contemporaries, Laplace and others upto the discovery of Nepture (Editor : R. Taton, France). Volume 3 will comprise of sidereal astronomy, including Herschel's work, galactic structure, celestial mapping, astrometry and statistical astronomy, probably upto Kapteyn (Editors : M. Hoskin, England ; P. G. Kulikovski, USSR). Volume 4 will emphasize astrophysics (beginning with the spectroscopy and photography around 1860) but will also include other twentieth century topics till about 1940 (Editor : G. Whitrow, England). More recent developments in the twentieth century are supposed to be covered by an extensive annotated critical bibliography comprising both reviews and the key original contributions[1]. The details of a preliminary draft of the table of contents of Volume 1 of the GHA are given below[2] :

Part I : Pre-classical Astronomy

1. The Dawn of Astronomy (Prehistoric times, Primitive peoples, the "Megalithic hypothesis")
2. Ancient Egyptian Cosmology and Astronomy.
3. Babylonian Cosmology and Mathematical Astronomy (will include astrology Hebrew cosmology).
4. Astronomy and Cosmology in Ancient India and China.
5. Pre-Columbian Astronomy in America.

Part II : Classical Astronomy

6. Early Greek Cosmology and Astronomy (Astronomy in a society of farmers and sailors ; astronomical vs. mythological descriptions).
7. The Cosmos of Law and Order (Ionian cosmology, Pythagorean astronomy ; will include Greek science and the East).
8. The Attempts at a Synthesis (Platonic ideas of astronomy, planetary theory in Eudoxos and Heracleides, Aristotle's universe, problems of space and time, spherical astronomy)
9. Theoretical Astronomy in the Hellenistic World (Alexandrian science; books, instruments and observations. Planetary theory in Apollonius, Hipparchus and Ptolemy. Will include Greek geodesy and cartography and Hellenistic astrology).

10. The Impact of Hellenistic Astronomy (The Roman world ; the northern countries ; connections with Persia and India ; other neighbouring countries ; the Byzantine empire).

PART III : THE MEDIEVAL PERIOD

11. Medieval Hindu Astronomy
12. Early Muslim Astronomy (Astronomy and Islamic society ; the Hindu and Persian influence ; the Baghdad school and the classical tradition ; the spread of Muslim astronomy in the East and the West).
13. The Later Phase of Muslim Astronomy (The school of Maragha, Damascus, Samarkand, etc.)
14. Medieval Chinese and Japanese Astronomy.
15. The early Latin Tradition (Astronomy and Western society ; the astronomical teaching of the schools ; the development of the compass).
16. The Contacts between East and West (The first impact of Moorish astronomy ; the great wave of translations ; astronomy in university teaching ; will include navigational astronomy of the Norsemen and medieval Hebrew astronomy).
17. Theoretical Astronomy in the Latin World (The science of tables, the growth of the corpus astronomicum).
18. Problems in Medieval Cosmology (The Aristotelian tradition ; the fourteenth century critics of Aristotle ; the anti-Ptolemaic movements).
19. Instruments and Observations.

PART IV : THE PERIOD OF TRANSITION

20. The Changing Needs of Medieval Society (Navigation and cartography ; the reform of the calendar ; astrology, medicine and alchemy).
21. The Schools of the fifteenth century (Oxford, Vienna, Cracow etc. ; the problem of humanism and astronomy ; the new organisation of science—teaching vs. research).
22. Nicolaus Copernicus (His background and possible motives, developement of his theories, their cosmological implications ; first reception of Copernican astronomy).
23. Epilogue.

As is evident from the above contents, chapter 4, 10, 11, 12 and 13 are the relevant ones in which the Indian astronomical contribution can be dealt with. Sometimes back, Prof. Owen Gingerich, the President of Commission 41 of IAU, sent the following appeal to various scientific establishments regarding the General History of Astronomy :

"Our intention is to reflect in this work all phases of developement of astronomical concepts and the history of astronomical establishments of all people

throughout the world. I should like to ask you to sponsor the essential research and the compilation of short reviews of astronomical conceptions and historical essays on astronomy in your country."[3]

It was requested that all possible relevant information, specially precise bibliographical references concerning the history of astronomy in every country should be communicated. However, the response to his appeal was unfortunately very limited. The author of this report will be grateful if the readers take note of this news item and communicate to him the names (possibly with short biodata) of competent historians of Indian astronomy—ancient, medieval and also modern period. These names will then be forwarded to the respective editor of the GHA.

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References

[1] Information circular of Comm. 41 of the I.A.U., No. 21, December 1972.
[2] O. Pedersen, private communication, 1973.
[3] Information circular of Comm. 41 of the IAU No. 22, June 1973.