

41. COMMISSION DE L'HISTOIRE DE L'ASTRONOMIE

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INTRODUCTION

First of all we express our deep regret at the decease of members of our Commission: Prof. N. V. E. Nordenmark (Sweden), Prof. E. Guyot (Switzerland) and former President of the IAU Prof. O. Struve (U.S.A.).

During the past two years I received letters from members of the Commission, from members of the Organizing Committee approved by the IAU General Assembly in Berkeley in 1961, and from other persons interested in the history of astronomy.

Some days ago I received a letter dated 5 November 1963 from Vice-President Dr J. Ashbrook (U.S.A.) with the following regrettable lines:

'As you know, my principal occupation is Technical Editor of *Sky and Telescope*. This involves a heavy day-to-day work load, and in particular I am not master of my own time; it is literally not possible for me to count on an uninterrupted hour. A year ago this situation was easier; since then it has deteriorated badly. Under these circumstances I have not been able to give proper attention to the business of Commission 41. Therefore, I feel obliged to resign as Vice-President of the Commission. It would not be possible for me to serve as President after Hamburg or to take over the editorship of the Bibliography.'

I cannot invite anybody to serve as Vice-President without first obtaining the advice of members of the Organizing Committee and the approval of the Executive Committee. I hope to obtain the decision of the Organizing Committee before the Hamburg meeting.

INFORMATION CIRCULAR

In accordance with the Berkeley resolutions of our Commission (see *Trans. IAU*, **11B**, 357) some issues of the proposal Information Circular have been published to promote the exchange of information between members of Commission 41, National Commissions, and scientists in different countries interested in the history of astronomy.

The following material was published in the first five numbers of the Information Circular, issued before the end of 1963:

1. Information and notes on meetings: on the Meeting of Commission 41 during the Berkeley General Assembly; on the Meeting of the Soviet Commission on the History of Astronomy in May 1962; on the Tenth International Congress on the History of Science (astronomical part); on the forthcoming Symposium on the History of Astronomy in connection with the Twelfth General Assembly of the IAU in Hamburg in August 1964.
2. Obituaries in respect of Prof. N. V. E. Nordenmark (Sweden), Prof. O. Struve (U.S.A.), Prof. B. P. Zubov (U.S.S.R.), Prof. E. Guyot (Switzerland).
3. Thirty Miscellaneous Notes by Commission members, J. Fleckenstein, M. Kamienski, B. Sticker, F. Link, J. Ashbrook, G. Omer, V. Tchenakal, P. Slavenas, G. Abetti; and by

many persons interested in the history of astronomy: the late O. Struve, I. Veselovsky (U.S.S.R.), T. Przykowski (Poland), Z. Horsky (Czechoslovakia), O. Gingerich (U.S.A.), R. Brahde (Norge), F. Zagar (Italia), D. Schove (U.K.), F. Maddison (U.K.), N. Boneff (Bulgaria), A. Nielsen (Denmark). These notes refer in part to bibliographic information, but also contain appeals connected with particular research. I should like to stress the information from the General Secretary of the IAU about the work in progress by Mildred Shapley Matthews on the contributions to astronomy by women (Inf. Circ. no. 3, December 1962). I think that mutual information concerning the plans of researches, and exchange of information about possible sources of data, are very useful.

I thank all persons named here for their willing collaboration.

ANNUAL BIBLIOGRAPHIES

Similarly, the President undertook the preparation and publication of an annual Bibliography of books and papers on the history of astronomy for the years 1960, 1961 and 1962. The Bibliography for 1963 due to be published in the spring of 1964. The appearance of these bibliographies has removed the necessity of including a full three years' bibliography in the present report.

In connection with this work, I have received many reprints and bibliographical data which have greatly helped Mrs N. Lavrova and myself. However, I must repeat the appeal to all authors to send to the editor of the Bibliographies precise bibliographical data or the reprints of published works to make the bibliography more complete in future. I should like to mention with special gratitude Prof. A. Unsöld for his kind sending of reprints and Mrs Dr C. Doris Hellman for her active assistance and good wishes.

I received two critical remarks about the Bibliography. Prof. U. Baehr (D.B.R.) considers that only results of purely historical investigations should be included in the part 'Personalialia', and that commemorative and obituary notices should be excluded. I think it is rather difficult to make a strict choice and I prefer to give rather more instead of rather less information.

Prof. B. Sticker (D.B.R.) proposed the avoidance of a possible parallelism with the *Astronomischer Jahresbericht*, by publishing many times each year a current bibliography for all interested in the history of astronomy. I should like to obtain the opinions of Commission members on this suggestion. It is necessary to underline that the *Astronomischer Jahresbericht* appears about one and a half or two years later than the year concerned. I do not see any parallelism in both publications, but I agree to support proposals for more frequent issues of current bibliographies.

SYMPOSIUM IN HAMBURG

In connection with the forthcoming Symposium on the History of Astronomy, the President has corresponded with the General Secretary of the International Union on the History and Philosophy of Science (IUHPS) Prof. R. Taton (France), with Prof. B. Sticker (D.B.R.), with the General Secretary and Assistant General Secretary of the IAU. With Prof. B. Sticker, we have chosen two items for this Symposium.

The first day (22 August) will be devoted to the development of astronomical instruments and measuring techniques on the one hand, and the progress of astronomical knowledge as a whole on the other; the second day (24 August) will be devoted to problems of astronomical historiography. On 23 August the inauguration of the Exhibition on 300 years of the art of astronomical measurement, 1550-1850 will take place. We believe these items are interesting for the members of both Unions (IAU and IUHPS). I personally hope very much that the discussion on the second day will help us to lighten the tasks of revealing and investigating the treasure-houses

of historical materials (manuscripts, correspondence, archives, exhibits on the history of astronomy in different museums, etc).

CIRCULAR LETTER

In July 1963 the President addressed a Circular Letter to all members of Commission 41, and to the Presidents of National Committees of Astronomy of countries not represented in Commission 41, asking them to send contributions concerning scientific activity in the domain of the history of astronomy. The President has received a rather small number of answers. Perhaps this is due to previous active correspondence connected with the compiling and editing of Information Circulars and Bibliographies. However, I should like to acknowledge with thanks the kind answer from the Convenor of the Australian National Committee for Astronomy, Dr A. R. Hogg, mentioned below.

One of the resolutions approved during the Berkeley meeting should be repeated in Hamburg:

Commission 41 expresses its desire that the National Committees of Astronomy in countries adhering to the IAU organize whenever possible commissions on the history of astronomy in order to co-ordinate the efforts of scientists in allied fields.

As far as I know such commissions or similar organizations exist at present: in Czechoslovakia (President, K. Fischer, and from the end of 1962, Z. Horsky); in Poland (President, E. Rybka); in Italy (Abetti, Zagar, Martin, Cimino and Fresca); in the U.S.S.R. (President, P. Kulikovskiy); in Japan (H. Hirose and others); in the Popular Republic of China (Si-Tse-Tsun and others).

IMPORTANT EDITIONS

In spite of the publication of the annual Bibliography, I wish to draw attention to some important publications that have appeared during the last three years.

- Struve, O., Zebergs, V. *Astronomy of the 20th century*, 544 pp. Macmillan, New York, 1962.
- Ronan, C. A. *Changing views of the Universe*, 206 pp. London, 1961.
- 2nd revised edition of Yu. Perel's *The development of the ideas on the Universe*, 391 pp. Moscow, 1962, (Russian).
- Horsky, Z., Plavec, M. *History of knowing of the Universe*, 390 pp. Praha, 1962, (Czech.).
- Pannekoek, A. *A History of Astronomy*, 522 pp., London, 1961, (English translation).
- Abetti, G. 'Storia dell'astronomia'. In the book *Storia delle scienze*, 25-181, Torino, 1961.
- Neugebauer, O. The astronomical tables of Al-Khwārizmī. *Hist. Philos. Skr. Danske Vid-Selsk.*, 4, no.2, 217 pp., 1962 (Danish).
- Mamedbeili, G. *The Founder of Maraga Observatory, Muchamed Nasireddin Tussi*, 315 pp., Baku, Academic Press, 1961, (Russian).
- Alexander, A. F. *The planet Saturn: a history of observations, theory and discovery*, 474 pp., London and New York, 1962.

REPORTS FROM SOME COUNTRIES

Some quotations from the letters concerning the state of development of the history of astronomy, or individual reports, are given below:

Australia. Dr A. R. Hogg writes: '... the history of astronomy does not attract too many writers in a relatively young country like Australia. However, I am very glad to be able to report that the Basser Library has been established by the Australian Academy of Science with the aim of providing material and facilities for the study of the development of science (including, of course, astronomy) in Australia and for the life and work of Australian Scientists.'

Bulgaria. The Scientific Secretary of the Bulgarian Academy of Science, Prof. L. Iliev,

on behalf of the Academy calls our attention to the 'Historical notes concerning the development of astronomy in Bulgaria' published by Prof. N. Boneff in the *Astronomical Almanac of Sofia Observatory in 1957-59*.

Canada. Dr A. V. Douglas writes: 'As a member of Commission 41, I attended the Tenth International Congress on the History of Science in August-September 1962 at Ithaca and Philadelphia, U.S.A. I have now become a member of the Canadian Association for History of Science (affiliated with the IUPHS).'

Czechoslovakia. Dr F. Link nous écrit: 'L'activité dans le domaine de l'histoire de l'astronomie en Tchécoslovaquie a pour base deux organismes:

(a) La Commission pour l'histoire des Sciences, de la Technique et de la Médecine. Celle-ci organise les conférences et l'édition des Comptes-rendus de la Commission où l'on trouve aussi des notices sur les thèmes astronomiques.

(b) La Section Historique de la Société Astronomique Tchécoslovaque, orientée plutôt vers la vulgarisation et les travaux d'amateurs. La Section a organisé un séminaire sur l'histoire de l'astronomie qui a réuni une trentaine d'amateurs et quelques professionnels.'

Je peux ajouter que la Section (sous la Présidence du Dr Zd. Horsky) publie systématiquement les circulaires bibliographiques. Dr F. Link mentionne son oeuvre 'Observations et Catalogue des Aurores boréales apparues en Occident de -626 à 1600' (*Geofisikalni sbornik* 1962, no. 173, pp. 297-392), qui remplace avantageusement le Catalogue de Fritz (1873) contenant de nombreuses erreurs et notamment de fausses aurores.

Deutsche Bundes Republik. Prof. B. Sticker, Chief of Hamburg University's department of the History of Natural Sciences, and Director of the Institute for the History of Natural Sciences, is working on Herschel's views on the development of stars and stellar systems. His reports were presented at the tenth Assembly of the IUPHS and at the Deutschen Gesellschaft für Geschichte der Medizin, Naturwissenschaft und Technik in 1962. As President of this Society, Prof. Sticker reported in 1961 on 'Sixty years of history of science; Subject and Method' (published in *Beitrag zur Geschichte der Wissenschaft und Technik* 1961, H.3). Our colleague is now the principal organizer of the forthcoming Symposium on the History of Astronomy to be held just before the General Assembly.

Prof. E. Zinner continues his investigations on sundials. In 1962 he visited Greece and Yugoslavia for this reason, and is now reading the proofs of his new book *Alte Sonnenuhren an europäischen Gebäuden*. I should like to underline the appearance of Prof. Zinner's paper 'Aus alten Handschriften', which contains a very valuable 'Verzeichnis' of MSS situated in different points of Europe. This is the publication following after his *Verzeichnis der astronomischen Handschriften des deutschen Kulturbeites*. München, 1925. I should like to attract the attention of all historians to the urgent necessity for extending the number of such publications.

Dr W. Petri continues his studies of the history of Tibetan astronomy. He will report on this problem at the Hamburg Symposium.

England. Our former President Prof. H. Dingle writes: 'Activity in this country on the history of astronomy is mainly confined to the work of the British Society for the History of Science, in which astronomy is of course only a part. We had a valuable paper in January (1963) from Dr Doris Hellman, of New York, U.S.A., on the influence of Tycho Brahe, and this will be published shortly in the *British Journal for the History of Science*, a new journal of which the first two numbers have already appeared. In this country we have a growing number of people interested in the history of science generally, but few who are concerned especially with astronomy. Accordingly, they find their chief sphere of interest in the IUHPS'.

I wish to draw attention to the very interesting contributions on the scientific activity of James Bradley, by McCrea, Blackwell, Calvert, Woolley, Waters and others, presented at the

meeting of the Royal Astronomical Society on 9 November 1962. (see *Observatory* **83**, no. 932, 1963, and *Quart. J. RAS* **4**, 1963).

Dr F. Maddison (Oxford Museum of the History of Science) published in 1963 a valuable survey of sources and modern studies on 'Early astronomical and mathematical instruments' (*History of Science II*, 17–50). It contains a bibliography of 325 references.

France. Prof. J. Filliozat de l'Institut Français d'Indologie—membre de notre Commission—en parlant de ses 'quelques travaux sur l'astronomie indienne', nous écrit: 'S'il était un jour décidé de faire quelque bibliographie rétrospective sur telle ou telle question d'histoire de l'astronomie, il serait possible ici (à ce moment, le Prof. Filliozat était à Pondichéry, India), grâce à certains de nos confrères indiens, de les recueillir. Les écrits sur l'histoire de l'astronomie indienne sont souvent dispersés dans des publications relatives aux textes anciens qui ne sont pas principalement astronomiques mais contiennent des indications intéressantes l'histoire de l'astronomie'. Le Prof. Filliozat nous a envoyé récemment un Extrait du *Journal Asiatique* (Année 1962, pp. 325–350), contenant ses Notes d'astronomie ancienne de l'Iran et de l'Inde (I, II, et III).

Italia. Prof. G. Abetti writes: 'You certainly know the volume issued by the Brera Observatory *Atti del Convegno internazionale per il 250° anniversario della nascita di R. G. Boscovich*. It is really a very interesting volume. Then I may tell you that I am preparing the second edition of my *History of Astronomy* completely revised.'

Prof. G. Righini sent me the programme for the celebration of the 400th anniversary of the birth of Galileo Galilei (a brief summary will appear in *Information Circular* no. 6 at the beginning of 1964). I hope to organize a communication about the Galilean celebrations by one of our Italian colleagues during a scientific session of Commission 41 in Hamburg.

Japan. Prof. K. Yabuuti writes: 'From April 1962 researches on Japanese astronomy in the Edo period (1600–1870) were organized as follows:

- Navigational astronomy: I. Imai (Kyoto University);
- Astronomical bibliographies: S. Kanda and H. Hirose (Tokyo University);
- Astronomical thoughts in Confucianist and Shindoist: S. Nakayama (Tokyo University);
- Astronomical tables: T. Hirayama (Tohoku University);
- Influences of Western astronomy: H. Hirose.
- Works of Japanese astronomers: Z. Maeyama (Tokyo University).
- Astronomical thoughts in Buddhist monks: K. Yabuuti (Kyoto University).
- Observational methods and instruments: T. Watanabe (Tokyo Marine University).

The chief of this organization is H. Hirose, who was recently appointed President of the Tokyo Astronomical Observatory. Some results have already been published as mimeographic prints, but the whole results will be published a few years later . . . Recently I have edited and published a book, *History of Chinese Science and Technology in middle ages* (in Japanese and English).'

Poland. Prof. E. Rybka informs us that, under his guidance, the Polish Commission on the History of Astronomy continued the compilation of the first volume of the History of Astronomy in Poland (before 1773). In connection with the forthcoming 600-years anniversary of Krakow University, E. Rybka will publish in English a book *Four hundred years of the Copernican Heritage*, and a paper on the history of astronomy in Krakow (in the Publications of the University).

Prof. M. Kamiński continued his investigations of the history of Halley's Comet and of other problems (see Bibliographies).

Switzerland. Dr J. Fleckenstein nous donne des informations sur l'activité, dans le domaine de l'histoire de l'astronomie, du Dr E. A. Fellmann, qui continue ses travaux sur l'histoire de

l'optique, du Dr B. L. van der Waerden, qui a étudié l'astronomie de Babylone et de la Grèce, et de lui-même, qui a étudié les oeuvres de Bernoulli et de Boscovich (voir les Bibliographies).

U.S.A. In addition to numerous papers mentioned in the Bibliographies for 1960–63, I should like to underline the edition of voluminous tables by W. Stahlman and O. Gingerich *Solar and planetary Longitudes from –2500 to +2000* (Madison, 1963), the re-edition of Oppolzer's *Canon of Eclipses* (New York, 1962; 608 pp.) and the computation of tables *Moonrise and Moonset in ancient Babylon* (O. Gingerich, see *Inf. Circ.* no. 3 and 5).

Yugoslavia. Prof. V. Michkovitch writes: '(1) Last year I stopped the publication in Serbian of my *Chronology of the astronomical discoveries* and decided to translate it and publish it in French. (2) Since the beginning of this year I am preparing a study of the development of astronomy in my country.'

U.S.S.R. The principal events in the field of the History of Astronomy were as follows:

The Commission on the History of Astronomy of the Astronomical Council of the U.S.S.R. Academy of Sciences unites more than 30 scientists of different specialities—astronomers, mathematicians, orientalists and even numismatians—from all parts of this country; some more young men, and amateur workers in the field of the history of astronomy, are attached to the Commission. Not less than one meeting of the Commission took place annually.

In January 1962 an annual meeting took place in Leningrad and Pulkovo (see *Astr. Zu.* **39**, no. 3, 564–567), at which many scientific reports were contributed.

In May 1962, in Baku (Azerb. SSR), a meeting devoted to the problem of the history of astronomy of Ancient Ages and of peoples of Central Asia and Caucasus in the Middle Ages took place (see *Inf. Circ.* no. 2, August 1962 and *Astr. Zu.*, **39**, no. 5, 951–952, 1962).

In November 1962, in Riga, a conference on the history of physical and mathematical sciences of the Baltic peoples was organized. At the end of 1962, on the island of Naisaar, a commemorative inscription was mounted on the house where the distinguished optician of the 20th century, Bernhardt Schmid (1879–1935), was born.

In January 1963, in Leningrad and Pulkovo, another annual meeting of the Commission, to which a number of scientific papers were contributed, took place; in May 1963, in Moscow, 20 scientific reports were discussed at the Astronomical Section of the All-Union Conference on the history of physical and mathematical sciences. At a plenary meeting, Prof. B. V. Kukarkin made a report on 'Philosophical problems of the history of astronomy' (see *Astr. Circ.* U.S.S.R. no. 246, 23 May 1963).

In addition to the material in the published Bibliographies, I would like to mention the following editions and works of Soviet authors. One volume of *Scientific Heritage* will be devoted to the relations between the Paris and Petersburg Academies of Sciences in the XVIIIth century. This volume contains some letters from French astronomers, translated by Mrs T. N. Klado.

Prof. P. Slavenas reports on the restoration of the old Vilnius Observatory as an astronomical museum. Some papers concerning the astronomical activity of Vilnius University at the beginning of the 17th century and the activity in astronomy of University pupils in the 18–19th centuries were prepared under the guidance of Prof. Slavenas.

I should like to note the works of L. E. Maistrov (Moscow) for the deciphering of runic and other different wood calendars.

During 1962, members of Commission 41 and some Institutions received the *Bibliographie des bibliographies astronomiques* by Mrs N. B. Lavrova (Moscow, 1962, 110 pp., Préface et table des matières en russe et en français). L'ouvrage contient la description des bibliographies publiées au cours de 200 années jusqu'à la fin de 1960. Il peut être considéré comme un

complément à un ouvrage déjà publié de l'auteur (N. B. Lavrova, 'Aperçu de l'histoire de la bibliographie astronomique'. Moscou, *Istor.-astr. Issledovanija* 5, 83–196, 1959).

Prof. B. A. Rosenfeld is investigating the scientific activity of famous Al-Biruni (in particular, he is translating his *Canon Mas'ud*).

Prof. I. N. Veselovsky is translating into Russian *De Revolutionibus* for the Academy of Sciences Press. After his translation of the works by Archimedes (Moscow, Fismatgis, 1962, 639 pp.), including the astronomical pages ('Psammit' and others), Prof. Veselovsky will finish the translation of and commentary on the *Almagest* by Ptolemy. He continues his study of the Babylonian text *Mul Apin*.

At the beginning of 1963 in the *Communications of the Commission* a list of problems-in-hand by Soviet scientists was published. This proves to be very useful for mutual information and possible help. I think it is very desirable to publish similar lists in the *Information Circulars*. Some attempts can be found in *Information Circular* no 3 (see also the proposal by H. Michel (*Trans. IAU* **IIA**, 463)).

P. KULIKOVSKY

President of the Commission