

of astronomy coming of age. It also led to extending and intensify the research of ancient Middle East and Asian scientific heritage. With academic standing secured, history of astronomy witnessed a new phenomenon: scientists turning for history as their intellectual (and academic) career. The professional work was enormously enriched by contribution of scientists-historians. To name again L. E. Dreyer, P. Duhem, L. A. Birkenmajer, O. Neugebauer, W. Hartner. In fact, the standard set up by this generation of scholars can serve as an exemplary one for historical research in other disciplines.

Present approach to historical studies is markedly alert to a wider context of cultural and political involvement of science and of scientists. For history of science this calls for yet more know-how from other disciplines, besides historical and linguistic. In the anniversary mood of the present General Assembly it might be a good occasion to reflect on the ways to help Commission 41 in its tasks. This Commission has had the good fortune of securing a sizeable number of associates ('consulting members'). This policy may well be continued with the view of helping interdisciplinary projects involving past (and prehistoric) astronomy.

Discussion

O. Gingerich : To mention another important astronomer-historian, Francis Bailey, an active member of the Royal Astronomical Society, wrote in the last century a biography of John Flamsteed that essentially established modern history of science by its unprecedented use of unpublished letters and other archival materials. By casting Issac Newton in a less than flattering light, it created quite a stir.

J.-C. Pecker : Before Delambre, the "History of mathematics" (including astronomy) was rewritten by Lalande. It is a very good book... But Delambre never quotes it ; he had a very unfair attitude towards his master and teacher Lalande !

FINDING A HOME FOR EARLY RADIOASTRONOMY:IAU OR URSI?

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In the decade following World War II radio engineers and physicists adapted wartime radar techniques to study extraterrestrial radio "noise". These studies revealed new aspects of familiar objects (the Sun and Milky Way), as well as wholly unanticipated phenomena (radio "stars"). The men doing this work, however, had (with rare exception) no training in astronomy and therefore it was not clear if and how they fit into the journals, funding agencies, institutions and professional societies of traditional astronomy. One way in which this ambiguity can be traced is through the then-debated question as to whether the IAU or URSI (the International Union of Radio Science) was a better venue for sponsoring meetings and reporting results. Both were strong international unions and in fact both in 1948 created commissions for the new field of radio astronomy. At first radio astronomers felt more comfortable within URSI Commission V (now Commission J), first headed by the ionospheric physicists Edward Appleton and David Martyn. Indeed, it was Richard Woolley, an *optical* astronomer with an interest in the new findings, who headed the first 21 members of IAU Commission 40 (which still exists as such). This soon changed, however and within a few year radio astronomers

were running the commission, gaining more respect, becoming more integrated into astronomy as a whole, and joining other IAU Commissions. They never did feel compelled to form their own societies or journals, or to have to choose between unions. In fact, the IAU and URSI worked closely together, as in a joint committee appointed to pass judgment on the reliability of alleged radio-sources - in the final list of 1955 only eight (!) were classified as "most certainly existing" (meaning have a good optical identification). By the end of the postwar decade radio astronomers adopted the policy of supporting both URSI and IAU (even as they do today) with results of techniques and the atmosphere tending to be given at URSI meetings and those of astronomy at IAU meetings.

Discussion

D. Jones : I was a student in the mid 50s and remember that Cambridge University appointed Martin Ryle 'professor of Radio Astronomy' which indicates that the term had already achieved respectability by that time. At the same time Woolley started his annual series of conferences at Herstmonceux to which all UK and many overseas astronomers were invited. The only conflict I can remember was minimal and was between the Cambridge and Manchester Radio Astronomy groups.

W.T. Sullivan : My talk was focussed on the postwar decade, and indeed by the end of that decade (1955) radio astronomers were a far more integrated part of astronomy than in the late 1940s.

D. DeVorkin : Please comment on how the radio astronomers published technical instrumentation papers and papers dealing with scientific results.

W.T. Sullivan : Though they overlapped the generally published technical papers in radio journals, they published results in astronomical journals. Despite the recollections of some radio astronomers, there was little conflict or resistance to publishing radio data in astronomical journals.

A.B. Batten : Michael Ovenden often told me that the RAS Council held lengthy debates about whether or not *Monthly Notices* was a suitable journal for the publication of papers in radio astronomy.

W.T. Sullivan : Yes, there were such debates in the late 1940s, but with support from Ovenden, William McCrea, and others, by 1950 radio astronomers were definitely accepted by the Royal Astronomical Society.

D. Osterbrock : Confirming your statement that the optical astronomers welcomed the radio astronomers, and wanted their data, John Bolton, in his autobiographical article, told how when he first started at Caltech in 1956, Rudolph Mankowski came to see him in the first week, greeted him, and emphasized the need for accurate radio positions to identify the sources - and then came back at least once a week every week until he retired, to ask how the positions were coming!

F.K. Edmondson asked for a show of hands of those at the 1952 Rome GA.

(Some people)

THE FIRST WOMEN APPOINTED TO IAU COMMISSIONS

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Seventy-five years ago at the meeting in Brussels in 1919, four commissions of the newly-formed IAU each proposed a women for membership. Subsequently, after the first meeting in Rome in 1922, a few more women became members of commissions at each triennial meeting. The purpose of this paper is to examine how and why these particular women were invited to participate and what each contributed to her commission; also to