J.-C. Pecker : It is interesting to note the importance, in the admission of Germany and later in the Chinese affair, of *individual membership*, which characterizes the IAU (to my knowledge, the only scientific union to have individual membership). In the 60's, J. Oort was in favour of suppressing the individual membership ; but the EC disagreed (rightly in my opinion) with such an eventuality.
D. DeVorkin : Leo Goldberg found it just as difficult to get documents out of the State Department when he worked on the history at the National Air and Space Museum as it had to deal with the State Department at the time.

ASTRONOMERS: WRITERS OF THE HISTORY OF ASTRONOMY

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The object I found myself confronted with, opens some doubts as to its main issue: If astronomers' writers of history, why not historians writers of astronomy? After all, history is far removed from astronomy in what concerns subject, methods, tools of research and criteria of competent work. Much devoted effort can be lost due to to lack adequate correspondence of scientific and historical apparatus. The value of field work (as in archaeological work) can be nullified without adequate documentation enabling its repetition and verification. The quotations, even by the highest authorities, must be checked at their source. All this notwithstanding, there is the history of astronomy. In a very high degree it is thanks to the fact that to-day's scholars stand on the shoulders of giants of the past. Not a few of those were astronomers writing history.

History of science in modern times is the daughter of the Enlightenment. That epoch found the confirmation of its optimistic program in the principles of scientific reasoning and of progressive scientific development. Jean B. Delambre followed this program in the realm of astronomy, in six volumes of his "Histoire de l'astronomie" (1817-1827). This grand work of a scholar-scientist is still acclaimed as a masterpiece thanks to its scope and thanks to its thorough discussion of the geometrical and numerical contents in the works of past generations. Following Delambre, the XIX century authors expanded the story of science in which the past was leading more or less linearly to its present. There is no place here to list all important and influential works. To name but a few: Robert E. Grant's "History of Physical Astronomy" (1852), extended up to the beginning of the twentieth century by Agnes M.Clerke,a renowned pioneer lady writer on astronomy and its history. Widely known on the European continent was the "Geschichte der Astronomie" (1877) by the Zürich solar astronomer Rudolf Wolf. Some in-depth monographic studies from this period are far from antiquated, as R. Small's of Edinburgh on Kepler's planetary theory (1804) and the "Geschichte der Bahnbestimmung" (1867-94) by the Viennese astronomer, Norbert Herz.

A marked breakthrough was realized thanks to philological studies of ancient scientific texts. The history of astronomy became a common field of scientists and philologists. Even a most brief list of the scholars involved must include Johann Louis Emil Dreyer, Johan Ludwig Heiberg, Axel Anthon Bjoernbo (all from Denmark), G.V. Schiaparelli and Carlo Alfonso Nallino, Karl Manitius. This process was of primary importance in making the history

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 metings 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