ABSTRACTS

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Session 21: HAD III—History of Modern Astronomy and Astrophysics
0930–1200 (Clarendon Room)

21.01 Optics in the Early Forties at Harvard College Observatory, J. G. Baker, HCO


An invaluable data base for the history of modern astronomy is being eroded. Biographical information on many astronomers is being lost. For most journals surveyed, 1960 was the peak year for publication of obituaries.

Eleven journals were sampled at twenty-year intervals from 1920 through 1980. General science journals (Nature, Science) provided benchmarks. Four intermediate journals (Physics Today, Pop. Ast., Publ. ASP/Mercury, Sky & Tel.) were found to carry a disproportionate share of responsibility for publishing obituaries. Three European core journals (AN, Obs., MNRAS) and two American core journals (AJ, Ap. J.) were examined. For the years sampled, American core journals virtually left the publication of obituaries to their European counterparts.

Several explanations for this situation are explored and a proposal offered which would allow North American astronomers to assume responsibility for maintaining the historical record in the same way they are responsible for maintenance of the scientific record. The content of an ideal obituary is also discussed.

TOTAL NUMBER OF OBITUARIES PUBLISHED IN EIGHT ASTRONOMICAL JOURNALS

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<tr>
<th>Journals Publishing</th>
<th>No. Obit. Published</th>
<th>Percentage Change</th>
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<tbody>
<tr>
<td>1920</td>
<td>6</td>
<td>52</td>
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<tr>
<td>1930</td>
<td>6</td>
<td>51</td>
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<td>1940</td>
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<td>75</td>
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<td>1950</td>
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Through the end of the nineteenth century, all new large American research telescopes were built as refractors, culminating in the Yerkes 40-inch, dedicated in 1897. In the next century, beginning with the Mount Wilson 60-inch in 1908, there was a complete switch to reflectors. Some of the scientific, technical, human and emotional factors that went into this turnaround are described. The Lick Trustees, charged with building a telescope "superior to and more powerful than any telescope yet made", had agonized seriously over going the reflector route in the 1870's, before they finally decided on the safer refractor path. Although English astronomers had built and used large reflectors, all of them were mechanically very poor instruments, which had a largely negative effect on American thinking on the subject. The spectacular results achieved by James E. Keeler with the Crossley reflector, and later by G. W. Ritchey with the Yerkes 26-inch, were decisive in changing such opinions. The Lick Observatory's southern hemisphere 36-inch reflector, built under W. W. Campbell's direction, went into operation in 1903 at a cost of one fifth the time and one tenth the money required for the 36-inch refractor. Some of the others who led the move to reflectors were Simon Newcomb, David Gill, Howard Grubb, Richard S. Floyd, Edward S. Holden, John Brashear and George E. Hale, while some of the nasayers were Alvan Clark, Alvan G. Clark, S. W. Burnham, John Ritchie, Jr., E. E. Barnard and William J. Hussey.


Both as a budding astrophysicist and as a woman, she found opportunities at Harvard unavailable in her native England. After initial studies of the spectra of hot stars, Payne developed a temperature scale for all spectral classes. During her second year at Harvard, she made pioneering estimates of the relative abundance of elements in stellar atmospheres. She found enormous amounts of hydrogen and helium, although H. N. Russell persuaded her to dismiss this result as physically unlikely.

21.05 The Naval Observatory History Committee, S. J. Dick, L. E. Doggett, B. G. Crabin, U. S. Naval Observatory. The Naval Observatory History Committee was established in 1974 to preserve instruments, photographs and data related to the Observatory's history. In serving this purpose the Committee has gathered and cataloged a variety of instruments. It has also restored a 12" Clark refractor and a 5" comet seeker. A photographic collection which documents the history of the Observatory has been assembled and cataloged. Having made progress with the instruments and photographs, the Committee hopes to centralize correspondence and other documents related to Naval Observatory history over the past half century. Other planned activities include oral histories of past and present staff members. The Committee also sponsors historical colloquia related to the history of the Observatory and astronomy in general. It has co-sponsored...