

D. Jones : I believe that Stratton ran the IAU without either secretary or typewriter. I fear that for those years little archives exists.

P. Beer : One reason why the archives from Stratton's long period as General Secretary are so sparse is Prof. Stratton's habit to reply to nearly all letters, the same day usually, on a small postcard - written by hand (hence no copy !).

D. McNally : I can say that the EC regarded in a very favourable light Prof. Blaauw's suggestion for the use of the rendered budget for the IAU History. Perhaps Jean-Claude Pecker may be able to say more about a proposal that the IAU Archives be placed with the French National Academy for permanent retention.

J.-C. Pecker : Prospects of having IAU Archives at the "Institut de France" are being explored. The situation is "promising", but no final solution is still reached. I am working on that..

G. Wilkins : I suggest that consideration be given to asking the Cambridge University Library to hold the IAU Archives. The Library now holds the much more extensive archives of the Royal Greenwich Observatory and so a visit to Cambridge (UK) could be very productive for any historian of astronomy.

E.J. Hysom : I just wanted to support Dr. Wilkins - and to say that at Cambridge University Library they are adding about 2 kilometers of shelving each year.

"THE INTERNATIONAL UNION FOR COOPERATION IN SOLAR RESEARCH: PRELUDE TO THE IAU"

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The International Union for Cooperation in Solar Research [ISU] was the brainchild of George Ellery Hale. Its published purpose, in the words of its official constitution, was the "accomplishment of large pieces of routine work through co-operative effort." [ISU Tr vol 1, p. 5] But its actual influence lay more in the development of standards of practice, and a common set of definitions and terms, which were a critical step in the professional development not only of solar physics, but of astrophysics generally.

The ISU was created by George Ellery Hale, Arthur Schuster and H. H. Turner at the 1904 World's Exposition in St. Louis, amidst an International Congress held to celebrate the opening of the American West. The scope of the ISU was at first limited to solar research, and committees were formed there, and at subsequent meetings in Oxford (1905) and Meudon (1907), to standardize the measurement of spectral wavelengths, as well as to standardize practice in the design and use of the spectroheliograph, and in the measurement of solar radiation. There were also committees for standardizing the determination of solar rotation, the organization of eclipse expeditions, and the investigation of sun spots.

As planning progressed for the 1910 meeting of the ISU, to be held at Hale's Mount Wilson Solar Observatory, J. C. Kapteyn, Edwin Frost, Arthur Schuster and others urged that the Union expand its scope to include all of spectroscopic astrophysics, and, for Kapteyn, become a means to accommodate his "Plan of Selected Areas." For Frost, the problem was, again, standardization. In 1904, he counted up some 23 distinct systems for the spectral classification of stars, which gave him considerable headaches as the ApJ editor. A mechanism had to be found to get the growing community of astrophysicists to cooperate, and the ISU was the best place to start.

Hale knew that E. C. Pickering's cooperation was critical. No man had invested more into developing systems of stellar magnitudes and spectral

classification, and no astronomer in America was then more powerful. Pickering was already the chairman of the Committee on Stellar Photographic magnitudes of the Astrographic Chart Conference, and Hale and his cohorts saw to it that Pickering would hold a similar position, under the auspices of the ISU, for spectral classification. Pickering accordingly attended the 1910 ISU meetings, and indeed chaired the session when spectral classification was discussed. At Mount Wilson, ISU members agreed to expand the scope of their organization. They hoped to minimize conflict with the venerable and powerful *Astronomische Gesellschaft*, and the Astrographic Chart Conference, by limiting their scope to the application of spectroscopic technique to astronomy. Pickering's magnitude committee for the Astrographic Chart Conference remained intact.

The next meeting of the ISU was held in Bonn in 1913, where the resolutions of the 1910 meeting were ratified, making Pickering's Draper classification system the world's provisional standard. By that time, however, the ISU's governing patron, the International Association of Academies, had already been dissipated by growing war clouds in Europe, and after 1913, plans to meet in Rome in 1916, and Cambridge in 1919, were never realized. After the war, the allies and neutrals chose not to revive the International Association of Academies due to its strong Germanic base, and created a new international organization to which new disciplinary entities could adhere and be recognized. Out of this reformation emerged the IAU, very much bearing the likeness of the expanded ISU, with added elements from the Astrographic Chart Conference.

Sources for this talk include correspondence in the Hale Papers (Caltech) and Schlesinger Papers (AIP) microfilm editions, and Pickering Papers (Harvard); the four volumes of the ISU Transactions, edited by Schuster; W. S. Adams, "The History of the International Astronomical Union," *PASP* 61 1949:5-12; and D. H. DeVorkin, "Community and Spectral Classification in Astrophysics: The Acceptance of E.C. Pickering's System in 1910", *Isis* 72 1981:29-49.

INTERNATIONAL SURVEY OF THE SOLAR ACTIVITY UNDER THE LEADERSHIP OF THE IAU

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The second part of the nineteenth century brought some new knowledge about solar activity : the solar undecennial cycle of sunspot number, the prominences at the solar limb and the existence of flares.

The period 1920-1940. At the first GA (Rome 1992), the solar commissions assigned some centers for centralization, compilation and publication of each kind of solar data. For instance, the Arcetri Observatory published spectroscopic images of the Sun limb from 1922 and the Meudon Solar Service, the synoptic maps of the disk from 1919. In 1928, the "Bulletin of character figures for solar phenomena" issued, supported by the IAU and entrusted to the Zürich Observatory. Astronomers and geophysicists were interested in solar-terrestrial relations. It is only in 1932 that the strong relation