

Chapter 9:

Meetings and Lectures

One of the most significant developments for the Society in the second decade of the twentieth century concerned its relations with other societies. In 1912 the Board announced plans for the A.S.P. to affiliate with the Pacific Association of Scientific Societies and the following year the Society held a joint meeting with this association, which in 1914 merged into the Pacific Division of the American Association for the Advancement of Science (A.A.A.S.). The A.S.P. continues as an active affiliate of the A.A.A.S. to this day, with representation on the Astronomy and Education Section Committees.

In August of 1915 the A.S.P. met jointly with the American Astronomical Society in Berkeley for one session of the A.A.S.'s meeting. (Founded nine years after the A.S.P., the A.A.S. is an exclusively professional society, with most of its members in the United States.) At the same time, the A.A.A.S. was meeting in San Francisco, attracted by the Panama-Pacific International Exposition being held there to celebrate the rebuilding of the city after the 1906 earthquake and fire.

At this joint meeting the twelfth Bruce Medal was presented to William W. Campbell. This marked the first time that the honoree had been able to receive the medal in person, earlier recipients having lived too far

away. Campbell was a distinguished Lick astronomer, who was three times elected A.S.P. President and also served for eight years as president of the University of California.

The joint meetings of the A.S.P. with the A.A.A.S. Pacific Division and with the A.A.S. set a precedent which was followed for many years. The Society continued to have several meetings a year by itself, for the transaction of business and the reading of papers by members. But in addition, joint meetings with the Pacific Division were held in 1916 at San Diego, in 1917 at Stanford, and in 1919 at Pasadena (there was no 1918 meeting due to the war). The year 1920 saw the first of these joint meetings to be held outside of California, in Seattle. This was later followed by joint meetings in Portland, Reno, Eugene, Salt Lake City, and Denver. A.S.P. attendance at these meetings was typically about 40 people.

Over the years the number of separate A.S.P. meetings gradually dwindled; by 1938 there was an annual business meeting in January, a meeting for scientific papers in February, and a joint meeting with the Pacific Division in the summer, the latter attended by about 50 people. By the 1950's this had further shrunk to one annual meeting for business and one summer scientific meeting.

Today, the Society only convenes once a year, holding the business meeting in conjunction with the summer meeting. The far-flung geographic distribution of its members is in large measure responsible for this. As long as most of the members lived in the San Francisco area it was easy for them to gather together, but now the A.S.P. has members in all 50 of the United States and over 70 other countries. On the other hand,

Participants in the first joint Astronomical Society of the Pacific and American Astronomical Society meeting in 1915. Seated cross-legged in the center (wearing glasses and in a lighter suit) is Heber D. Curtis; behind him is W.W. Campbell. To Campbell's left is George Ellery Hale; Armin O. Leuschner is seated to Hale's left. (Photograph from the A.S.P. archives.)



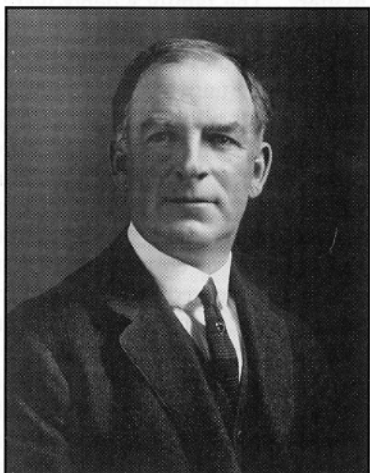
Society meetings have grown in size and complexity, with over 900 people attending the 1987 meeting in Pomona, California, and 850 at the 1989 Centennial Meeting in Berkeley.

In 1916 the A.S.P. received a welcome gift, which no doubt aided in the increase in membership which began around that time. Adolfo Stahl, a member from San Francisco, gave the Society \$1,000 to fund a series of public lectures on astronomy. These were to be given by Lick astronomers W. W. Campbell, Robert Aitken, and Heber Curtis, and were to be free of charge to all. A news release noted that "Mr. Stahl's generosity was prompted by his desire that the people of San Francisco and vicinity should have the benefit of free astronomical instruction by astronomers who are contributing to our knowledge of the heavens."

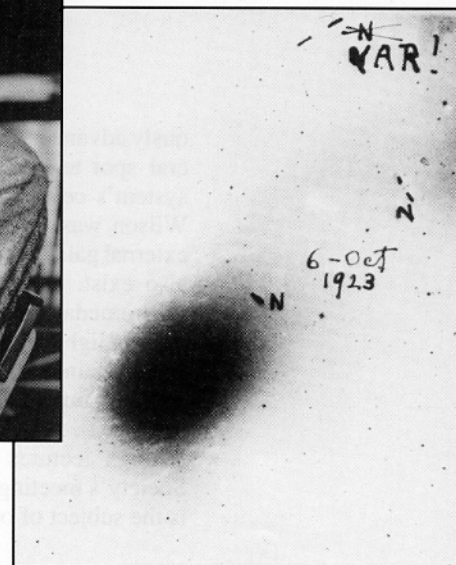
Lecture topics included the solar system, comets, the Moon, solar eclipses, and nebulae. The lectures were such a success that Stahl funded a second series for 1917-1918, including talks about the Sun and about the new 100-inch telescope at Mount Wilson, then the largest telescope in the world. In 1918 he provided means to publish the twelve Stahl lectures as a book. A thousand copies were printed, and the proceeds from their sale went to the A.S.P. This was the only book the Society published until the A.S.P. *Conference Series* began in 1988.

The Stahl lectures inaugurated a program of public talks sponsored by the A.S.P. which continued for a number of years, as funds permitted. In 1920 an anonymous donor gave \$1,000 towards a 1920-1921 series, and the next year three donors each gave \$1,000. These lecture series were presented in San Francisco nearly every year throughout the 1920's and drew large crowds. In 1924, for example, 1,200 people listened to Robert G. Aitken discussing the planet Mars, a subject of controversy in the first part of the twentieth century, since some astronomers had suggested that evidence of intelligent life could be seen on its surface. 1924 was a

W. W. Campbell. A renowned astronomer, distinguished educator, and vigorous member of the A.S.P., Campbell gave one of the first public lectures in the Stahl series in 1916. (Photograph courtesy of the Mary Lea Shane Archives of Lick Observatory.)



Edwin Hubble and the photographic plate on which he discovered a variable star ("VAR!") whose characteristics allowed him to estimate the distance to the Andromeda galaxy. (Hubble photograph by James Stokley, author of the first A.S.P. Leaflet and a winner of the A.S.P. Klumpke-Roberts award for contributions to public understanding of astronomy.)



time when Mars came unusually close to Earth and public interest in the red planet was at a peak.

In 1929 a series of eleven lectures in southern California was co-sponsored by the A.S.P. and the Mount Wilson Observatory, and these were also well received and continued in 1930. In 1931 Henry Hyde of the A.S.P. and the East Bay Astronomical Society gave a series of radio lectures — then a new medium for the propagation of astronomical knowledge, but one which the Society has continued to use effectively. Σ The A.S.P. even had its own weekly radio program during two later periods.

In 1924 the Society observed its 35th anniversary. Only three of the original founders were still on the membership rolls: Molera, F. R. Ziel (an insurance broker and amateur astronomer who had been A.S.P. Secretary-Treasurer), and astronomer John M. Schaeberle. (Schaeberle, the last surviving member of the original Lick Observatory staff, died later that year.) Astronomy had changed extensively during the Society's first 35 years. In the 1890's and early 1900's telescopes concentrated on observations of the Sun, Moon, and planets, mapping their surface features, looking for satellites, and refining knowledge of their orbits. Stellar observations were very limited. But in the 'teens attention turned increasingly to the stars — not just their numbers, brightness, and locations, but also their physical natures as revealed by their spectra. Much of this work was done at West Coast observatories such as Lick and Mount Wilson and reported in the pages of the *P.A.S.P.*

The large-scale structure of the universe was also being probed in a systematic way. In 1918 Harlow Shapley, working at Mount Wilson, proposed a model for our Galaxy which was much larger than any previ-

ously advanced, and which located the Sun in a peripheral spot tens of thousands of light years from the system's center. By 1924, Edwin Hubble at Mount Wilson was beginning his demonstrations that other external galactic systems comparable to our Milky Way also exist. His studies of the variable stars in the Andromeda Nebula (M31) showed that it was nearly a million light years away (later revised to two million), and contained billions of stars similar to our Sun and others in our neighborhood. Nonscientist members of the A.S.P. stayed informed about these discoveries through lectures like the Stahl series, through the Society's meetings, and through a new medium which is the subject of our next chapter.

Chapter 10:

The Leaflets and the Library

In 1925 the Society began one of its most successful ventures, aimed at its lay members. The president in that year, Bernard Benfield, a San Francisco engineer, conceived the idea of a series of small (vest-pocket sized) leaflets, written by professional astronomers, discussing astronomical topics in a nontechnical way. The first of these appeared in May 1925, funded by Benfield, and was a review of the variable star Mira by James Stokley; the second, by Robert Aitken, was on Mars. (Stokley, the author of the first A.S.P. *Leaflet*, was then a young science writer working for Science Service. Sixty years later, after a long career as reporter, author, and planetarium director, he would win the A.S.P.'s Klumpke-Roberts Award for his contributions to popularizing astronomy.)

The *Leaflets* were so popular that within a year or so they were appearing almost every other month, and then monthly in 1933. In 1937 they expanded from four pages to eight. The articles, often by noted astronomers, paved the way for modern astronomy magazines such as *Sky & Telescope* and *Mercury*. Astronomy was changing rapidly and the *Leaflets* brought news of many of the important new theories and discoveries to amateurs and laypeople around the world. Edwin Hubble described observations of redshifts in the spectra of galaxies in Leaflet No. 23, in 1929; Milton Humason discussed redshifts and the expanding universe theory in 1931, and again in 1936. Robert Trumpler wrote about the ubiquity of dust in the Milky Way (a discovery he had made in 1930) in *Leaflets* in 1931 and 1932.

MIRA, SECOND LARGEST STAR, COULD ENGULF EARTH'S ORBIT

(Courtesy of "Science Service")

A **GLOBE** of glowing gases 250,000,000 miles in diameter, so vast that if the Sun were placed at its center there would be sufficient room for the Earth to revolve in its customary orbit; such is the nature of the star Omicron Ceti, known to the ancients as Mira, "the wonderful," because of its remarkable and periodical variations in brilliance. This was made known recently at the Carnegie Institution of Washington which announced measurements completed at the Mount Wilson Observatory, Pasadena, California.

The observations from which these measurements were calculated were made by Francis G. Pease, astronomer at the observatory, using the great 100-inch reflecting telescope, the largest in the world. The method employed was one invented by Prof. A. A. Michelson of the University of Chicago. A device called an interferometer is attached to the top of the telescope, and from its readings the apparent diameter of the star may be calculated. This is the angle between two lines coming from opposite edges of the star and meeting at the earth. In the case of Mira, the apparent diameter is about six-hundredths of a second of arc, the same as that of the head of an ordinary pin five miles away!

Obviously this apparent diameter has no direct relation to the actual size, for a small object nearby may appear larger than a much greater one at a distance. By other means, however, the distance of the stars may be determined, and when known, the actual diameter may be calculated. Thus, Mira is about 165 light years away. A light year is the distance that light can travel in one year, about 6,000,000,000,000 miles; it can encircle the earth seven times in a second! The distance of Mira is, therefore, too many billions of miles to think about.

Since 1920, when Michelson's method was first applied to the measurement of stellar diameters, Mr. Pease has

The first page of the first A.S.P. Leaflet, written by James Stokley.

Other *Leaflets* dealt with such wide-ranging topics as comets, supernovae, astronomy and radar (1943), and the planet Pluto (discovered in 1930). Under the editorship of Benfield and A.S.P. Secretary Charles H. Adams, and later of Alfred H. Joy and then Gibson Reeves, the A.S.P. *Leaflets* continued to appear through December 1971, when they were replaced by the Society's new magazine *Mercury*. The final *Leaflet* was No. 510, entitled "Astronomers Look at Lightning," by Leon E. Salanave, who would become the Society's first executive officer.

Benfield's assistant in producing the *Leaflets* was Charles H. Adams, who served as secretary of the A.S.P. for a quarter of a century — from 1925-1950. Adams was born in 1868 near San Francisco, the son of a successful lumber and timber businessman. But while Charles was a student at the University of California, his father's business met with a series of disasters (fires, shipwrecks), and Charles left school to help salvage matters. The family's debts were finally settled, and Charles became an insurance broker and executive secretary to the Merchants' Exchange Association, a post he held until 1940. At some point he acquired a small telescope, with which he enjoyed looking at the sky. In 1919 he wrote a letter to Campbell at Lick, asking for some information about stellar parallaxes; Campbell replied and invited him to join the A.S.P. Adams did so, and soon was actively recruiting members (in 1923 he enlisted about forty new ones).

Adams served on the Board from 1923-1948, and was appointed secretary-treasurer in 1925, a position he continued to hold until he retired for health reasons. During much of his tenure the A.S.P.'s business was transacted at his kitchen table, and the records were kept in his home. His interest in astronomy had a strong influence on his son Ansel, who would become one of