Edwin P. Hubble: 1889–1953

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Mount Wilson and Palomar Observatories, Pasadena, California

AMERICA has lost one of its most distinguished astronomers in the sudden death September 28, 1953, of Dr. Edwin P. Hubble. After the completion of his education at Oxford University and the University of Chicago and a brief term of service as an officer in the U.S. Army during World War I, Dr. Hubble joined the staff of the Mount Wilson Observatory in 1919. Within ten years after his arrival at this observatory he had revolutionized the concepts of astronomers as to the size and content of the universe.

Before 1920 astronomical measurements of distance had been limited to objects in the Milky Way system, and the universe was believed to consist essentially of this one great system of stars, having a diameter of about 100,000 light years. With the aid of the newly constructed 100-in. telescope, Hubble was able to resolve a representative group of spiral nebulae into stars and to identify some of these stars in terms of known stellar types. By comparing the apparent brightness of these stars with their previously determined absolute brightness he obtained an approximate measurement of the distance of the objects in which they were found. These distances at once indicated that these nebulae have dimensions and total luminosities similar to our own Milky Way system. From these and further studies by Hubble it became evident that the universe consists not of a single stellar system such as the Milky Way but of some hundreds of millions of such systems extending at least out to the extreme range of the largest telescopes, a billion or more light years away.

In succeeding years Hubble and the department which he built carried out extensive studies of the distances, luminosities, masses, structures, and motions of these stellar systems which he named extragalactic nebulae. From spectroscopic observations it was shown that the nebulae are receding from us with velocities proportional to their distances; this leads to the concept of an expanding universe. These studies, many of which required the full power of the 100-in. telescope, emphasized the need of still greater telescopes and provided one of the chief reasons for the construction of the 200-in. Hale telescope on Palomar Mountain. Hubble assisted greatly in the design of this instrument and made the first observations with it. Since the start of the joint operations of the Mount Wilson and Palomar Observatories he served on the Observatory Committee and played a major role in planning the programs to be carried out by these observatories.

The very fundamental discoveries made by Dr. Hubble brought him many high honors. He was the recipient of numerous honorary degrees and other awards. He was a member of the National Academy of Sciences and the American Philosophical Society, and a foreign member of the Royal Astronomical Society, the Vienna Academy, and the French Academy of Sciences. For defense work in World War II he received the Medal for Merit.

Dr. Hubble's interests extended far beyond his own field of cosmology. As a student he had first trained for a career in law and had specialized in Roman law while a Rhodes scholar. He was admitted to the bar in Kentucky and practiced there for a short time before taking up his astronomical studies. He always retained a great interest in historical subjects and especially those related to the history of science. His competence and interest in the field of history was recognized by his election to the Board of Trustees of the Huntington Library.

News and Notes

Third International Biometric Conference

THE THIRD INTERNATIONAL BIOMETRIC CONFERENCE convened at the Hotel Grande Bretagne, Bellagio, Italy, Sept. 1, 1953, under the sponsorship of the International Biometric Society, an organization of individual members which forms a section of the International Union of Biological Sciences. The Conference was welcomed to Italy by C. Barigozzi and A. Buzzati-Traverso, after which G. Darmois of the University of Paris delivered his presidential address on "Dignités nouvelles de la Statistique dans la Recherche." The morning session continued with a symposium on the First Course in Biometry under the chairmanship of W. G. Cochran, with papers by L. Martin, G. Barbensi, C. I. Bliss, and A. Vessereau, and concluded with a business meeting. The afternoon program on Mathematical Problems in Genetics was chaired by A. Buzzati-Traverso and addressed by Sir Ronald Fisher, K. Mather, D. Lowry, and J. L. Lush.

The morning session on Sept. 2 concerned Methodological Problems in Biometry with G. M. Cox in the chair and papers by J. W. Hopkins, F. Anscombe, W. G. Cochran, M. Keuls, and M. J. R. Healy. Biometry in Immunology was the subject of the after-