Finally, let us turn for a brief moment to a consideration of what changes, if any, are taking place in the direction and scope of clinical research. The historical background has been presented in so masterful a way by Faber[4] that I would not have the temerity to discuss it, even if time permitted. Furthermore, I shall have to limit myself to one field—etiology. Only let me recall that shortly before the founding of this society, under the influence of the rapid advances in bacteriology in the latter part of the nineteenth century, the search for the specific causes of disease was perhaps the most dominant and fruitful activity of the time. In the intervening period it has become more and more apparent to the clinical investigator, a fact of course long recognized in physiology through the influence of Claude Bernard, that the search for specific causes, whether they be living organisms, chemical substances, deficiencies or what not, is but one aspect of a many-sided picture and that a real comprehension of the etiology of disease resides in an understanding of all the conditions or circumstances under which it develops. Here we are concerned with pathogenesis, not etiology in the conventional usage of the word; the study of the interplay of specific agents, environmental factors, and human susceptibilities. Examples are superfluous. To have discovered the tubercle bacillus, its biological characteristics and chemical constitution, does not explain tuberculosis; to have learned the environmental factors which favor its occurrence, still leaves something wanting. The characteristics, susceptibilities and reactions of the host must also be known. The interrelationships of these three factors, and perhaps others, must be studied before one can arrive at an adequate understanding of the pathogenesis of the disease, a point of view so ably illustrated by the studies of Opie[5] in this field. I have cited but one example. Numerous others will occur to you, not only in the field of infectious diseases, but also in the trend of current investigations in diseases of the heart, the blood, the endocrine glands and so on.

Not only is this principle, this attempt to understand all the factors involved and their interrelationships, found in the work of those who are interested primarily in the pathogenesis of disease, but obviously also in the studies of those who are concerned with the phenomena of already existing disease. Consequently, I will not stop to bother you with further illustrations, but will venture to close with the doubtless rash prophecy that in this change in the direction and this enlargement in the scope of clinical investigations lies the evidence that clinical medicine is rapidly approaching a maturity of thought which has characterized the other biological sciences for a longer period of time.

OBITUARY

PROFESSOR SOLON I. BAILEY

DR. SOLON IRVING BAILEY, Phillips professor, emeritus, in Harvard University, died at his summer home in Norwell, Massachusetts, on June 5. His "History and Work of the Harvard Observatory," on which he had been engaged since his retirement in 1925, was published during the week of his death. The final instalment of his "Peruvian Meteorology" is now in press. He had indeed satisfactorily rounded off an industrious and useful scientific life; but although in his seventy-seventh year, he had not yet resigned his interest in the subject of variable stars in globular clusters—a field in which his most notable scientific contributions lie. Within the past two months, with the "History" and the "Meteorology" completed, he resumed his study of the periods of variable stars in the southern globular clusters, planning to devote a year to measurement and computation.

Professor Bailey was born at Lisbon, New Hampshire, December 29, 1854. He received the degree of A.B. from Boston University in 1881, M.A. from Harvard in 1888, and Sc.D. (honorary) from San Augustin University in Arequipa, Peru, in 1923. He became a member of the staff of the Harvard Observatory in 1887, being appointed assistant professor in 1898 and Phillips professor of astronomy in 1912. He was acting director of the Harvard Observatory from 1919 to 1921. His academic distinctions include membership in the National Academy of Sciences, the American Academy of Arts and Sciences, the Astronomische Gesellschaft and the Royal Astronomical Society. He is survived by a widow, Mrs. Ruth E. Bailey, and a son, Professor Irving W. Bailey, of Harvard University.

It is difficult in a short notice to give a fair account of the important services rendered by Professor Bailey to the Harvard Observatory and to astronomy. For three decades he was E. C. Pickering's closest associate in the development of the Harvard Observatory. In two particular instances Bailey guided the work of the present director: he pointed out in 1914 the importance of using the Mount Wilson reflectors for the problems of globular star clusters, and in 1921 he assisted, in a remarkably sympathetic, self-

[4] "Nosography in Modern Internal Medicine," New York, 1923.

[5] "The Harvey Lectures," 197, 1928–29.

effacing and helpful manner, in the inauguration of a new scientific policy in an old and complex observatory. He was largely responsible for the Boyden Station of the Harvard Observatory, having established the Peruvian station in 1890 and explored the possibilities of the South African plateau in 1908 and 1909.

Professor Bailey's early work on the variable stars in globular clusters led to the similar work on the Magellanic Clouds by Miss Leavitt. He devoted more than twenty years to the study of variable stars in star clusters, producing four monographs on the subject. The work also involved the classification of star clusters and the study of stellar distribution within the brighter systems.

Bailey was a pioneer in the photographic discovery and measurement of extra-galactic nebulae. With his associates he added several thousand new systems to our catalogues, the work being based almost exclusively on the photographs made with the Bruce refractor at the southern station. Incidentally, Bailey has long had the reputation of having made the best photographs obtained with that important but somewhat rebellious instrument.

When in 1922 at the age of sixty-seven Bailey returned to Arequipa to take charge of and rehabilitate the southern station, he resumed his studies of globular clusters, which had been interrupted by some years of administrative work. He also turned his attention to stellar distribution and made extensive star counts on long exposure Bruce photographs covering the south galactic pole and the rich regions of the southern Milky Way. This work has been much quoted in recent years.

Next to his work on globular star clusters, Bailey's volume on the "History and Work of the Harvard Observatory" will be most remembered in future years. His long association with the observatory made him the logical person to survey the development and the scientific problems of one of the oldest of American research institutions. This new volume is divided into three parts, the first dealing with the historical background and material growth of the observatory; the second discussing briefly the numerous research problems of the past and present, and the third dealing biographically with individuals on the observatory staff. In the second part he discusses the observatory's contributions to the problems of the solar system, the astronomy of position, astronomical photography, stellar photometry, spectroscopy, variable stars and novae, clusters and nebulae, and the structure and dimensions of stellar systems. He approaches personal problems with kind generosity, and scientific problems, especially the newer developments, with conservatism and objectivity. Such an attitude was characteristic of him in all his dealings with people and problems; it was the source of his high standing throughout the past forty-five years in the regard of the observatory staff and of the general astronomical community.

HARLOW SHAPLEY
HARVARD COLLEGE OBSERVATORY

RECENT DEATHS

DR. STEPHEN MOULTON BABCOCK, emeritus professor of agricultural chemistry at the University of Wisconsin, died on July 1. He was eighty-eight years old.

DR. GEORGE FILLMORE SWAIN, Gordon McKay professor of civil engineering at Harvard University, died suddenly on July 1 in his seventy-fourth year.

PROFESSOR MYER EDWARD JAFFA, professor of nutrition emeritus in the University of California, chief of the Bureau of Food and Drugs of the California State Board of Health since 1925 and a consulting nutrition expert for the board since 1915, died on June 28 at the age of seventy-three years.

DR. CHARLES ALLEN PORTER, professor emeritus of clinical surgery at the Harvard Medical School and formerly surgeon-in-chief of the Massachusetts General Hospital, died on July 3 in his sixty-fifth year.

DR. ALBERT E. STERNE, professor of nervous and mental diseases at the Indiana University School of Medicine, died on June 30 at the age of sixty-five years.

JOHN EDWIN STARR, president of the Starr Engineering Company of New York, a former president of the American Society of Refrigerating Engineers, has died at the age of seventy-one years.

PROFESSOR HARALD HÖFFDING, who held the chair of philosophy in the University of Copenhagen from 1883 to 1915, and was distinguished for his contributions to psychology, died on July 2. He was eighty-eight years old.

THE death is announced of M. E. Cossarat, director of the observatory at Toulouse.

SCIENTIFIC EVENTS

THE BRITISH NATIONAL PHYSICAL LABORATORY

THE National Physical Laboratory at Teddington was open yesterday afternoon to visitors, and the annual function was preceded by the formal opening of the new physics building. This building will eventually form three sides of a rectangle, but only the central part has so far been erected. Its door