

able wisely to guide younger men along their path of development. As the years go on, diligence in following the path you have chosen increasingly will have its reward in bringing you closer and closer to the goal of your endeavor, fruition into a perfected clinician.

Do not gather from what I have said that medicine and its practice is all a matter of mind. Much, too, of its success lies in its soul. The medical man should be an exemplar in his community of the worthy life. His dealings all must be upright and honest. He must be fearless to espouse the right; his habits free from criticism. He will need the support of a true religion. A simple faith in God and his ways should emanate from all true physicians. If he believes not, this will not be possible. The believing physician often can bring into perfection a cure not otherwise attainable. There is no place in the profession of medicine for the agnostic, the atheist. Man needs a religion and particularly when he is sick. Religion is not a matter of form but of simple faith. With it physician and patient meet the trials of life and ill health with chin up and a winning smile. I would say to all of you and especially to you, young men, have a religion of faith and belief; it will help you over many a hard place.

As one who for nearly forty years has been following this path toward fruition into a finished clinician, I welcome you to the joys of its meanderings. To me the journey has been a very happy one. I have never

held in high regard the medical man who constantly tells of how hard he works rather than speaking of the joy he gets from his work. I have enjoyed a simple faith in God. I look back in memory on many pleasing vistas, on meetings with delightful companions, on friendly helpful guidance and inspiration from men of great attainment in our profession who were treading the same path in advance of me and on the opportunity of giving a helping hand to a splendid group of younger men, to whom it has been my good fortune as their chief to be a guide as they in their turn have entered on the beginnings of this clinical path. For me there are not many more turnings in the path to take. At the end of next academic year my active steps along the path will end, and I will retire from active medical work to watch the way of those coming after me, joyous that I have had the pleasures of pursuing the path that leads to fruition into a clinician. Many of you, doubtless, will get farther along the way, but none, I am sure, will find more happiness in it than have I. I can do no more than wish that each of you will have such happiness in treading the pathway as has been my lot, blessed with guidance from notable teachers, in contact with delightful colleagues and looking back on a succession of eager, capable pupils in the pursuit of their goal of a clinical fruition. I say unto you: the life of the clinician verily is a happy one.

OBITUARY

GEORGE ELLERY HALE

GEORGE ELLERY HALE died at Pasadena at 1:30 o'clock on the afternoon of Monday, February 21, as the final result of a nervous collapse which had completely incapacitated him since the summer of 1936. In the words of Harlow Shapley, "All astronomers of the world join in mourning the passing of the greatest builder of American astronomy." But the mere tribute of astronomers will not fully satisfy those who worked with George Hale in the upbuilding of the National Academy of Sciences, in the establishment of the National Research Council, in the starting of the *Astrophysical Journal*, in the founding of the Yerkes Observatory, in the building of the Mount Wilson Observatory of the Carnegie Institution of Washington, in the development of the California Institute of Technology, in the promotion of the Huntington Library and Art Gallery, in the organization of the Pasadena City Planning Commission, in the creation of the plans for and the construction of the 200-inch telescope which in a few years will be exploring the far reaches of the universe from the top of Palomar Mountain, 93 miles southeast of Mount Wilson.

The mere enumeration of these projects illustrates

the ceaseless activity, the extraordinary versatility, the prodigious energy of the man. He suffered no end of mental torture because of his endowment of an exceedingly active and inquiring mind and a relatively frail body. A born leader, a consummate promoter, a conscientious, painstaking and devoted scientist, he worshipped first and foremost, from early youth up to the very end, the goddess of scientific research, but he added to that love and devotion a very keen sense of his public responsibility. He was conscious of his own powers as a promoter and organizer of research, and he deliberately kept at it, although he knew full well that his body would probably break down under the strain, as it actually did. But he never let his promoting activities divert him from his individual research enterprises. The discovery of magnetic fields in sun-spots and of the general magnetic field of the sun are his most well-known personal contributions, and the way he worked during the last five years of his life to verify this last effect, which is so small as to be almost outside the limits of measurement, was a marvel to all his friends. That the very recent plate measurements by a new technique check so well the earlier work which gave rise to the announcement of the exist-

ence of the sun's general magnetic field was a very great satisfaction to him.

In the passing of George Ellery Hale America loses not only "the greatest builder of American astronomy" but a great aristocrat in the best sense of that word—a lovable, charming personality, generous to a fault, artistic, conservative, with a keen sense of devotion to public service—a great American citizen.

ROBERT A. MILLIKAN

RECENT DEATHS AND MEMORIALS

DR. FRANK LAMSON-SCRIBNER, until his retirement in 1922 agrostologist and special agent of the U. S. Department of Agriculture, died on February 22 in his eighty-sixth year.

DR. RALEIGH RUSSELL HUGGINS, since 1919 dean of the Medical School of the University of Pittsburgh, died on February 20 at the age of sixty-eight years.

DR. LILIAN WELSH, professor emeritus of physiology and hygiene at Goucher College, Baltimore, died on February 23. She was seventy-nine years old.

THE death is announced at the age of eighty years of Sir Algernon Thomas, emeritus professor of biology and geology at Auckland University College.

THE death at the age of seventy-eight years is reported of Professor Emeritus Paul Ernst, until his retirement in 1928 ordinarius in pathologic anatomy and director of the Institute of Pathology at Heidelberg.

THE sudden death at the age of twenty-seven years is announced of Fritz Kalekar, collaborator of the Institute of Theoretical Physics at the University of Copenhagen, of which Professor Niels Bohr is director.

AN oil portrait of the late Dr. J. A. Udden was unveiled on February 14 at Augustana College (Rock Island, Illinois), where from 1888 to 1911 Dr. Udden served as professor of biology and geology. The portrait, painted by the late Herbert A. Collins, of Berkeley, California, was presented by the Udden Geology Club, student organization of the college. It was unveiled by Miss Jane Udden, granddaughter of the geologist, now a freshman at the college. Professor Anton Carlson, of the University of Chicago, who began his scientific career as a student under Dr. Udden, gave the address, paying tribute to him for the example he set his students by pursuing research under difficult conditions.

SCIENTIFIC EVENTS

THE COST OF HEALTH SERVICES IN GREAT BRITAIN

THE cost of public social services, the subject of a Command Paper recently printed, is summarized in *The British Medical Journal*. The figures relate to 1935 or the latest available year. The cost of national health insurance for Great Britain was £38,344,000, an increase of some £8,500,000 on the figure for 1920. The total number of insured persons directly benefiting was 19,170,000. The expenditure under the Public Health Acts so far as it related to hospitals and the treatment of disease was £14,629,000, a ninefold increase on the figure for 1900, and nearly a sevenfold increase on that for 1910. The number of persons benefiting can not be stated. Hospitals for infectious diseases, for example, are available in case of need to every member of the community.

Again, in maternity and child welfare work, the cost of which was £3,590,000, no precise figures of availability can be given. The returns from local authorities indicate that a total of 581,443 infants and 184,298 expectant mothers were visited during the year, but similar figures of a number of children between the ages of 1 and 6 who were visited by the health visitor are not recorded, and, in addition, an unstated number

of children benefited by attendance at centers, day nurseries and hospitals, or by the provision of milk or other food, and an unstated number of mothers by midwifery attendances, food and hospital treatment.

Under the Lunacy and Mental Treatment Acts £2,962,000 was spent in England and Wales, and under the Mental Deficiency Acts £2,755,000. In the figures for Scotland the expenditure under these two acts is taken together and comes to £1,282,000—a lower figure, by the way, than for 1930 or 1920, the years with which it is compared. In England and Wales the combined expenditure on mental disorder and mental deficiency is £1,300,000 more than in 1930, and £2,600,000 more than in 1920. The number of persons of unsound mind in England and Wales accommodated at the expense of the mental hospitals authorities, including the Poor Law authorities, during the year under review was 126,318, but the actual number of mental defectives dealt with under the acts can not be given; upwards of 36,000 were being maintained in institutions or under guardianship, and a much larger number had been "ascertained" or were under supervision. In Scotland the combined figure for sufferers from mental disorder and for mental defectives was 21,152.