us far on the road of righteousness. To avoid blind groping, we must have that understanding of the relations of our conduct to our happiness and that of our fellow men which only the most complete knowledge of our earthly environment can give. Moreover, appreciation of the esthetic values which add so much to the joy of living seems dependent upon knowledge and the training of the imagination which it gives, for ignorant savages seem blind to the beauties of nature and unresponsive to the appeal of art.

Generous as the contributions of astronomy to civilization have been, there is promise of more to come. The universe is either finite or infinite, but our imaginations can grasp neither alternative in terms of the old ideas of space and time. On the basis of the general theory of relativity, it seems possible that astronomical observations may reveal to us a universe which is finite and yet unbounded, a self-contained universe keeping intact its store of matter and of radiant energy, with no infinite ocean of empty space around it, for there can be no space where there is no matter. This is the hope that is held out to us by Einstein and his co-workers, and to the astronomers we must leave the task of confirming that hope.

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ROBERT WIEDERSHEIM

BY the death of Robert Wiedersheim, long the professor of anatomy in the University of Freiburg i/Br., another milepost has passed in the history of the comparative anatomy of vertebrates. Five days past his golden wedding anniversary, already afflicted by an inflammation of the lungs which was not supposed at the time to be serious, he fell asleep. In his hand he held the book with which he was beguiling himself when he died, "Die Geschichte der Anatomie."

Dr. Wiedersheim was born at Nürtingen am Neckar in the Würtemburg Black Forest, April 21, 1848, the son of a physician there. Fourteen days after his birth his mother died, and young Wiedersheim was brought up in the household of his grandfather, Immanuel Friedrich Otto, owner and proprietor of a cotton mill at Nürtingen. After attending the gymnasium at Stuttgart, with a short time in Lausanne, he studied further at the universities of Tübingen and Würzburg, obtaining his M.D. at the latter place, January 27, 1872. Here also he accepted an assistant professorship under Kölliker (1872–76), refusing a call to the University of Tokio as professor of anatomy there.

In the winter semester, 1876–77, Wiedersheim came to Freiburg as the assistant of Professor Alexander Ecker, whom he succeeded there as professor of anatomy at the latter's death in 1887. Here he remained until his retirement in 1918, leaving in his position Dr. Eugen Fischer, who is there at present.

While still an undergraduate he met his wife, Tilla Gruber, daughter of a Genoese banker, a German residing with his family in Italy, and married her July 7, 1873. In 1878, he built his summer home on the shores of Lake Constance, his beloved Villa Helios at Schachen near Lindau, which served him during many vacations. Here he retired after he left Freiburg, and here he died.

Wiedersheim, although he could never be induced to cross the ocean, travelled in Europe extensively, and made one short journey to Algeria. He visited England several times, especially to attend the Darwin Centenary in 1909; he travelled extensively also in France and Italy, including Sicily.

Aside from his work in human anatomy, which made him famous all over Germany, and brought students from other universities to Freiburg to take their anatomy with Wiedersheim, he gave a course in comparative anatomy, and received private students from other countries.

In 1882 appeared his "Lehrbuch der vergleichenden Anatomie," which he soon followed by a "Grundriss," explaining the same things in a more concise manner. This latter book he much preferred, and brought out several editions, the last (7th) appearing in 1909. It was his custom to keep a manuscript of this on his desk, making constant additions and revisions for use in newer editions. It soon became one of the largest and best of the text-books of comparative anatomy. In special monographs his work, though not extensive, was yet so carefully done that each was a classic. We need only mention "Das Kopfskelet der Urodelen," his work on the ear of the Ascalaboten, and the anatomy of Salamandrina perspicillata and Geotriton fuscus.

It is a well-recognized truism that, in the World War, the intellectuals suffered most. On April 14, 1917, three hostile bombs dropped from a British airship caused Wiedersheim's laboratory to burst into flames. It was totally destroyed. The minds of men were at the time aflame; there were ugly rumors of a similar treatment of British hospitals, there was a feeling of the need of reprisals. We are sure only that in this conflagration the great anatomical collection started by Alexander Ecker, his world-famous skull collection, some 200 microscopes and numberless anatomical charts, among others some from Professor Wiedersheim's skilled fingers, were almost wholly lost. Yet in relating these incidents Wiedersheim uttered no word of blame or censure, one of the last illustrations of the kindness of his disposition. Surely, in the death of Robert Wiedersheim the world lost far more than a great anatomist; to many he was a devoted friend. With

this tribute it is the wish of the writer to place a wreath upon his bier.

H. H. W.

HERMANN M. BIGGS[1]

DR. BIGGS was born at Trumansburg, N. Y., in 1859. He was of English descent. His early education was completed at the Trumansburg and Ithaca Academies and at the Cornell University Preparatory School. Entering Cornell University in 1879 he graduated A.B. in 1882 and received the degree of M.D. from Bellevue Hospital Medical College in 1883, thus accomplishing seven years work in three and one half. After an interneship in Bellevue Hospital in 1883–84, he studied the following year at Berlin and Greifswald in Germany. On his return to New York he became director of the newly opened Carnegie Laboratory of the Bellevue Hospital Medical College. Then for a time he held in succession at the latter institution the positions of lecturer on pathology, demonstrator of anatomy, professor of materia medica and therapeutics, professor of therapeutics and clinical medicine, adjunct professor of medicine and in 1912 professor of the practice of medicine.

In 1892 he organized the division of pathology and bacteriology in the Health Department of the City of New York, becoming pathologist and director of the laboratories. This position he held during a period of great activity in the department because he was constantly utilizing for practical ends the new revelations of science in bacteriology and preventive medicine and in conducting a campaign of education, not only of the people at large, but in the medical profession of New York City, many of whose eminent members steadily opposed the new methods and scoffed at the new light.

In 1902, under the mayoralty of Seth Low, a new office was created in the Health Department, that of general medical officer, and Dr. Biggs was made its first incumbent.

In 1913, after twenty-two years of active service, Dr. Biggs resigned from the Department of Health of the City of New York and was soon to enter upon a not less distinguished period of service to the state. Among the outstanding features of his service to the City of New York one may recall his early acceptance of the diphtheria antitoxin as of great and immediate importance, and his eager interest in its preparation in the new laboratories of the Department of Health, the first municipal bacteriological laboratories in the world to be established. These laboratories became at once a most important factor in the control and prevention of infectious diseases in the city and a model in administration and method of the application of science on a large scale to the welfare of mankind. His rare command of the qualities of knowledge, sincerity and tact enabled Dr. Biggs, through all the vicissitudes and turmoils of the political arena in New York, through all his two and twenty years of service, to carry out, unhindered, his plans as one by one they took form, to fulfill for his fellow men the promise of science in the prevention and assuagement of disease.

Dr. Biggs' greatest achievement and his most heartbreaking task was the launching of the campaign for the prevention and cure of tuberculosis. Early diagnosis was important and notification essential to success in general control and prevention. Eager, as was his wont, to secure the counsel of his fellows, he called together a score of the most eminent physicians of the City of New York at the Academy of Medicine to discuss the feasibility of notification of tuberculosis. The eminent physicians were almost unanimous in their opposition to the taking of any official steps in the matter. They feared panic, they predicted mental disturbance of the afflicted and their friends, they forecast the ruin of boarding houses, they distrusted the effectiveness of any of the proposed measures for prevention; and who knew, anyhow, whether the tubercle bacillus was more than a fiction or a blunder of the laboratories?

So it was clear that any direct movement forward would meet with the opposition of this group at least of eminent practitioners. Dr. Biggs was disappointed, of course, but not dismayed. His quiet remark when the session was over was, "Well, we must educate them and the public." And the laboratories were one of the most effective educational influences. It was in those days quite a task to make a microscopic examination of sputum for tubercle bacilli. Dr. Biggs proposed that his laboratories should make, free of charge, examinations for everybody who might present a specimen. And they did it. And presently all the world which was awake was making free examinations of sputum. Thus, through early diagnosis, a new hope was created for the stricken. This was actually the initiation of the anti-tuberculosis movement whose achievement and promise are so gratifying, to-day.

Then visiting nurses were secured for tuberculous patients sorely needing their ministrations; there followed compulsory segregation of the careless; the creation of the Otisville Sanitarium, fit example of a beneficent municipal tuberculosis hospital; and the Riverside for the hopelessly afflicted. So after some

[1] Memorial presented by the Executive Committee relating to the death on June 28, 1923, of Dr. Hermann M. Biggs, a member of the Board of Scientific Directors of the Rockefeller Institute since its organization more than twenty years ago.