From the standpoint of actuarial probability and banking discount, the cost of life membership to the life member and his prospective estate is somewhat greater than the present cost of annual membership, but the difference may be accounted for (without reference to philanthropy) by the fact that the life member has purchased the assurance that his membership, with the journal subscription, will be continued as long as he lives. On a strictly financial basis a life membership of about forty-one years' standing is, at present, a clear asset to its holder and to his prospective estate. If an annual member were to establish an invested fund of $100 with average interest of 4 per cent., allowing the interest to be always added to the principal and paying from the fund the annual dues of $5 each year, the fund would not be used up till the forty-first year. After that year, if such a careful member were to continue his annual membership, it would be necessary for him to find other funds with which to pay the annual dues from year to year.

Attention needs to be drawn, however, to still another consideration, which is in favor of the life member as compared with the annual member; namely, that the annual dues are much more likely to be increased than to remain at their present magnitude. As every one knows, they are now exceptionally low, when they and the association journal are compared to the dues, journals, etc., of other similar organizations, and it is highly probable that the annual dues of the American Association may be increased in the near future. When this occurs it will of course have no effect at all on the financial relations of those who are life members at the time; it will make no difference to them whether the annual dues or the life-membership fee may or may not be increased. It is probably a safe prediction that the annual dues will never be decreased.

In some few instances it is necessary for an annual member to allow arrearage to accumulate and the names of such members are carried on the association roll until arrearage amounts to two years. Life membership offers a special attraction to those members. Of a total enrolment of 18,462 on September 30, 1929, there were 327 names in arrears for two years (these were dropped from the roll on the following day, October 1) and 615 names in arrears for one year (these names are to remain on the roll till October 1, 1930, when they will be dropped unless arrearage, or at least back dues for one year, shall have been paid in the meantime). (Note, however, that these annual members in arrears are not in good standing and that the membership journal subscription is discontinued when arrearage amounts to four months.) According to a special ruling of the council, any annual member in arrears for less than two years may be reinstated and may become a life member by paying the life-membership fee. Life membership begins with the year in which the fee is paid and the fee may be paid at any time before September 30, which is the last day of the fiscal year of the association.

It should be mentioned also that an annual member who has paid the dues for the current year may have them refunded when he pays the life-membership fee. New members may have the entrance fee ($5) remitted if they become life members when they join.

It is desirable that a sort of campaign for increasing the number of life members of the association should be carried out from time to time, and such a campaign is to be a feature of the present association year. How many new life members will be enrolled before the opening of the Des Moines meeting?

BURTON E. LIVINGSTON,
Permanent Secretary

OBITUARY

JOHN STERLING KINGSLEY

DURING the late summer of 1929, the many friends of Dr. John Sterling Kingsley were shocked to learn of his death and burial at sea. In company with his daughter, Mary, he had undertaken a trip around the world which, as he wrote to friends, was to be his "last great adventure." It was indeed that in a deeper sense than he realized. His death occurred on the steamship *President Taft* when three days out of Yokohama and was probably due to an aortic stenosis. He was found in his berth with an open book and his light turned out.

A year ago, when he was considering whether or not he could attend the Zoological Congress in Padua in 1930, he wrote that "finances and my strength are the principal questions. But don't think from this that I am weak, for I am in the best of condition." He evidently overestimated his strength, and his death at the age of seventy-five removes a well-known and much-loved personality from our midst.

John Sterling Kingsley was born at Cincinnatus, New York, on April 7, 1854. Two years after his birth the family moved to Norwich, the county-seat of Shenango County, where his father presided as judge over the County Court. Kingsley's early education was received in the private academies of Cincinnatus and Norwich. At the tender age of twelve his scientific bent was manifested in the publication of a weekly chemical journal of which he was both owner and editor.

After receiving special training in engineering subjects, he was given an appointment to the U. S. Naval Academy at Annapolis. Declining this, young Kingsley entered the Brooklyn Polytechnic Institute. There, however, his studies were interrupted by the death of his father. Being compelled to earn his living, he began service as "head chain" on the Delaware, Lackawanna and Western Railroad, ending finally as transit man on the Utica, Chenango and Cortland Railroad.

After a year and a half of this employment he was able to enter Williams College in 1873 as a member of the junior class. His inclination toward the medical profession led him while carrying on the regular studies of his college course to master Gray's "Anatomy" and to dissect parts of the human body. As a member of the Natural History Society of Williams College, however, his interest in natural history became aroused, and before his graduation he had decided to become a zoologist.

After graduation in 1875, he went to the Peabody Academy of Science at Salem, Massachusetts, in order to begin the study of insects under Dr. A. S. Packard. At that time not a single American college maintained graduate courses in zoology, and an ambitious student such as Kingsley was obliged either to study in European universities or to get instruction from some working zoologist like Packard. The following year he was appointed curator of the Peabody Academy at Salem and held the position for two years. In 1875–79 he assisted in the work of the U. S. Entomological Commission. During this period a number of scientific papers, mostly systematic, were written, some of them descriptive of Crustacea. But in 1879, going to the Philadelphia Academy of Natural Sciences, he began his first studies in morphology.

Throughout these study years, Kingsley was self-supporting. To this end he utilized his exceptional gifts as an artist. He made his living expenses by drawing illustrations for scientific books, journals and reports, as well as diagrams for lecture illustration. Occasionally he was paid by some journal for contributions upon scientific subjects. By such apprenticeship in thrift Kingsley prepared himself for his life as a college professor. However small his salary, and he never received a large one, he was always able to save.

In 1881 he became the curator of the Worcester (Massachusetts) Natural History Society, a position which he retained for one year. Resigning from this, he was made the editor of the new "Standard Natural History."

As the editor of the "Standard Natural History" from 1882 to 1885, Kingsley acquired a general reputation in the scientific world. Parts of the six volumes he wrote himself. His marriage to Mary Emma Read, of Salem, came at the beginning of this editorship.

Enrolling as a graduate student in Princeton University, he received from the College of New Jersey in 1885 the degree of Sc.D. His thesis on the "Embryology of Limulus" was published in England by Ray Lankester. Except for the year 1891 spent with Wiedersheim in Freiburg, this completes the period of Kingsley's formal education.

His career as editor, however, was not finished with the publication of the "Natural History." From 1886 to 1896 he edited the *American Naturalist,* which remained for many years the leading natural history journal in America. Still later—from 1910 to 1920—he served as editor of the *Journal of Morphology.* His long editorial experience combined with a retentive memory gave Kingsley a broader and more intimate acquaintance with zoological literature than is possessed by most professional zoologists.

Kingsley was an inspiring teacher, and his experience was long and varied. From 1887 to 1889 he was associated with Starr Jordan and Eigenmann in the University of Indiana, and he often referred with enthusiasm to his association with those distinguished zoologists.

The following two years he spent in the University of Nebraska, where he became dean of the faculty. Then, after a year's study abroad, he accepted a professorship at Tufts College, where he remained for twenty-one years. For some years in this institution he was dean of the graduate school. He resigned from Tufts in 1913 to accept a professorship of zoology in the University of Illinois. In 1921 he retired from active teaching to spend his last years at Berkeley, California. Even then he was not idle. Professor Kofoid writes that "Dr. Kingsley quickly established connection with the department here on his coming to Berkeley to live. He had a desk in one of our research laboratories and made himself most friendly to our graduate students and staff in many helpful ways. He contributed constantly to the work in our seminar and was a fine influence in the direction of scholarly work in our graduate group."

Kingsley was a member of many scientific societies such as the Zoologists, Anatomists, Naturalists, the Anatomische Gesellschaft, Zoological Society of London, the American Association for the Advancement of Science, etc.

He was president of the American Society of Zoologists in 1908 and vice-president of Section F of the American Association in 1920.

In addition to several hundred scientific papers published in various journals, Kingsley wrote a number of important text-books such as "The Elements of Comparative Zoology," 1896; "Vertebrate Zool-

ogy," 1899; "Guides for Vertebrate Dissection," 1907; "Comparative Anatomy of Vertebrates," 1912, 1917; "The Vertebrate Skeleton," 1925. In the translation of Hertwig's manual of zoology Kingsley rendered an important service to zoological instruction in America. While it is the custom of some zoologists to decry text-book writing one can not read Kingsley's texts without realizing that a good deal of independent research entered into them. This is especially true of his book on the "Vertebrate Skeleton," which is a masterly work and will remain for many years a standard reference in osteology. Most of this book was written after Kingsley's retirement from teaching. Undaunted by the loss of the drawings for this book in the great Berkeley fire, Kingsley duplicated the entire set in an incredibly short time and the book was published without great delay. This illustrates his exceptional capacity for concentration and prolonged intellectual exertion.

Early in his career as a zoologist, Kingsley became interested in marine biology. As a result, in cooperation with George A. Bates and S. E. Cassino, of Salem, he converted the "Garden House" on the pier at Beverly, Massachusetts, into a marine biological station. One of Kingsley's students at this station was Hermon Carey Bumpus, then an undergraduate at Brown University. Kingsley later became director of the Annisquam Laboratory, following Alpheus Hyatt and B. H. Van Vleck. During the summers of 1889 and 1890 he joined the teaching staff of the Marine Biological Laboratory at Woods Hole. Connection with this station as an instructor was broken by his year abroad as a student in Germany, and was never renewed.

Convinced of the need of a marine laboratory north of Cape Cod, Kingsley in 1898 established a summer school of biology in a small cottage at South Harpswell, Maine. Here in 1901 a new laboratory building was erected with funds raised by Kingsley himself. After its incorporation in 1913 as the Harpswell Laboratory, the station was moved in 1921 to Mount Desert Island in order to secure better financial support. Kingsley was greatly interested in this station and had planned to make it a visit in 1930 on his return from the trip around the world. The Mount Desert Island Biological Laboratory, however, remains as a monument to his memory.

Among the admirable qualities which characterized Kingsley none was more marked than his industry. For him the day's work began with the dawn, and he rarely allowed himself to be distracted from his allotted task. While in the laboratory he made frequent calls on other workers, such interludes served to refresh him for renewed exertion. He seemed indeed inexhaustible.

His capacity for friendship was notable. Few men have had as wide an acquaintance among zoologists of all countries as he had. Moreover, he was at home with all sorts and conditions of men. His friendly and kindly spirit attracted people to him. Many will recall his genial custom of gathering groups of friends together in Bohemian fashion. Such occasions were made memorable by his sense of humor and unlimited supply of anecdotes drawn from his varied experience.

His interests were broad—which serves to define him as the cultured man he was. His published papers cover a surprisingly wide range of problems. He was, however, characteristically a morphologist, and none of his published papers evidences acquaintance with the more recent experimental phases of biology. Of philosophy he usually spoke with a contempt which seems to have been engendered primarily by his college teacher of that subject.

An exceptionally large and distinguished group of American zoologists remember Kingsley as an inspiring teacher. Through his influence many students were led to take up zoology as a career. His lectures illustrated by free-hand drawings on the blackboard and enlivened by flashes of humor will be long remembered as models of lucid exposition. As a laboratory instructor he succeeded by skilful questioning in stimulating the imagination of his students. They will carry on the torch which has fallen from his hand.

H. V. NEAL

TUFTS COLLEGE

RECENT DEATHS

FATHER FRANCIS A. TONDORF, director of the Seismic Observatory of Georgetown University, died suddenly on November 29 at the age of fifty-nine years.

DANIEL MOREAU BARRINGER, consulting geologist and mining engineer of Philadelphia, died on November 30, aged sixty-nine years.

DR. ANDREW JOHNSON BIGNEY, professor of zoology in Evansville College, Indiana, died on November 13, following an illness of less than a day, at the age of sixty-six years. He gave his life to Moore's Hill College and its successor, Evansville College.

THE death is announced of Dr. Otto Krigar-Menzel, professor of theoretical physics in the University of Berlin.

Nature announces the deaths of Frank E. Baxandall, of the Solar Physics Observatory, which took place on October 30 at Cambridge, in his sixty-first year; of Sir Graham Balfour, from 1903 until 1926 director of education for the County of Staffordshire, who contributed to the progress of technical education in Great Britain, on October 26, aged seventy years; of Dr. Thomas Alexander Wemyss Fulton, superintendent of scientific investigations, Fishery Board for